Important Notes

Medicine is a science that is constantly in flux; research and clinical experience are constantly expanding our knowledge, in particular with regard to treatment and therapeutic medication. For this reason, data may change. If a dosage or form of administration is mentioned here, the reader may be confident that the authors have taken great pains to research the matter, and that this information corresponds exactly to the information available at the time of completion of this work. Nevertheless, it is important for each patient to carefully read the package insert before they use any medication and to be sure to pay attention to any possible contradictions.

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Any statements made regarding the equipment described here and its uses are not to be taken as general recommendations, but instead represent only a summary of the opinions and experience presented here. Any use must presuppose a precise knowledge of the specific circumstances in the individual case, which must be reviewed by each authorized user under his/her own responsibility before starting treatment. The author does not assume any liability for the information presented in this book.

This book has come about through the generous support of the company vita.life, the world leader in the market for magnetic field therapy equipment. We would like to express our appreciation to this company for their support. For this reason, the medical products of this company are mentioned in the text of this book. However, that does not mean that similar equipment which could lead to the same successful results when used correctly is not also available from competitors.

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The author and his friend the artist

Dr. Christian Thuile, M.D.

Born in Southern Tirol, Christian Thuile studied at the medical schools of the University of Innsbruck, the University of Vienna (Austria), the University of Maastricht (Netherlands; doctoral 1993) and the University of Bologna; graduated with honors in Vienna.

October '94 through October '97: Scientific colleague at the Outpatient Memory Clinic (director: Professor P. Dal-Bianco) of the Neurology Department of the University Clinic of the General Hospital of Vienna, teaching practice; laboratory training; tutor at the University Institute for Hygiene; teaching activity in state training of therapeutic massage practitioners and consulting assistants as well as pharmaceutical advisors; member of the Forum of the Alzheimer's Society as well as various Austrian and international medical societies for alternative medicine; since 1996, chairman of the Austrian Medical Society for Energy Medicine; since 1997, president of the International Medical Society for Energy Medicine.

Additional training in acupuncture, nutrition, TCM, homeopathy, neural therapy, magnetic field therapy, osteopathy, certified trainer in Jacobson relaxation training.

Since 1997: director of the Medical Science Department of Vita-Life; since 1996, scientific director of the Medical Center for Energy Medicine in Vienna. At the time of the first publication, Dr. Thuile was in training for this specialty. He has various publications in renowned national and international journals, journalistic activity in medical journals in Austria; book publications: "Alzheimer's Disease" (1995), "Living with Forgetfulness" (1996) (recommended by the Consensus for Neurophsychiatry in 1998), "The Big Book of Magnetic Field Therapy" (first edition, 1997, second edition 1998). "Heilsame Schwingungen" (1999 - in Co-authorship with Jakob Coudenhoye-Kalergi).

Piero Lercher, M.D.

Born in 1967 in Kärnten. Studied medicine at the University of Vienna, graduated as Doctor of General Medicine with dissertation. Since 1994, scientific collaborator with university Professor Dr. P. Haber in the Department for Sports Medicine and Performance Medicine, University Clinic for Internal Medicine IV, General Hospital of Vienna.

Teaching activity at the Institute for Occupational Promotion (BFI) Vienna: course in the theory of manual lymph drainage and connective tissue massage. Medical journal activity for the Österreichische Ärztezeitung [Austrian Medical Journal], published by the Austrian Medical Association. Artistic history: painting textiles (cartoons on T-shirts), cartoonist for various journals, exhibitions in Austria and Switzerland. 1996: illustrated the

book "Living with Forgetfulness," a book about Alzheimer's disease published by the University Clinic for Neurology, General Hospital of Vienna. 1997: co-authored (sports medicine part) and illustrated the book "The Big Book of Magnetic Field Therapy" by Dr. C. Thuile, M.D. 1998: nominated to the 7th International Cartoon Biennial in Davos (Switzerland).

Healing through energy

An introduction by Dr. P. Klaus Connert

There have been some important findings in modern physics:

1. This world is made up of so-called "energy fields" and is constantly being recreated from them. "Fields" are areas of initially non-specific energy. By compression and differentiation, they yield particles such as photons, electrons, atoms, molecules, cells, living creatures, etc. Conversely, these particles decompose into undifferentiated energy again.

2. Differentiated matter is formed from energy fields and matter is resolved into undifferentiated energy through input of information.

3. Energy and information are the essential factors for the creation and functioning of this world and all the plants and living organisms in it.

Modern medicine is based on the findings of physics. Its understanding of the phenomena of disease and health is different from that in the past, and new, efficient methods of diagnosis and treatment have been developed from these findings. A person is in a state of health when his/her "information system," his/her "central computer" is sending the proper impulses to the body and the body can also implement these impulses properly.

To be healthy, a person needs two basic things:

- sufficient energy
- the proper information.

We receive energy through foods, beverages, light, sun, electromagnetic fields, human attention and ideas.

We receive information through images, words, unconscious messages, as well as all the substances that we consume as nutrients.

We become sick when we have too much or too little energy in our energy pathways (meridians), when we are receiving false information or are exposed to inappropriate energy.

For example, a virus forces a person to receive foreign information, because the virus uses the reproductive system of the human cell to replicate itself. A person's defense against this is through the immune system. The external manifestation of this battle is fever, pain in the joints, sore throat, etc.

Two things are required to heal from disease:

- sufficient energy
- healing information

For example, three methods which meet these requirements can be mentioned from the field of alternative medicine:

Homeopathy

Here the healing information of plants, minerals, animal toxins, etc., is potentiated through a process of medicinal potentiation and is thus rendered in a form that can be utilized by people. If the medicine is applied according to the law of similarity, it provides information and energy to the person who is sick.

Traditional Chinese medicine and acupuncture

A person's energy status is determined on the basis of his/her history plus a physical examination; then needles are placed at the control points (acupuncture points) to change the flow of vital energy (chi); in addition, herbs are prescribed, and regulating exercise (Qi Gong, Tai Chi) is performed.

Magnetic field therapy

The earth's magnetic field is essential to us for life. Because we live in homes filled with noise and a multitude of technical electromagnetic fields (radio, wireless, cell phones, radar, etc.), people can no longer absorb this energy adequately. Therefore, therapeutic use of suitable electromagnetic fields is a necessary basic treatment for acute and chronic diseases. If enough non-specific energy is available to a person, many disturbances can be handled simply by means of self-regulation (immune system).

Many other methods operate similarly. In this book, the author will give some insight into the fascinating world of energy. The future of medicine will take place in the fields of energy and information, and this future has already begun.

I hope that you as the reader will develop an interest in these areas of information and thus will arrive at a better understanding of health, sickness and healing. I also hope that medicine in universities and hospitals will take the findings of modern physics seriously and will base therapeutic concepts on them.

Dr. P. Klaus Connert

Physician in general medicine, homeopathy, psychotherapy, neurotherapy, manual medicine, university instructor in homeopathy, advisor to the Austrian Board of Medicine on alternative medicine.

Preface by university instructor Dr. Manfred Walzl

With the books he has already published on the topic magnetic field therapy and Alzheimer's disease, Dr. Christian Thuile has proven his competence as well as his great talent as an author.

Although - or better yet because - magnetic field therapy has gained a certain acceptance in scientific discussion, the next book on this topic is now coming out, and it does not lack a certain interest.

An interest which in any case is suitable for considering magnetic field therapy from all standpoints. And my young colleague Dr. Thuile has again succeeded in an excellent manner in this regard.

First, this book should show that magnetic field therapy has gone beyond the range of pure speculation - proof is submitted in the form of numerous scientific studies - but furthermore, it may provide valuable assistance for the average person to make decisions regarding therapeutic applications.

In any case, one thing is certain: this is a very interesting book on a thoroughly interesting topic.

May it be of assistance to both researchers and users.

Dr. Manfred Walzl, university instructor

Specialist in neurology and psychiatry

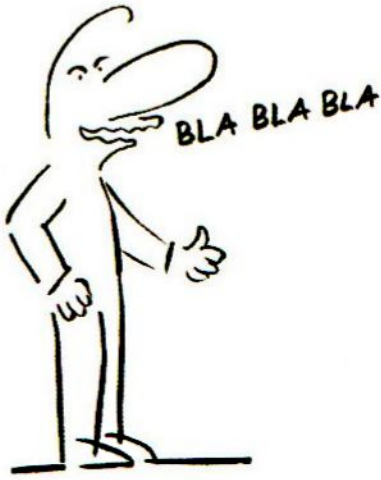
Foreword

With this book we would like to present a practically oriented reference work on the topic of magnetic field therapy for patients.

This aspect will be emphasized by numerous reports of empirical findings. By presenting interesting information from physicians and extensive medical studies, we also hope to be able to impart the required scientific background in support of this method of treatment. More and more physicians and scientists are becoming interested in magnetic field therapy, which is still a fixed component of regulatory medicine in a holistically oriented health model for the new millennium. Research and science are the keys to demystifying magnetic field therapy and securing its proper position of importance in medicine.

We have attempted to present this book in simple, easy-to-understand sentences for people who are seeking more information on magnetic field therapy. Many illustrations and graphics are presented to support the flow of information. The use of colors is intended to facilitate the use of this book as a reference work. This book is divided into two main sections, the general part with the most common questions on the topic and a second section which is organized alphabetically with various diseases highlighted for specific emphasis. Concrete proposals for applications arising from a collaboration of many physicians should facilitate the use and implementation of this method in daily practice. Through the question-and-answer model, we attempt to bring the technology and science closer to the reader by a simple procedure with many metaphors. I hope that I have succeeded in this attempt, and I want to wish everyone a great deal of enjoyment in reading this book. Perhaps it can make another small contribution toward experiencing anew magnetic field therapy in its many possibilities and its restrictions as well as awakening interest in this fascinating field of medicine. This is my wish and the goal of this work.

Dr. Christian Thuile, M.D.
President of the International Medical Association for Energy Medicine



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Writing and editing a book and finally holding it in one's hands as a finished work are comparable to an act of intellectual childbirth. Forgotten is the long, hard time of seclusion before publication, the time of doing without, the sacrifices, the sleepless nights, the cramps in the fingers and the tension in the head. Finally, the idea as a child of the mind has been born as a book. One of the special things about this project is that I have had many experienced midwives by my side.

I would like to thank in particular my family, my friends and Gudrun, my companion in life, for her love and understanding. During this time, leisure and private life were just a dream. Without their understanding, this book would never have come about! Thank you!

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I am dedicating this book to my parents, my son Julian, my sisters Ulli and Caro

and all of my friends who have been patient and loving with me.

He who has love for life,
will receive life from love.

Who or what is IGEM?

IGEM is the International Medical Society for Energy Medicine. It was founded in 1995, and developed out of the Austrian Medical Society for Energy Medicine. Meanwhile, IGEM has grown to 1,000 members in many countries (Austria, Germany, France, Turkey, Switzerland, Iceland, Slovakia, Hungary, Poland, Netherlands, England, Spain, Saudi Arabia, Australia and the United States).

IGEM is a legally registered association (incorporated association) of physicians, biologists, physicists, electrical engineers and scientists who have joined together to form an independent non-profit organization. They are pursuing the common goal of researching the interaction of non-ionizing radiation with biological systems. They want to provide a scientific platform for the methods of energy medicine. In addition, the healing methods of energy medicine are to be developed further and improved through research and technology. To this end, this organization cooperates with many international societies in the field of energy medicine.

IGEM represents symbolically a bridge between school medicine and alternative medicine, attempting to create access to the holistic approach of medicine through scientific support for the healing methods of alternative medicine and with the help of objective analytical profiles.

Various scientific publications are compiled in archives by IGEM and summarized in reviews. Therefore, IGEM cooperates with the Statistics Institute of the University of Vienna. The main purpose and goal is to position international studies at recognized centers. Objectively prepared study data is published or presented at congresses.

The quarterly technical journal ENERMED presents IGEM to the public.

The board of directors is the voting entity of IGEM. The company is led by the president. The treasurer, the vice president and the representatives of each state support the president. At the present time, Christian Thuile, M.D. (Vienna) is the chairman of the board. Heimo Ferarri-Brunnenfeld (Vienna) is the

treasurer and manager, Dr. Franz Reinisch (St. Radegrund) is the vice-president, and Dr. W. Maus, M.D. (Germany) is president emeritus.

Physicians sit on the board of directors as representatives from all the countries mentioned above and they have an advisory capacity.

We would like to supplement the information presented in this book by Dr. Christian Thuile, M.D. with our own experience so that we can also build on serious educational work in the future as well.

On behalf of the board of directors

Dr. **Franz Reinisch, M.D.**
(vice president).

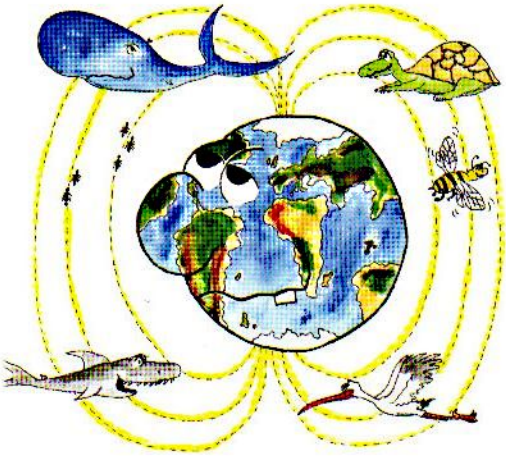
PRINCIPLES OF MAGNETIC FIELD THERAPY

Chapter 1

1. What you should know about magnetic fields and magnetic field therapy

1.1 What is a magnetic field?

A magnetic field is a force field created by a natural permanent magnet or, simulating this natural process, created "artificially" by a coil carrying electricity. The classical example to illustrate this is a bar magnet with a magnetic North pole and a magnetic South pole. The repulsive force felt when two identical poles of the same strength are moved toward one another is the force field we call a magnetic field. The greater the density of field lines, the stronger is the magnetic field (this is properly called the flux density).



The magnetic field lines themselves flow from the North pole to the South pole. A magnetic field may be static, in other words, constant and permanent, or it may be pulsating, in other words, cycling at a certain frequency. The magnetic fields of modern therapeutic systems are all pulsed. Therefore, we speak of pulsating electromagnetic fields, abbreviated PEMF. Through controlled use of a PEMF, a much higher voltage can be applied to the body, leading to better therapeutic results. The body cannot be damaged by a PEMF.

A magnetic field has the property of being capable of penetrating through matter with a relatively low energy loss. Therefore, a magnetic field used therapeutically can pass through clothing unhindered and reach every cell in the body. This is a property which differentiates magnetic field therapy from physical therapeutic devices which have a low depth of penetration and therefore manifest their effect only at the surface.

The magnetic field system has its greatest flux density or strength at the middle of the coil; it loses intensity at a greater distance from the magnetic field source; in other words, the magnetic field definitely becomes weaker toward the outside. It should be pointed out here that a point source (such as an application probe) loses intensity much more rapidly with an increase in distance (according to the third power of the distance) than would be the case, for example, with a flat source such as a flat coil. Thus, if a site at a greater distance from the coil is to be reached for the purpose of treatment, the intensity to be applied would have to be increased. Only in this way can the same dose be administered as directly at the source.

Magnetic field strength or flux density is given in teslas (T) or gauss (G), which is an older but even more common unit of measure, where 1 tesla corresponds to 10,000 gauss.

The strength of a magnetic field is determined by the property (the resistance) of the coil and by the amperage of the current (in amperes). In addition to field strength and pulse frequency, the polarity of a magnetic field also plays a crucial role. Starting from the assumption that different structures in the human and animal body have a certain polarity preference, the respective organs are treated according to this polarity in treatment with magnetic fields. A North pole preference should have a positive effect on pain, swelling, acidification of tissue, sleep disorders and agitation. An improved metabolism, better circulation, faster wound healing and

regeneration of the body take place more readily with a South pole preference.

1.2. What is magnetic field therapy?

Magnetic field therapy is understood to refer to the therapeutic use of static or pulsed magnetic fields for the purpose of treating diseases.

1.3. Can we perceive magnetic fields with our senses?

This question cannot be answered definitively, because only a very small percentage of people (approximately 15 %) can perceive magnetic fields directly. As a rule, magnetic fields cannot be perceived with the senses; in other words, we can neither hear nor see them, neither smell nor taste them and in most cases we cannot even feel them directly. "Sensing" magnetic fields must not be confused with perceptions a patient may have during a magnetic field therapy such as a hot feeling (a slight increase in body temperature) or tingling of the acrae (the nose, the chin, etc.) or in certain weak spots (due to illness). These sensations are not due to a direct perception of the magnetic fields, but instead are caused by the changes in the body brought on by the magnetic field. Thus, the improved circulation in the skin brought about by the treatment may be manifested by tingling or a feeling of warmth, as mentioned above. Measurements on 500 test subjects have shown that in more than 75 % of the cases, a significant increase in temperature occurs, but only 55 % of the people so affected reported having perceived a feeling of warmth.

If a patient "senses" nothing during a treatment with magnetic fields, this only means that the magnetic field is having its effect without any outward signs.

1.4. What is the earth's magnetic field?

The age of the earth's magnetic field is estimated at approximately 3.5 billion years. Thus, it is younger than the history of the earth itself but is much older than the history of life on our planet. The earth's magnetic field can be imagined as a bar magnet with a North pole and a South pole. The magnetic poles of the earth's sphere are not identical with the geographic poles, but instead they deviate daily somewhat farther away from the geographic poles. At the present time, the magnetic North pole is approximately 1,000 kilometers away from the geographic North pole.

It is still unclear how the earth's magnetic field developed. One of many theories uses for the explanation a type of dynamo effect which is caused by the different densities of the earth masses and rock masses in the interior of the earth (moments of inertia).

The earth's magnetic field has a flux density (strength) of 0.5 gauss or 50 microteslas. The average value is not constant over the entire globe, but may vary considerably. Thus, the magnetic field at the poles has an intensity of 0.7 gauss but at the equator it is only 0.3 gauss. Territorial differences have also been detected. Under the influence of so-called solar winds, there are variations not only in the flux density and field lines but also in the pulse frequency of the field. Assuming an average frequency of 7.5 Hz, this value may change by several powers of ten within a minute. Recently a slight decline in the intensity of the earth's magnetic field has been detected. This finding presents a problem for scientists because we do not actually know the health effects and environmental effects of a change in the earth's poles, despite the fact that there have been several such changes in the history of the earth.

1.5. What is the significance of the earth's magnetic field for man and animals?

The influences of the earth's magnetic field on nature have been observed and studied for thousands of years. Researchers into ancient history in modern time realized at a very early point in time that no life could exist on our planet without the magnetic field. This is because of the protective mechanism of the

earth's magnetic field. With its multilayered protective shield, the magnetic field prevents harmful radiation from outer space, especially particle radiation, from penetrating to the surface of the earth.

It is known that numerous animals from the animal kingdom find their direction by using the earth's magnetic field: similar behavior has been observed in migratory birds (storks and others), ants, termites, beetles, bees with their bee's dance before entering the hive, many marine animals such as sharks, sting rays and manta rays, whales and turtles. In 1998, scientists at the University of Frankfurt succeeded in proving for the first time that the remarkable homing behavior of pigeons (carrier pigeons) can be attributed to the earth's magnetic field. Their strong sense of direction is explained by the fact that these birds sense the earth's magnetic field with the help of very small magnetite crystals in their beaks.

Esoteric

Human beings, like all living organisms, are influenced by the earth's magnetic field and over the course of evolution have also developed such fine magnetite crystals in the brain, in particular in the ear. It has long been known from folk medicine that many sleep disorders can be cured by aligning one's bed in a North-South direction. It is also known from clinical observations on Russian cosmonauts that the magnetic field can have a significant influence not only on bone growth but also on emotional well-being. The influence of even very small magnetic fields on the human body is best demonstrated by the phenomenon of weather sensitivity, where the human body reacts even to extremely small magnetic pulses (in the picotesla range). Definite proof of this was provided by research findings by scientists at the University of Giessen in 1998. These studies have formed the basis for successful use of magnetic field therapy.

1.6. Is magnetic field therapy an invention of modern times? A brief historical survey

According to the first written reports, magnetic fields were used for treating a wide variety of health disorders more than 3,500 years ago. The Chinese used the earth's magnetic field for directional orientation when they developed the first needle compass long before our current era. In Greek and Roman times, the use of magnetic fields was mentioned frequently (by Aristotle, Thales and Hippocrates) for treating a wide variety of diseases. The Egyptians studied the earth's magnetic field and its significance for people and animals from the particular standpoint of mysticism.

Numerous findings of our modern scientific knowledge stem from ancient times. For example, we know that Cleopatra always wore a magnetic headband not only to attract good thoughts but also to bring her relief from her migraine headaches. The mystical and medicinal significance of magnetic field therapy in the high Indian cultures of Central and North America has also survived. Until the Middle Ages, treatment with magnetic fields was in the hands of so-called barbers (traveling "country doctors"). In his writings in 1528, Theofrast von Hohenstein, better known by the name Paracelsus, recorded his success with various diseases; he mentions magnets as an effective means of treating cramps. Paracelsus regarded magnetic field therapy as one of the four main pillars in the house of health. Today this famous physician and scholar is considered the founder of modern magnetic field therapy. In approxi-

mately 1600, Sir William Gilbert, the personal physician of the English Queen Elizabeth, wrote the pioneering work De Magnete. Forty years later, Anders Celsius published his informative observations regarding the earth's magnetic field. The first scientific works on this subject were by Simonov (1835) and Gauss (1838).

Franz Anton Mesmer (ca. 1780), a physician in Vienna, was the founder of so-called animal magnetism. Today Mesmer is considered the pioneer of the modern clinical use of magnetic fields. In 1800, the English scientist Michael Faraday described magnetism as a property of matter. He discovered the magnetic attractive force of oxygen and the basic laws of electromagnetic interaction. His findings regarding the relationship between matter and magnetic fields form the physical basis for an understanding of magnetic field therapy today. The term magnetic "field" can also be traced back to Faraday's ideas.

At the beginning of the 19th century, Luigi Galvani, an Italian, investigated the interaction between bone synthesis and biomechanical electrical phenomena in his dissertation De Ossibus. Today this work is considered the basis for the piezoelectric effect, which was discovered in 1953. The Japanese scientists Yasuda and Fukuda found different charges on parts of bone, depending on whether compressed or extended. At the beginning of the 20th century, the Berlin orthopedic specialist Wolff discovered a relationship between bone structure (stability) and functional loading (depending on the person's weight and type of movement). His findings are formulated in Wolff's law, which was named after him: Structure follows function. It can be concluded from Wolff's research and the discovery of the piezoelectric property of bone, that bone is deformed under the influence of an electrical field, which triggers a structure-forming stimulus. Thus, if part of a bone is in a magnetic field that changes over time, an electric potential develops at the surface of the bone, and this can have a positive effect on bone growth.

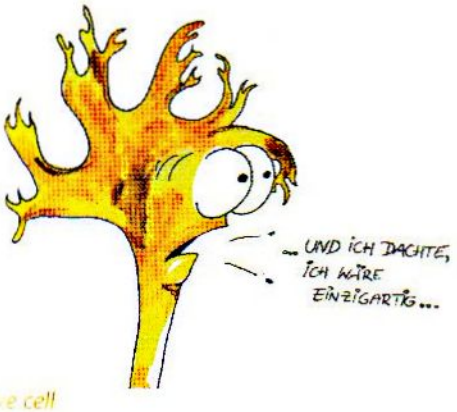
Most clinical studies in this field from the 1960s were conducted in Russia and Japan, where magnetic field therapy has a much more important position in medicine than it does in Central Europe. Russian studies on magnetic fields originate from space research. Scientists observed extreme osteoporotic changes as well as severe depression in Russian cosmonauts returning from outer space. These phenomena were reduced significantly by incorporating artificial magnetic fields into their environment.

100 % natural medicine

In 1965, Linus Pauling, a two-time Nobel Prize winner, described the biomagnetic property of blood. In German-speaking countries, the first clinical studies in this field were conducted by Professors Lechner and Ascherl from Garmisch-Partenkirchen. Professor Bassett, an American scientist who was a student of Lechner, achieved another milestone in research into therapeutic use of magnetic fields. He was the first to succeed in conducting a clinical study of the influence of magnetic field therapy on poorly healing bone fractures; he published his findings in renowned medical journals, thus bringing magnetic field therapy into the light of modern medical science. Since that time (1982), there has been a drastic increase in studies in this field. Scientific and clinical studies on the topic of magnetic field therapy are now being conducted worldwide. Since 1996, the archives of IGEM, the International Medical Society for Energy Medicine, have compiled and organized vast data from hundreds of scientific studies. Many of these studies have formed the basis for this book.

1.7. What do we understand by electromagnetic interaction in conjunction with magnetic field therapy?

The term electromagnetic interaction is understood to refer to the mutual influence of magnetic fields and electric current. This means not only that a magnetic field can be produced by an electric current flowing in a coil (the principle of these therapeutic devices) but that magnetic fields can induce a current in a conductor such as the human body (the principle of magnetic fields acting on the human body). Under suitable conditions, magnetic fields can influence the ionic current on the cell membrane (a current in the form of ions flows due to an electrochemical potential). Nerve cells can be mentioned as an example here. They have a marked unique projection, an axon, which serves to convey stimuli (messages) to neighboring cells. The so-called dendrites or smaller projections function here as recipients of the stimuli.



Nerve cell

Because of the prevailing currents on isolated cell membrane, the cell potential is approximately -80 mV (a positive charge outside the cell membrane, negative charge on the inside). If the nerve cell is stimulated, there may be a brief reversal of poles if the stimulus is strong enough and compensating currents or so-called circulating currents flow. This process is subject to the influence of electric conduction and magnetic fields, which vary over time.

The magnetic field of a person can be determined today by the following methods:
Magnetocardiogram (MCG): 100 pT (hertz)
Magentoencephalogram (MEG): 3 pT (brain)

1.8. Where do magnetic fields act in the human body?

In general it is true that pulsating magnetic fields can act on every cell in the body because of their property of penetrating through matter. The main point of action is the cell membrane, which carries a current due to the ion exchange. In addition, electromagnetic interaction and resonance also play an important role as a medium of information transfer between the magnetic field and the cell.

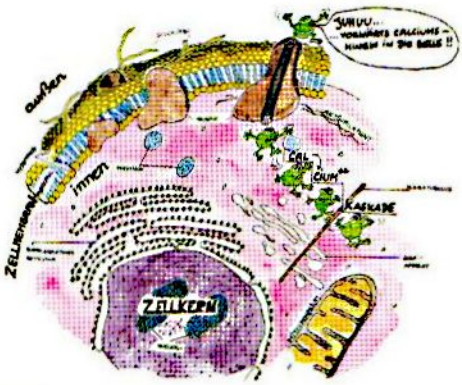
1.9. What is a cell?

Cells form the smallest viable unit in the human body. A cell is comparable to a brick in building a house. Our body is "constructed" of 50-70 billion such units. Cells of the same type and property form such tissues as connective tissue, muscle tissue, nerve tissue (the walls of the room). Several such tissues form an organ (a room). Several such organs form organ systems such as the digestive system (the stories). All the organ systems together form the unit of the human body (the house). A body contains a wide variety of different cells with many different functions. A liver cell alone is said to have more than 3,000 functions.

1.10. What is the structure of a cell?

Despite the wide variety of forms and functions, all cells have a uniform structure. They have a nucleus, usually at the center, containing the genetic information, our hereditary material stored in the chromosomes. This cell nucleus may be regarded as the actual control center for the various cell functions, i.e., for the jobs the cell must perform. Outside the cell nucleus, there is the cell fluid which constitutes approximately 40 % of the total

weight of the body. The important cell organelles float in this fluid.



The cell

So-called mitochondria are the organelles which produce energy for the work expended by the cell; they form a sort of power plant in the cell. Mitochondria gain energy from the body's fuels: sugar, protein and fat. Mitochondria play a key role in magnetic field therapy.

The cell membrane imparts form and cohesion to a cell. With its semipermeable insulation layer, it separates the cell interior from the cell exterior and guarantees a well-controlled mass exchange as well as regulated communication between the interior and the exterior. The membrane itself consists mainly of a water-repellent inner and outer layer of fat. Important proteins which serve as communication media for the cell are embedded in this fat layer. The most important function here is the pumping function of certain proteins, with ions being transported from a site of a high concentration to a site with a lower concentration. The cell potential is built up with the consumption of energy - this is the prerequisite for metabolism and cell communication. The electrochemical potential established by the membrane pumps comes about due to the fact that a negative charge develops in the interior of the cell in this pumping process. There is a positive charge on the exterior because positive charge carriers are predominant. Due to this difference and the electric potential thus produced, charged particles on the cell membrane can flow between the interior and the exterior. In simplified terms, an electric current flows. This fact plays an important role in the effect of magnetic field therapy, because electromagnetic interactions which have a positive effect on the ionic current on the cell membrane come into play through the magnetic fields.

In comparison with a functional cell, a sick cell has a reduced potential, which means that there is a greatly reduced mass exchange in this cell. In organ parts where circulation is poor, cells are no longer receiving enough oxygen to be able to supply enough energy for operation of the pumps. Consequently, some of the pumps of the cell membrane stop working and the cell potential drops. An improvement in energy supply in the cell can reverse this situation. Magnetic field therapy makes use of this fact.

Sodium-potassium pump

The cell membrane is where the resonant effect takes place, because all healthy cells have an inherent oscillation with a certain frequency and amplitude.

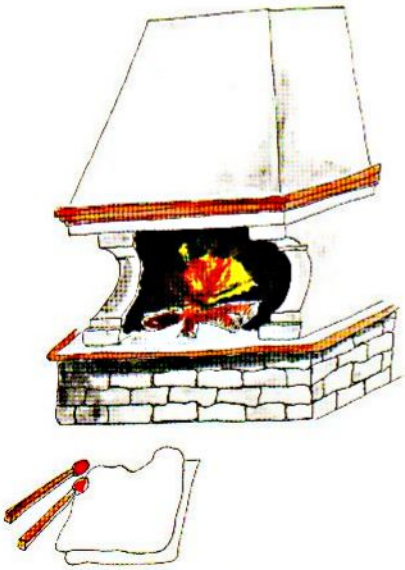
Each cell is embedded in fluid. This intercellular fluid serves as a transport medium for the metabolic products - nutrients are delivered to each individual cell, waste substances are picked up by the blood again and eliminated from the body through the appropriate organs. Salts are one of the substances carried in the intercellular fluid. The higher the concentration of these salts, the harder the tissue. Consequently, bone cells have a high salt content (calcium and phosphate) and a corresponding, relatively low water content. The

fluid property of intercellular fluid is called a sol state. This sol state forms the optimum prerequisite for metabolism and thus for magnetic field therapy.

In less favorable cases, the sol state develops into a gel state, a phenomenon which may be observed with dehydration (therefore always drink lots of fluids!) or with hyperacidity of tissue. As we shall explain in even greater detail in the corresponding chapters, the gel state may explain the occasional resistance to treatment or inadequate results achieved in treatment with a magnetic field because it is difficult for mass exchange to take place in the gel state, which is denser than the sol state.

1.11. How does a cell produce energy?

Cells produce energy from sugar, proteins and fat - fuels which we supply to our bodies when we eat food. For the purpose of better understanding, let's compare the human body with a wood-burning stove, which also serves to produce energy, namely heat in this case. We use wood as fuel, and to start a fire we need a spark, which may be provided by matches, for example. In this model, the matches correspond to the enzymes in our bodies. However, a fire can burn only as long as enough oxygen is available. This applies to the wood-burning stove as well as the mitochondria in our cells.



To produce energy, a cell needs oxygen (and nutrients) in sufficient quantities; 50-70 % of the energy produced by the power plants in the cell is consumed immediately by the pumps in the cell membrane to build up the cell potential. The form of energy storage in the cell is called ATP (adenosine triphosphate).

1.12. How can magnetic field therapy affect energy production in a cell?

Magnetic field therapy leads to improved utilization of oxygen in cells. This is because red blood cells can deliver more of their bound oxygen under the influence of magnetic fields, thus having a very positive effect on circulation. A magnetic field is thus an important prerequisite for improving cell function. This is true in particular of tired cells, i.e., cells that are no longer receiving enough blood, nutrients and oxygen or are in an unfavorable position with respect to the blood vessels supplying them. Therapeutic use of magnetic fields causes these cells in particular to receive more "fuel." The result: cells produce more energy in their power plants and the membrane pumps operate more efficiently. This in turn increases the membrane potential, i.e., the cell potential. In this way, it is again possible for the cell to actively devote itself to its function. Thus, the effect of magnetic field therapy on the energy balance does not involve a secret transfer of energy to the cell, but it does involve the biological processes in and on the cell, which come about primarily through an improved supply of oxygen.

1.13. What is understood by the vitalizing effect of magnetic field therapy?

The vitalizing effect of magnetic field therapy is understood to refer to the positive effect of the magnetic field on low-energy cells or cells with restricted functions. This effect is attributed to the improved utilization of oxygen in the cells; tired cells are revitalized, so that organs with restricted function can then fulfill

their functions better. This is one of the reasons for the success of magnetic field therapy in the prevention and therapeutic treatment of functional diseases.

Due to its large number of reserve cells, an organ can deal with the failure of some cells. Before the final death of a cell, it stops performing its generally beneficial functions. Only when a large number of cells have failed does the respective organ begin to show signs of disease. If magnetic field therapy is started in time to reactivate and revitalize cells whose function is restricted by providing an improved energy supply, not only is it possible to prevent disease, but also if a disease has already developed, regeneration of diseased cells, tissue and organs can be accelerated.

1.14. Can magnetic field therapy revitalize dead cells?

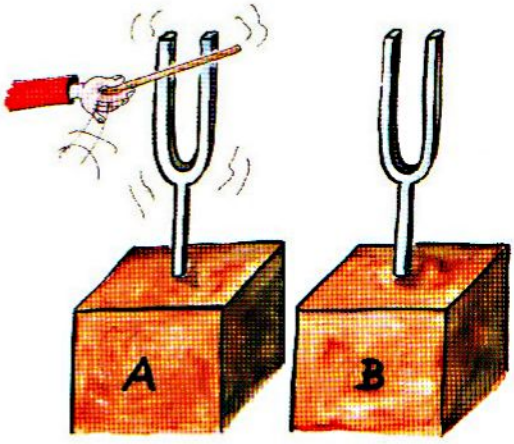
No! Even magnetic field therapy cannot reanimate what has been destroyed (final loss of substance). However, it can revitalize what has been disturbed (functional disturbance).

1.15. Is it possible to overstimulate with magnetic field therapy?

No! The reason, at least with regard to energy production, lies in the limited number of membrane pumps that build up the cell potential. If all the pumps are in operation, the maximum potential is reached - this is the case with a healthy cell functioning normally. Since the number of operating pumps is limited, the cell potential is not increased further. This means that diseased cells can be "nursed back to health" with magnetic field therapy, but healthy cells cannot be overstimulated. However, this should not by any means be confused with the maximum use time per day. According to the WHO (World Health Organization), whole-body therapy should not exceed one hour per day (there is no time limit for local treatment). Therefore, the maximum use time must be observed strictly to protect the body from a high consumption of energy raw materials.

1.16. What is resonance?

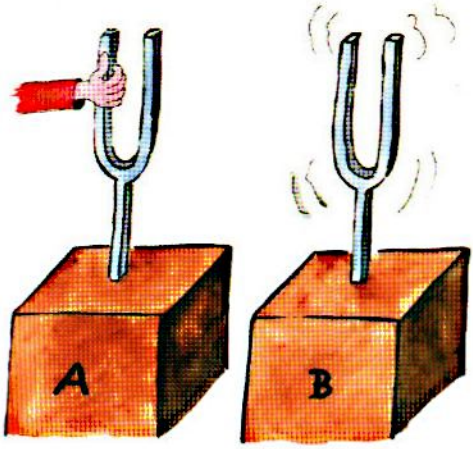
The cell membrane vibrates at a certain frequency, which depends on many factors and will vary from one person to the next and from one cell to the next.



In addition to different frequencies, each cell has a characteristic amplitude, which is the height of the vibration. A test with a tuning fork can be used here as a comparison. If a tuning fork vibrates at a certain frequency, such as 440 Hz of standard pitch A, the amplitude, i.e., the extent of the oscillation wave, determines whether we can perceive it with the unaided ear. Amplitude thus determines volume and whether or not we can hear a sound with our ear as our organ of perception. Even if the vibration of the tuning fork is no longer audible to our ear as it fades out, we can nevertheless see the vibration of the tuning fork or feel it in our hand. In this final phase of oscillation, the amplitude has become very low, but the oscillation itself still amounts to the same 440 Hz of standard pitch A.

The vibration response of a cell membrane can be imagined as similar to this illustration. The cell membrane oscillates at a certain basic frequency and at a certain amplitude. Although diseased cells have a different amplitude of oscillation due to their reduced potential, their frequency remains the same, i.e., their oscillation becomes weaker - similar to that of a tuning fork fading out. At precisely this point, the resonance phenomenon of the magnetic field comes into effect, because

the amplitude of the oscillation can be reinforced by resonance. This is important because improved oscillation also increases the oxygen supply to the cell. A recent scientific discovery has confirmed this; if the oscillation of a cell is reinforced in a positive manner, the receptors on the cell surface find better contact for mass exchange. In other words, the transfer of information and nutrients to the cell is definitely increased by reinforcing the amplitude (this is called the "black box" phenomenon). These positive results do not occur without reinforcing oscillation.



It is important to recall that resonance can be produced only by vibration that corresponds in frequency to that of the diseased cell. If several vibrations are available (frequency band of treatment devices), the cell will respond only to the vibration which most closely matches its natural frequency and induces resonance.

1.17. How do therapeutic magnetic fields act on the human body?

In principle, a magnetic field acts by way of three components:

1. by the electromagnetic effect, which depends on the flux density ("strength of the magnetic field"),
2. by the information content which is transmitted to the human body through specific pulses and oscillation frequencies and
3. by resonance.

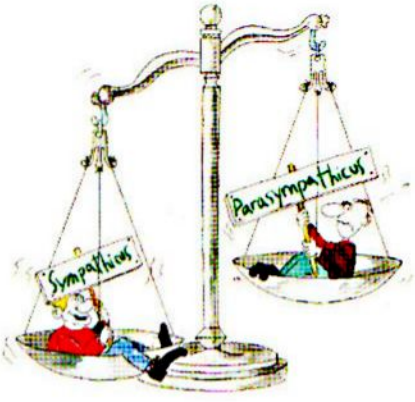
1.18. What is the autonomic nervous system?

The autonomic nervous system is the part of the human nervous system which controls the functioning of all internal organs in the body.

The autonomic nervous system is not subject to control by our will; it functions without conscious control, that is, autonomically, which is why it is called an autonomic nervous system. The nervous system is divided into two types: the sympathetic nervous system, which is a generally stimulating system, and the parasympathetic nervous system, which tends to have a calming effect. Ideally, the sympathetic and parasympathetic nervous systems are in a certain equilibrium in their activity phases throughout the day and night. The sympathetic nervous system (also called stress nerve because it mediates the stress reaction in the body) should reach its peak activity around 11:00 a.m. in the morning, while the parasympathetic nervous system should manifest its relaxing effect at night. The internal balance in this control circuit between the two parts of the autonomic nervous system is of great importance for the health of a person. However, the sympathetic portion is usually predominant today due to increasing occupational and social stress. In the long run, this imbalance can lead to serious health problems. For example, almost 70 % of all doctor's visits in Central Europe are known to be attributed to functional disorders, i.e., disorders in the area of the autonomic nervous system. With many diseases such as migraines, menstrual complaints, menopausal complaints, blood pressure disorders, enteritis and bowel inflammations, chronic constipation, circulation problems, heart disease, gastritis, ulcers, bladder diseases, skin problems, bronchial asthma and many more, the cause is usually a disturbance in the autonomic nervous system. Excessive stress - an overactivation of the sympathetic nervous system - is closely related to a weakening of the immune system, which is why excessive stress plays a certain role in numerous infections and probably also in the area of tumor diseases.

Sympathetic nervous system balanced

Even if the autonomic nervous system is not the cause of a given disease, it may be involved in the development of many other diseases. This participatory role is found with any pain, regardless of whether it is chronic or acute, but also with any psychological or mental strain. Magnetic field therapy can restore balance to an autonomic nervous system that has become imbalanced by having a positive effect on the control circuit.



Sympathetic nervous system unbalanced

1.19. What are the active principles on which magnetic field therapy is based?

In summary, the following active mechanisms on a cellular and subcellular level form the basis for the various therapeutic and curative successes of magnetic field therapy:

1. An improvement in energy balance: By activating the Na/K (membrane) pump and ion exchange, the cell potential is built up again and a more active metabolism and reactivation of fatigued cells in the boundary regions of oxygen supply are achieved. If the cell potential is reduced due to a reduced oxygen supply, the affected cells stop functioning.

The "fatigued" cells still attempt to maintain their natural vital functions, but due to a lack of energy, they must reduce and neglect other functions which would be important for overall organ function. This causes functional disturbances. In such a state, the affected person might not necessarily show any impairment in overall performance; usually at this time, there are still no signs of disease in the body, and laboratory values are still within the normal range. The reason for this is the great reserve supply of functioning cells in each organ.

Significant changes occur only when the reserves have been consumed. In most cases, people experience a phase of extreme fatigue and depletion even before there are any visible signs of disease. Treatment with a magnetic field can improve oxygen utilization in the tissue and thus again create the prerequisites for production of energy (ATP) in cells with restricted function. This increase in energy supply is utilized by the cell to build up its cell potential again, so that the prerequisites for recovery and regeneration of the body are created.

2. A positive effect on the autonomic nervous system: Balancing of the autonomic nervous system forms the basis for the various possible applications of magnetic field therapy because this part of the nervous system plays a causal or secondary role (i.e., as a reaction to another disease) in almost all diseases. This relationship is manifested directly in functional disorders, stress-related diseases, sleep disorders and depression. Most people know from their own experience that they get sick more easily when they are not in a good psychological condition. Conversely, we know that the mind also becomes involved when we are physically ill. To this extent, there are no specific "psychosomatic diseases" except in this sense.

Additional mechanisms of action of magnetic field therapy discussed in the literature include:

3. An improvement in circulation due to a dilatation in the area of the precapillary sphincter and, associated with this, a reduction in vascular resistance. The lower the vascular resistance, the lower the friction of the blood flowing through the vessels. The blood in turn supplies more oxygen and nutrients to the cells throughout the entire body for energy production and for strengthening the body's immune system. Conversely, toxins and waste products are removed more rapidly. Improved circulation is also associated with a general increase in cell performance and optimization of metabolism. Consider the fact that the total number of capillaries in a person amounts to approximately 40 billion, so an exchange area of approximately 1,000 square meters is available for mass exchange in the tissue. The smallest hair follicles are no more than six-tenths of a millimeter in cross section.

4. An improvement in utilization of oxygen from red blood cells: Scientific studies have proven that erythrocytes or red blood cells, which carry oxygen from the lungs and bind it, release more of their valuable cargo to the blood under the influence of magnetic field therapy. The reason for this might be a slight shift to the right in the oxygen binding curve. In this case, the erythrocyte saturation difference is very pronounced. Saturation of red blood cells increases by at least 30 % even at a relatively low field strength. Magnetic field therapy leads to increased delivery of oxygen to the cells in the surrounding tissue. The tissue accepts only as much oxygen as it can utilize.

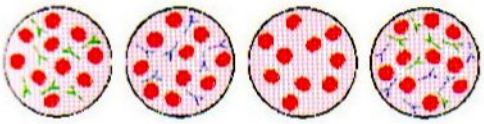


Illustration: drop of blood

5. Accelerated regeneration of diseased tissue: Due to the induced voltage, there is a buildup of electric potential in muscle tissue, nerve tissue and connective tissue. Nerves and connective tissue are considered the fastest carriers of information in the body. Unfortunately, the influence of connective tissue is still being underestimated in medicine. Damaged nerve cells, in particular in anterograde degeneration, receive stimuli due to induced current pulses, preventing further degeneration or increasing the regeneration of damaged cells.

Illustration: muscle

The hyperpolarizing effect of magnetic field therapy is a very important factor in controlling pain and is equivalent to raising the pain threshold. The same thing is true of muscle hypertension, which makes it possible to achieve relaxation especially when under tension. This effect is especially valuable in back problems and before an athletic competition, because excessive tension can be reduced to a healthy extent. The effect on tense back muscles is equivalent to interrupting a viscous cycle. Normally, when pressure is applied to a spinal nerve, an alarm message is sent to the brain. The result is that pain is experienced. The brain then tries to immobilize the affected region in the body by increasing muscle tension. When a muscle tenses, it naturally exerts an increased pressure on the tissue. The pain receptors on the vertebrae are especially sensitive here. This new situation brings a further increase in pressure or pain and leads to a new message to the brain. The brain now seriously attempts to immobilize the body, again increasing the tension, and the same process begins from the beginning, so the pain can become more and more in-

tense. This cycle can be interrupted with magnetic field therapy and utilized in a positive manner. The magnetic field prevents excessive stimuli from being relayed to the brain, and the brain records less pain and consequently the muscle tension is relieved. This results in a reduction in pressure and thus there is also a reduction in tension and pain.

6. The influence of the Lorenz force: This force acts perpendicular to the magnetic field and to the direction of movement and flow of moving ions (charged particles). With appropriate charge separation, Hall effects may occur. These are influences that are manifested especially in the cell membrane.

7. Piezoelectric effects play a role especially in the repair of bone tissue. Pulsating currents acting on the bone initiate repair mechanisms in the bone on the basis of tensile and compressive stresses, so there is an increase in bone mass. The magnetic field imitates this mechanism and in this way supports bone growth. Effects that should promote the cell division of osteogenic or bone-building cells are also involved here (Schütz et al., 1985). A recent theory concerns the influence of magnetic fields on bone density. An additional effect on the cells that produce bone tissue (osteoblasts) is said to be observed here.

Under the influence of magnetic field therapy, these cells should reduce their sensitivity to parathyroid hormone PTH, which has an inhibiting effect, from the parathyroid glands. This results in increased use of osteoblasts and thus improved bone synthesis.

8. Release of Ca++:
Calcium is considered to be an important messenger substance for the cell. The metabolism and specific cell functions are stimulated as a result of an increase in calcium (Cooper, 1990). A change in cell potential is considered the most probable explanation for the impairment of neurologic functions, primarily the analgesic and spasmolytic effects. This also plays a role in bone healing.

Calcium cascade

9. A change in the properties of the cell membrane can come about due to the field effect in the area of protein binding (receptor-ligand binding) at the surface of the cell membrane. Phenomena of resonance play an especially important role here.

10. A direct influence on cartilage cells: Primarily the influence of the magnetic field on the cartilage matrix of the joint plays a role here. Magnetic fields can retard or even prevent the degradation of proteoglycans (Lju, 1994). Synthesis of these sulfur-containing protein compounds has already been demonstrated experimentally. This emphasizes the importance of magnetic field therapy in the conservative treatment of arthrosis.

11. Energies of atomic and/or molecular magnetic dipoles in the magnetic field (hydrogen bridges, van der Waal's forces on protein chains).

12. The cell membrane is important as a receptor of the magnetic field and a converter of biologically interesting processes in the body (especially metabolism, pump activity).

13. Direct stimulating effect on nerve cells (documentation 1998 University of Göttingen)

14. Stimulation of fibroblasts (wound healing): Numerous studies have proven a direct influence of magnetic fields on the connective tissue cells in wound healing. Here again, as with other so-called mesenchymal cells (bones), the mitosis rate seems to be increased on the basis of processes in the cell that influence calcium.

15. Effect on water in the extracellular space. It is known from practice that better results can be expected from magnetic field therapy if the patient drinks enough water. The reason: water does not consist of a random group of H2O molecules. Electromagnetic coupling causes the water particles to form ordered clusters (accumulations) which obey certain principles. These clusters are stable units and can serve as information storage.

The aqueous intercellular space forms a functional unit throughout the entire body. Disturbances are relayed further immediately from here and thus can influence the regulatory system. Magnetic resonance therapy is capable of having a positive influence on the body by way of this regulatory system. Electromagnetic resonance phenomena in the form of extremely small stimuli in the intercellular fluid can contribute to a definite improvement in certain interfering influences through the magnetic field. The most important prerequisite here is an adequate fluid intake by the patient.

1.20. What are the indications for magnetic field therapy in general?

The most important areas for the use of magnetic field therapy result from its regulatory effect. Harmonizing internal control systems is considered a higher-level operative principle of this method of treatment. It should be emphasized here once again that magnetic field therapy is intended primarily as a supportive measure.

In summary, the following possible uses of magnetic field therapy can be listed:

1. Functional disorders caused by exogenous, endogenous or iatrogenic interference fields
2. Rehabilitation, mobilization (after accidents and severe events such as a stroke)
3. Prevention (general preventive medicine and prophylactic medicine)
4. Treatment with a broad spectrum of indications, relatively few side effects and almost no contra-indications
5. Improvement in oxygen utilization and circulation
6. Stabilization of the psyche
7. Stimulating the metabolism
8. Accelerating regeneration
9. Increasing immune activity
10. General increase in performance

1.21. For what diseases is the use of magnetic field therapy especially appropriate?

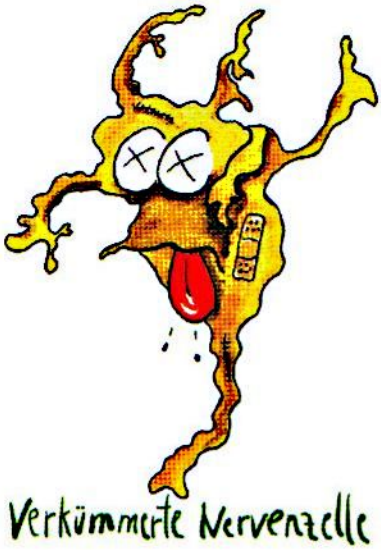
1. for prevention and relaxation
2. for circulation disorders and cardiovascular problems
3. to support wound healing
4. to promote bone healing
5. for treatment of pain in particular in the area of the motor system
6. for muscle tension states
7. for sleep disorders and stress-associated diseases
8. for improving performance in sports, for injuries and for more rapid regeneration
9. for migraines
10. for metabolic diseases

11. for disorders involving the cardiovascular system
12. for depression
13. for neurologic diseases and injuries
14. for optimization of medication
15. for strengthening the immune system (also in cancer)
16. for dermatological conditions

Additional details on these diseases as well as others with documentation of studies and use recommendations are discussed in detail in the chapter "Diseases."

1.22. What does magnetic field therapy do in the body?

1. Regulatory effect through the autonomic nervous system
2. Bone-cartilage cell stimulation
3. Nerve regeneration: Damaged cells can be stimulated to regeneration by suitable pulses from a magnetic field. Magnetic fields here cause a type of electric current pulse which stimulates the nerve cells to "grow."



Verkümmerte Nervenzelle

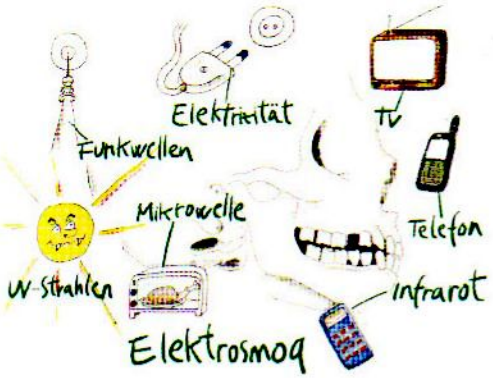
4. Wound healing
5. Relieving pain
6. Improving the metabolic situation
7. Removal of waste products through improved circulation and mass exchange
8. Activation of macrophages (cells of the immune system capable of ingesting particulate matter)
9. Reducing sensibility (sensitivity) of receptors of adrenaline and noradrenaline (stress hormones) with a subsequent reduction in stress
10. Regulation of the plexus myentericus in the intestine with subsequent regulation of digestive activity
11. Improving melatonin production with all the known consequences of this hormone, in particular its effects on sleep
12. Strengthening the immune system: In addition to the above-mentioned influence by way of the autonomic nervous system, a direct influence on lymphocytes also plays a role here (lymphopoietin)
13. Better effect of medication due to improved metabolism and improved circulation (medication can reach target cells more easily)
14. Normalization of heart rate: Tests have shown that the heart rate can be influenced in a positive sense through the regulatory effect of a magnetic field on the autonomic nervous system.
15. Improving respiratory volume through improved function of the respiratory musculature
16. The tendency of blood platelets to aggregate into clots (platelet aggregation) is reduced by altering the flow properties of blood.

1.23. Can artificially produced magnetic fields (electromagnetic smog) have a harmful effect on health?

Magnetic fields, including those used in magnetic field therapy, are generated artificially. The main difference in whether a magnetic field is therapeutically beneficial or harmful is to be found in the difference in composition in the fields. For therapeutic use, fields of a lower intensity and a lower frequency are used. These systems are tuned exactly to the body's needs and they are cycled accurately, with their information content organized to conform to the body's response. However, the natural parameters are not taken into ac-

count in many technical fields. The result: The information content is chaotic and confused. Although fields that are used therapeutically fit precisely in dosage into the biological window corresponding to the therapeutic scope of the magnetic field, industrial high-frequency fields are usually above that.

The example that can be used here is a radio with a set frequency (receiver = our body). The frequency (the therapeutic magnetic field) transmitted by the radio station produces a resonance and the corresponding information - speech and music (therapy effect) - can be transmitted and received only by a properly set frequency. However, if foreign frequencies which are outside the natural frequency interfere with reception, we speak of interference or so-called electromagnetic smog. The radio receiver then produces only noise. The effects of an uncontrolled overdosage of electromagnetic smog on our body are easy to imagine but have not been researched much scientifically.



Electrosmog

1.24 Why is magnetic field therapy still largely unknown as a supportive treatment method in many diseases and how can we change this?

Like any other form of therapy which wants to claim its place in science, magnetic field therapy will need some serious work to establish it and a corresponding amount of study data. In the past, many scientific studies were conducted and they yielded very positive results which emphasized the efficacy of magnetic field therapy, but unfortunately, information on standardization of the various methods was often lacking from these studies. In addition, the goals of these studies were widely scattered. Furthermore, they were often conducted with a wide variety of systems and devices so it is very difficult to discern uniform guidelines and results. For these reasons, it is important for newly conducted studies to conform to internationally recognized guidelines. Only in this way can magnetic field therapy further solidify its position in science and gain full international recognition. For this reason, the work of an international group of experts such as that of the IGEM (International Medical Society for Energy Medicine) is so important. For a secure future for magnetic field therapy, it will also be indispensable for not only physicians and scientists, but also manufacturers of magnetic field systems to seek collaboration. The chances for magnetic field therapy to gain a serious position within medicine will increase considerably if we find a common denominator here, invest jointly in research projects and regularly exchange the information gained in this way. These are the main goals of IGEM.

1.25. Why are many physicians skeptical with regard to magnetic field therapy?

We often encounter this question and it is difficult to find an answer. Patients often ask physicians to state their position regarding MFT only to find that they have never heard of it. One of the main reasons for this lack of knowledge is that physicians never learn anything about magnetic field therapy as part as their regular university medical training because it is not part of the curriculum.

Because of this ignorance, many physicians at first warn patients against treatment with

magnetic field systems (this has also been proven by an internal poll that was conducted). However, isn't it nevertheless the obligation of each physician to inform himself regarding modern technical accomplishments in medicine as well as the latest developments in the field of medication? In truth, there is no lack of research material or study material on the topic of magnetic fields. More than 7,000 scientific publications were reviewed merely to prepare the present book. The results concerning the use of magnetic field therapy are based first on empirical values which still require research in the form of studies, but also there are numerous research results that prove clearly the effect of magnetic field therapy on a wide variety of diseases. For the future, new and up-to-date scientific information will be necessary, but the basics of the therapeutic efficacy of this form of treatment can no longer be doubted.

Skepticism

Due to the lack of knowledge regarding the efficacy of modern magnetic field systems, magnetic field therapy is often placed in the context of the esoteric. This is a relic from the history of magnetic field therapy and is based on the fact that magnetic fields cannot usually be perceived by the human senses. Education and an active acquisition of information can rapidly eliminate prejudices and demythologize the "secret" behind magnetic field therapy.

1.26. What scientific studies are available on magnetic field therapy?

Meanwhile, there are more than 7,500 publications on the topic of magnetic field therapy. This is more than the publications available on some current pharmaceuticals! More than 200,000 patients have participated in scientific studies investigating magnetic field therapy. Most studies on the topic of magnetic field therapy have involved the motor system, mainly in the area of bone fractures, osteoporosis and arthrosis.

Mountains of data

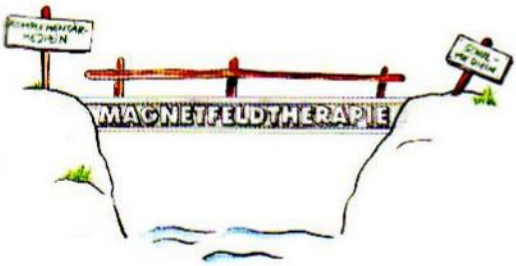
On the topic of bone fractures, there are more than 50 different international publications concerning double-blind randomized studies. More than 30 of these were reviewed in 1998 by the Viennese University Clinic and compiled as a review (ÖZPM [Austrian Journal of Practical Medicine]) with a clearly positive result. Only in recent years have international teams of researchers devoted themselves to studying diseases and pain other than in the motor system. For example, one study in Lancet, one of the best known medical journals in the world, demonstrated the success of treatment with magnetic field therapy as a supportive therapy in depression. Preliminary results in the treatment of cardiovascular complaints, sleep disorders, neurologic diseases, skin diseases, gynecologic diseases and general functional disorders have shown the varied possible applications of magnetic field therapy.

The prerequisite for good serious studies is of course financial support by third parties in the

industry, which is why only a joint path, i.e., a symbiosis of industry and science, can be of service to everyone.

1.27. Does magnetic field therapy belong to the so-called alternative healing methods?

Although the roots of magnetic field therapy lie in traditional natural healing methods, and therefore it is grouped with the alternative medical treatment methods today in addition to other holistic treatment methods, it would be completely wrong to regard it as an "alternative" method (it is an alternative only to excessive unthinking use of drugs). Magnetic field therapy is a supportive medical treatment method which can be of benefit for traditional medicine using pharmaceutical drugs as well as for the healing methods of alternative medicine. It is not an alternative because it is not in conflict with other forms of treatment but instead it is a bridge between traditional medicine and alternative medicine. Magnetic field therapy is by no means a questioning of traditional medicine, because that would mean throwing doubt on everything that has been learned in the past and erasing our scientific basis and world of thought.



Bridge

2. What you should know about the technology of magnetic fields and magnetic field therapy

2.1. Which physical parameters should you know about as units of measure in magnetic field therapy?

Magnetic flux: 1 Weber (Wb) = Vs or maxwell, M = 10-4 Wb

Magnetic moment: Vsm

Magnetic polarization: tesla T = Vs/m2 = kg/s2 A, 1 tesla = 10,000 gauss

Magnetization oersted, Oe = 79.6 A/m

Magnetic field strength: A/m; Oe = 79.6 A/m

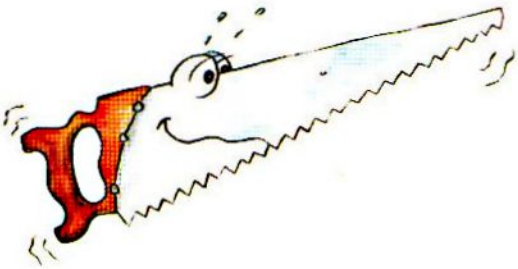
Please note: To facilitate an understanding, we will continue to use the term "magnetic field strength" which is conventionally used by the general public but should more properly be referred to as magnetic flux density which is given in gauss or tesla, although this is not entirely correct from the standpoint of physics according to the preceding definitions.

2.2. Why it is important that modern treatment devices use frequency bands?

Like different tuning forks, cells react only to a frequency which is capable of producing a resonance. Each cell vibrates at a different frequency from one person to the next, and even within one organ, cells will have different frequencies depending on their form and properties. For this reason, it is impossible to use a certain single frequency for different people with a certain organ disease. One exception might be in the area of bones and joints, where vibrations are in a range that is not too widespread even among different people. It would also be in conflict with holistic medicine to treat one and the same disease with one and the same frequency in different people. Only for study purposes must fixed frequencies be selected in order to be able to define a system as precisely as possible.

2.3. Why a sawtooth pulse?

The vibrating cell membrane responds preferentially to vibrations near its own natural frequency (Fourier analyzer); for example, a single note with a characteristic amplitude (= tone) may be assigned by our brain to different instruments.



Sawtooth

The simplest form of vibration is the sine wave form, the traditional form of a periodically oscillating pendulum. Bizarre forms such as the sawtooth pulse can be broken down into a multitude of individual sine vibrations by Fourier analysis, a mathematical method. A sawtooth pulse is thus composed of various sine vibrations and has a broad frequency spectrum. The fundamental vibration has the same frequency as the pulse train. The following harmonics are frequencies representing a multiple of the fundamental mode, but as a rule they also have a decreasing amplitude (height). If a structure such as a cell membrane oscillating with a sine wave vibration (= oscillating circuit) is stimulated with a saw-

tooth pulse, i.e., many individual sine waves of different amplitudes, the cell membrane will respond preferentially to a harmonic close to its natural frequency. The great advantage of the sawtooth pulse in comparison with the individual sine pulse for the resonant effect lies precisely in this increased supply of oscillations. In comparison with a square wave pulse, a sawtooth pulse has the advantage that it changes constantly over time. In the rising phase and in the middle phase, the sawtooth pulse has an elliptical rise, whereas a square wave pulse does not show any change in this phase. Both conclude with a rapid descending phase. Thus, the sawtooth pulse has a continuing inductive force while the square wave pulse provides this only in the rising phase and the descending phase. This induction is important for the ion shift in the body.

2.4. What is an amplitude window in this connection?

The amplitude window makes possible the phenomenon of oscillation enhancement, i.e., selection of a certain oscillation intensity (height = amplitude) at a given frequency. This means that the oscillation must have a minimum amplitude to be received by our body at all (remember the experiment with the tuning fork - we can record the sound (amplitude) with our ear only at a certain volume). The audible range from our tuning fork model corresponds to the amplitude window in therapy. Thus, the magnetic field must also have a certain strength to be able to act therapeutically in the body. This strength must not be outside a certain range because otherwise the effect is reduced progressively with the distance from this range. The term amplitude window can be compared with the so-called "therapeutic scope" of a drug. The dosage must also be maintained accurately (1-10 pills daily, depending on the drug). Outside this range, the drug will have no therapeutic effect (what remains is the risk of an overdose). In conjunction with magnetic resonance, the amplitude window is thus to be understood as the range of the magnetic field strength that is necessary to transmit the signal (vibration) in the body to the entire body in sufficient strength and thus with a sufficient depth effect. Only in this way can resonance be achieved at all. Therefore, the magnetic field must be in this specific range, which is referred to as the amplitude window. All magnetic resonance systems (MRS) take into account this frequency band, which is so important for the body, in their programs. Therefore, they are also exactly in the middle of the amplitude window (above and below this range, magnetic fields have little or no therapeutic effect).

2.5. Is magnetic resonance different from magnetic field therapy?

No, not in principle, because magnetic field therapy is the general term for all relationships of the magnetic field in the human body that can be utilized for health purposes. This includes all phenomena of information transmission, the vibration phenomenon and all effects attributed to electromagnetic interactions. Magnetic resonance is the part of the magnetic field therapy concerned with vibrations of pulsating magnetic fields. Each effective magnetic field has a certain amplitude, but only pulsating magnetic fields have a vibration component. The amplitude is determined by the intensity (program switch), i.e., the flux density (magnetic field strength). This term is understood to refer to the force of the magnetic field and the related health effects, i.e., subsequent electric and magnetic phenomena. This phenomenon of electromagnetic interactions has static magnetic fields under certain conditions, but resonance exists only with pulsating magnetic fields.

2.6. Does a higher field strength also mean a greater effect?

The law that a higher dose also means a better effect does not apply to magnetic fields, because in magnetic field therapy each person as an individual must find the correct dose in accordance with his/her constitution - that would be pigeonhole thinking, aiming

only at controlling systems and trying to treat everyone with the same dose - but that is completely out of place here. In magnetic field therapy, it is true that less can be more because in many cases the greatest effect can be achieved with precisely the weakest stimulus. Of course, the strength (flux density = dose) of the magnetic field must be within a certain range in order to achieve any biological effect in the body at all according to the physical principles. We have described this range above as the amplitude window.

3. What you should know about the practical use of magnetic field therapy

3.1. What does the effect of a magnetic field in the human body depend on?

In addition to the technical prerequisites of the treatment devices (proper field strength, correct frequency band and pattern, shape of the pulse and the number of pulses per unit of time), the ability of the person being treated to respond is of great importance. This is true of any form of therapy, not only magnetic field therapy. The reaction ability, i.e., the ability of the body to respond to magnetic field stimuli, depends on various factors which include, for example, sleep patterns and stress patterns, stress situations, nutritional habits, water content, the basic composition of blood and tissue, compliance (the reliability of the patient in regularly performing the therapy as instructed), as well as the general typology of the person in question. These properties will be explained in greater detail in the respective chapters.

3.2. What are the most important basic rules that should be taken into account in using magnetic field therapy in order to optimize the success of the treatment?

1. Do not smoke before or after a treatment: Nicotine in the body causes constriction of blood vessels and thus counteracts the effects of magnetic field therapy.

2. Drink lots of fluids: You should drink a sufficient amount of water before the treatment (at least 2-3 liters each day). Inadequate fluid intake results in the intercellular fluid being converted from a sol state, which is highly permeable for nutrients, to a gel state through which nutrients and oxygen can pass only with difficulty. This makes treatment with magnetic fields difficult.

3. Exclude contra-indications: This is a prerequisite for even considering treatment. Since electronic components and circuits are sensitive to magnetic fields, the functioning of electronic implants can be impaired with severe consequences. Therefore, caution should be employed in treating patients who have electronic devices such as pacemakers.

4. Accurate dosage and diagnosis of symptoms by a physician: In any case, magnetic field therapy should not be used at home for treatment of pain and symptoms that have not previously been diagnosed by a physician. Such behavior could not only mask symptoms but could also unnecessarily delay important therapeutic measures. Therefore, a very important principle of magnetic field therapy is "first diagnosis, then treatment." In other words, a treatment should be considered only after the disease or the causes of the pain are known and have been diagnosed.

5. Ruling out an acid excess: Due to improper nutrition, most people have an excessive acid intake. This can be detected very well by the increased elimination of acid in the urine. A definitely acidic urine over a long period of time can not only have negative effects on treatment but may also be the cause of chronic fatigue, joint pain and other symptoms. Too much acid in the tissue causes the sol state to be converted to a gel state, which is thus responsible for a serious deterioration in the metabolic situation of the cells. When a cell receives fewer raw materials, it cannot remove waste products as well and thus virtually suffocates in its own waste products. In addition to consistent dietary changes, a powdered alkaline preparation may be of short-term assistance.

6. Vitamins, minerals and trace elements: These form the prerequisite for a healthy cell

reaction, especially for the citric acid cycle. They serve to ignite energy production to a certain extent. A deficiency of these valuable nutrients prevents cells from being stimulated to increase energy production and the magnetic field cannot manifest its full potential effect.

7. Regular but moderate intake of food: Regular intake of food is essential because cells need proteins, fats and sugars for production of energy. We need these raw materials like a furnace needs wood to produce heat.

8. Avoiding radical diets: When fasting, there is an increased rise of acids in the blood and tissue due to burning of fat. A persistent acid excess can not only have effects that are harmful on health but also inhibits the effect of magnetic field therapy.

9. Avoiding risk factors for permanent healing: Certain risk factors must of course be avoided to achieve a permanent cure. This means that it is not sufficient to use magnetic field therapy for extremely severe diseases without at the same time making a contribution toward corresponding changes in lifestyle. Thus, there is little benefit from merely hoping for the pain-relieving effect of the magnetic field in severe arthrosis complaints caused by obesity. In the long run, the magnetic field will help only when combined with appropriate weight loss. The same thing is true for pulmonary or cardiovascular diseases, smoking, stress diseases, liver diseases, etc. The comparison with acid rain and the death of forests is relevant here. Acid rain cannot be combated by cutting down the diseased trees but only by changing the environmental conditions.

10. Medications such as cortisone only for emergencies: Since cortisone can block certain metabolic processes in the body, it can impair the effect of magnetic field therapy. Nevertheless, it should be recalled that the magnetic field therapy can potentiate the effect of cortisone through improved circulation. In certain cases, the dosage of medication may even be reduced. However, the converse conclusion, namely that cortisone can improve the effect of the magnetic field, is not true.

11. Eliminating or avoiding stress factors: As described in the respective chapter, there are wide varieties of interfering factors that can influence the effect of the magnetic field. One should be sure to avoid these factors as much as possible. It is not out of the question for a water vein to be superimposed on the effect of the magnetic field on the human body. In this case it is advisable to change the location where the therapy is performed.

12. Realistic estimate of the possibilities of treatment with the magnetic field system: Magnetic field therapy cannot perform miracles. We discuss the individual possibilities further in the chapter titled "Diseases."

Wonder drugs

13. Regular use (compliance): It is self-evident that optimum therapeutic results can be achieved only by regular, reliable use. Since no pain-relieving injections with an immediate effect are involved in magnetic field therapy, the treatment usually lasts longer, i.e., only someone with patience is a suitable candidate for magnetic field therapy.

14. Correct instrument settings (the medical hotline with its trained advisors may be of assistance here). Proper settings on the treatment instrument have a crucial influence on the success of the treatment. Technical advice is important in this regard. If the treatment is not successful, you should in any case contact one of the many energy medicine centers.

The Therapy and Magnetic Field Research Center in Vienna has had unique clinical experience in performing high-precision measurements of the effects of the magnetic field in the human body in problem cases. For further information on the Energy Medicine Center in Vienna, you may contact : Dr. Christoph Scherer, 1080 Vienna, Breitenfeldergasse 10, tel.: 0043/1/40 666 00.

15. Take into account individual settings on the instrument: There are no generally valid settings in magnetic field therapy. Each person is different, and thus, the settings must be adjusted individually for each person. In some cases, a certain person with arthrosis pain, for example, may react immediately at an intensity of 100 % and experience relief from pain, whereas a second person will not experience any effect at all at an intensity level of 100 %, but instead will have the best reaction at 10 % intensity.

16. Effects due to internal or external rejection of the therapy: It is self-evident that no person should be forced to receive magnetic field therapy. The fact that effects can be achieved nevertheless is evidence in support of this form of therapy, but on the other hand, it is known that a positive attitude toward magnetic field therapy can greatly improve the effects, as is known with other forms of therapy.

17. Do not stop medication abruptly: Please note that in no case should any medications be stopped on your own responsibility without notifying your prescribing physician or seeking his/her advice.

18. Prompt information regarding the possibility of a so-called first reaction: Approximately 15-20 % of all people with pain will experience an unusual phenomenon in magnetic field therapy. Their pain, which has usually been chronic, may briefly become worse (exacerbate) at the start of treatment. However, as treatment is continued, those affected in this way generally respond with a corresponding relief from pain, finally becoming pain-free. Prompt information is important in this regard. If a patient does not know about this possible initial reaction, he/she might want to terminate therapy because of this experience. This is regrettable because people who have these initial reactions ultimately respond particularly well to the treatment.

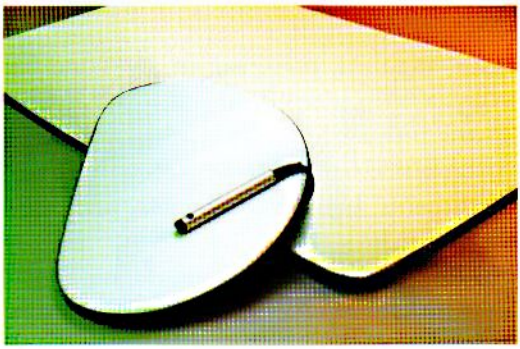
19. Geopathic interference factors (water veins) in the vicinity of treatment should be avoided, as should electric devices, in order to prevent and rule out any unwanted superimposed magnetic fields as much as possible.

20. In severe infectious diseases (for example, fever > 38.5 °C) a self-experiment is strictly inadvisable. In this case, you should definitely see a physician.

21. The proper choice of phase of electric current can contribute to the success of the treatment. The simplest test to perform if the treatment has not been successful is to remove the plug from the position it is in and insert it into the receptacle the other way.

22. Proper positioning of the patient: This point is often disregarded, but proper positioning is of great importance, especially in whole-body therapy, and can be a significant factor in the success or failure of the treatment. This is discussed with the individual diseases.

23. Proper positioning of the local applicators: Here again, the coils generating the magnetic field must be placed in the proper positions on the body to achieve the desired results (see chapter "Diseases")



24. Avoid drinking more than two cups of caffeinated coffee before the treatment. In general, use after breakfast is recommended, because rapidly utilized sources of energy are usually eaten at that time in addition to the fluid intake.

3.3. What interfering factors can have a negative effect in general on magnetic field therapy and a person's health?

The human body must rely on the functioning of internal and external control circuits. Magnetic field therapy contributes toward maintaining or restoring the harmony of these internal regulatory circuits. The reasons for disturbances in these regulatory centers of the body may vary (according to Dr. A. Röstil):

1. Exogenous (external interfering fields): These include pollutants and other harmful substances as well as foreign substances in foods and drinking water and also in the area of the household and the environment:

- electromagnetic smog, geopathic disturbances from electric power plants, high-voltage lines, neon tubes, hairdryer, computers, televisions, radio alarm clocks, cellular phones, water lines, etc.
- toxins in the home (formaldehyde)
- jewelry, watches and clocks, piercing
- discos, motors
- fine particles from combustion processes of all types that pass through the lungs, polycyclic hydrocarbons, fertilizers
- heavy metals
- pesticides, fungicides, insecticides, herbicides
- food additives, preservatives, dyes and flavoring agents (E numbers)
- plastics, canned goods
- microbial toxins: aflatoxin, botulin
- detergents, household cleaners, body care products

2. Endogenous (internal) interfering fields: These include all chronic inflammatory problems (inflammation of paranasal sinuses, tonsilitis, prostatitis), scars of all types, dysbiosis (disturbance in intestinal flora).

3. Iatrogenic interference fields are those caused by a physician: 50 % of all interference fields are scars!

4. Hidden interference fields: psychological (family, job, ...)

3.4. What is the relationship between magnetic field therapy and preventive health care?

The term preventive medicine summarizes all the preventive measures that contribute toward maintenance of health.

1. Eliminating factors that can harm health (risk factors)

2. Preventive treatment, preventive medicine: preventing diseases through

- preventive measures (prevention = magnetic field therapy)
- performing general health promoting measures (e.g., spinal exercises and autogenous training, magnetic field therapy, etc.) which should prevent a manifest symptom from developing.

Because of its mechanism of action, magnetic field therapy belongs with the regulatory measures (such as homeopathy, acupuncture and manual medicine) whose main area of use includes not only therapy and rehabilitation but also prevention in particular. Hardly any other method offers a more favorable physical therapy measure with comprehensive use options than magnetic field therapy.

Western medicine places far too little emphasis on preventive measures. Whereas Eastern cultures emphasize prevention of disease, in the West our main emphasis is on treating symptoms.

Therefore, magnetic field therapy should be classified as preventive medicine because it improves circulation and thus also the oxygen supply to the cells at a time when the cells are diseased or have been destroyed.

Interference fields have a negative effect on the regulatory circuits of the human body and can lead to energy blocks or to a disturbed energy balance. Such interference fields not only inhibit therapy and healing processes but may also be the cause of diseases - health disorders. Regulatory circuits that have become imbalanced have a negative effect on well-being and performance and are the cause of sleep disorders, hormone imbalances and physical dysfunctions (digestive problems, menstrual disorders, head-

aches, irritable bladder, asthma, muscle diseases, etc.). Arteriosclerosis with such consequences as myocardial infarction, high blood pressure, etc., is causally related to these interference factors from a medical standpoint.

More than 60 % of all doctor's visits are caused by functional disorders, most of which can be attributed to one or more of the above-mentioned toxic effects.

Because of the regulating and harmonizing effects of magnetic field therapy, functional disorders are one of the main areas of use. The attenuating effect on the sympathetic nervous system, the resting and relaxing nervous system, is mainly responsible for the good therapeutic results. Since magnetic field therapy has a therapeutic effect on and through the entire somatic and autonomic nervous system, it exerts its regulatory effect on the entire body. In addition, it also has a positive effect on soft connective tissue, which is considered to be the fastest information carrier in the body.

3.5. What are the most common health complaints today?

A questionnaire in the Austrian Central Office of Statistics in 1995 showed that the annual tax burden on Austrian taxpayers due to sick leave alone amounted to 36 billion shillings. 60 % of the 5.3 million people questioned in the poll indicated that they feel they are "challenged" with regard to their health.

In Europe, approximately 10-15 % of the population is currently between the ages of 65 and 74, and approximately 10 % is 75 or older. Of course, people become increasingly more susceptible to diseases as they become older. In particular, chronic diseases increase and thus the demand for constant medical care also increases. Approximately 75 % of all people over 60 years of age take at least one medication each day. The most common reasons for taking medication include backaches (more men than women), weakness and lack of energy as well as headaches and sleeping problems. All the information given here is based on statistics from the Austrian and German Central Offices of Statistics as well as the Swiss Office of Statistics.

These statistics emphasize again impressively the importance of preventive medicine as well as the importance of magnetic field therapy for the future.

3.6. What do people do for their health?

Most people do too little or nothing at all for their health. Almost 50 % don't do any physical exercise in their leisure hours (sports, fitness training, walking); almost 40 % smoke despite urgent warnings, 85 % consume alcohol regularly, almost 50 % eat meat six to seven times a week, and only 40-50 % of those polled reported being concerned about their nutrition, although there was no indication as to what exactly they are concerned about.

Magnetic field therapy can be of assistance with many diseases. However, the prerequisite for prevention as well as for a long-term therapeutic effect must be created by each person individually.

3.7. How should magnetic field therapy be performed?

Whole-body use should not be performed for more than one hour distributed throughout the day. There is no time limit for topical (local) use.

The recommended times given in the chapter on individual diseases each represent an optimum duration of a treatment. Of course, it is

not always possible to observe these recommended times strictly. However, you should attempt to approximate it as closely as possible. This is also true of magnetic field treatments in a medical practice where daily treatments are often impossible. If the recommended duration of 8-16 minutes is not exceeded, the magnetic resonance system can be used in whole-body therapy twice to four times a day.

3.8. Which principles of use should be taken into account when using the magnetic resonance system?

The following rules should help in using this system:

1. The older the person, the lower the selected strength of the magnetic field should be.

2. The more chronic the illness, i.e., the longer it has already been in existence, the lower the strength at which treatment is begun should be.

3. The more athletic and energetic a person, the higher the intensity can be.

4. The stronger your body, the higher the field strength should be.

5. The more nervous or agitated a person, the lower the intensity should be.

The following basic criteria apply to topical use of the coil pad or probe:

1. The farther away from the torso it is applied, the higher the intensity level (foot, hand, knee and elbow) may be. Caution is advised in the area of the torso, especially in the area of the cervical spine.

2. The deeper in the body the target organ to be treated, the higher the intensity must be set because the energy of the electromagnetic field decreases with the distance from the radiation source (coil).

3. In principle, men tolerate higher doses better than women.

4. The more acute the pain, the higher the field strength of the magnetic field should be.

3.9. Are there any general tips for successful therapy?

To permit a reasonable and problem-free procedure, the treatment should be started at a low intensity, only gradually increasing the intensity. In this way, it is possible to avoid the relatively common initial phenomenon of a short-term increase in pain intensity. In addition, it is advisable to adjust the dosage individually. Guidelines are given in the chapter "Diseases" where approximate values are given that can be used on an individual basis.

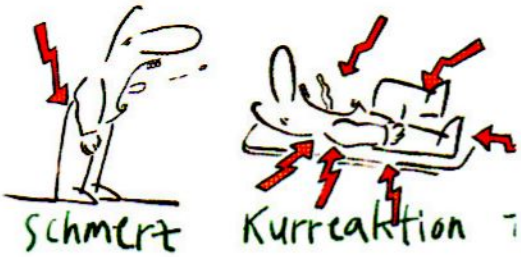
Drink a large amount of water before the treatment (approximately 1/2 liter 20 minutes before use). In general, the ideal time for a treatment is after eating.

3.10. What is understood by the initial reaction or healing reaction?

As with many other physical forms of therapy, there may be an initial exacerbation with magnetic field therapy. Approximately 15-20 % of all people who receive magnetic field therapy experience the phenomenon of an initial exacerbation. This phenomenon of an that affects people who are susceptible to electromagnetic radiation in particular. Following the initial exacerbation phase, an initial reaction is characterized by a definite improvement in symptoms. Such a reaction should not last more than four to six weeks. On the average, it is only two weeks long, and often it is just a single event. The reason for this initial reaction may be a general regulatory effect of the body caused by activation of a chronic process as part of a general cleansing effect. This initial phenomenon is basically a sign of a good prognosis, because usually the patient will soon experience a definite relief of the original symptoms. Therefore, this is also called a healing reaction.

When a patient has been informed in advance regarding the possibility of such a reaction, this healing reaction is generally accepted gladly (or in some cases perhaps not so gladly). Premature termination of treatment

for lack of information is regrettable because this initial reaction usually means that the success of the therapy will be good. We would also like to point out that an initial reaction may not only occur at the beginning of treatment, but may also be manifested whenever the dose is increased, although that is much less common and much less pronounced. The method of gradually increasing the dose, i.e., increasing it in small steps, can greatly reduce the extent of this initial reaction.



Initial reaction

3.11. What will I feel during a treatment?

Although the force of the magnetic fields cannot be perceived with the senses, approximately 50-60 % of the users perceive certain sensations during this treatment. The most common observation is a slight feeling of heat on the body parts being treated. However, this is only a slight, harmless increase in body temperature which presumably occurs in most people being treated but is not usually perceived at all. However, this is not heating of the body from the outside (such as that due to a heating pad or a thermophore) but instead it is a temperature increase which occurs due to improved circulation in the skin or the muscles. This statement is emphasized by the fact that there is no heating of the coil pad.

Tingling of the hands and feet is one of the sensations reported most commonly. A feeling of pressure in the eye sockets or taste effects are observed less frequently. Some people report that they experience palpitations of the heart, but that has not been confirmed clinically. One exception here would be a feeling of anxiety in perceiving one's own heartbeat (in its normal rhythm) so that an acceleration in heartbeat could then in fact be felt due to the activation of stress and anxiety nerves.

Warm feeling

3.12. Does clothing interfere with the success of the treatment?

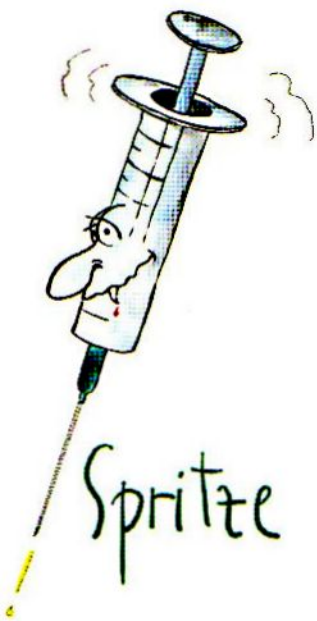
Since magnetic fields can pass through clothing unhindered, they do not interfere with the treatment. Of course, here again the physical law holds that the thicker the underlayer, the greater the distance from the coil and the greater the reduction in magnetic field strength to the target site of the body part to be treated. Metal objects and jewelry should be removed from the body.

3.13. How long does it take for the magnetic field to act?

Because of various influences, the onset of effect varies from one person to the next. In general, the onset of effect is determined by the body's reactivity (a young person will react more quickly than an older person), the type of complaint and its cause, the duration of the disease and any damage that has already occurred in the body, concomitant measures, the patient's cooperation, elimination of risk factors and the type and intensity of the therapeutic application. In addition to the most positive possible attitude on the part

of the patitne, his/her age, sex, general condition, nutritional habits and lifestyle, environmental pollutants, energy balance, acid-base balance and fluid balance also play a crucial role.

In treatment of pain, relief occurs on the average after six to eight weeks. If this is not the case, the influencing factors described above should be elucidated and perhaps the dose should also be adjusted. Elimination of the cause of a disease often cannot be expected until after several months or even years of treatment.



Syringe

This means that pain relief should occur relatively rapidly, but a change in bone density, for example, in osteoporosis can be evaluated appropriately only after eighteen months to two years at the earliest.

3.14. What can be done if the effect does not last?

Variations in success of the treatment are observed occasionally in patients with chronic complaints. This is where magnetic field therapy may bring relief but the symptoms return, so that no ultimate remedy can be achieved. This situation can frequently be remedied by adjusting the dose or through suitable adjuvant therapies (for example, with herbal remedies).

In many cases, a declining effect is due to careless use with a treatment time that is too short or not continuing the treatments over a long enough period of time. A change in the fluid balance in a person's body also influences the effect of the magnetic field. Unfortunately, a patient is often so happy to be relieved of pain that he/she will forget that certain disease processes (especially deterioration phenomena) continue to progress despite the effect of magnetic field therapy and then the symptoms flair up again, leading to an even more extensive physical burden. In their euphoria about the initial success, patients sometimes also forget to consistently maintain changes in lifestyle or nutritional habits. However, even magnetic field therapy cannot help undo the negative effects of poor habits. Furthermore, nothing is forgotten as rapidly as past pain that has been experienced. Many patients make small advances during magnetic field therapy, but are not satisfied with the results achieved and then regrettably terminate the treatment. The most common cause for fluctuations, however, is probably the weather sensitivity of people, because weather is one of the factors that can have a negative effect on an electromagnetic field.

3.15. Can I receive too much therapy?

In general, it is safe to assume that magnetic field therapy can be used several times a day for a long period of time without any negative health consequences. There is no overstimulation if one follows the guidelines of the World Health Organization (WHO) in whole-body application; the WHO recommendation is that treatment not be continued for more than one hour per day (this is true only of whole-body treatment, not for local therapy).

3.16. Can magnetic field therapy be interrupted for vacations?

In principle, therapy should not be interrupted when one goes to a spa or resort. Only when a patient is stabilized in use of the magnetic field can treatments be interrupted. In concrete terms, this means that one should begin with the treatments at least six weeks before going on vacation; otherwise it is advisable to continue the treatments while on vacation. If treatments are interrupted to go on vacation, they should be resumed only gradually after returning, i.e., beginning at lower intensities.

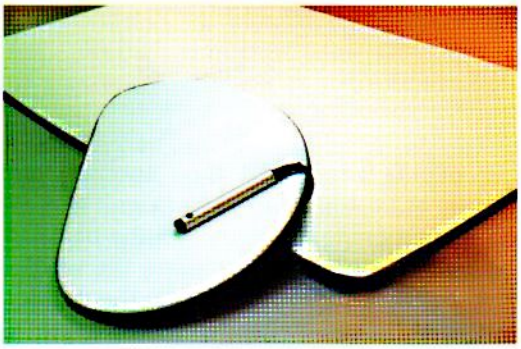
3.17. Can the treatment be interrupted after long-term use?

The principle applicable here is that consistent treatments are best. Since there is no such thing as too much magnetic field therapy, long-term use is recommended. Treatment should not be interrupted in therapeutic phases, but of course preventive use may be interrupted. A rule of thumb here would be six months of intensive treatments followed by a maximum pause of three months.

3.18. Which applicator should be selected for proper treatment?

Of course the choice of the correct applicator will vary from one person to the next and in some cases may even be a matter of taste. In addition to an equalizing whole-body therapy, we also recommend performing local therapy for treatment of pain. There need not be any pause between the successive treatments. For smaller pain points to which one can point with an index finger, the probe of the medical device is especially efficient because it can produce the strongest magnetic field. However, both the advantage and disadvantage of the probe are that the magnetic field becomes weaker with the third power with an increase in distance from the source; in other words, the probe (in comparison with the pad) has a lower depth of penetration, but it can achieve an optimum effect at the surface with a slight depth. An additional advantage of the probe is its use in acupuncture. It has proven especially helpful here in treatment of people, especially children, who are afraid of needles or electroacupuncture, and it is superior to a laser because of the greater depth effect.

The pad which contains two coils is recommended for all superficial pain zones. Local application generally lasts more than eight minutes, while whole-body treatment should only exceed eight minutes per session in exceptional cases.



3.19. What does it mean to increase the dose gradually and how should this be done?

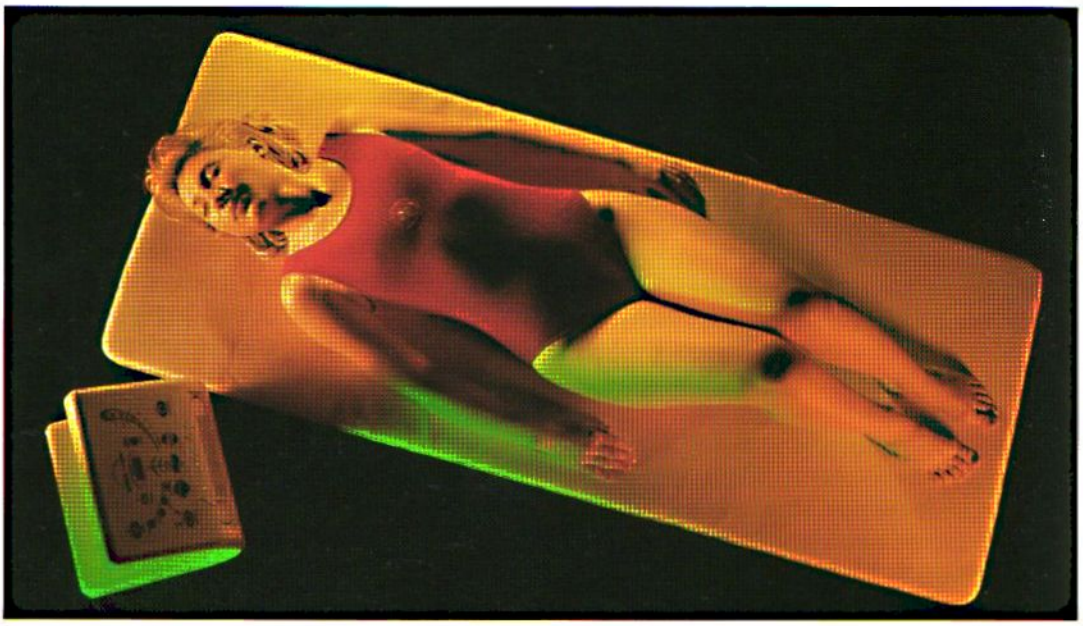
To gradually increase the dose means that a patient's treatment is begun at a lower intensity and the dose is increased step by step until reaching the optimum dose. The purpose of this measure is to prevent an initial exacerbation and to determine the ideal intensity level for each individual patient. The dose in magnetic field therapy is always determined by the product of treatment time multiplied by intensity. This yields various possibilities for gradually increasing the dose. First, the intensity used can be reduced, or on the other hand, the treatment time may be shortened (for example, reduced by one-half to four minutes).

A very effective form of gradually increasing the dose has been a four minute application at the beginning of treatment followed by a

Gradually increasing the dose

four minute pause and then another four minutes of treatment. In some cases it may also be appropriate to begin with the pad and the local treatment before using the whole-body therapy (for example, only the pad for four weeks, then switching to the mat). It should be pointed out that when gradually increasing the dose, this should be done much more slowly when using the whole-body mat than a local applicator. On the average, the dose may be increased by one intensity level every seven to fourteen days when using the mat, or every four to seven days when using the pad. The older the patient, the slower the increase in intensity should be. Thus, with a cooperative, tolerant patient more than 60 years of age, it is advisable to increase the dose only once every four to six weeks when using the mat. The reason for this is that there is direct causal relationship between the body's water content and the risk of an initial reaction.

Whole-body therapy should be started at the lowest intensity levels. Our proposal here is to begin at 10 %. The "sensitive" level causes initial reactions more often than the 10 % level. The reason for this is the especially high potency (homeopathic) of the sensitive level, which has the lowest field strength but the highest informational content. In this case, the weakest pulse has the greatest stimulating effect on the body (this is true to an even greater extent for sensitive people). Therefore, it is advisable to select the sensitive level only when initial reactions are observed at the 10 % level. Thus, the patient basically has a reserve: since the body is already accustomed to the vibrations of the 10 % level, there are



no initial reactions when switching to the sensitive level. Of course, treatment can also be initiated at the sensitive level, but the statements made above regarding the initial reactions should be taken into account in this case. The probe should be excluded from these guidelines; because you can begin directly at the desired dose when using it due to its very small depth of penetration. Thus, it is not necessary to gradually increase the dose when using the probe.

3.20. What is the importance of proper positioning?

One should consider first that the ideal alignment of the magnetic field applicator (whole-body mat) is the North-South axis. Special positioning during treatment of certain sections of the body is a great advantage. Pads (for the knee and the cervical spine), splints or special reclining facilities are suitable for support here. It is important to relieve the stress on the motor system such as the lumbar spinal column.

In all pain states in the area of the back and the lower extremities, the knees should be bent during a whole-body treatment so that the pelvis is stabilized and the muscles can relax.

Elevating the legs has proven to be advantageous in treating venous problems or low blood pressure. A wedge should then be placed under the magnetic field mat at the level of the legs/feet. Unless otherwise indicated, the patient should lie on his/her back, positioning the head at the top end of the mat (cable). In cases of lung disease, the proper breathing technique is also important in addition to the proper positioning of the body. When inhaling, it may be helpful to hold one side of the nose closed and inhale air through the other side. It is also advisable to breath through the nose as if yawning but with the mouth closed because this causes the upper respiratory tract and the pulmonary alveoli to expand by reflex. Exhale very, very slowly - a meditative image to use for assistance in prolonging exhalation is to keep a candle flame flickering as long as possible without blowing it out.

3.21. When is actually the best time for treatment?

The success of this therapy can be increased significantly by taking into account the so-called peak times of organs. For complaints involving the stomach, the ideal treatment time is between 7:00 a.m. and 9:00 a.m.; for cardiovascular problems, the best time is around noon; for bladder disorders the best time is late in the evening. Since the peak time for secretion of adrenaline and noradrenaline is about 11:00 a.m., this time is optimal for treatment of stress symptoms.

3.22. What is the actual role of biorhythm?

A person's biorhythm should absolutely be taken into account as part of magnetic field therapy. It is essentially the same with all people and must not be confused with the circadian or day-night rhythm. From 3:00 a.m. to 3:00 p.m., the cells in our body are in a warmup phase, i.e., they produce energy. To utilize this phase therapeutically, higher intensities should be set during this period of time. Between 3:00 p.m. and 3:00 a.m., our body is in a cool-down phase. Since the cells are not producing any additional energy in this period of time, lower intensities are advisable to support cellular activity. These guidelines for therapeutic use also apply to night-shift workers, because the night shift may change a person's day-night rhythm but it does not change the biorhythm.

The settings on the Magnetic Resonance System 2000 automatically take the biorhythm into account with the proper time setting.

3.23. What are the contra-indications for magnetic field therapy?

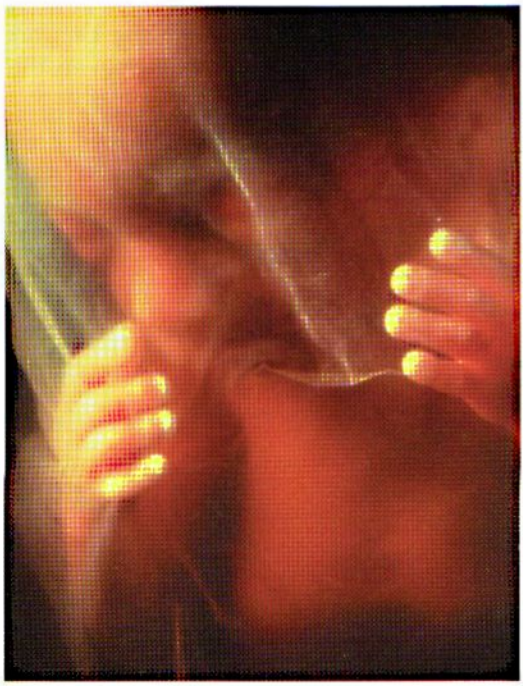
Although magnetic field therapy is practically free of side effects, certain precautionary measures must be observed. The only absolute contra-indications are for people who have electric implants (such as pacemakers).

Relative contra-indications, i.e., diseases or areas of use where magnetic field therapy should be performed only under medical supervision (but medical monitoring - by a physician or medical hotline - is always recommended in principle) are:

1. Epilepsy: In principle, this seizure disease should be treated only under a doctor's supervision because in the worst case, influencing the stimulus threshold in the brain can bring on a seizure.

It is important to note that there have been many positive study results on epilepsy and magnetic field therapy, and there have been only isolated reports of negative experience in the technical literature. Nevertheless, clarification with an experienced physician or a medical hotline is an absolute must.

2. With regard to the use of magnetic field therapy during pregnancy, caution is advised for lack of relevant study data. So far, there have not been any positive study results investigating the use of magnetic field therapy on pregnant women. Nor have there been any signs of harmful effects of magnetic field therapy on the fetus.



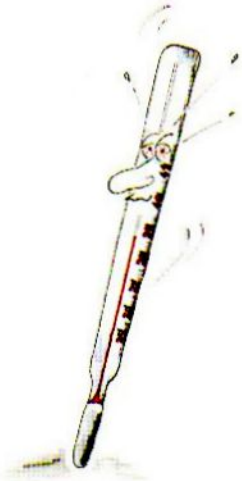
Embryo, 19 weeks

Organ transplant

3. People with organ transplants receiving subsequent immunosuppressant therapy should be treated with special caution. Individual physicians are of the opinion that magnetic field therapy should be used at the soonest six months after a transplant. The reason for this is that magnetic field therapy has an immune system stimulating effect, which in this specific case could be undesirable. Individual consultation may be of assistance here.

Caution is also advised in cases of untreated hyperthyroidism as well as in severe forms of arrhythmia. However, after successful stabilization of the thyroid function with medication, treatment can be administered just as with any healthy person. For people more than 75 years of age after acute bacterial or mycotic infections (fever > 38.5 °C), treatment should only be administered in the rehabilitation phase. In other words, treatment should be postponed until the fever phase subsides in order to prevent a short-term increase in temperature (initial reaction).

However, convalescence can be supported to a great extent by magnetic field therapy in



Fever

the regeneration phase, the recovery and buildup time following the acute fever phase.

Although magnetic field therapy does not have the effect of thinning blood but instead merely improves the flow properties of blood, patients taking anticoagulant medication (such as Marcumar) should continue to have their blood values monitored closely. So far, no negative effects have been described in the scientific literature in this regard.

Scalpel

People with a hypersensitivity to electromagnetic fields should be especially cautious in gradually increasing the dose over a longer period of time. In these cases it is advisable to begin with a single treatment once a week and increase it by one step every three to four weeks. Then by adding a second or third day of treatment each week, the body can become adjusted to the treatment in small increments.

3.24. Can magnetic field therapy be used with surgery?

When magnetic field therapy is used before surgery for preparation and after surgery, it can lead to better wound healing and faster regeneration. Postoperative use of a magnetic field system depends essentially on the extent of the surgical procedure. In surgery with severe blood loss, magnetic field therapy should not be used therapeutically until ten days after surgery; in minor surgery, it can be used already after the third day, if allowed by circumstances in the hospital.

3.25. What are the most common adverse effects of magnetic field therapy?

In rare cases, sleep disorders and heart palpitations have been reported. This reaction is often due to improper use or a certain internal anxiety associated with tension and its concomitant phenomena and it has nothing directly to do with magnetic field therapy per se. In some cases, a reduction in dose will yield a significant relief - on a psychological level.

The effect of medications can be improved by magnetic field therapy to the extent that the family physician may in many cases reduce the dose of medication (in no case should the dose of medication be changed without first consulting with the prescribing physician).

People with low blood pressure may experience a feeling of dizziness or may see blackspots in the initial phase, especially in the morning. The remedy here - as with vein problems - is to elevate the legs. In addition, sufficient intake of fluids is necessary especially in these cases.

It should be pointed out that all cards with magnetic strips can be erased with a certain magnetic field strength in treatment. In other words, be careful with bank cards and credit cards!

To avoid any possible adverse effects of the magnetic field, the contra-indications listed here should in any case be taken seriously. Although these guidelines must be observed strictly for home use, a physician in practice can use magnetic field therapy in accordance with his own experience.

3.26. Is it also possible to lie face down on the mat?

Yes. Magnetic fields penetrate the body completely and thus also act at a depth. If the maximum dose is to be concentrated on the diaphragm or chest area, it is definitely advisable to turn over onto your stomach and thereby utilize direct contact with the center of the coil and thus with the strongest area of the magnetic field.

3.27. How can the effect of magnetic field therapy be verified?

In order to verify the effect of magnetic field therapy, various methods with different informational value can be used. These include:

1. The patient's subjective perception (probably the only truly deciding criterion): The patient describes his/her pain and pain perception and compares it with the condition before treatment.

2. Objective clinical parameters and case history: the "patient's history"

3. Observation of the activities of daily life

4. Finger-floor distance test: The simplest and most impressive method to prove the relaxing and spasmolytic effect of magnetic field therapy on back pain quickly and without requiring expensive equipment.

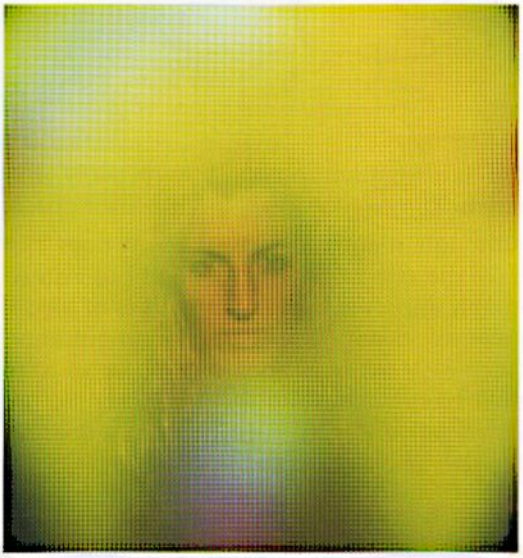
5. The pain scale from 0-10, with 0 indicating no pain and 10 indicating the greatest pain.

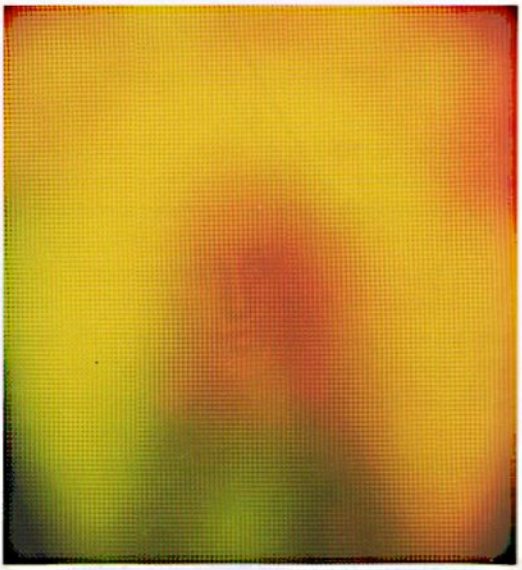
6. X-rays, MRI, CT scan, laboratory results, EKG, EEG, EMG, ENG.

7. Thermography: The body temperature is determined with an infrared measurement device and represented graphically or by display. It represents an indirect parameter for the improved circulation under the influence of magnetic field therapy.

8. PROGNOS: This diagnostic system determines very accurately the skin resistance at the beginning and end points of acupuncture meridians, thus indirectly permitting a conclusion as to the energy content of the acupuncture meridians and therefore also any possible disturbances.

9. PROCOMP/biofeedback: This system offers clinically accurate measurement results and is the most accurate method of measuring the effect of magnetic field therapy.





Above: aura before, below: aura after

10. Kinesiology, pulse, iris and tongue diagnostic tests, foot reflex, segment, aura photography, blood pressure, Kiebler's fold (fold of skin on the back that can be lifted and rolled over the muscles), mobility tests and the like.

3.28. How does one select the proper magnetic field therapy device from the numerous devices available?

Many different systems and devices are available on the market today. It is often difficult for an average person to separate the wheat from the chaff.

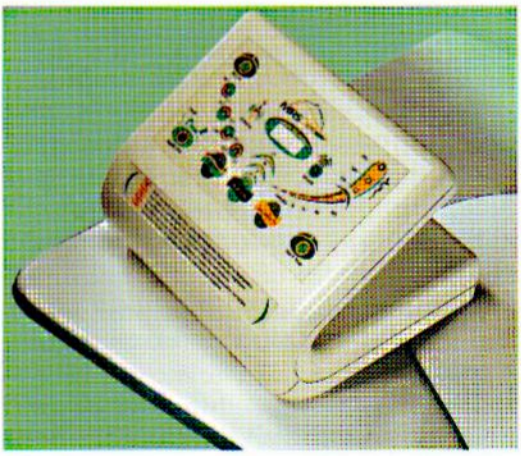
In no case should price be the most important criterion in acquiring a device. A cheap purchase is often more expensive than you might think. Avoid purchasing a device at a discount store. Instead you should buy it from a person with whom you are familiar, and you should become informed about whether the system has been investigated clinically and scientifically. Serious manufacturers invest a great deal of money in scientific testing of their equipment. Fly-by-night companies do not! Check the headquarters of the manufacturer and avoid companies that do not give a physical address (just a post office box) and cannot be reached by telephone. The magnetic field device you purchase should be one that has been used by many physicians and clinics. That would indicate a serious supplier. In addition, a magnetic field system should absolutely have a warranty, and the control device should have a warranty of at least 15 months. It is also important to have certification in accordance with German Industrial Standards (DIN 9003 and/or 9002). This guarantees constant technical testing and is issued only to serious manufacturers by the TÜV [Industrial Supervisory Association]. The date of recent tests should in any case be at least 1998, because the testing standards before 1998 did not fully conform to current requirements.

Another important criterion is the availability of medical assistance. The leading companies offer a medical hotline, a facility which costs a company a lot of money and is offered only by those companies that are aware of the responsibility associated with their product. You can receive answers to your questions by telephone, the Internet or by fax. Also ask about the possibility of a medical center which specializes in magnetic field therapy which you might be able to visit. You will soon learn that very few suppliers meet these conditions.

The company Vita-Life is considered to be the market leader. Their Magnetic Resonance System (MRS) serves as a model for practical handling of magnetic field therapy devices. The Magnetic Resonance System (MRS) is therefore used as a good example here because it is extremely user-friendly (this is also the reason why it is the one used most frequently). Nevertheless, this should not give the impression that the Magnetic Resonance System is the only magnetic field device or the only good one.

3.29. How should one select the correct magnetic resonance system?

The correct choice of a magnetic resonance system device is not so easy due to the numerous devices available.



MED-System

The **MED system** in any case belongs in the hands of a physician or a trained therapist. In addition to the possibility of a significantly

higher field strength (flux density) for special indications in the medical field, this therapeutic system also offers a separate applicator connection for use with a coil probe. This probe is especially suitable for local treatment of small joints or inaccessible body parts. Consequently, this probe is used therapeutically in the area of the neck and head, especially the teeth and jaws, as well as the ear, nose and throat area. It is also suitable for treatment of small joints (e.g., fingers). This probe not only offers the advantage of more precise localization in the proper area of the face, but also offers the greatest possible protection of surrounding areas of the head. Due to its cone-shaped field, the greatest possible precision is achieved. Another advantage of this applicator is the relatively low depth of penetration, thus largely protecting the structures inside the skull (for example, the retina and pineal gland). The reason for this is that the intensity decreases more rapidly with the distance from the coil (with the third power of the distance with point sources). In addition, use of the probe offers a higher flux density and thus a higher energy at the coil core.

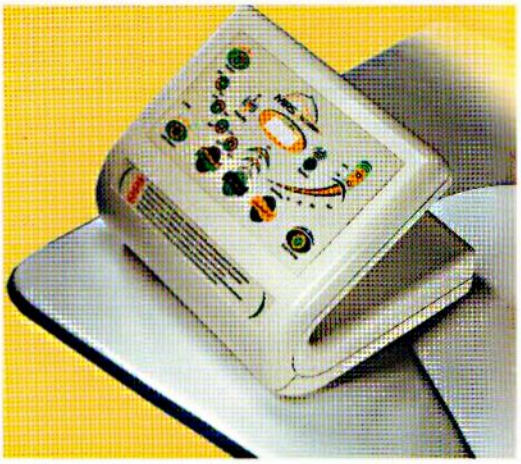
This property means another possible application for the probe, namely in acupuncture, where it is actually superior to pure laser acupuncture because of the greater depth of penetration.

Its conical propagation in the body, thus covering a certain area, permits a greater deviation from the acupuncture point, which is often just a few millimeters in size (the so-called sweet spot) without resulting in a reduced effect. To this extent, the probe has a higher success rate. It is especially suitable for acupuncture in people (often children) who are afraid of needles.

The **home device** is an all-purpose system that works like the MED system with frequency programs which take into account the biorhythm of the human body and are adjusted to the human brain waves. As with the MED system, it also has multiple time settings so that topical use can be preprogrammed for up to half an hour. Likewise, the applicators can remain connected at the same time and can be selected with the proper switch before starting operation.

Magnetic resonance system devices have their own testing software for checking on the proper functioning of the system, including applicators, before each new use, thereby guaranteeing that these systems will also continue to function for several years. Any defects, such as a damaged applicator, are indicated immediately and operation of the system is impossible.

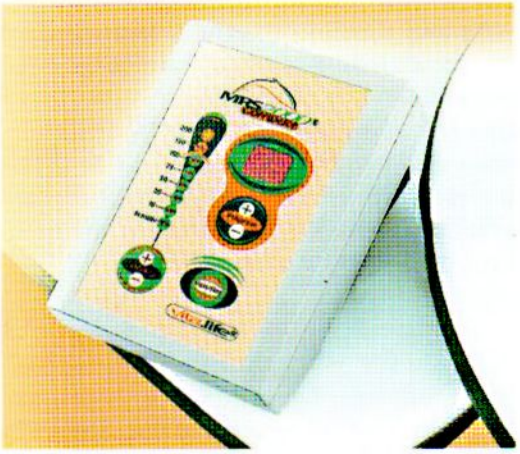
Applicators available include pads and the whole-body mat. The mat has three pairs of flat coils located in the area of the shoulders, the pelvis and the ankles with different sizes and different numbers of windings. Therefore, the coils in these areas also produce different strengths of the respective magnetic fields, with the lowest strength being achieved in the shoulder area and the highest flux density in the foot area (measured by the average height of an adult). The whole-body mat mainly serves the function of regulatory harmonizing therapy. The pads have two flat coils each with a high field strength and they are considered especially effective for local treatment. They are characterized by an accurate application technique with a higher energy transfer.



HOME-System

The **compact system** offers advantages with regard to handling and convenience. Due to its practical size, it is considered a travel device or sports device. It operates with the same frequency band as the home and MED

devices for treatment of pain, but it has two additional settings for the whole-body mat, namely a soothing 3 Hz frequency and a stimulating 12-13 Hz frequency. In intensity, i.e., magnetic flux density (strength of the field), the compact system corresponds to the possibilities of the home device of the Magnetic Resonance System 2000+ series. It is more convenient and also simpler in technology and in design, although it works with the same intensity levels as the home system. The mat and the pad cannot be plugged in at the same time, but instead they must be plugged into the outlet individually as needed. In contrast with the home system and the MED system, the compact system functions without a chip card and therefore does not offer the option of connecting the Sound and Light Relax System, which is of great benefit especially in stress disorders because of the relaxing effect.



COMPACT-System

From a technical standpoint, it should also be pointed out that all systems are equipped with an external transformer so that there is not any superimposed interference due to electric fields from the transformer. The waveform for the current is preprogrammed to be the technically complex but highly effective sawtooth waveform (see explanations in the corresponding section).

The frequencies of the home system and the MED system are identical and have different carrier frequencies, depending on the program selected. The carrier frequency is understood to refer to the distance between two successive pulse blocks: 15 Hz, 5.5 Hz, 3 Hz, 0.5 Hz are the corresponding frequencies with the main pulse frequency (determined by the sawtooth pulse) being 64 Hz overall, which is exactly the vital frequency of the heart. Since the structure of a frequency band with a broad effect is not only technically difficult but also has many important and therapeutically effective frequencies, it should be pointed out that the entire frequency band contains frequencies from 0.1 to 200 Hz.

The polarity changes automatically every two minutes.

The field strength is at least 90 nT (nanoteslas) up to a maximum of 160,000 nT, depending on the applicator selected and the intensity level. The intensity up to 100 % refers to the range intended for prophylactic and whole-body use, while higher intensity levels are used more for treatment with a local applicator.

3.30. How can magnetic field therapy be adjusted correctly for local use?

In general, the intensity can be selected higher the greater the distance from the torso. The following general guidelines can be given for local therapy with a pad or probe:

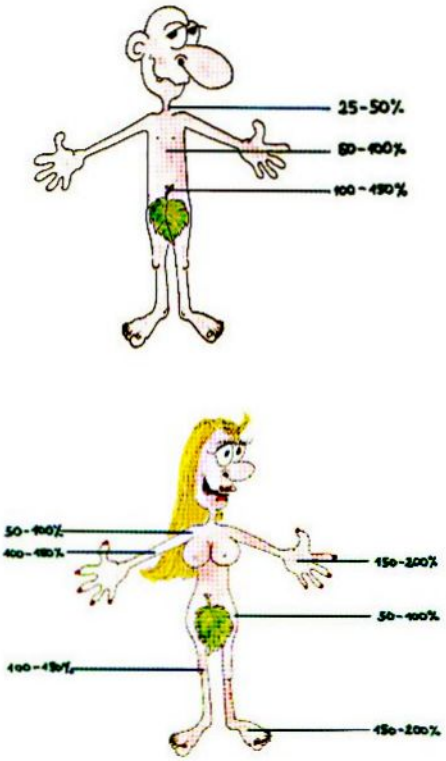
Cervical spine area 25-50 %
Thoracic spine area 50-100 %
Lumbar spine area 100-150 %
Shoulder and hips 50-100 %
Elbows and knees 100-150 %
Hands and feet 150-200 %

The probe is used with various intensities in the head area, but usually between 200-400 %.

The 400 % level is available with the MED system for use with degenerative diseases of the joints and bones.

For all these use recommendations, the rule of gradually increasing the dose is applicable, but it should also be pointed out that although these are rules of thumb based on empirical values, they are not universally

valid. Everyone can react differently to a selected intensity. Therefore, it is advisable to select the intensity level on an individual basis.



Intensitätsstufen

3.31. How should one properly proceed in the use of this system?

For whole-body use, an 8-minute treatment time is usually sufficient. Use is designed to be very simple. With few exceptions, the magnetic field system can be used once or twice a day with any disease.

For local pain, an additional extra treatment one to three times a day for 16-24 minutes each time with a pad or probe, depending on the size of the treatment area on the body and the cause of the condition, is recommended.

For pain in an extremity, before beginning local therapy, a single whole-body application is also recommended in addition to the local application. This procedure can be repeated with each treatment.

Proper positioning is important - for example, keep knees bent for back problems.

3.32. How should children be treated?

For small children, lower doses than those used for adults are sufficient. Therefore, the dose should be reduced to one third for children up to three years of age. Since this is often difficult, especially when working with lower intensity levels, we recommend a much simpler solution: The child and mother (or father) may use the mat together, following the dosage recommendations for an adult. Due to the distance from the coil, the dose is thus automatically reduced for the child. The mother lies with her back on the flat coil applicator and the child lies on the mother's abdomen. This close connection creates contact while also soothing the child. Treatment for mother and child together cannot harm either of them.

Adolescents should receive half the dose, i.e., either the intensity level or the time should be reduced by one half. Young people who are no longer teenagers should follow the treatment guidelines for adults.

3.33. Can magnetic field therapy be used by nursing mothers?

Yes. There is no information to the contrary in the technical literature. There are women who prefer to nurse while receiving magnetic field therapy because the baby is especially calm then. There are even references in the literature indicating that women who do not produce enough milk may solve this problem with the help of magnetic field therapy.

3.34. When can a short-term treatment be carried out successfully?

A short-term treatment can be successful especially in conjunction with sports injuries. Other examples include the traditional pro-

lapsed disk and acute tension states (lumbago), menstrual complaints, toothaches, headaches, sleep disorders and fatigue, for prevention and follow-up care in surgery, wound healing and bone healing.

3.35. When is long-term therapy necessary?

In long-term therapy, the magnetic field has a regulatory and harmonizing effect on the autonomic nervous system. Therefore, it is used as a supportive measure in cases of lack of energy, depression, chronic fatigue, functional disorders, circulation disorders, chronic pain states, circulatory problems, osteoporosis, arthrosis, traumatic or degenerative nerve diseases, a weakened immune system and in general for rehabilitation and regeneration. Since chronic degenerative diseases with severe deterioration phenomena develop over a long period of time, the treatment may accordingly take a long time until it has a far-reaching effect. Thus, it is known that in osteoporosis, for example, there is no point in measuring bone density until after approximately one and half years of treatment because bone cells take such a long period of time before measurable results can be detected.

3.36. Has there already been clinical experience with a magnetic field therapy device like the Magnetic Resonance System 2000+ MED?

With this system, approximately 40 clinical studies are currently being conducted throughout Europe, all in accordance with the internationally recognized methods of GCPG - good clinical practice guidelines. This method is already being used at many clinics for treatment of a wide variety of symptoms. As an example, we would like to present here a report by the Viennese Community Hospital of the Rudolf Foundation. For two years, a double-blind study of the Magnetic Resonance System in intervertebral disk problems has been underway there.

I would like to thank my friend and colleague, Dr. Bernhard Kuderer, head physician, and his team for permission to publish this report. Dr. Kuderer is without a doubt an expert in the field of magnetic field therapy.

3.37. What are the reasons for successful use of the Magnetic Resonance System in everyday clinical practice?

Dr. Kuderer, of the Viennese Community Hospital of the Rudolf Foundation (citation):

1. its extensive safety (versus side effects and contra-indications with other forms of therapy),
2. its temperature neutrality: with intolerance to heat, in the acute-chronic transitional stage,
3. varied and often surprising effects as the last resort when other forms of therapy are ineffective,
4. the depth effect is almost undiminished in prolapsed and protruding disks,
5. special applicators with corresponding field geometries for narrowly defined localizations such as a ganglion or stenosing tendinitis, for large-area whole-body applications: for example, in subjective disorders of well-being,
6. explicit patient wishes for patients who have been preinformed through the media,
7. main effect in the functional stage,
8. other general indications: sports injuries, arthrosis, osteoporosis, fractures, pseudarthrosis, wound healing, ulcers, Sudeck's disease, vertigo, tinnitus, carpal tunnel syndrome.

3.38. Can magnetic field therapy be used in tumors?

For a long time the use of magnetic field systems for treatment of tumors was disputed. The reason for this was to be found in studies about the harmful health effects of electromagnetic fields (electromagnetic smog). However, a strict distinction must be made here, because magnetic fields with a therapeutic benefit have nothing in common with

highly industrial fields of electromagnetic smog. The basis for the use of magnetic fields as a form a therapy is found in the results of the American National Cancer Institute (NCI), which classified the magnetic fields used therapeutically as safe for human health (1997).

There are no indications in the scientific literature that therapeutic low-frequency, low-intensity magnetic fields can damage human cells or stimulate the growth or development of a tumor. Although the influence of industrial electromagnetic fields on the human body is still a point of dispute among scientists, no objections have been reported for treatment with therapeutic magnetic fields. Although therapeutic magnetic fields cannot actually stop cancer cells, they can nevertheless have a positive influence on the disease process according to numerous medical studies. The reason for this positive effect is probably the general improvement in the defensive power of the immune system. This is also proven by the study conducted by the German physician Frank Daudert from Bad Aibling on more than three hundred patients. Frank Daudert's research has proven that even the harmful consequences of radiation therapy and chemotherapy can be reduced with magnetic field therapy.

All these are reasons why magnetic field therapy is being used more and more frequently for supportive treatment of cancer (see also Chapter II "Tumor diseases").

3.39. What is the attitude of medical insurance companies with respect to magnetic field therapy?

Unfortunately, the medical insurance carriers do not actually have a uniform approach in this regard. Although obligatory insurance will approve the cost of treatment or even the expenses of an entire system only in exceptional cases, insurance companies do relatively often provide compensation for a portion of the rental of the device for very specific indications and with appropriate preinformation by the treating physician. The situation is different with supplementary insurance. It is not unusual for therapy expenses up to a certain amount to be assumed by these insurance companies. Entire systems have been paid for when the insured patient has shown a certain skill in negotiation. In chronic pain cases, a retrospective negotiation tactic has proven most suitable. Anyone who is financing a system himself/herself can propose a deal to the insurance company by calculating the average cost of his/her pain pills for the last year to receive the difference from the insurance company as payment for future years until the Magnetic Resonance System is fully paid for. This is a deal that an insurance company will rarely refuse. The fact is that magnetic field therapy was once billed as a medical service by insurance companies, but this option has been dropped as part of economizing measures. At the present time, new negotiations are underway in this regard.

3.40. Where can I get advice about questions concerning magnetic field therapy?

Technical advisors are available to you. These advisors can be recommended by an experienced physician in your area, or they can give you the address of the Energy Medicine Center in Vienna or the medical hotline.

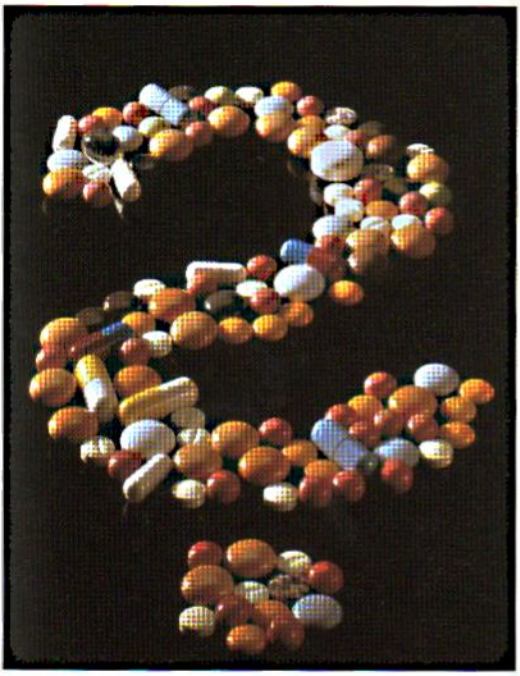
3.41. What is the effect of magnetic field therapy with a vaccination?

In general, magnetic field therapy has a neutral effect on vaccinations. During a vaccination, which is an artificially induced infection with a weakened or dead disease pathogen, the process taking place in the body is similar to that in an actual infection. Studies have shown that magnetic field therapy is capable of stimulating the immune system to produce lymphocytes in particular (lymphocytes are a special subgroup of white blood cells which are capable of antibody production and guarantee immunization, which protects the body from the invading microorganism). It can thus be assumed that when using the magnetic field system in vaccinations, the vaccina-

tion effect will be increased. The immune reaction will take place more quickly and the body will in general tolerate the vaccination better. The inflammation reaction is also minimized and the risk of side effects of the vaccination will be lower.

3.42. Is magnetic field therapy compatible with medication?

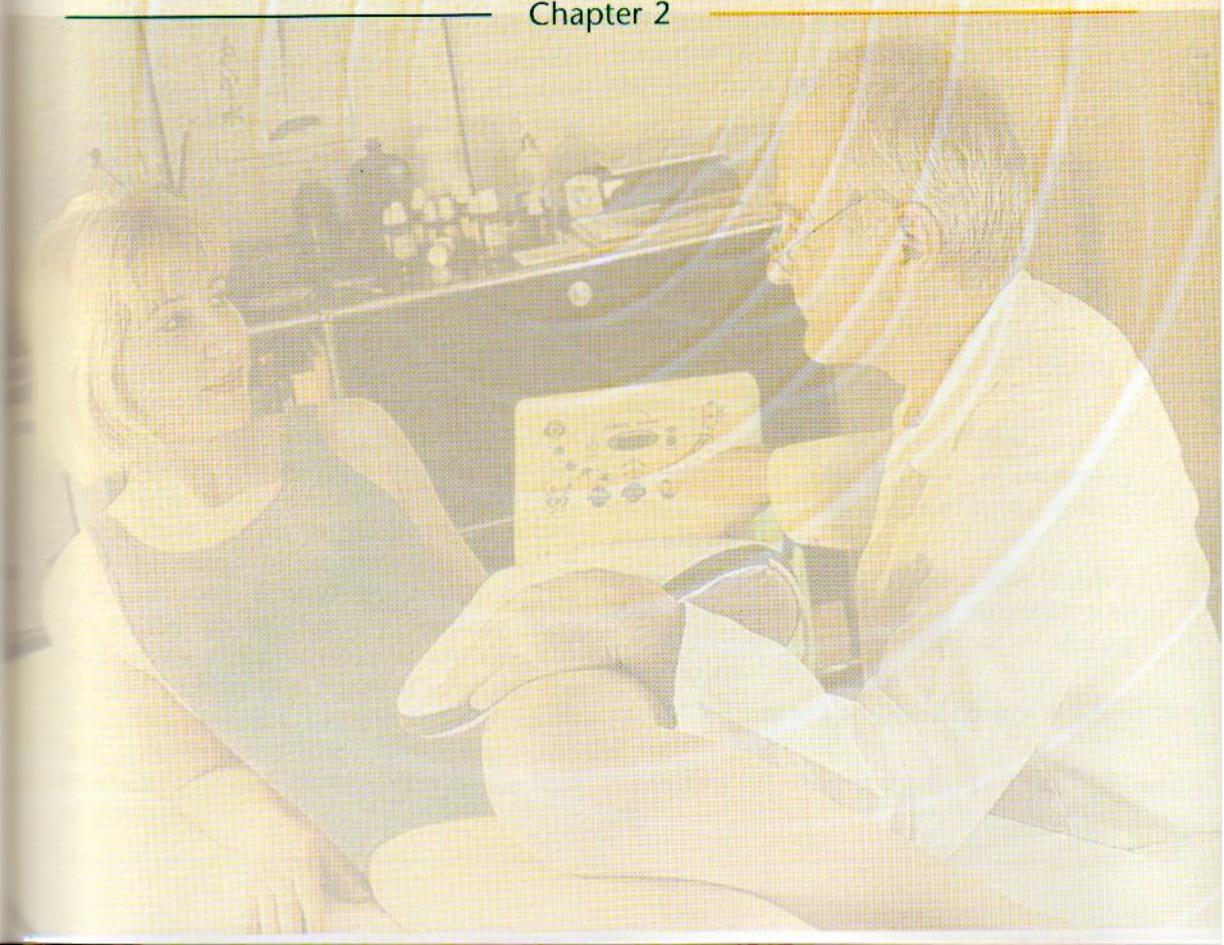
As numerous studies have shown, magnetic field therapy is often a good supplement to the traditional use of medication. Due to the improved circulation, the active ingredients in the medications reach the cells in the diseased organ more efficiency and in a higher concentration. The increased effect of the medication is often associated with reduced side effects. A second consideration is derived from the resonance effect on the cell membrane.



Due to the increased amplitude of vibration, the receptors at the cell surface come in better contact with the medication and thus achieve an increased efficiency in their effect. Perhaps the change in permeability of the membrane and the related improved permeability into the cell may also play a certain role. Studies with antibiotics, cortisone and insulin have proven the often improved effect of these drugs. The Magnetic Resonance System is used here as a whole-body treatment. Study results by the Artificial Heart Research Laboratory and the Department of Chemistry at the University of Utah (USA) have shown that pulsating magnetic fields definitely increase the efficacy of the antibiotic gentamicin against Pseudomonas aeruginosa because the bacteria form less of the defensive film against the antibiotic (Dianna E. Benson et al.: "Magnetic field enhancement of antibiotic activity in biofilm forming Pseudomonas aeruginosa," University of Utah, Salt Lake City, Utah).

POSSIBLE USES OF MAGNETIC FIELD THERAPY FROM A to Z

Chapter 2



Foreword to the chapter: Possible uses of magnetic field therapy

With regard to almost all the diseases discussed in the following chapter which have been treated with magnetic field therapy, our summaries are based on international studies as well as numerous reports by physicians and patients. We have attempted to select the most interesting ones for this book. Although we have researched this field conscientiously and have reviewed it carefully, the author of each respective report and study is responsible for the truth of the contents of each respectively. For reasons of space, we cannot go into detail about all the diseases mentioned in the literature in conjunction with MFT, so we do not make any claims as to the thoroughness of the material presented in this book. Our selection should only reflect a representative cross section of the possible uses of MFT.

The MRS 2000+ system was selected for use because these systems are the most widely used due to their simple handling and their easy-to-use operating elements. The Magnetic Resonance System is not the only effective magnetic field therapy system, but is it very suitable for supportive therapeutic use in many diseases. The HOME, MED and COMPACT systems do not differ in their local programs, i.e., pain therapy is administered with the same intensities and the same frequency in any case. Only the medical system offers the possibility of selecting higher field strengths for special indications. Thus, the strengths indicated in this book for the individual diseases can be used with each of these systems. One thing to take into account when using the COMPACT system is that it does not automatically follow a biorhythm through the program selector key, as does the HOME or MED device. With certain whole-body applications, e.g., for sleep disorders, stress and psychological diseases, the sedative (soothing) program is selected. The tonicizing program, i.e., the stimulating effect, is recommended in the morning hours for chronic fatigue, depression or in the field of sports.

The suggested uses selected in this book are based on reports of findings by many physicians and are considered to be general guidelines for magnetic field therapy with Magnetic Resonance Systems of IGEM (International Society of Physicians for Energy Medicine). This should not give the impression that all the diseases listed in this chapter can be cured with magnetic field therapy. Our book is intended to offer a nonjudgmental review of the many possible uses of this form of therapy described in the literature. Our recommendations should be considered as a rule of thumb and must always be adapted to the individual case because each person may react differently to magnetic fields. Science and thus the level of knowledge are in constant flux. Please remember that the diagnosis should be made by a physician in any case.

When should you see a physician immediately?

People are often unsure which signs and symptoms justify a doctor's visit. The following list includes the most important symptoms that should be reported to a physician if they last more than a couple of days:

- weight loss of more than 3 kg for no reason
- any change in shape, size and skin texture of the breast, a lump or a thickening in the breast, any change in the nipple or bleeding from the nipple
- changes, swelling or tumors in the testicles or constant total erectile dysfunction
- a constant feeling of thirst for no apparent reason
- an unexplained feeling of dizziness
- any change in color or growth or thickening of birthmarks, warts and liver spots, itching and bleeding
- coughing up blood, blood in the urine or stool, unexplained vaginal bleeding after sexual intercourse, between periods or during menopause
- black feces or any persistent change in bowel habits
- constant digestive problems or acid belching

- problems in swallowing and a rough or hoarse voice for more than three weeks
- any severe or unusual headache for the first time
- any unexplainable leg pain or regular persistent back pain
- any wound that does not heal or shows signs of swelling

The fact that pain seems to be more intense at night is normal and should not cause anxiety. In case of doubt, it is always better to consult a physician. This is also true of treatment with magnetic fields. Any serious supplier of these systems will be able to provide you with the service of a medical hotline or a consultation office.

The following things are important in a doctor's visit:

To save time, before your doctor's visit you should write down the questions you would like to ask or what you would like to say:

- when your symptoms occurred for the first time
- whether you have observed anything unusual
- whether the complaints are occurring for the first time
- a precise description of the pain
- whether the pain is a hindrance
- what circumstances increase or reduce the pain (heat, time of day)
- medications you are currently taking, treatments that have already been administered by other physicians or therapists
- what causes the disease
- how the disease is normally treated
- what can be done to help
- what long-term effects the disease does have
- what can be done to prevent another outbreak

Often the disease history is sufficient to make a diagnosis. A physical examination is not always necessary. In some cases, you will be referred to a specialist.

It can be dangerous to make a self-diagnosis. You should not stop taking your medication until after talking with your physician.

Which signs and symptoms indicate that you should take a child to the doctor?

- purple spots that do not become lighter under pressure
- difficulty in breathing
- pain on inhalation
- violent vomiting
- weakness, drowsiness or confusion
- no reaction to other children
- inability to stand up by himself/herself
- the child is unable to hold his/her head up straight
- children under six months: temperature above 38.3 °C (armpit) or 39.7 °C (rectal)

The following are signs of an emergency, when an emergency physician should be consulted immediately:

- serious chest pain: pain accompanied by a pale face, nausea or feeling of coldness, breaking out in sweat or difficulty in breathing for more than ten minutes
- respiratory problems: shortness of breath, wheezing, strangling, a whistling sound in breathing, if the person seems to be suffocating and cannot eat or drink
- high fever: more than 40 °C in an adult, possibly in combination with a stiff neck, convulsions or vomiting
- serious wounds: deep cuts or wounds where the bleeding cannot be stopped; gaping wounds or wounds that are red, difficult to clean and inflamed
- head injuries: combined with loss of consciousness, seeing double, confusion, drowsiness, dizziness or loss of memory
- fractures: a bone is broken when it cannot bear load or is severely twisted, if the person has severe pain and nausea
- severe sudden pain: if it lasts more than ten minutes

- loss of consciousness: when a person cannot be awakened
- serious burns or scalding: severe formation blistering or destroyed skin; a burn affecting a large area of the face, where the skin turns either white or black; you should see a doctor for a sunburn if large areas are burned and covered with blisters, or if you have shivering, nausea, vomiting, fever or symptoms because of heart palpitations
- vomiting and diarrhea: this is a serious disease if combined with a stomachache or blood in the vomit.

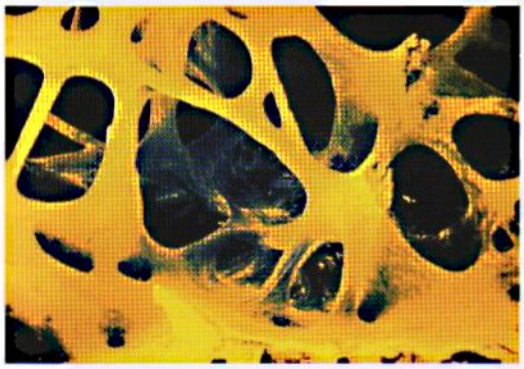
Abbreviations used in physician reports and patient reports:

MF:	magnetic field
MFT:	magnetic field therapy
MRS:	Magnetic Resonance System
OP:	operation (surgery)
WS:	spinal cord

ORTHOPEDICS

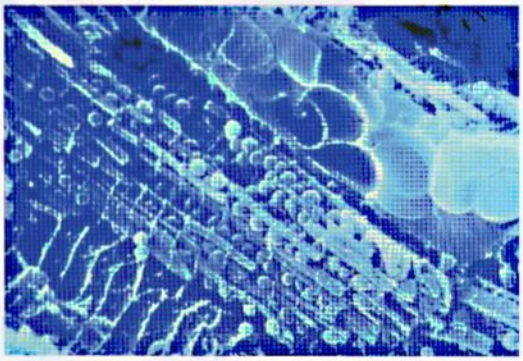
1. Diseases of the motor system and the supporting apparatus

The human motor system is a complicated structure consisting of various interconnected parts. Every tiny movement involves an interaction of bones, muscles, tendons and ligaments.



Bone structure

The skeletal structure supports the body and protects the internal organs from injury. The bones (approximately 206) are 99 % calcium, a mineral salt which gives bones their strength and stability. The bone marrow, which produces red and white blood cells, is found in the small interior cavity of bones. The point of contact between two bones which are not fixedly joined together is called the joint. Ligaments stabilize these joint connections, cushioning the cartilage and protecting it. Various fluids in the joints (lubrication) and in the synovial bursa (bags of mucus in the joint) allow them to slide together without friction and thus prevent the joints from wearing down. Tendons connect the muscles to the bones. The muscles enclosing the skeletal structure have the ability to contract and thus cause the parts of the skeleton to move.



Muscles with transverse striations

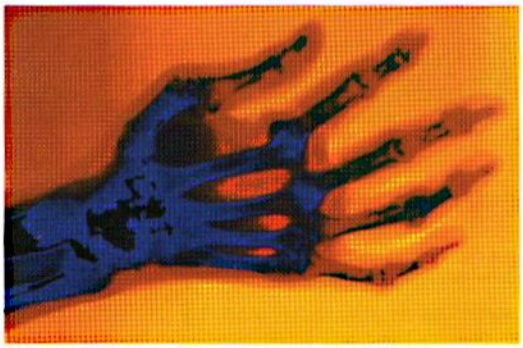
1.1. Arthritis (inflammation of joints)

Arthritis is characterized by redness of the joints combined with intense pain and swelling. The causes of most forms of arthritis are

still unknown. The most common type is acute rheumatoid arthritis. This disease affects three times as many women as men and usually begins between the ages of 20 and 30. This reactive arthritis is not caused directly by pathogens such as bacteria or viruses, but instead it is the result of an inflammation in the gastrointestinal tract or the urinary tract which may have been several weeks in the past. The joint symptoms are often preceded by an inflammation of the tonsils (rheumatic fever) caused by streptococci (pyogenic pathogens, i.e., germs that produce pus). Due to the use of antibiotics, this disease rarely occurs today. Usually larger joints are affected by acute rheumatoid arthritis, especially the ankle and knee joints. Only in rare cases does the acute inflammation affect the bones or cartilage permanently. The intense pain can move from one joint to another, but usually disappears spontaneously without any additional medication.

1.2. Primary chronic polyarthritis (PCP)

Chronic polyarthritis or rheumatoid arthritis affects especially young women between the ages of 20 and 30 or around the age of 40. The cause of this autoimmune disease has not yet been determined conclusively. It is assumed that the immune system is misled by a virus to incorrectly recognize the body's own cells in the joint as foreign substances, so it begins to attack these cells and destroy them. In 80 % of those affected, protein is found in the blood, which is an indication for the so-called rheumatoid factor.



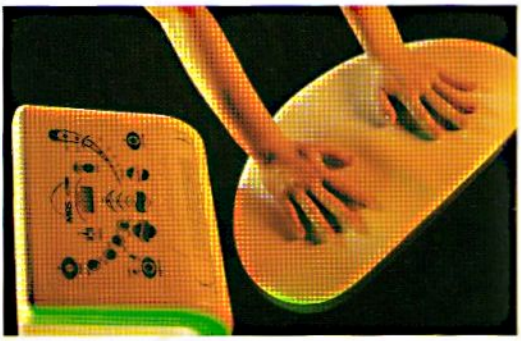
Arthritis/X-ray

It is characterized by symmetrical involvement of the metacarpophalangeal joints of the finger. The shoulder joints and knee joints may be involved in attacks, with the hip joints being involved less frequently. The inflammation affects the tender skin of the inside surfaces of the joints (synovia). If these joint surfaces begin to stick together, the inflammation attacks the cartilage, ultimately destroying it. The metacarpophalangeal joints then often become grotesquely deformed. The typical stiffness of joints in the morning can subside again in the course of the day due to movement, but if left untreated, it may end in ankylosis (immobility). The goal of therapeutic treatment is to relieve pain and stop the progression of the disease to maintain mobility of the joints for as long as possible.

Effect of MFT on arthritis:
relieving pain, supporting therapy, reducing the extent of the disease

Proper use of MRS for arthritis
Treatment of the metacarpophalangeal joint of the finger (discussions for all other joints: see "Arthrosis")

- Whole-body mat: twice a day for 8 minutes each time, 100 % level in the morning (increasing the dose gradually, starting from the 10 % level), 10 % level in the evening

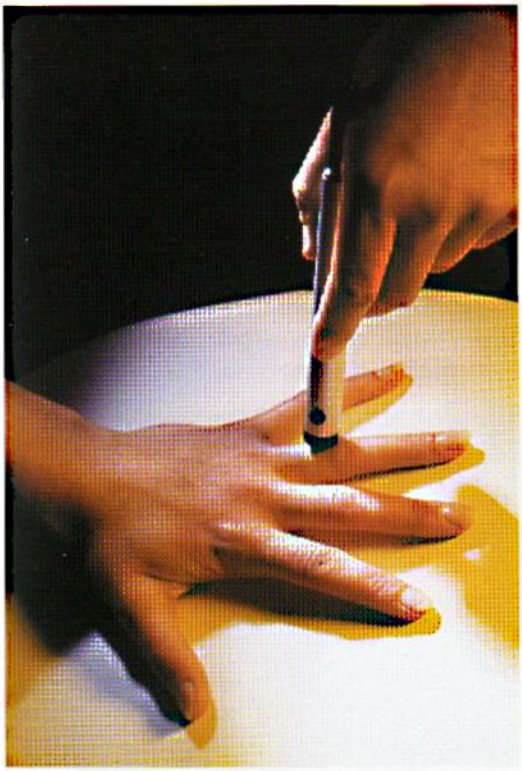


Local treatment of hands

- Pad or probe (especially successful): three times a day for 16-24 minutes each time at a level of 150-200 %, placing the hands on the pad or probe
- Special instructions on use: The treatments should also be continued in the intervals when there are no attacks.

• Notes on the initial reaction: The risk of an intense initial reaction is relatively high (25 %) in arthritis, especially in PCP. This can be prevented by increasing the dose very gradually.

• Forms of therapy supportive of MFT: homeopathy, enzymes, herbal remedies (herbal extracts: rampion, yucca, grape seed, white willow bark)



Local treatment of fingers

Scientific studies on the treatment of arthritis with MFT

• T. Zizic et al.: "The treatment of rheumatoid arthritis of the hand with pulsed electrical fields," Second World Congress for Electricity and Magnetism in Biology and Medicine, June 8-13, 1997, Bologna, Italy. - This double-blind, placebo-controlled study investigates the effects of pulsating fields for a period of four weeks in the treatment of arthritis of the hand. The results show a definite clinical improvement in patients receiving magnetic field therapy in comparison with the control group without MFT.

• V. D. Grigor'eva et al.: "Therapeutic use of physical factors in complex therapy of patients with psoriatic arthritis," Vopr Kurortol Fizioter Lech Fiz Kult (6), 1995, pp. 48-51. - This study presents a review of the treatment of patients with psoriatic arthritis with low-frequency MF. It demonstrates a definite improvement in the clinical condition of the joints affected.

• E. Riva Sanseverino, A. Vannini, P. Castellacci: "Therapeutic effects of pulsed magnetic fields on joint diseases," Panminerva Medica 34 (4), October-December 1992, pp. 187-196. - This investigation characterizes MFT as an excellent physical measure for the treatment of joint diseases. The authors of this study report that MFT, when used correctly and repeated periodically, can stop the disease process of the joints affected, at least with regard to clinical findings. The best results are achieved in the treatment of pain.

Physician reports on the treatment of arthritis with MF

1. Dr. Christoph Scherer, MD, Dr. Christian Thuile, MD, Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0043/1/40 666 00

• *Patient, female, H. K., 57 years old. Diagnosis: Arthritis in the knee, wrist and ankle joints. Results of MRS therapy: After the first treatment, the subjective pain was reduced from 8 to 3 on a scale of 10. Mobility was already much better after just a few days.*

• *Patient, female, E.B., 70 years old. Diagnosis: Non-specific polyarthritis, cervical syndrome after an automobile accident, lumbago, dizziness. Results of MRS therapy: The paresthesias (disturbances in sensitivity) were reduced greatly after the fifth treatment, the patient felt more vital and full of energy, and the pain was definitely reduced.*

2. Wolfgang Kropshofer, Doctor of Chiropractics, Health Center, 1080 Vienna, Alserstrasse 43/8a, tel. +43/(0)1/40 373 80

• *Patient, female, B.G., 70 years old. Diagnosis: On September 28, 1998, the patient complained of rheumatism and lumbo-ischialgia on the left. She had gone for spa treatments five times with moderate success. Pain symptoms:*

Variable complaints involving all of the joints, in particular the major joints (polyarthritis), ischialgia with radiating pain into the thigh on the left. Results of MRS therapy: The patient has been completely free of symptoms since the last visit.

Patient reports on the treatment of arthritis with MRS

1. Thanks to Mr. Rudolf Frauenberger

• *Patient, female, H.H., 61 years old. Diagnosis: Increasingly severe pain in the joints (finger, hip and knee joints), backache (lower back pain), weak immune system. Results of MRS therapy: A definite improvement has occurred on all levels. "There has been a significant improvement in my arthritic symptoms. I can move again without pain. If I don't feel good, the MRS mat helps me within a short period of time."*

• *Patient, female, C.L., 62 years old. Diagnosis: Increasing arthritic pain in her right hand, arthrosis in the hip and wrist joints on both sides. Severe symptoms after surgery, especially in bed and climbing stairs. Results of MRS therapy: "I am free of pain in my normal everyday life, and I again have full freedom of movement and undisturbed sleep. My joints still cannot bear much weight for great exertion, but this is probably because of my lack of movement."*

• *Patient, female, K., 59 years old. Diagnosis: Severe arthritis in the left knee and arthrosis (for many years), left hip severely affected due to constant limping. "I was supposed to receive an artificial knee joint and a new hip joint in the fall of 1997. I was experiencing very severe pain and my mobility was limited." Results of MRS therapy: "After one week, swelling of my knee had gone down; therefore, I had less pain. After six months, I can move my knee well and I have almost no pain. My hip does not bother me as much either. I can drive a car again, i.e., work the clutch and get out of the car much more easily."*

2. Thanks to Mrs. Beate Martina

• *Patient, female, M.P., 83 years old. Diagnosis: Polyarthritis, weakened immune system, sleep disorders, heart valve defect, low blood pressure (110/80), severe soft tissue rheumatism, pain in the hip joint, slight depression, 70 % osteoporosis, chronic sinusitis, cysts in the jaw, ringing in the left ear and no sense of smell for 33 years, bronchial asthma until two years ago, congenital torticollis; 2/3 of the stomach removed after perforation of the stomach, hepatitis B. A total of 15 surgeries including two faulty surgeries. Results of MRS therapy: Definite improvement in the patient's overall health in combination with infusions of vitamin B12 three times a week; she is sleeping better, walking without limping and without a cane, and mobility has obviously improved.*

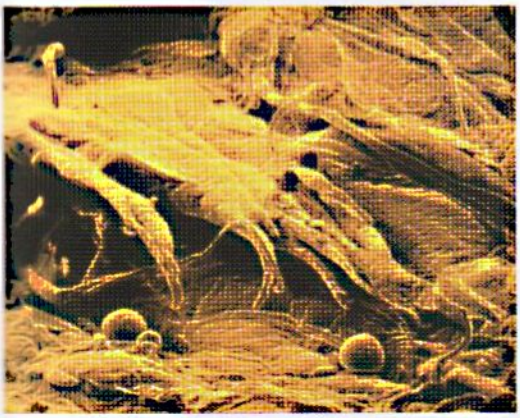
Appraisal of MFT: **70 % good to very good success**

1.3. Arthrosis

Arthrosis refers to non-inflammatory wear on the joint due to overstrain and overloading. We speak of "degenerative rheumatism of the spine" when arthrosis extends to the small joints of the spinal column.

Arthrosis of the head of the femur

Arthrosis today is considered a disease of civilization or well-being which is attributed to sitting too much and the related faulty weight distribution for the skeleton. Not only the aging process but also overexertion of joints due to heavy physical labor, an imbalanced load due to obesity or sports injuries can damage the cartilage surface and lead to severe wear. The joints most commonly affected are the knee, hip, finger, shoulder and spine. The joints begin to cause pain, the movements become slower and walking can be seriously restricted.



Arthrosis of the head of the femur

One out of two Austrians over the age of 35 has serious problems with their joints and motor system. At the onset of the disease, the person usually does not sense anything of the wear phenomena. The first signs of this disease include pain on rising in the morning, manifested as a sharp pain and definitely audible creaking or popping sounds in the joints. The pain disappears as soon as the joint begins to move again. Arthrosis cannot be cured, but the pain can be relieved and progression of the wear phenomena can be prevented.

Arthrosis/S-ray

The sooner treatment is begun, the better the prospects for success. To prevent arthrotic changes, poor posture, excess weight and faulty loading should be ruled out as soon as possible. Recently, it has become possible to detect even very slight cartilage defects (1.5 mm) in the early stage with the help of MRI technology. If countermeasures are taken promptly such as proper exercise, the development of arthrosis can be retarded. If all therapeutic measures fail, only surgery remains, in which case an artificial joint (made of metal, plastic or ceramic) is used to prevent complete ankylosis or stiffening of the joint. Traditional household remedies such as heat and cold can be of good assistance in supporting this therapy.

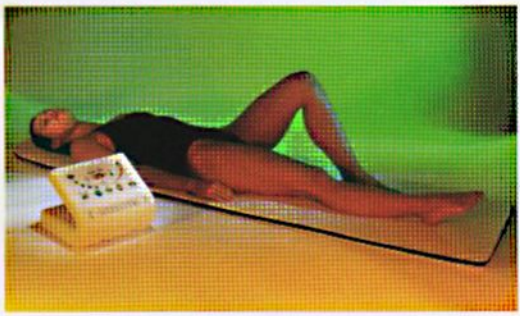
Arthrosis is the best researched area for the use of magnetic field therapy.

Effect of MFT in arthrosis:

Supporting, reducing pain (after just 4-8 weeks), inhibiting degeneration of the cartilage; when used early: strengthening the cartilage, promoting circulation, relaxing the muscles (this improves the mobility of joints after 4-6 weeks), reducing the need for medication.

Proper use of MRS for arthrosis

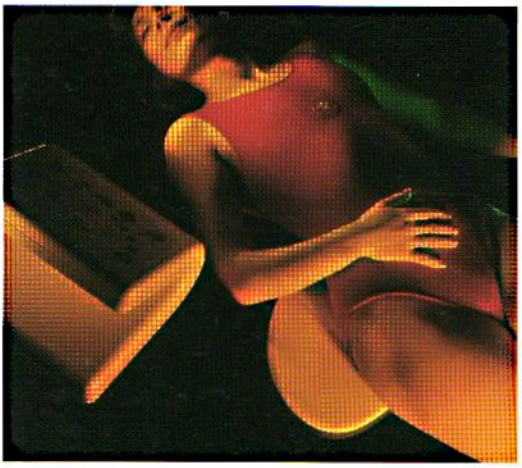
• Whole-body mat: twice a day, 8 minutes each time; 100 % level in the morning (increasing gradually from 10 %), 10 % level in the evening



Basic teatment for arthrosis

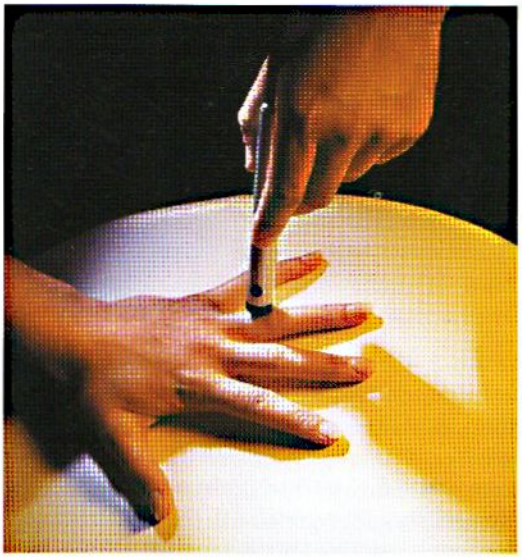
• Pad: 2-4 times a day, 16-24 minutes each time (depending on disposition)
Hand, foot, toe and finger joints: 150-200 % level
Knee and elbow: 100-200 % level
Hip and shoulder joints: 50-150 % level
Cervical spine: 25-100 % level
Thoracic spine: 50-100 % level

Lumbar spine: 100-150 % level
Probe (especially for arthrosis of the finger joints): 200 % level
• Special instructions for use: Patience (often over a period of years) is the key to success.



Local treatment of lumbar spine

• Notes on the initial reaction: The initial reaction occurs in 10 % of users at the beginning.
• Forms of therapy supportive of MFT: exercise and instruction in movement; educational counseling, acupuncture and neural therapy, massage, enzymes, glucosamine sulfate, shark cartilage extract, homeopathic remedies



Local treatment of fingers with probe

Scientific studies on the treatment of arthrosis with MFT

Until a few years ago, most studies on magnetic field therapy were conducted in the area of bone fractures. Due to the good clinical results, studies of arthrosis have recently dominated the field. Various internationally recognized clinical studies on the topic of the treatment of arthrosis with MRS are also available, including one by the Klagenfurt District Hospital.

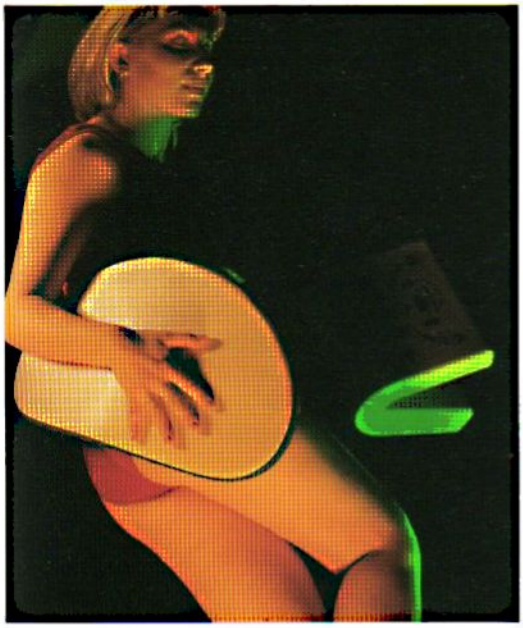
• F. Pezzetti et al.: "Effect of Pulsed Electromagnetic Field Exposure of Human Chondrocytes in Vitro," University of Ferrara, Italy, November 1998. - This study investigated the influence of pulsating electromagnetic fields on cartilage cells and demonstrated a definite increase in cartilage reconstruction under the influence of the magnetic field.

• H. Lieu et al.: "Pulsed Electromagnetic Fields Influence Hyaline Cartilage Extracellular Matrix Composition Without Affecting Molecular structure," Osteoarthritis and Cartilage 4, 1996, pp. 63-76. - This study shows that pulsating electromagnetic fields influence cartilage metabolism and can prevent the degradation of glucosamine glycans. In individual cases, cartilage mass can actually be recreated. This study represents an important step in scientific research into the positive effects of magnetic fields on arthrosis.

• L. Yurkiv et al.: "The Use of Changeable Magnetic Field in Treatment of Osteoarthritis," European Bioelectromagnetics Association, 3rd International Congress, February 29-March 3, 1996, Nancy, France. - This controlled study on arthrosis patients has shown a definite improvement in the disease condition of patients treated with MFT.

• D. H. Trock et al.: "The Effect of Pulsed Electromagnetic Fields in the Treatment of Osteoarthritis of the Knee and Cervical Spine. Report of Randomized, Double-blind, Placebo-controlled Trials," Journal of Rheumatology, 1994:21, pp. 1903-1911. - This study on 86 patients with arthrosis in the knee and 81 patients with arthrosis in the cervical spine has shown that there are definite differences

between the magnetic field group and the control group. The patients treated with the magnetic field show an improvement with a statistically significant difference in almost all clinical measurements.



Local treatment of hip with pad

• D. H. Trock et al.: "A Double-blind Trial of the Clinical Effects of Pulsed Electromagnetic Fields in Osteoarthritis," Journal of Rheumatology, 1993:20, pp. 456-460. - This double-blind randomized study with 27 patients (primary arthrosis of the knee) is one of the most important research studies conducted in the field of MFT. Six clinical parameters were investigated at different times during the treatment and evaluated after one month. These results show a definite improvement in clinical parameters (such as mobility) in the group treated with magnetic field therapy in comparison with the group treated without magnetic field therapy. An important conclusion in this study is that for more than 17 years, more than 200,000 patients have already been treated with pulsating magnetic fields in clinical trials without any mentionable side effects. Observations in Europe on 861 patients with painful rheumatic changes have shown an improvement in symptoms in 70-80 %.

• "Four years of experience with low-frequency pulsed electromagnetic fields in diseases and injuries of the supporting system and the motor system at the Herder Clinic in Bremen" - According to the expert evaluation of 650 cases of arthrosis of the spinal column and peripheral joints, a reduction in pain was found in 60-70 % of the cases.

Physician reports on the treatment of arthrosis with MFT

1. Dr. Michael Pommer, M.D., specialist in orthopedics and surgery, Graz

• *"In arthrosis and osteoporosis, excellent therapeutic results are achieved due to the cell-regenerating, anti-inflammatory and circulation-improving effects. Magnetic field therapy has proven to be excellent in my practice. In bone fractures, the healing results are greatly improved. Loosened prostheses can be secured again."*

2. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0043/1/40 666 00

• *Patient X.F., male, 44 years old. Diagnosis: Arthrosis of the right elbow joint, condition after a trauma in 1998: definitely reduced extension, marked pain symptoms in the morning and paresthesias (tingling) in the supply region of the ulnar nerve (elbow nerve). Results of MRS therapy: A temporary reduction in pain and increased freedom of movement were observed after just one day of treatment. A shortening of the regeneration phase was observed after playing tennis. Due to an unavoidable interruption in therapy (approximately four days), the success already achieved was reversed, thus demonstrating a direct correlation between treatment and pain relief.*

• *Patient I.D., female, 57 years old. Diagnosis: Gonarthrosis. Results of MRS therapy: The pain perceived subjectively subsided from 6 to 1 (on a scale of 10: 1 = no pain, 10 = intolerable pain).*

• *Patient C.B., male, 65 years old. Diagnosis: Poor general condition, cachectic; lack of energy after/due to reactive depression, no change in condition despite the use of antidepressants; in*

addition, marked polyarthrosis with extremely restricted movement in the area of the MCP (metacarpophalangeal joint of the finger), PIP (proximal interdigital joint) and DIP (distal interdigital joint). Due to the primary illness, the patient has little strength in either wrist, and he cannot make a fist or hold an empty cup. His gonarthrosis is so painful that the patient has been unable to go up stairs for several years. Results of MRS therapy: After 3 months of MFT with a marked initial reaction at the beginning, this patient is now pain-free today; he can make a fist, drink from a full coffee cup and climb stairs.

3. Dr. Kurt Pinter, M.D., Graz

• *Patient S.M., female, 85 years old. Diagnosis: Mrs. M has been suffering from the consequences of static and dynamic overloading of the motor system and the supporting system for several years; in addition to the lumbar spine, mainly the major joints are affected in particular; a total endoprosthesis had to be implanted in this patient in 1995 because of extreme coxarthrosis on the right. Continued high-grade deforming arthrosis of the finger joints, and the shoulder joints also show massive degenerative changes. This patient has refused medication and originally did not want to do MRS therapy because she had already received expensive MFT 20 years ago but with no effect. After an introductory infiltration therapy to alleviate the severe pain, she began magnetic resonance therapy on a trial basis. Results of MRS therapy: "The improvement in the degenerative changes (which she had hoped to see but which I had ruled out from the beginning) of course did not occur; however, she has experienced a significant reduction in pain and thus also a definite lightening of her overall mood."*

4. Heimo Simon, M.D., University Instructor

• *Patient, male, 59 years old. Diagnosis: Severe arthrosis in the area of the wrist as the result of a fracture 40 years previously in the area of radius and the wrist. Status report at the beginning of treatment: Swelling and inflammation in this area, restricted movement. Results of MRS therapy: Increased pain after three days, thereafter an improvement in the swelling, the restricted movement and pain.*

5. Rudolf Foundation Hospital in Vienna

• *Patient, male, 84 years old. Diagnosis: Severe coxarthrosis (arthrosis of the hip), lumbago (pain in the back), shortening of leg. Results of MRS therapy: MRS therapy and ultrasound three times a week after a fracture of the neck of the femur. Tendency to a significant improvement after seven treatments.*

6. Wolfgang Kropshofer, Health Center, Doctor of Chiropratics, 1080 Vienna, Alserstrasse 43/8a, tel. +43/(0)1/40 373 80

• *Patient G.C., female, 60 years old. Diagnosis: Gonarthrosis in the left knee. Signs of arthrosis in the sacral-intestinal insertions on both sides, shoulder-arm syndrome on the right, radiating pain into the upper arm, numbness in the fingers. Treatment: Scarification of the gelose trapezius, bloody medially (myogelosis). Results of MRS therapy: Virtually no pain in the knee joints within a short period of time, shoulder-arm complaints also improving. Osteoporosis findings on May 25, 1998: bone density 119 %. December 15, 1998: Patient is free of symptoms in the follow-up examination, can walk for long distances and the stiffness of her fingers has disappeared.*

• *Patient K.R., female, born 1923. Diagnosis: High-grade gonarthrosis. The patient has received five cortisone injections from her orthopedic surgeon; two weeks without symptoms. The patient walks with a cane and can only walk short distances. The pain (for about four years) is almost intolerable in the evening. Results of MRS therapy: The patient is completely pain-free - even at a follow-up four months later.*

7. Monika Grau, M.D., General Practitioner and Homeopathy Specialist

• *Patient A.E., female, born 1928. Diagnosis: Incipient arthrosis of the shoulder, arthrosis of knee joints on both sides and old cervical and lumbar spine complaints. Results of MRS therapy: The patient described the treatment (especially the first week) as extremely euphoric because of a definite improvement in general body feeling (lighter, more energy) and a perceptible improvement in specific symptoms. After ten treatments, the patient could move both shoulders again in all planes without pain and the knee and spinal complaints are becoming increasingly better.*

Patient reports on the treatment of arthrosis with MRS

1. Thanks to Mr. Reinhard Schlag

• *Patient B., male, 64 years old. Diagnosis: Primary arthrosis in the left knee and right foot, mild arthrosis in the right knee, movement and walking possible only with severe pain. Results of MRS therapy: A definite improvement in all areas after just three treatments. Mr. B. reported that even the pain in his back and shoulder had disappeared. In addition, he no longer had any prostate problems. After a pause in the treatment (vacation), Mr. B. reported that he still occasionally experienced pain in his foot and he was already able to go on long hikes. Mr. B. stopped taking all medication on his own at the beginning of the treatment and now is off all medication. He said that he has never felt so good or slept so well. Long hikes no longer cause him any pain, and heavy physical labor is now possible with no problem.*

• *Patient R., male, 71 years old. Diagnosis: Arthrosis in the right knee: severe pain. Shoulder pain, backache, circulation problems in the arms (feeling of numbness), prostate problems. Results of MRS therapy: After three treatments, all symptoms improved. Mr. R. is completely free of symptoms after two weeks of treatment. He can now walk without pain, and his shoulder pain and backache have disappeared. He sleeps very well and no longer has any prostate problems. The feeling of numbness in his arms has disappeared completely.*

2. Thanks to Mrs. Beate Martina

• *Patient G.M., male, 85 years old. Diagnosis: Arthrosis in the hands and knees: diabetes mellitus, prostate problems (must go to the toilet seven times a night), cataracts in both eyes, poor circulation, sleep disorders, digestive disorders, and resulting bowel problems, inflammation of the bladder, prostate surgery in 1997 led to difficulty in urination. Results of MRS therapy: After two weeks, significant improvement in circulation, the patient sleeps better, digestion has improved, nycturia only three times per night. After five months: Motor system free of pain, blood sugar levels stable, he no longer has to get up at night. Wound healing enormously improved. Furthermore, surgery on his eyes is no longer necessary (the cataract has disappeared), his hair is growing in darker, he no longer has any digestive problems and he is taking only one drug for diabetes.*

3. Thanks to Mr. Rudolf Frauenberger

• *Patient L., female, , 62 years old. Diagnosis: Arthrosis in the hips and wrists. Increasingly severe pain when climbing stairs. Results of MRS therapy: Full freedom of movement and no pain in normal everyday life.*

4. Thanks to Mrs. Beatric Studer

• *Patient, female, 62 years old. Diagnosis: Joint pain throughout the entire body, primary arthrosis pain in the left hip joint, 1995 hip joint surgery with a total prosthesis made of titanium. Results of MRS therapy: The patient is more balanced, has greater endurance, can withstand stress better and no longer has any joint pain.*

5. Thanks to Mrs. Gabriele Ockenfels

• *Patient R.O., male, 63 years old. Diagnosis: Pain due to coxarthrosis; patient referred for surgery on both hips, hypertension, gout, circulation disorders, especially in the legs. Results of MRS therapy: No more pain after three days, but the pain returns when lifting heavy weights. After longer treatment, he is free of pain in the hips and legs, and there has also been an improvement in his gout. So far, surgery on the two hip joints has not been necessary.*

6. Thanks to Mrs. Sieglinde Kapun

• *Patient K.R., male, , 64 years old. Diagnosis: Wear on the spinal cord and hip joint, circulation disorders throughout the whole body, migraines, tension in shoulder area, low blood pressure, severe sleep disorders, pain in the joints. Results of MRS therapy: Sleeping problems greatly improved after one and a half weeks, tension in shoulder area improved. Pain in the hip joint disappeared after treatment with the pad.*

7. Thanks to Mr. Karl Garber

• *Patient A.G., female, 35 years old. Diagnosis: Wear phenomena on the cervical and thoracic spine, therefore, severe headaches three to four times a week (medication), sleep disorders. Results of MRS therapy: No more headaches, sleep disorders and back pain eliminated.*

8. Thanks to Mr. Wolfgang Gasteiner

• *Patient H.W., female, 53 years old. Diagnosis: Extreme pain in the pelvic area and in the right thigh. Joint pain in the right knee, elbow and shoulder; patient finds it almost impossible to fix her hair; circulation problems in the feet. Results of MRS therapy: Circulation in the feet optimized after the first treatment, extreme relief in climbing stairs, subsidence of pain the next day, sleep disorders eliminated due to the pain relief. Movement therapy was possible after three days (walking rapidly for 5-6 kilometers). Circulation stabilized after the first days (daily medication stopped), medication for osteoporosis and gout stopped after 14 days. After four weeks, the patient is free of pain and experiencing physical well-being.*

9. Thanks to Mrs. Doris Paunger

• *Patient R.H., male, 75 years old. Diagnosis: Wear phenomena in the shoulder and knee areas, fracture in the hip area with constant complaints. Results of MRS therapy: Significant improvement after 14 days of treatment, pad used in the shoulder and knee areas; significant pain relief during the treatment. Tinnitus improved, general condition very good. After the fourth week, the shoulder pain improved progressively (longer-lasting freedom from pain).*

10. Thanks to Mrs. Verena Singer

• *Patient E. O., female, 75 years old. Diagnosis: Arthrosis. Mrs. O. had severe pain, necessitating reliance on injections and pills. Results of MRS therapy: She no longer needs any pills or injections. After a few treatments, Mrs. O. experienced an improvement in mobility immediately and pain relief and stabilization of the entire body structure. She has been treating her knee (arthrosis) with the pad. Today she rides a bicycle a lot.*

• *Patient T. S., male, 84 years old. Diagnosis: Arthrosis in the shoulder joint and in the knees - surgery was performed on one knee in May 1988 (straightening it with a plate and screw), mild angina pectoris, pain throughout the entire supporting apparatus, gout nodules on the hands and feet (fingers on the left hand deformed, severe nodules on the right hand), circulation disorders, alopecia. Results of MRS therapy: In January 1997, second knee surgery (artificial joint); released from the hospital after 13 days. Three weeks later: The patient was able to drive a car himself (standard transmission). Shoulder: Great improvement in mobility, he can again rise his arm above his head, has more strength and mobility throughout his entire supporting apparatus, restrictions due to angina pectoris improved, no gout attacks and no pain in the hands and feet, fewer circulation problems, more energy and strength, hair loss stopped (denser hair structure), stronger fingernails.*

11. Thanks Mr. Siegfried Muhry

• *Patient W.H., male, 39 years old. Diagnosis: Wear on lumbar spinal cord, intolerable backaches for approximately ten years, sensitivity to weather, depression. Results of MRS therapy: "After two weeks, the pain increased almost to the point of being intolerable, but then a rapid improvement occurred. Now I am almost free of symptoms and I no longer need any pain pills."*

Appraisal of MFT: **80 % very good success, pain relief**

1.4. Rupture of ligaments and strained ligaments:

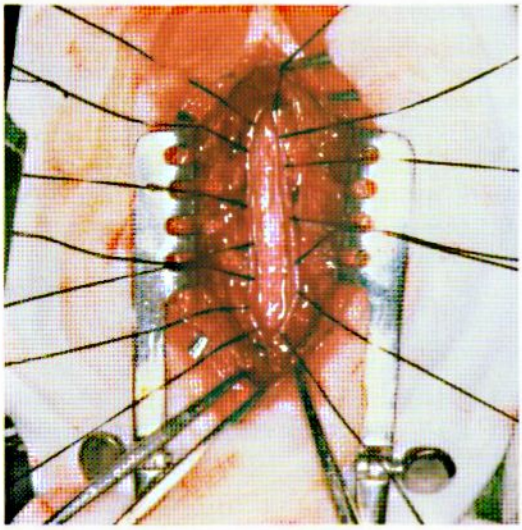
see "Sports medicine"

1.5. Prolapsed disk

Intervertebral disk complaints are a typical disease of civilization of which a great many people suffer today to a more or less great extent. A prolapsed disk is a form of degenerative rheumatism.

There are 23 intervertebral disks between the individual vertebrae (bones) acting as shock absorbers between the individual vertebrae. The vertebrae and intervertebral disks are held together by ligaments. Each intervertebral disk consists of a cartilage sheath which has a high tensile strength and a gelatinous core which assumes the shock-absorbing effect. As a result of certain movements or certain stresses, the gelatinous mass between the individual vertebrae can escape through a tear in the sheath. This results in the feared phenomenon of prolapsed disk (slipped disk), which is very painful. Over the years, drying leads to shrinkage, so the spinal column actu-

ally becomes shorter. The flatter the disks, the greater the pressure of the vertebrae on the nerve pathways branching off from the spinal cord. This is the cause of the severe pain.



Surgery on ninth disk

Prolapsed disks are occupying more and more often among relatively young people. The symptoms depend on the location affected in the spinal column. Impairment in the sciatic nerve causes an enormous impairment in mobility and is also responsible for a certain loss of sensitivity. Tingling or stiffness in parts of the arms, legs or feet may be the result of wear in the area of the cervical spine.

These patients should never lift or carry heavy objects. If the pain is severe, the patient is treated with medication. Exercise strengthens the muscles. Sometimes surgery is unavoidable, although the surgery itself is painful and not without risks.

Effect of magnetic field therapy on prolapsed disk:

relieving pain (effect of hyperpolarization), relaxing muscles (taking the pressure off the nerve).

Proper use of MRS for patients with a prolapsed disk

- Whole-body mat: twice a day for 8 minutes each time: 50 % level in the morning, 10 % level in the evening
- Pad: 2-3 times a day for 16-24 minutes each time, levels: 25-50 % cervical, 50-100 % chest, 100-150 % lumbar
- Special instructions for use: Keep knees bent! Roll over on the side before standing up. The results of this treatment will depend to a great extent on this measure.
- Duration of treatment: the duration (days, months or, as a prophylactic measure, even years) will depend on the extent of the damage.
- Notes on initial reaction: There is an initial exacerbating reaction in less than 5 % of these patients.

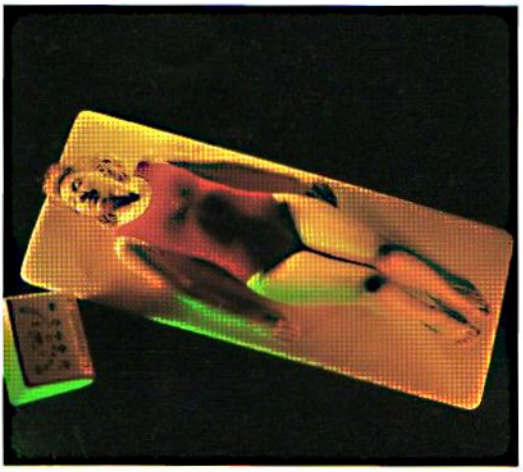
Local treatment of spine with pad

- Forms of treatment supportive of MFT: acupuncture, neural therapy, movement therapy, cognitive therapy

Scientific studies on the treatment of prolapsed disk with MFT

We would like to refer here to a special study with the MRS 2000+ MED System which was conducted in Graz by Dr. Manfred Walzl, M.D. (neurologist). In two comparative groups, 40 patients with nerve root irritation due to disk problems were investigated. One group was treated with the usual medication, and the second group was also treated with MRS. The days until the patients became clinically pain free, the increased movement in the flexion angle according to Lasegue and the subjective pain perception of the patient were measured. Healing occurred two days sooner in the group with MFT (9 days versus

11 days in the second group). Mobility was definitely improved and the subjective pain perception was also greatly reduced.



Basic treatment in prolapsed disk

• J. Barovic, G. Fischer: "Increased Mobility and Pain Relief in Diseases of the Motor System Due to Magnetic Fields," Maribor District Hospital and University of Graz. - A population of 25 male and female patients with prolapsed disk (diagnosed by myelography) was treated with magnetic resonance in the period from February 1, 1995 through September 1, 1995. In addition to measuring the finger-to-floor distance, the ten-point pain scale was used as a criterion. Highly significant positive results were obtained.

Physician reports on the treatment of prolapsed disk with MF

1. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, Tel. 0043/1/40 666 00

• *Patient M.C., male, 53 years old. Diagnosis: Intervertebral disk surgery L3/L4, knee surgery (meniscus). Results of MRS therapy: Finger-to-floor distance before the first treatment 45 cm, after the first treatment 36 cm; pain free after three months.*

2. Dr. W. R. Maus, M.D., Überlingen

• *Patient W.R.M., male, Diagnosis: Intervertebral disk surgery. Results of MRS therapy: "After eight months of intense pain, I was pain-free within three weeks due to treatment with MRS."*

3. Dr. Karl Gruber, M.D., Medical Director of the Hospital of the City of Weiz

• *"We have used the magnetic field mat on 40 patients and the MF pad on 55 patients, 10-15 times each. The areas for use of this therapy in our hospital were limited primarily to intervertebral disk injuries, arthrosis of the major joints of the body, bone fractures and loosening of implants, mainly hip endoprotheses." Results of MRS therapy: Positive feedback on the part of the patients in more 70 % of the cases, reduced muscle tension, reduced symptoms due to arthrosis, improved mobility and a definite improvement in gait.*

4. Dr. Harald Eckardt, M.D., Dr. Gero Krause, M.D., Dr. Holger Lorenz, M.D., Dr. Josef Kapellmann, M.D., Orthopedic Surgeons, Rosenheim

• *Patient S., male, diagnosis: prolapsed disk L4/5 left, protrusion L5/S1 with root irritation syndrome. The patient was complaining of pain in the shoulder blade and the entire lumbar spine. Results of MRS therapy: After just five treatments, Mr. S. experienced extensive improvement in symptoms.*

5. Dr. Werner Raufelder, M.D., Bad Endorf

• *Patient C.O., female, 54 years old. Diagnosis: Prolapsed disk L4/5, recurrent ischialgia. Previous treatment: physical therapy, NSAIDs (analgesics), radiation - unsuccessful. Results of MRS therapy: Start of treatment December 3, 1997, end of treatment December 18, 1997. Course: Improvement in lumbar symptoms after the first treatment, patient free of symptoms after eight treatments, still virtually free of symptoms.*

6. Dr. Sigrun Schaller, M.D. General Practitioner, Naturopathic Medicine, Zell am See

• *Patient Z.H., male, born 1952. Diagnosis: Prolapsed disk L4/L5. History: the patient was a soccer player and trainer. During that time, he experienced lumbar pain with pulling symptoms in the right leg. Despite medication and physical therapy, the patient was never free of symptoms. In June 1997, renewed symptoms with paresthesias (tingling) in the area of the right calf laterally to the edge of the foot (peroneal region) and a marked feeling of stiffness in the*

area of the lumbar spine, continuing into the cervical spine. Results of MRS therapy: Persistent improvement in hypesthesia immediately after the first treatment. At the end of the treatment, only the mobility of the lumbar spine was still slightly restricted, there was no more perceptible dysesthesia, and the patient's general well-being was definitely improved.

Patient reports on the treatment with MRS in prolapsed disk

1. Thanks to Mr. Max Keiser and Mrs. Verena Singer

• *Patient A. H., female, 61 years old. Diagnosis: Intervertebral disk damage since 1957. Results of MRS therapy: Pain-free for five months in the area of the disks, greatly improved general well-being and psychological well-being.*

2. Thanks to Mrs. Sieglinde Kapun

• *Patient S. P., male, 66 years old. Diagnosis: Wear and tear on intervertebral disk, rheumatism, lumbar pain. Results of MRS therapy: improvement in lumbar pain after 7 days, loosening of tension after 14 days, patient able to sleep without pills, improved general condition.*

• *Patient W. A., male, 29 years old. Diagnosis: Prolapsed disk L5/S1, stiff knee after surgery (torn meniscus, cruciate ligament and collateral ligament). Results of MRS therapy: Minimal improvement in disks after one week. Second to third weeks: reduction in pain and use of pain pills, injections could be stopped completely; patient pain-free after twelve weeks. Knee after first to third weeks: dissolution of chondrification in the joint. "After five weeks, I was able to complete a light running training course and after 16 weeks my knee was fully movable again. I am now pain free."*

3. Thanks to Mrs. Gabriele Heidt

• *Patient E.H., male, 47 years old. Diagnosis: "According to my physician, the last five vertebrae are destroyed. I was having constant back pain. The CT scan showed the disk "black" on the x-ray. After improper movements, I was often unable to move at all. Injections provided short-term pain relief. In addition I had a bone splinter under the knee disk on the left knee that was causing constant pain." Results of MRS therapy: "Initially there was a slight improvement, but after two months there was a brief exacerbation of symptoms. Today after one year I can say that my symptoms have completely disappeared."*

4. Thanks to Mrs. Heidemarie Schäfer

• *Patient U.E., male, 72 years old. Diagnosis: Severe lumbar pain and disk complaints. "I could not sit up without assistance. The pain was caused by osteoporosis. Results of MRS therapy: "The pain gradually became better but a definite improvement occurred only after about twenty weeks. Today I am still not completely free of pain. I was taking calcium pills for bone density."*

5. Thanks to Mrs. Prietl

• *Patient H.S., male, 37 years old. Diagnosis: Prolapsed disk in December 1995; January 16 through February 1, 1996: hospitalized for treatment with infusions, medication and interference current; hydroxeur, therapeutic massage, individual physical therapy, training in back posture and exercise and repeated acupuncture treatments on the ear and on the body. The pain went away but "the dead feeling in my right leg" remained. Results of MRS therapy: "Since using the mat, I have not had any more pain and the 'dead' feeling has disappeared."*

6. Thanks to Medline

• *Patient S.K., male, diagnosis: "I suffered a prolapsed disk due to overexertion, which caused me a great deal of pain. The doctor urgently advised therapy (swimming and radiation) which I began immediately. The pain became worse and worse and I developed a feeling of numbness in both legs which seemed to radiate out from the disks." Results of MRS therapy: "After using this only twice, I was already free of symptoms and was able to feel my left leg again. Four days later, my right leg was also healthy again. To my amazement, the disk, which had initially projected about 4-5 mm, slipped back into the original position."*

7. Thanks to Mrs. Ursula Lange

• *Patient, male, 49 years old. Diagnosis: Back/skeleton problems for 30 years in shoulder, cervical and thoracic spine (hunchback). Several prolapsed disks in the lumbar spine. No surgery. In recent years, the patient has received injec-*

tions up to twice a week to relax the muscles and counteract very severe pain. The patient had also taken several cures, had received instruction in back exercises, and had a lot of activity outdoors. 20 % impairment in walking, could not drive a care for more than 40 minutes; sitting and standing hardly possible at all. Results of MRS therapy: After two weeks of regular use, the patient is free of symptoms. It is possible for him to sit, stand and drive for 10 hours - with brief interruptions - with no problem; no more injections necessary for three months.

• *Patient F.N., male, 35 years old. Diagnosis: Severe intervetebral disk symptoms in the area of L4/L5, pain radiating into the feet. Results of MRS therapy: "Improvement after the first treatment, the pending surgery was no longer necessary, magnetic field therapy brought an immediate improvement. I was almost free of pain after six weeks."*

• *Patient Dr. B. A., male, 44 years old. Diagnosis: Pain throughout the entire spinal column. Prolapsed disk several years ago: L4/L5, S1/S2, marked degenerative changes in the area of the cervical spine. Depression, headaches, dizziness, tingling in the right leg, hair loss on the legs. Results of MRS therapy: Freedom from symptoms in the area of the lumbar spine. Significant improvement in general well-being, only very rare dizziness attacks and mild headaches, hair completely grown back in on the legs, improvement in mobility in the area of the cervical spine, no more pain at night after 4-5 weeks.*

8. Thanks to Mr. Ludwig Müller

• *Patient B. J., male, born 1939. Diagnosis: Bilateral prolapsed disk (sciatic nerve) in 1994 - thereafter almost completely disabled occupationally. "I could not sleep at night for several months, the piercing pain in my foot forced me to get up and walk around for one or two hours. I had to take pain pills regularly." Results of MRS therapy: December 3, 1996 start of therapy. "On December 11, 1996 I observed an improvement and was able to get up in the morning without pain. Eight days later, the piercing pain in my feet had disappeared completely. After 3 months, I was able to sleep through the entire night without pain and since then I have been able to return to work. In December 1997 I completely stopped using pain pills."*

• *Patient, female, 52 years old. Diagnosis: "While on vacation I experienced severe back pain (from the right half of the buttocks through the thigh down into my feet) because of carrying baggage and sitting on the train for a long time. The doctor diagnosed two prolapsed disks, the lower disk showing calcification and the nerve canal was very constricted. He prescribed pain pills to help me." Results of MRS therapy: "Since the pain pills no longer really helped me, I decided to stop taking them. At first, I could lie on my back only with severe pain, and my toes would cramp up with any movement. After a week of using the mat and the probe, the first effects were apparent. I felt mobile. After 3 weeks, I was again able to lie on my stomach when going to sleep and enjoy returning to my old habits; standing and walking for any extended period of time were still associated with great pain, but I was satisfied, because I knew that I was on the right path to a cure. Patience is necessary when dealing with pain anyway. I used the time on the mat to try to look behind my situation, to meditate and be still. After 4-5 weeks of intensive therapy, I can now treat myself. I can do my housework, I can move normally again and usually sleep through the night. This is an enormous success in a short period of time. Although I'm not as strong as an ox, I still feel ready to handle daily life again."*

9. Thanks to Mrs. Urusla Lange

• *Patient, female, 59 years old. Diagnosis: Since 1983 back and skeleton problems in the cervical spine, the second vertebra was shifted inward (corrected 3 times by a chiropractor); repeated phases of dizziness and nausea lasting for several weeks at a time. The patient could lift her head (to look up) only with the support of a hand. She had to wear a neck brace for 3-4 weeks repeatedly over the years. Radiating pain into the left shoulder, arm, hand and wrist. Results of MRS therapy: Absolutely free of symptoms after one week, even in athletic activity.*

10. Thanks to Mrs. Taege

• *Patient W., male, 59 years old. Diagnosis: Prolapsed disk, surgery 1993/94. Pain in the lower lumbar spine area with lumboischialgia on the left. Orthopedic treatment (therapeutic injections) did not yield any improvement. Results of MRS therapy: "After 5 days (October*

17, 1998) there was a slight improvement. Two weeks later, I experienced intense pain when using the mat. One week later, the pain stopped. Since the middle of December, I have been free of pain and I have continued to use the mat 3 times a day."

Appraisal of MFT: **70 % good to very good results**

1.6. Bekhterev's disease

This chronic inflammatory spinal diseases affects more men than women. It usually begins at a very early age (back pain in the post-puberty years) and affects the entire spinal column, starting from the lumbar spine. X-rays and blood samples are needed for diagnosis. The typical morning stiffness of the back disappears after about one hour of movement. In the course of the disease, however, the entire spinal column may become completely stiff. Since this disease cannot be cured, an attempt is made to postpone the total stiffening as long as possible through movement exercises, medication and treatment such as magnetic field therapy.

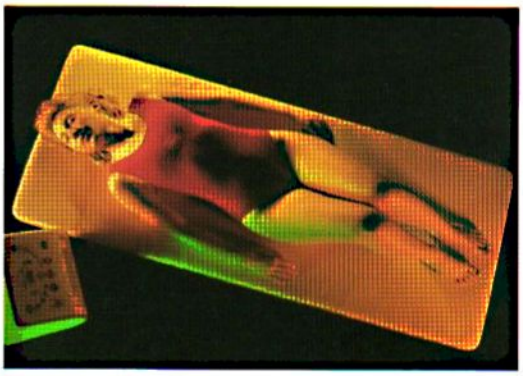
Effect of magnetic field therapy on Bekhterev's disease:

promoting mobility, relieving pain, reducing morning stiffness

Correct use of MRS in Bekhterev's diseases

- Whole-body mat: twice a day for 8 minutes each time: 25 % level in the morning, 10 % level in the evening
- Pad: 2-3 times a day for 16-24 minutes each time; 100-150 % level (increasing gradually), in the lumbar spine area
- Special instructions on use: Keep knees bent and be sure to be in a painless position.
- Duration of treatment: Treatment is long-term, success is manifested in the first three months.
- Notes on the initial reaction: Approximately 15 % of patients experience a brief flare-up of symptoms (increase dose gradually!)

Local treatment for Bekhterev's disease



Basic treatment in Bekhterev's disease

- Forms of therapy that support MFT: enzymes, acupuncture, neural therapy, saline therapy, cognitive therapy, a lot of movement

Scientific studies on the treatment of Bekhterev's disease with MFT

- D. C. Laycock: "Biological Effects of Natural and Pulsed Magnetic Fields," MBES. - This study describes the pain-relieving effects of magnetic field therapy.
- Additional studies: "Rheumatic Diseases"

Physician reports on the treatment of Bekhterev's disease with MF

1. Dr. W. R. Maus, M.D., Überlingen

- *"An 80-year-old friend was suffering from Bekhterev's disease and could no longer fall asleep due to the pain. After three months of treatment with MRS, he was no longer experiencing any pain."*

2. Dr. Alfred Lohr, M.D., General Practitioner

• *Patient A.K., male, Diagnosis: Spondylogenous neuralgia of the spinal cord, especially the thoracic and lumbar spine. Sinubronchial syndrome, prosthetic hyperplasia. Results of MRS therapy: A significant improvement in symptoms occurred during the period of observation with regard to the spondylogenous spinal pain.*

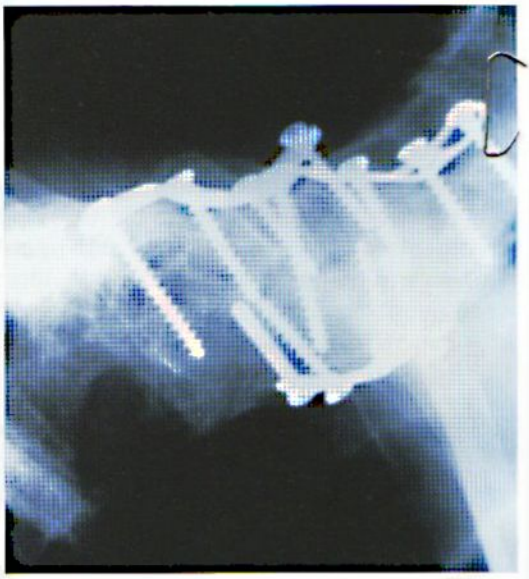
3. Dr. Manfred O. Eder, M.D. Anger, Bavaria

• *Patient F.H., male, 76 years old. Diagnosis: Chronic recurrent cervical-thoracic-lumbar spine complaints with blockage, recurrent symptoms throughout the entire spinal column. Results of MRS therapy: The patient is free of symptoms in the area of the spinal column and the iliosacral joints.*

Patient reports on with MRS in Bekhterev's disease

1. Thanks to Mr. Dieter Frey

• *Patient H.R., male, 72 years old. Diagnosis: Rhumatoid spondylitis (Bekhterev's disease) since 1970 had led to stiffening of the entire spinal column. In 1986 this patient had an accident resulting in a cervical spine fracture; in 1997 accident with thoracic and lumbar spine fractures. In surgery, a corrective procedure was performed. Since then, the patient has had 12 screws in the cervical vertebrae and 18 screws in the remaining vertebrae. "I always had severe pain, suffering from circulation disorders in the head, arms and hips, and I always had cold hands and feet. Since then, I have had 100 % impairment in walking. Pain pills attacked my stomach, and I was always suffering from severe headaches and equilibrium disorders." Results of MRS therapy: "After the start of treatments (several times a day) the pain initially became worse. A few days later, there was a slight improvement which continued progressively. After longer treatment, I was able to move better. Today I rarely need pain pills. My equilibrium disorders and headaches have mostly disappeared. As an additional success, I have noticed that my kidney cysts have become smaller or disappeared."*



X-ray of cervical spin with screws

Appraisal of MFT: **70-80 % good to very good results**

1.7. Cervical syndrome

Cervical syndrome involves sensory and motor disorders in the neck, shoulder and upper arm areas, often as a result of wear phenomena on the cervical spine due to frequent excessive stress, such as sitting for a long time at a typewriter or at a computer. In the neck area, the nerves and blood vessels run much closer to the bones and ligaments than in the remaining spinal column. Changes in the intervertebral disks or bones (bone spurs) there-

fore, rapidly result in severe pain. In addition, exposure to cold also leads to muscle cramps and thus to nerve irritation. Typical signs of cervical syndrome include pain radiating from the neck and shoulder into the back of the head or into the fingers. This may be associated with a disturbance in sensation, loss of strength and paralysis of the musculature.

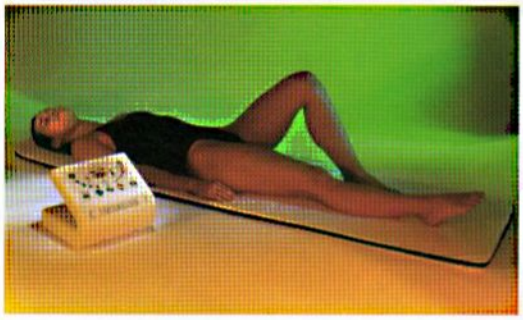
Effect of magnetic field therapy on cervical syndrome:

supporting, relieving pain. Serious destruction is irreversible.

Proper use of MRS for cervical syndrome

• Whole-body mat: once a day for 8 minutes: 100 % level in the morning (gradually increasing from 10 %)

• Pad: 3 times a day for 16 minutes each time: 25-50 % level, on the cervical spine (up to 100 % in exceptional cases)



Basic treatment in cervical syndrome

• Forms of therapy that support MFT: movement therapy (the simplest exercise is to bend the head a couple of times to each side several times a day, as if greeting someone).

• Duration of treatment: Please consider that treatment in the shoulder and neck area can be especially prolonged. We speak of therapeutic success in small steps here.

• Notes on the initial reaction: Due to the low dose, the initial reaction occurs only in approximately 3 % of the cases.

Local treatment for cervical syndrome

Scientific studies on the treatment of cervical syndrome with MFT

• L. L. Butenko: "The Use of Alternating Magnetic Fields in Spinal Osteochondrosis," Mechanisms of biological action of electromagnetic fields, USSR Academy of Sciences, Research Center for Biological Studies, Institute of Biological physics, October 27-31, 1987, coordination Council of Comecon Countries and Yugoslavia for Search in the fields of Biological Physics, p. 183. This study investigated patients with osteochondrosis of the spinal column in treatment with magnetic fields and conservative therapy. The results show that 95 % of the patients receiving this combination treatment (i.e., with magnetic field) experienced an improvement in symptoms, whereas only 30 % of those receiving the conservative treatment alone achieved the desired effect.

Physician reports on the treatment of cervical syndrome with MF

1. Health Center of Wolfgang, Kropshofer, Doctor of Chiropractics, 1080 Vienna, Alserstrasse 43/8a, tel. +43/(0)1/40 373 80

• *Patient A.H., female, born 1935. Diagnosis: Cervical syndrome, dizziness, tinnitus for 30 years, blockage of the cervical spine. Results of MRS therapy: The patient experienced extreme fatigue after the treatment but her dizziness was better. Results of treatment with tinnitus with the probe: no more ringing in the ears.*

2. Dr. Christoph Scherer, M.D., Dr. Christian

Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 01/40 666 00

• *Patient E.B., female, 72 years old. Diagnosis: Cervical syndrome after an automobile accident 15 years previously. Results of MRS therapy: The paresthesias (disturbances in sensation) were greatly reduced after the fifth treatment, the patient felt more vital and full of energy, the pain was reduced and mobility increased.*

3. Dr. Gerhard Beck, M.D., Aspach

• *Patient, female, 85 years old. Diagnosis: Lower cervical syndrome and multiple vertebral fractures, osteoporosis, dorsolumbago with degenerative spinal cord changes. The patient came to the treatment center with a support corset and could walk for short distances only with the help of two crutches and analgesics. Parallel: physical therapy and medical training therapy. Results of MRS therapy: "Surprisingly, the patient was again able to walk almost without symptoms and without the use of a support corset or crutches by the end of the rehabilitation stay (three weeks) and was also able to sit for longer periods of time. This was impossible at the beginning. The patient reduced her reliance on pain medication on her own. She was very fortunate because she is alone and can now maintain her independence.*

4. Dr. Werner Raufelder, M.D., Bad Endorf

• *Patient G.B., male, born 1940. Diagnosis: Cervicobrachial syndrome, scoliosis, shortening of the left leg, sleep disorders, gastritis, condition after a whiplash injury of the cervical spine. Results of MRS therapy: after the first treatment, his sleep improved; after the seventh session, the cervical spine improved with only slight to moderate residual complaints and improved mobility. Follow-up examination revealed the patient to be almost free of symptoms to the current date (January 8, 1998).*

5. Dr. Paukner Ernst, M.D., General Practitioner

• *Patient H.P.P., male, 36 years old. Diagnosis: Cervical and lumbar spine syndrome. Results of MRS therapy: After just a few treatments, the patient experience a definite subjective improvement in overall well-being, following which he also improved in the local cervical symptoms.*

Patient reports on the treatment with MRS in cervical syndrome

1. Thanks to the company Vita-Life

• *Patient B.N., male, 63 years old. Diagnosis: Cervical syndrome, severe pain and tension in the cervical spine and shoulder area. Results of MRS therapy: Almost free of pain after two treatments.*

• *Patient M.L., male, 49 years old. Diagnosis: Cervical syndrome for three years with radiating pain into the right arm (especially at night), feeling of numbness in the fingers, loss of strength. X-ray showed severe wear phenomena in the cervical spine area. Results of MRS therapy: Improvement after six weeks; patient can sleep at night again undisturbed, the pain and numbness have disappeared. "I have energy again and can return to work."*

Appraisal of MFT: 60 % good to very good results, pain-relieving effect

1.8. Heel spur

A heel spur is a spur-like bone formation that develops on the lower side of the heel or in the attachment area of the Achilles tendon. This usually affects older people and people who are overweight, people who stand while they work or have (congenital) foot deformities. When load is placed on the heel, these patients very often experience severe pain; therefore, they shift their weight to the ball of the foot. A cushioned heel and shoe inserts can reduce the pain. Surgery is usually out of the question because of the feared scarring complication.

Effect of magnetic field therapy on heel spurs:

controlling the calcium deposits, relieving pain

Proper use of MRS on heel spur

• Pad or probe: highest intensity levels

• Notes on the initial reaction: none

Local treatment of heel spur

Scientific studies on the treatment of heel spur with MFT

- C. A. Bassett, Fitton-Jackson: "The Response of Skeletal Tissues to Pulsed Magnetic Fields," CAL (Oxford), 1980.

Physician reports on the treatment of heel spur with MFT

1. Dr. Peter Aluani, M.D., Theresienhof Hospital, Frohnleiten

- *Patient, female; diagnosis: heel spur. Results of MRS therapy: The patient was free of symptoms after completing the treatment.*

2. Dr. Lutz Ammerer, M.D.

- *Patient, female, 48 years old. Diagnosis: Patient has been experiencing pain in the sole of the left foot for a long time; X-ray shows a heel spur. Results of MRS therapy: "This patient was initially extremely skeptical because she could not 'feel' anything. To her amazement, her symptoms improved after just a few sessions. After twenty treatments, she was discharged free of pain."*

Patient reports on the treatment of heel spur with MRS

1. Thanks to the company Vita-Life

- *Patient K.T., male, 78 years old. Diagnosis: Heel spur. "For years, I have been suffering from severe symptoms when standing and walking, especially when placing weight on my heel. The pain became worse and worse, and despite strong medication, I could not sleep at night because of the pain." Results of MRS therapy: "After approximately six weeks, I felt a definite relief. The heel spur has become smaller today after half a year (no longer swollen) and causes me almost no problems anymore."*

Appraisal of MFT: **50 % good to very good success**

1.9. Fibromyalgia:

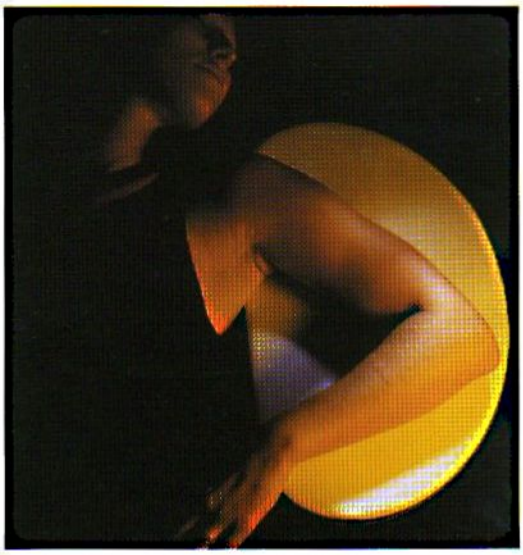
see "Soft tissue rheumatism"

1.10. Frozen shoulder:

see "Soft tissue rheumatism"

1.11. Hydrarthrosis

Hydrarthrosis refers to a collection of fluid in the joint space formed by the joint capsule. The collection of fluid causes a painful stretching of the capsule. Because of the pain, the patient automatically assumes a position that minimizes the stress (middle position or slight flexion). Externally, the contour of the joint is usually slightly extended and local heat is discernible. Depending on the type of the fluid, the following are differentiated: 1. A serous effusion (clear serous joint fluid) with inflammatory irritation of the synovial membranes due to, for example, rheumatism, trauma, cartilage damage, arthrosis. 2. Em-

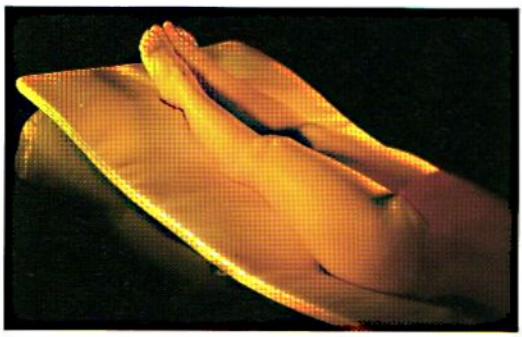


Local treatment for hydrarthrosis

pyema of the joint, a purulent infection caused by open wounds or a septic invasion of microorganisms, leading to rapid destruction of the cartilage. Surgery is necessary, opening the joint, administration of antibiotics and drainage with lavage. 3. Hemarthrosis (blood) with a joint fracture or a serious internal injury to the joint. This symptom also occurs in hemophiliacs. Treatment depends on the precise type of injury.

Effect of magnetic field therapy on hydrarthrosis:

relieves pain and reduces swelling. In general, the regeneration phase, i.e., the period of time required for the patient to recover completely, is reduced, especially in sports injuries and rheumatism injuries.



Basic treatment in hydrarthrosis

Proper use of MRS for hydrarthrosis

- Whole-body mat: twice a day for 8 minutes each time: 50 % level in the morning, 10 % level in the evening
- Pad: several times a day for 8-24 minutes each time (varying according to the age of the patient and the joint affected), shoulders and hips: 100-150 % level, knees and elbows: 150-200 % level, hands and feet: 200-400 % level
- Special instructions on use: whole-body mat: elevate the affected joint!

Scientific studies on the treatment of hydrarthrosis

- A. A. Pilla: "State of the Art in Electromagnetic Therapeutics: Soft Tissue Applications," Second World Congress for Electricity and Magnetism, June 8-13, 1997, Bologna, Italy. - This review article points out that treatment with electromagnetic fields manifests its effect relatively rapidly in injuries involving connective tissue and muscles. The especially strong effect on pain and edema in the joints is noteworthy.
- L. Kloth et al.: "Effect of Pulsed Radio Frequency Therapy on Edema in Ankle Sprains: A Multsite Double-blind Clinical Study," Second World Congress for Electricity and Magnetism in Biology and Medicine, June 8-13, 1997, Bologna, Italy, p. 300. - The results of double-blind, placebo-controlled study showed that treatment with magnetic fields is very effective in swelling with lateral hydrarthrosis on the ankle.

Patient reports on the treatment of hydrarthrosis with MRS

1. Thanks to the company Vita-Life

- *Patient H.I., male, 39 years old, former professional soccer player. Diagnosis: "Recurring fluid on the right knee caused me pain and greatly limited my mobility. Although cortisone injections helped, I did not want to be taking cortisone in the long-term." Results of MRS therapy: "After four weeks, the fluid was gone from my knee. Since then, I have been free of pain and I can put my weight fully on my knee again."*
- Additional reports: see individual diseases of the rheumatic group

Appraisal of MFT: **80 % good to very good results**

1.12. Joint replacement (prosthesis)

Artificial joints are always understood to be an emergency measure and are used only when the patient suffers intolerable pain due to various wear phenomena or poor posture. This pain results from the chronic wear on the joint surfaces. The most common joint to be replaced due to arthrosis, for example, is the knee. With the patient under general anesthesia, the knee joint is reinforced by pieces of

metal that are screwed or cemented in place. These metal pieces are in the shape of the natural joint and are usually made of titanium. Although previously the joints were mostly cemented, this is an exception today. The most common joint prostheses involve the hip joint, more precisely the head of the hip bone. Problems that can occur after hip joint surgery include mainly the feared complication of the loosening of the artificial joint, in addition to chronic pain. The surgery itself is generally tolerated well, although the desired results (pain relief, improved mobility) are not always achieved.

Effect of magnetic field therapy on a joint prosthesis:

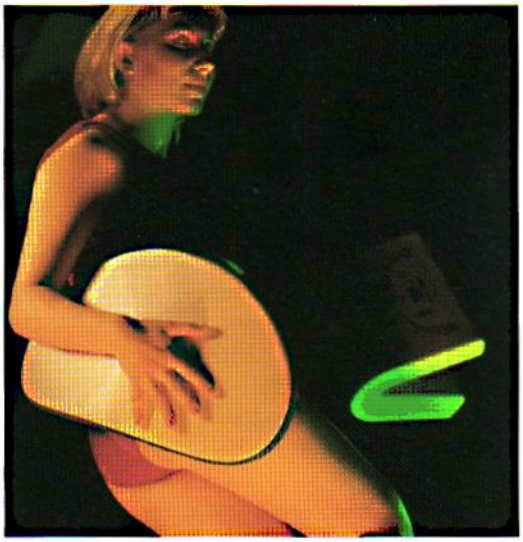
relieving pain, loosening the surrounding muscles, promoting mobility, strengthening the artificial joint in the natural bone shaft.

Proper use of MRS for patients with a joint prosthesis

- Whole-body mat: once or twice a day for 8 minutes each time, 50 % level in the morning, 10 % level in the evening
- Pad: knee joint: 2-3 times a day for 24 minutes each time, 150 % level (gradually increasing);
- hip joint: 3 times a day for 16-24 minutes each time, 100 % level (gradually increasing)
- Therapy forms supportive of MFT: enzymes, acupuncture, neural therapy and movement therapy (important!)

Basic treatment in joint replacement

- Special instructions on use: in principle, treatment should include not only the joint with the prosthesis, but also the healthy joint which is usually under greater stress. The treatment time for local treatment with the pad should amount to at least one hour each day. Titanium prostheses generally react better to magnetic field therapy than a cemented artificial joint. It is advisable to begin treatment even before the surgery to guarantee that the course of treatment will be as free of complications as possible.



Local treatment for joint replacement with pad

- Duration of treatment: at least six months, varying from one individual case to the next.
- Notes on the initial reaction: A brief increase in pain may be expected in 5 % of the cases.

Scientific studies on the treatment of artificial joints with MFT

- On the topic of artificial joints (prostheses) and MRS, studies are currently underway at three renowned German University Clinics. The studies were initiated on the basis of preliminary studies that were extremely positive.
- G. Gualtieri et al.: "The Effect of Pulsed Electromagnetic Field Stimulation on Patients Treated of Hip Revisions With Trags-femoral Approach," Second World Congress for Electricity and Magnetism in Biology and Medicine, June 8-13, 1997, Bologna, Italy. - This double-blind study investigated the effect of pulsating electromagnetic fields on patients in

whom the hip prostheses had become loosened. The results demonstrate an increase in bone density in all patients treated with MF, whereas only about half those in the control group showed an increase in bone density.

- K. Konrad et al.: "Therapy with Pulsed Electromagnetic Fields in Aseptic Loosening of Total Hip Prostheses: A Prospective Study," Budapest, Hungary, Clin. Rheumatol., July 1996. - MFT was used on 24 patients with a loosened hip prosthesis. After six months and after one year, follow-up examinations were performed, showing that the patients treated with MF had experienced pain relief and a definite improvement in hip movements. The isotope scan and ultrasonic tests also confirmed these positive results.

- W. F. Kennedy et al.: "Use of Pulsed Electromagnetic Fields in Treatment of Loosened Hip Prostheses. A Double-blind Trial," Clin Orthop., January 1993 (286), pp. 198-205. - This study with 37 patients with cemented hip prostheses demonstrates that 53 % of the loosened hip prostheses had fused again after six months of magnetic field therapy, whereas only 11 % in the control group had a similarly positive effect.

Physician reports on the treatment of artificial joints with MF

1. Dr. Karl Gruber, M.D., Medical Director of the Hospital of the City of Weiz

- *"We have used the MRS mat with 40 patients and the pad with 55 patients. The areas for use in our hospital were limited primarily to arthrosis of the large joints of the body, loosening of implants, especially in hip endoprotheses." Results of MRS therapy: "In more than 70 % of the cases, we received positive feedback from the patients. They observed a reduction in muscle tension and complaints due to arthrosis, an improvement in mobility and a definite improvement in gait pattern."*

2. Thomas Drach, non-medical practitioner, Bermatingen Ahausen

- *Patient, male; diagnosis: use of an artificial knee joint, edema. Results of MRS therapy: Mobility has definitely improved. The edema is disappearing progressively.*

Patient reports on the treatment of artificial joints with MRS

1. Thanks to the company Vita-Life

- *Patient A.U., female, 83 years old. Diagnosis: Hip endoprothesis: "After my surgery, I had more symptoms than before. I could not sleep from the pain. My doctor told me that the prosthesis might not be sitting properly and might have loosened. A second surgery would have had little prospects for success." Results of MRS therapy: "For nine months, I have been using the MRS system, and my pain became much less after the first 6-8 weeks. One week ago I went for a follow-up examination. To my great joy, the prosthesis now sits securely in the bone, and I can move without assistance and almost without any pain."*

Appraisal of MFT: 60-70 % good to very good results, long-term therapy

1.13. Lumbago and muscle strain

A special form of back pain is known medically as lumbago. Lumbago can affect almost any part of the spinal column. Frequent causative factors include blockage of the vertebrae in combination with nerve irritation, wear or damage to the disks, muscle strain caused by poor posture or problems with internal organs such as kidney disease or intestinal diseases. Characteristically, lumbago occurs suddenly, accompanied by severe pain in the lumbar area. Lumbago often makes the person unable to walk and may occur repeatedly at different intervals. The ideal preventative measure is to strengthen the back muscles.

Effect of magnetic field therapy on lumbago and muscle strain:

relieving pain, relaxing muscles (by raising the stimulus threshold in the area of the nerve-muscle transition), reducing pressure on the nerve endings at the joints in the spine.

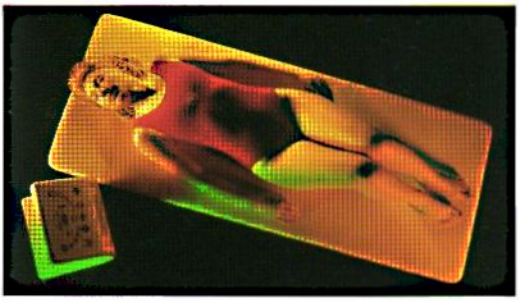
Proper use of MRS for lumbago and muscle strain

- Whole-body mat: twice a day for 8 minutes

each time, 25 % level in the morning, 10 % level in the evening

• Pad (for acute strain): 3-5 times a day for 16 minutes each time, lumbar area 100-150 % level, thoracic area 100 % level, cervical area 25-50 % level

• Special instructions on use: Keep knees bent!



Basic treatment in lumbago and muscle strain

• Notes on the initial reaction: none

Scientific studies on the treatment of lumbago and muscle strain

see "Myogelosis," "Ischialgia"

Local treatment of thoracic spine with pad

Physician reports on the treatment of lumbago and strain with MFT

1. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0043/1/40 666 00

• *Patient R.T., male, 56 years old. Diagnosis: "Lumbago" (lumboischialgia) caused by driving with an open window. Results of MRS therapy: The patient was free of symptoms after three treatments.*

2. Dr. Helmut Ornig, M.D., head physician of the Elisabeth Hospital of Graz

• *Patient M.G., female, 55 years old. Diagnosis: Lumbago. Degenerative neurologic muscular dystrophy, cover plate fractures of the thoracic and lumbar spine, difficulty in walking, frequent falls with contusions, treatment: daily use of analgesics (3-4 pills). Results of MRS therapy: Use of pain medication reduced to one pill a day after the first week of therapy. The patient is now practically free of pain, is no longer taking any medication, definite improvement in gait pattern (no more limping, can walk faster), subjective well-being.*

Patient reports on the treatment of lumbago and muscle strain with MRS

1. Thanks to Mr. Reinhard Schlag

• *Patient U., female, diagnosis: lumbago. "This patient could hardly move and was extremely pale." Results of MRS therapy: After two days of treatment, a definite improvement in pain was observed, and after one week she was completely free of pain and could also sleep better. The patient can now carry out all her work again without any pain, can sleep through the night, every night and feels rested in the morning. Her general well being is very good.*

2. Thanks to Mr. Karl Garber

• *Patient T.G., female, 56 years old. Diagnosis: Nerve tension, pain in the shoulder and neck area radiating down into the fingers, which go to sleep at night, leg cramps up to twice a night. Results of MRS therapy: Nerve tension in the shoulder and neck area has greatly improved, no more leg cramps and her fingers no longer go to sleep at night. Her headaches (initial reaction) disappeared after a few days.*

• *Patient A.W., male, 30 years old. Diagnosis: Always problems with his back, total disability; the therapist found muscle strain and a dislocated pelvis. Results of MRS therapy: "After three weeks I was more relaxed all over and had less*

pain. After eight weeks, I could do 50 % of my work as a painter in the workshop, and after another five weeks 80 %. I have been pain free for a long time now."

3. Thanks to Mrs. Doris Paunger

• *Patient B.J., female, 61 years old. Diagnosis: Muscle strain in the neck, acute abdominal pain, back pain, migraine attacks, shoulder and joint pain, wear on the cervical and lumbar spine, varicose veins, poor general condition. Results of MRS therapy: "The acute abdominal pain improved after just a few days and after 14 days I was free of symptoms. The muscle strain improved. I feel a significant relief from pain due to the wear in the cervical and lumbar spine. My quality of life has improved greatly and I enjoy working again."*

4. Thanks to Mrs. Verena Singer

• *Patient M.M., female, 78 years old. Diagnosis: Muscle strain in the shoulder and back area, cracked and chapped skin on the fingertips, extreme sensitivity to weather, circulation problems, age-related impairment in motor system. Results of MRS therapy: "The muscle strain was improved quickly, and my mobility improved. The cracks on my fingertips have not returned. My sensitivity to weather has improved and I feel more balanced. My circulation disorders have greatly improved and the age-related impairment has changed to a better quality of life."*

5. Thanks to Mrs. Gabriele Friedrich

• *Patient E.B., male, 29 years old. Diagnosis: Muscle strain in the neck and shoulder area, joint pain, nervous agitation, sleep disorders, circulatory problems, high blood pressure, headaches. Results of MRS therapy: "I felt a pleasant warm feeling and relaxation with the very first treatment and my headaches disappeared. I now feel more balanced and calmer. My sleep disorders, circulatory problems and high blood pressure have normalized. The muscle strain in my neck and shoulder area and my joint pain have disappeared."*

6. Thanks to the company Vita-Life

• *Patient F.T., female, Diagnosis: Severe muscle strain in the shoulder area, painful neck vertebrae, already two injection cure therapies; lower back pain after any activity, sleep disorders. Results of MRS therapy: After two weeks of use, significant improvement in muscle strain, after two months pain free in the shoulder area, significant improvement in lower back pain. "I can do sports - play tennis, ski, ride a bicycle without pain. Since the treatment I feel especially fit."*

7. Thanks to Mrs. Anneliese Kürzl

• *Patient L.M., female, 31 years old. Diagnosis: Permanent muscle strain in the neck, headaches (3-4 times a week), very severe menstrual complaints, lack of energy. Results of MRS therapy: In the first month the symptoms exacerbated, then she became completely symptom free after two months of use. "My quality of life has improved by 200 %."*

Appraisal of MFT: **80-90 % good to very good results, has a relaxing and pain relieving effect.**

1.14. Ischialgia

Ischialgia is the most common form of nerve pain (neuralgia). Possible causes of this condition include rheumatic diseases, prolapsed disk, chronic constipation, congestion of blood in the vessels of the pelvis due to tumors, ovarian inflammations, gout, diabetes, sexually transmitted diseases and the like. The pain begins in the lumbar and low back area, radiating into the buttocks and the backs of the thighs to the back of the knee and from there along the outer edge of the calf to the outer edge of the foot and the back of the foot. Under unfavorable conditions, the wrong movement and either cold or pressure can cause the pain to increase. When elevating the leg in an extended position, severe pain occurs in the area of the buttocks due to the stretching of the leg nerve affected. It is important to begin treatment as soon as possible. Medication merely controls the symptoms but not the causes. Heat often relieves the pain; massage and physical therapy can lead to a faster recovery. Leg packs at night (wrapping a hot, damp towel around the lower body and covering it with blankets) can help these patients to sleep calmly without pain pills.

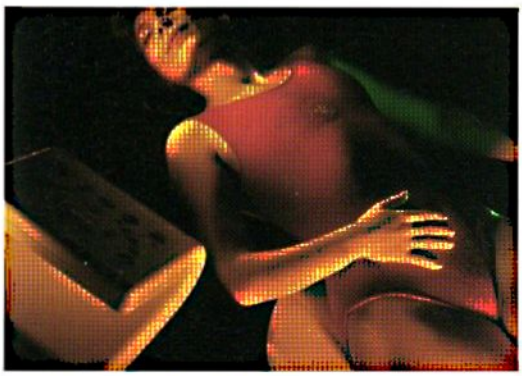
Curvature of the spine

Effect of magnetic field therapy on ischialgia:

supporting the therapy, relieving pain, relaxing muscles, promoting circulation and having a positive influence on the autonomic nervous system (the underlying mechanism here is hyperpolarization).

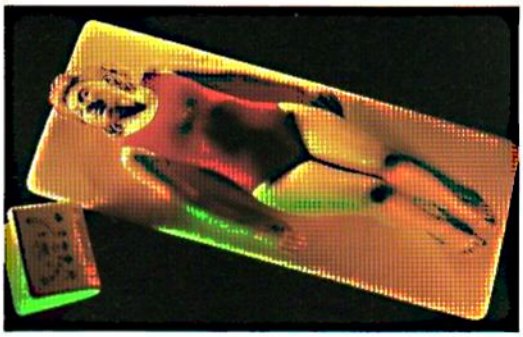
Proper use of MRS for ischialgia

- Whole-body mat: three times a day for 8 minutes each time: 100 % level in the morning (gradually increasing from 25 %), 50 % level at noon, 10 % level in the evening
- Pad: 2-3 times a day for 24 minutes each time, 150 % level



Local treatment for ischialgia

- Special instructions on use: Keep knees bent! Roll over on your side before standing up.
- Duration of treatment: Preliminary results will be manifested after 4-6 weeks, but in exceptional cases, this may also take longer.
- Notes on the initial reaction: none.
- Forms of therapy supportive of MFT: muscle relaxing substances and exercise, acupuncture, neural therapy.



Basic treatment in ischialgia

Scientific studies on the treatment of ischialgia with MFT

- D. Foley-Nolan et al.: "Low Energy High Frequency Therapy for Persistent Neck Pain. Double-blind Placebo-controlled Trial," Bioelectromagnetics Society, 12th annual meeting, July 10-14, 1990, San Antonio. - This double-blind, placebo-controlled study investigated the effect of low energy pulsating electromagnetic fields on patients with persistent back pain. The results show a definite improvement after a three-week period of treatment.
- A. Binder et al.: "Pulsed Electromagnetic Field Therapy of Persistent Rotator Cuff Tendinitis. A Double-blind Controlled Assessment," Lancet, 1 (8379), March 31, 1984, pp. 695-698. - Results of study: definite improvement with a statistical significance in the treatment of patients with tendinitis with MF.

Physician reports on the treatment of ischialgia with MRS

1. Health Center of Wolfgang Kropshofer, Doctor of Chiropractics, 1080 Vienna, Alserstrasse 43/8a, tel. +43/(0)1/40 373 80

- *Patient G.C., female, born 1929. Diagnosis: Since November 11, 1998 burning radiating pain from the lumbar spine into the right heel. Results of MRS therapy: November 18, 1998 pain still radiating somewhat into the legs, but the shoulders, arm and lumbar spine are free of*

pain. On November 24, 1998, the patient had a severe reaction: pain in the joints, high-grade lumbar pain and headaches. Since November 26, 1998 the patient has been free of symptoms.

2. Dr. Gunter Zenz, M.D., General Practitioner, Graz

• *Patient O.A., male, 72 years old. Diagnosis: Complaints in the lumbar spine area, lumbar symptoms, degenerative intervertebral disk damage. Results of MRS therapy: The symptoms improved in the first week, no more pain pills, long-lasting good results.*

3. Hospital of the Rudolf Foundation in Vienna

• *Patient, male, 84 years old. Diagnosis: Lumbago (lower back pain), shortening of leg, severe coxarthrosis (arthrosis of the hip). Results of MRS therapy: Significant trend toward an improvement after seven treatments.*

4. Dr. Harald Eckardt, M.D., Dr. Gero Krause, M.D., Dr. Holger Lorenz, M.D., Dr. Josef Kapellmann, M.D., Orthopedic Surgeons, Rosenheim

• *Patient K., female, Diagnosis: Chronic lumbar syndrome, static complaints in both legs, sleep disorders. Results of MRS therapy: Mrs. K. reported being free of pain after just half of the scheduled treatments. The reported sleep disorders have also been eliminated.*

• *Patient, female, 33 years old. Diagnosis: Lumboischialgia (mediolateral prolapsed disk L3/L4), few complaints at the present time. History: prolapsed mediolateral disk L3/L4 with bony support approximately two years ago, verified by CT scan. In addition, juvenile myoclonic epilepsy, but patient has been free of attacks for several years and is not currently taking any medication. Results of MRS therapy: Subjective stabilization of patient in a symptom-free condition.*

Patient reports on the treatment of ischialgia with MRS

1. Thanks to the company Vita-Life

• *Patient R.S., male, 43 years old. Diagnosis: ischialgia. Results of MRS therapy: The pain is gone and the feeling of numbness in his leg has disappeared.*

2. Thanks to Mr. Reinhard Schlag

• *Patient B., female, Diagnosis: Severe pain in her hip as well as ischialgia with numbness extending into her right leg, medical visits with ten analgesic injections did not bring any relief. "Mrs. B. could climb the stairs only with great pain at the time of the first treatment. She had to hold onto the railing with both hands." Results of MRS therapy: "After the very first treatment, there was a definite improvement. After three treatments, there was an increase in pain at night in the area of L4/L5. The next day the patient was pain free. After the fifth treatment, she was able to climb the stairs without pain, after the sixth treatment, Mrs. B. was able to go up and down stairs without holding the railing and without pain. She told me that she could once again sleep very well and felt better than she had felt for several years."*

3. Thanks to Mrs. Inge Magg

• *Patient, female, 53 years old. Diagnosis: Sciatic complaints since her pregnancy (at the age of 30), shoulder and neck problems, allergy for 30 years, especially on the hands; inflammation of Achilles tendon on both sides. Results of MRS therapy: After two months of treatment, the patient no longer had an allergy and the Achilles tendon inflammation had cleared up, as had the shoulder and neck problems. The sciatic complaints continued for a short period of time; renewed treatment: the pain disappeared again immediately.*

• *Patient J.K., male, 54 years old. Diagnosis: Tension in the neck and shoulder areas, problems with the sciatic nerve. Results of MRS therapy: The pain from the hip area to the calf through the sciatic nerve has mostly disappeared and the muscle strain has been greatly relieved.*

• *Patient N.J., female, 39 years old. Diagnosis: Prolapsed disk with slight paralysis of the foot and sciatic pain - three weeks of outpatient treatment and three weeks of hospitalized treatment: strong analgesics, approximately 40 infusions, acupuncture massage, mud packs, underwater massage, individual physical therapy and electrotherapy - no improvement. Severe pain in the lumbar spine area and the shoulder area, sleep disorders since 1996 and depression despite the use of medication. Results of MRS therapy: After two weeks of use, no more sleep dis-*

orders, depression only occasionally, less frequent pain in the area of the disk, the lumbar spine and shoulder, the left foot paralysis has disappeared and the sciatic pain is less common. "I was able to stop taking medication after one month of magnetic field therapy."

Appraisal of MFT: **80 % good to very good results**

1.15. Carpal tunnel syndrome (CTS)

In carpal tunnel syndrome, a pressure is exerted on the median nerve in the muscle-bone canal (tunnel) of the wrist. The pain occurs because the tissue around the median nerve swells up due to constant repeated movements and exerts pressure on the nerve. The pain usually occurs at night and is accompanied by paresthesias (tingling, numbness) in the propagation region of the affected nerves. The causes of carpal tunnel syndrome may also include injury to the wrist or an inflammation of the tendon sheath. Treatment consists of immobilizing the wrist or surgery.

Effect of magnetic field therapy on carpal tunnel syndrome:

reducing swelling, relaxing muscles, relieving pain, stimulating nerves, supportive

Proper use of MRS for carpal tunnel syndrome

- Pad or probe: 3-4 times a day for 16 minutes each time, 150-200 % level (probe up to 400 % level), on the wrist.
- Special instructions on use: assume a protective position of the hand and forearm.

Local treatment for carpal tunnel syndrome

- Notes on the initial reaction: an initial reaction can be expected in approximately 2 % of the cases.
- Forms of therapy supportive of MFT: enzymes and other measures to reduce swelling, acupuncture and neural therapy

Scientific studies on the treatment of carpal tunnel syndrome with MFT

- M. J. McLean et al.: "Treatment of Wrist Pain in the Workplace With a Static Magnetic Device - Interim Report of a Clinical Trial," Second World Congress for Electricity and Magnetism in Biology and Medicine, June 8-23, 1997, Bologna, Italy. - This double-blind, placebo-controlled study investigates the effects of magnetic field therapy in carpal tunnel syndrome. The results show a definite improvement in pain without any side effects.

Physician reports on the treatment of carpal tunnel syndrome with MF

1. Dr. Andrea Leute, M.D., Überlingen

- *Patient R.K., male, 42 years old. Diagnosis: Carpal tunnel syndrome in the right hand for several years, causing pain at night and tingling paresthesias in the hand after heavy manual labor, most recently every night during a two-week period when the patient was doing construction work. Results of MRS therapy: Now the symptoms have only occurred a total of 4 times in 14 days.*

Patient reports on the treatment of carpal tunnel syndrome with MRS

1. Thanks to the company Vita-Life

- *Mr. L.L., 58 years old. Diagnosis: Carpal tunnel syndrome for two years. "I don't want to have surgery and I would like to continue my occupation (truck driver). Until I used the MRS, I would wake up every night and often could not go back to sleep again because of the pain." Results of MRS therapy: "For eight weeks I have been receiving MRS treatments, and the pain has been reduced greatly and I am beginning to sleep through the night again."*

Appraisal of MFT: **60 % good to very good results**

1.16. Knee injury

The knee consists of many moving parts, each of which can be injured in different ways. Injuries occur especially frequently in sports activities. A distinction is made between injuries to the meniscus, for example due to a fall with a twisted knee, and injuries to the ligaments, tendons and the capsule (see "Sports medicine").

Effect of magnetic field therapy on knee injuries:

promoting circulation, relieving pain and relaxing muscles (due to hyperpolarization)

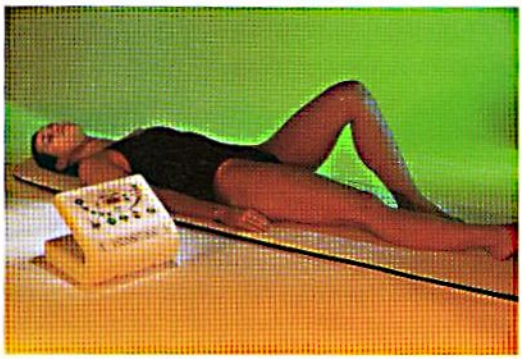
Proper use of MRS for knee injuries

• Whole-body mat: once to twice a day for 8 minutes each time, 100 % level in the morning (gradually increasing from 10 %), 25 % level in the evening (gradually increasing from 10 %).

• Pad: 2-3 times a day for 24 minutes each time, 150 % level, locally on the knee with the closest possible contact

• Special instructions on use: Before standing up, swing your knee lightly (without applying pressure to it).

• Notes on the initial reaction: in approximately 10 % of the cases of chronic knee complaints, there is brief intensification of pain (increase the dose gradually!).

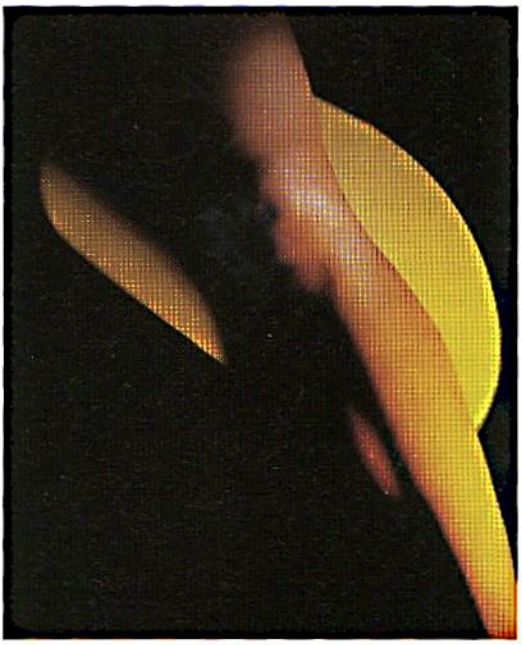


Basic treatment in knee injuries

• Forms of therapy supportive of MFT: enzymes, acupuncture, neural therapy, laser, ultrasound, homeopathy, glucosamine sulfate, shark cartilage extract

Scientific studies on the treatment of knee injuries with MFT

• A study with the MRS 2000+ MED in the Klagenfurt District Hospital has shown a definite improvement in pain symptoms in patients with knee problems.



Local treatment of the knees with a pad

• G. Annaratone et al.: "Magnetotherapy in Clinical and Ambulatory Practice," Minerva Med, April 1983, pp. 823-833. - This study demonstrates the positive effects of MFT in various orthopedic problems in a review of the last 10 years on more than 350 patients.

Physician reports on MRS therapy in knee injuries

1. Dr. Annegret Wennig, M.D., General Practitioner, Sports Medicine, Erfurt

• *Patient E.V., male, 36 years old. Diagnosis: September 18, 1998 recurrent knee complaints. Results of MRS therapy: September 21, 1998: the knee joint is better but on the whole the patient is experiencing pain in all the major joints. September 25, 1998: The pain in the knee joint has disappeared, there are slight residual symp-*

toms in the hip joint right and left, patient no longer taking medication. The patient is very satisfied with the treatment.

2. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0043/1/40 666 00

• *Patient S.W., female, born 1921. Diagnosis: Knee joint pain on the left. Result of sonogram: Baker's cyst 2 mm large. Results of MRS therapy: reduction in pain sensitivity and frequency in the course of treatment, after approximately three treatments, the pain shifted into the calf, and after the last treatment the patient became pain free, continuing till today.*

• *Patient B.W., female, 42 years old. Diagnosis: Recurrent pain in the left knee since 1990, especially after applying weight to the knee and when the knee is bent; 1992 tumor removed, angiofibromyoma. In the following years, repeated complaints in the knee joint when applying weight to the knee in exercise such as mountain climbing, hiking, etc. Results of MRS therapy: Hardly any symptoms in the knee joint after ten days of treatment, so the patient could also go on longer hikes in the mountains with no problem.*

Patient reports on the treatment of knee injuries with MRS

1. Thanks to Mrs. Dagmar Weissenbacher

• *Patient A.W., male, 58 years old. Diagnosis: After a meniscus operation with cartilage damage in the middle of March 1996, the patient was prohibited from putting weight on his knee for six weeks (crutches); problems with cholesterol levels and obesity, occasional severe lumbar pain - treated with injections by physician. Results of MRS therapy: Patient had already begun hikes in the mountains at the beginning of May (longer distances involving walking for 8-10 hours), proof of performance in bicycling: despite extreme stress, the patient has never had knee pain again and no longer has any pain after muscle exertion. His cholesterol levels have improved. "I have also lost some weight."*

2. Thanks to Mrs. Christina Glausch

• *Patient I.C., male, 64 years old. Diagnosis: Occasional severe pain in the knees and hips for several years. Results of MRS therapy: The pain has almost disappeared through these treatments (approximately 5 times a day).*

3. Thanks to the company Vita-Life

• *Patient T., female, 48 years old. Diagnosis: Pain in the left knee in the cervical and lumbar spine and in the right shoulder blade, menopausal symptoms, arrhythmias. Results of MRS therapy: First week: Intense reactions in all areas except in the knee, definite improvement after 3 days. Second week: Patient still experiencing initial reactions except in the hands. Third week: Perceptible improvement in the cervical spine; sixth-seventh week: cervical spine much better, lumbar spine much better, knee completely healed, shoulder not yet entirely healed, but much better. Wrist completely healed. Almost no more arrhythmias.*

4. Thanks to Mrs. Angela B. Boykow

• *Patient Dr. E.B., male, 49 years old. Diagnosis: Severe knee and lumbar spine complaints, especially under strain such as climbing stairs. Results of MRS therapy: He now has almost complete mobility of the spinal cord again and has hardly any pain. The knee symptoms are milder, although he still experiences pain in climbing stairs when carrying a heavy briefcase. Patient can also ski again.*

5. Thanks to Mr. Ludwig Müller

• *Patient K.J., female, 58 years old. Diagnosis: For about five years, severe lower back pain and complaints in the knee. "I could hardly climb the stairs any more. I had to take various therapies but none of them yielded an improvement except for a short time." Results of MRS therapy: "The knee pain improved after five weeks and I was also able to climb stairs again. After one year, the knee problems were completely gone and I could stop all the pain pills that I had been taking previously in large numbers. Today my general health is very good and I can do all my work again."*

6. Thanks to Mrs. Beate Martina

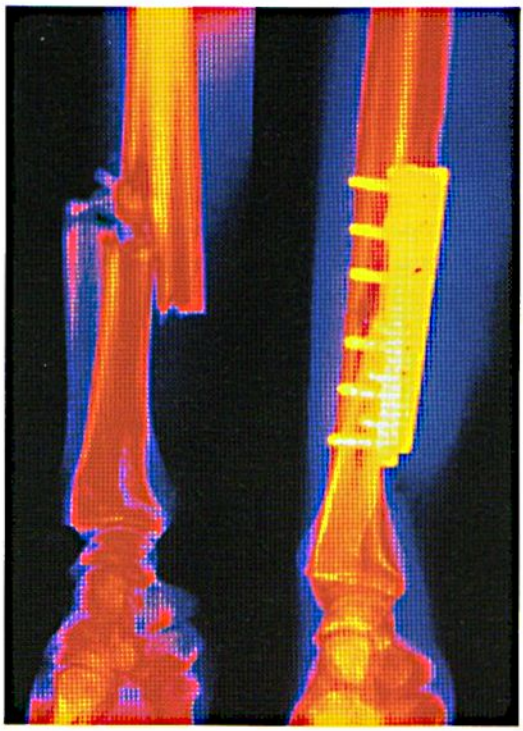
• *Patient I.G., female, 63 years old. Diagnosis: Since 1993 severe pain in the right knee, migraine attacks with vomiting, frequent angina with severe pain; rheumatic symptoms since the age of 22, frequent eye infections. Results of MRS therapy: Pain reduced after the sixth week, now free of pain.*

• *Patient H.P., male, 93 years old. Diagnosis: Knee pain on the left for many years (almost 80 years!). Results of MRS therapy: "I sleep well, and the pain in my left knee has improved greatly. I have more energy and enthusiasm. My health has largely stabilized."*

Appraisal of MFT: **80-85 % good to very good results**

1.17. Bone fracture

The human skeleton consists of more than 200 bones. Bones are extremely stable - for example, the femur, the bone in the thigh, can withstand a pressure of 1.5 tons, and the tibia or shin bone can actually carry 20 times the total body weight. Thus, an enormous force is required to break a bone. In its interior, a bone consists of numerous tiny struts and supporting pillars, so-called trabeculae, which uniformly distribute the compressive and bending forces acting on the bone tissue. The trabeculae impart an enormous strength and high elasticity to bone.



Fracture

Ossification of the skeleton is concluded only toward the end of puberty. A bone fracture in childhood where the periosteum is not perforated is called a greenstick fracture. Any bone fracture is characterized by pain, swelling, a loss of strength, abnormal movement and a rubbing noise made by the bone fragments. Complications may include infections, nerve damage, damage to bloods vessels or injury to internal organs.

A broken bone must be realigned properly and set. In the past, a bone would be kept immobilized after a fracture. Today we know that the resting phase should be as short as possible. In order for healing to progress more rapidly, in certain cases a bone will be nailed, screwed, set with plates and wired and additionally also stabilized with bone cement and artificial shavings. There are more than 100 different types of bone fractures.

Once a fracture has occurred, a process which is called fracture healing begins. This is one of the miracles of human nature. In the healing of a fracture, a so-called callus is formed; this is replacement tissue whose final structure is not reached until after about 60 days. This ridge can be seen on an x-ray for the rest of the person's life; in some cases it can even be felt through the skin.

Magnetic fields can easily penetrate through a plaster cast and can also be used on fractures using nails and wire without any problem.

Effect of magnetic field therapy on a bone fracture:

promotes the development of callus, i.e., new bone synthesis, influences the parathyroid hormone PTH and thus inhibits the loss of calcium from bone. Piezoelectric effects play an important role.

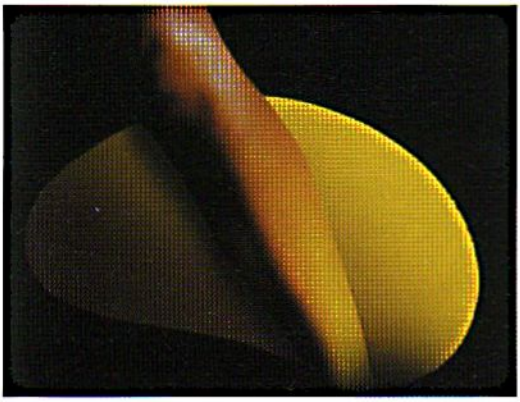
Proper use of MRS for a bone fracture

• Pad: 3-5 times a day for 24 minutes each time at the 200-400 % level, at the site of the fracture

• Duration of treatment: after eight weeks at the latest, a callus should be discernible in the x-ray. With poorly healing bone fractures, the

treatment time may easily extend to six to nine months (pseudarthosis).

- Notes on the initial reaction: none
- Forms of therapy supportive of MFT: enzymes, herbs (field horsetail extract)



Local treatment of a bone fracture

Scientific studies on the treatment of bone fracture with MFT and on the topic bone growth

Bone fractures and bone growth are definitely one of the best researched areas of magnetic field therapy. At our central IGEM office alone, approximately 800 clinical studies are available on this topic. It is impossible to thoroughly cover this multitude of data in this book. We shall simply attempt to give an up to date overview.

- At the present time a study is underway at the District Hospital in Graz on the topic of greenstick fractures in children in treatment with MRS 2000+ MED. The initial results are positive.
- M. Quittan et al.: "New Indication For a Known Treatment Method: Magnetic Field," University Clinic for Physical Medicine and Rehabilitation, AKH Vienna, 1998, ÖZPMR. - The author analyzed 22 randomized controlled double-blind studies in conjunction with disturbed and normal bone healing. The result: with regard to bone healing, the efficacy of therapeutic pulsed magnetic field can be regarded as proven.
- G. Fischer et al.: "Improved Fracture Healing and Changes in Biochemical Blood Parameters in Rabbits After Artificial Femurosteotomy in a Low Frequency Magnetic Field," University of Graz, 1998. - This single-blind study on rabbits has shown that development of a callus was greatly improved in comparison with the control group (observation of alkaline phosphatase, creatinine kinase and development of callus under CT).
- K. L. Grace et al.: "The Effects of Pulsed Electromagnetism on Fresh Fracture Healing: Osteochondral Repair in the Rate Femoral Groove," Department of Orthopedics, UMDS, London Orthopedics, March 1998, 21 (3), pp. 297-302. - This study shows that pulsating electromagnetic fields cause an early vascular reaction in bone and wound healing and thus promote bone growth.
- G. Borsalino et al.: "Electrical Stimulation of Human Femoral Interochanteric Osteotomies. Double-blind Study," Department of Orthopedics and Traumatology, Montecchio Hospital, Reggio Emilia, Italy. Klin Orthop (237), pp. 256-263. Low-frequency pulsating electromagnetic fields ielded a statistically significant improvement in bone healing (even after surgery) in this double-blind study on 32 patients with x-ray monitoring and measurement of callus density.
- G. B. Holmes Jr.: "Treatment of Delayed Unions and Non-unions of the Proximal Fifth Metatarsal with Pulsed Electromagnetic Fields," University of Orthopedics, Chicago. Foot-Ankle-Int. 1994. - This study shows that pulsating electromagnetic fields are an effective alternative in supportive treatment of poorly healing bone fractures.
- A. T. Barker: "Pulsed Magnetic Fields Therapy of Tibial Non-union. Interim Results of a Double-blind Trial," Sheffield University, 1984, Lancet. - The active magnetic field group had an 87 % success rate.
- C. A. Basset: "Beneficial Effects of Electromagnetic Fields," Journal of Cellular Biochemistry 51 (4), April 1993, pp. 387-393. - This study investigated among other things the effect of MFT on complicated bone fractures that would not heal as part of the natural recovery process.

Physician reports on the treatment of bone fractures with MF

1. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0043/1/40 666 00

• *Patient O.O., male, 26 years old, sports student, semiprofessional soccer player and ski instructor. Diagnosis: Collision and tibia fracture on the right in a beach volleyball tournament on December 5, 1998. Operation on December 5 with locking titanium nails in the tibia marrow (2 screws proximally and 2 screw distally). Discharged from the hospital 10 days later, on crutches for 4 weeks. On the 11th day after surgery, MFT was begun. Results of MRS therapy: Rapid subsidence of swelling, patient free of pain after one week, could go skiing cautiously with weight on one leg (healthy leg) after eight weeks. "The success of the treatment was considered a clinical sensation."*

2. Dr. Gerhard Antensteiner, M.D., General Practitioner, Kindberg

• *Patient, male, 10 years old. Diagnosis: Complicated elbow fracture. After conservative treatment, mobility in the elbow joint was limited to approximately 20 %. After extensive physical therapy, hardly any improvement in mobility was achieved. Results of MRS therapy: A significant improvement in mobility was achieved within a short period of time and the pain the patient had experienced until then disappeared almost completely.*

• *Patient H.W., male, 48 years old. Diagnosis: Comminuted fracture of right heel bone: after more than two years, the patient was still experiencing swelling and pain on movement in climbing stairs. Results of MRS therapy: Definite improvement in mobility after just a few days, meanwhile almost free of pain, no more swelling, increased load-bearing possible again, scar became lighter and more delicate, definite improvement in well being.*

3. Dr. Otmar Rainer, M.D., General Practitioner, Graz

• *Patient, female, 51 years old. Diagnosis: Fracture of left antebrachialis bone (forearm left). In the acute hospital, AO plating of the radius was performed. Because of excessive callus production, a bridge callus developed between the ulna and the radius. Surgical revision was necessary. Subsequent poor bone healing tendency. Unsatisfactory mineralization and development of Sudeck's dystrophy and throbbing pain, especially in the evening hours. Despite several weeks of calcium therapy, no significant improvement. Results of MRS therapy: "On my advice, this patient, who was already very confused, decided to try magnetic field therapy. After 30 sessions, there was excellent consolidation of the fracture of the ulna and mineralization of the fracture of the ulna and radius. The pain was virtually gone after eight sessions. This amazed even the treating surgeon."*

• *Patient, male; diagnosis: bilateral rib fracture. Results of MRS therapy: The patient became completely free of pain without any additional therapy within a period of approximately three weeks. According to empirical observations, this is 30-40 % faster than with any other form of therapy.*

4. Dr. Michael Pommer, M.D., specialist in orthopedics and orthopedic surgery, Graz

• *"Magnetic field therapy has proven to be excellent in my practice. In bone fractures the cure results are greatly improved. Loosening of a prosthesis can be corrected again. Due to the cell regenerating, anti-inflammatory and circulation-promoting effects, it has yielded excellent therapeutic results in osteoporosis and arthrosis."*

5. Dr. Monika Harrer, Dentist, Heideck

• *Patient F.M., male, 24 years old. Diagnosis: Fatigue fracture in the head of the tibia on both sides. Severe pain (piercing) in the area of the tibia (shin bone), inflammation in the calf muscles, in the tendon attachments and the Achilles tendon. Results of MRS therapy: Pain in the area of the fatigue fracture is greatly reduced, muscles have normalized and the inflammation in the other areas has almost completely disappeared.*

6. Dr. Lutz Ammerer, M.D.

• *Patient, female, 30 years old. Diagnosis: Fall on the right forearm with typical bayonet-like malpositioning: comminuted fracture. Results of MRS therapy: Excellent callus formation apparent after 20 treatments, surgery and application of the fixative became unnecessary and her hand became fully load-bearing again in the proper axial position.*

7. A study report from the Graz University Clinic for Pediatric Surgery (director: Professor Dr. M. E. Höllwarth) with MRS

All the children and young people discussed below were treated with magnetic field therapy at home after receiving detailed instruction in proper technique, obtaining a signed consent form and after the child plus at least one of the parents received training in physical therapy; outpatient physical therapy was continued.

• *Patient; W.S., 10-year-old girl: closed greenstick fracture in the middle of the shaft of the ulna with partial disturbance in consolidation, magnetic field therapy was conducted to protect against a recurrence of the fracture, because the fracture gap was only partially reconstructed after a conservative 5-week treatment with a plaster cast. After the plaster cast was removed, magnetic field therapy was begun because of incomplete healing of the fracture. Under 2-month magnetic field therapy, a circular callus developed. Magnetic field therapy was used at home by the mother with no problem, and the child found the treatment to be pleasant. The girl fell again shortly after the end of therapy and again suffered a fracture of the same bone, but this time in a different location. The mother (a physician) was also convinced that a recurrence of the fracture (at the old location) was probably prevented by the magnetic field therapy.*

• *Patient; H. S., 13-year-old girl: closed fracture of the tibia with massive soft tissue contusions (pedestrian accident). After surgical treatment of the fracture with an external fixation device and an intramedullar splint, fracture healing was delayed and there was a trend toward incipient development of a hypertrophic pseudarthrosis with an ugly distension of the tibia in the area of the fracture. At this point, magnetic field therapy was initiated and within three months a stable reconstruction of the fracture was achieved with ongoing magnetic field therapy. The girl reported that she felt a pulling sensation in the fracture area when magnetic field therapy was being used. Her lower leg had resumed its normal shape at the end of therapy.*

• *Patient, S. K., 10-year-old girl: After a lower arm fracture in the middle of the shaft (the child was knocked over by a goat), within a few months she suffered a new fracture at the same location. It was treated surgically with a medullary splint on both lower arm bones, but open repositioning of the ulna was necessary because of damage to the medullary space. Fracture healing of the ulna was delayed postoperatively while the medullary splint was still in place. Aftertreatment without a plaster cast; magnetic field therapy begun postoperatively after six weeks. One month later, reconstruction of the ulna was already definitely discernible. Magnetic field therapy was continued for approximately four more weeks, at which point reconstruction of the fracture was satisfactory. Skiing and ballet were allowed, and for family reasons, they waited six months before the removal of the metal. At that time, she was free of pain, had free mobility of the forearm and was able to participate in sports. It is currently six months after removal of the metal. Her family is very satisfied with the results on the whole.*

• *Patient, female; S. N., 16-year-old girl: Injured as a moped passenger in a traffic accident. Third-degree open multi-level tibia fracture with fracture of the tibia plateau: vascular and nerve damage and compartment syndrome. Treated with vascular reconstruction, external fixation, bone screws, fasciotomy, gastrocnemius flap graft, split skin graft and spongy tissue graft (in the area of the distal tibia fracture zone). Because of delayed fracture healing in the area of the distal comminuted fracture, magnetic field therapy was begun three months after the trauma while the external fixation was still in place. Tender callus bridging could be discerned in the distal fracture area six months after the injury. Magnetic field therapy was continued for a total of three months. The patient reported that she felt a pulling sensation in the distal fracture area while using magnetic field therapy. Nine months after the accident, she can walk well with a peroneal splint without pain and she has started a new apprenticeship.*

• *Patient, E.S., 12-year-old girl: At the age of 12 years, she had osteochondritis dissecans of the trochlea of the talus. The osteochondral fragment was removed surgically two years ago and Bridie bores were created. Relief for three months postoperatively and then partial loading. Radiology revealed further reconstruction in*

the following year, but the patient still experienced constant pain when putting load on the ankle. Magnetic field therapy begun in January of 1999; tolerated well so far.

- *Patient; C M., 7-year-old boy: In September 1998 he fell on the road, suffering a proximal greenstick fracture of the radius with slight faulty positioning. Immobilized with a plaster cast on the forearm for four weeks. A soft plaster cast was used for 1.5 weeks more because of partial osseous consolidation disturbance in the area of the fracture. The child removed the plaster cast himself. magnetic field therapy was begun because the fracture gap was still partially visible after the cast was removed. One month later, the fracture area was uniformly reconstructed, magnetic field therapy was stopped and gymnastic exercise was allowed.*

- *Patient; E. B., 10-year-old girl: In the summer of 1998, she suffered a third degree open multiple fracture of the forearm and multiple injuries due to a traffic accident. Initial treatment after vascular/neurological revision and debridement with external fixation on the forearm, transfixation of the distal radio-ulnar joint because of detachment of the epiphysis of the distal radius and luxation in the radio-ulnar joint. Temporary coverage of the defect with Epigard(R); after follow-up debridement, the proximal forearm defect injury was treated with free microvascular scapula flaps (with parascapular widening as a replacement for the lack of periosteum of the ulna in the area of the open ulna fracture). Simultaneous deposition of spongy tissue in the area of the ulna fracture. Removal of metal and of the external fixation after three months. Shortly thereafter, the patient suffered a recurrence of the fracture in the area of the spongy tissue graft at the location of the original ulna fracture. Treated with an elastic stable medullary splint (titanium splint) of the ulna. At the same time, magnetic field therapy was begun because of delayed fracture consolidation of the repeat fracture of the ulna. Since then, the repeat fracture has shown increasing osseous reconstruction. The child was able to return to school without symptoms just one week after the medullary splint was introduced and she can already write with her injured hand with no symptoms. The magnetic field therapy was continued at home for three months with no problem, at which time the repeat fracture showed progressive osseous reconstruction. There are plans to remove the medullary splint during the coming summer vacation period.*

- *Patient: L. A., 9-year-old girl; fell on her right hand 13 months ago with distal, closed meta- and diaphyseal fracture of the forearm, which was treated with an upper arm [sic; forearm] cast for five weeks. When the plaster was removed, the fracture gap could still be seen to some extent. Two weeks after the plaster was removed, the girl fell on her hand again when playing on a slide and suffered a repeat fracture. Treated again with a forearm cast for five weeks; fracture gap still clearly discernible after 3.5 weeks of wearing the plaster cast. Therefore, magnetic field therapy was begun and the patient was advised to continue to wear an inline skater hand brace on her injured arm when playing outdoors after removal of the cast. At the follow-up, the child was free of symptoms and the fracture gap could not be seen - therefore, she no longer needed to use the inline skater hand brace and she was allowed to participate in sports again. Since then, she has not had another fracture.*

- *Patient: B. A., 6-year-old boy; greenstick fracture of the forearm in the transition area between the middle and proximal thirds; treated with a forearm cast under local anesthesia at another hospital. After four weeks, incomplete callus bridging despite good positioning of the fracture. This was followed by treatment for two weeks with another upper arm plaster cast, then the cast was removed. Three months later, the bone was fractured again after falling when playing soccer. Repositioned under anesthesia and an upper arm cast was applied for the period of six weeks. When the plaster was removed, there was again an incomplete callus fracture of the ulna. Therefore, magnetic field therapy was initiated. After six weeks, adequate circular callus had developed at the site of the ulna fracture. The patient had free mobility of the wrist and elbow joints, so treatment was terminated.*

Patient reports on the treatment of bone fracture with MRS

1. Thanks to Mr. Ludwig Müller

- *Patient K. J., male, 58 years old. Diagnosis:*

Double ankle fracture, 14 days in the hospital, then four weeks of a walking cast. Still severe pain due to screws and plates. Results of MRS therapy: "Due to the excellent healing after use of this treatment, the screws were removed six months early. After the start of treatment, it was no longer necessary to remain in the hospital. I was able to stop taking all the pain pills, which I previously had to take in large quantities. My ankle is very good again and I can do all my work."

2. Thanks to Mr. Ewald P. Müller

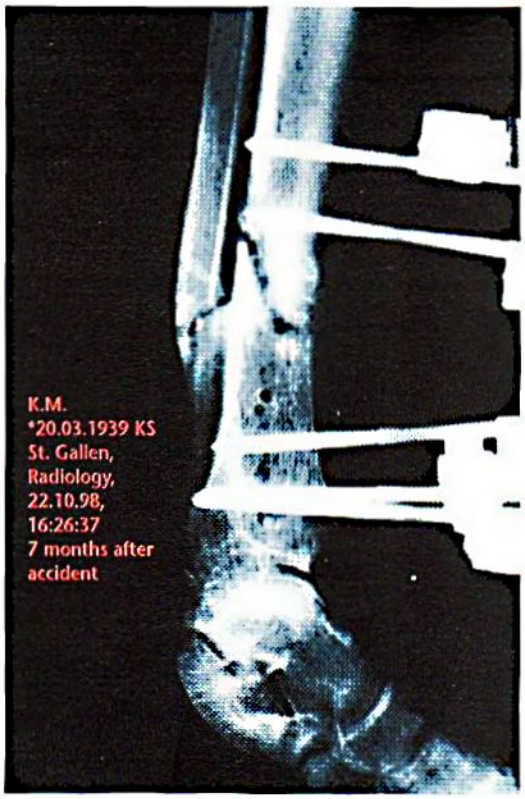
• *Patient F. M., female, 27 years old. Diagnosis: Fracture of the left metacarpal bone, blood lipids very high, protein in the blood very high, hypothyroidism and thyroid nodes, severe scoliosis of the entire spinal column, painful cesarean section scar. Results of MRS therapy: The fracture healed very well. After only three weeks, the plaster cast was removed (originally planned for four weeks). Blood tests after two months: very good values. Thyroid function: normal. The scar caused burning pain after the treatment but has now become much less obvious and looks better.*

3. Thanks to Mrs. Dagmar Weissenbacher

• *Patient S. R., female, 48 years old. Diagnosis: Fracture of the neck of the femur, diabetes mellitus: insulin dependent since 1979. Results of MRS therapy: Improvement in blood sugar values after approximately three weeks, i.e., less basic insulin required. More rapid healing of the fracture of the neck of the femur, no pain, patient able to walk without crutches after two weeks.*

4. Thanks to Mrs. Maria Pfeifer

• *Patient G. A., female, 33 years old. Diagnosis: Severe riding accident: eight broken ribs, contusion of liver, bleeding of liver, dehiscent wound on the head, all vertebrae and almost all bones with severe contusions. The physician had predicted that it would take about 8-9 weeks until the patient would be pain free, about 10-12 weeks (with physical therapy) until the patient would be able to work and at the soonest 3-4 months to resume athletic activity (riding, skiing, tennis). Results of MRS therapy: "After four weeks of therapy, I was able to work again, all my ribs were fused again satisfactorily and I had no pain in movement. My liver is completely normal. Five weeks after the accident I was able to ride again, in the sixth week I was able to ski and now I am already playing tennis."*



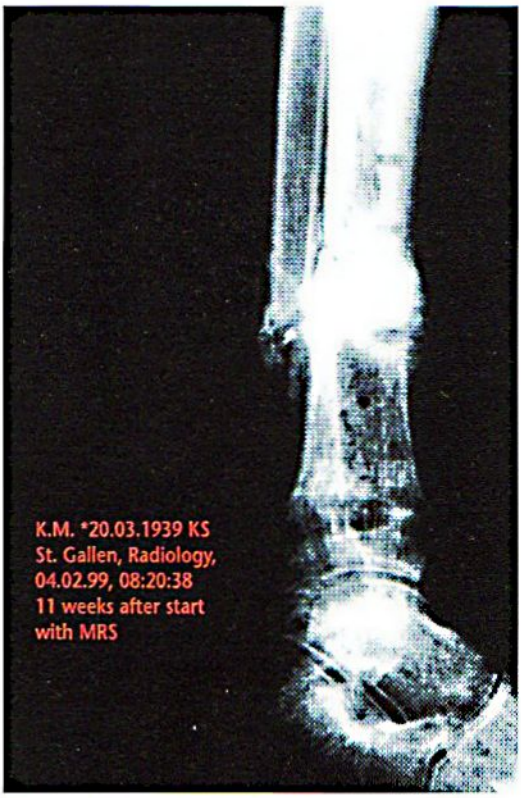
Fracture of lower leg before MRS

5. Thanks to Mr. Felix Sachs

• *Patient M. K., male, 60 years old. Diagnosis: Fracture of left leg: "The patient enjoys a relatively good attitude which has enabled him to tolerate the consequences of a severe accident in Easter 1998 relatively well. He was driving in Southern France. When he had to leave the car briefly, another car hit him on the left lower leg, throwing him into the ditch at the side of the road. Result: left leg completely broken approximately in the middle of the tibia down to some muscle flesh."*

Hospitalization: two weeks in Nimes: tibia sutured up again and nails used for fixation; two months in the St. Gallen Canton Hospital: nails replaced by fixator (with six puncture points from the front). Transplantation of muscle flesh from the upper arm into the calf and "chip" from the hip bone into the tibia. On July 17, patient discharged with crutches, although the tibia was not yet showing any signs of repair. Oc-

tober 26 to November 6 at the Canton Hospital of St. Gallen: removal of the fixator and wound treatment with strong antibiotics to counteract infections in the fixation wounds - still no repair of the tibia. Patient discharged with crutches and plaster cast despite infection in one of the six fixation wounds. The treating physician, a skilled hand surgeon, stated that the leg would probably have to be amputated because there was little hope of bone healing and a prosthesis would be a more reasonable alternative in view of the advanced technology today.



Fracture of lower leg after MRS

MRS therapy begun on November 24, 1998 (more than seven months after the accident). Results of MRS therapy: "Mr. K. has completed eight weeks of treatment consistently. A recommended reduction in the intensity of treatment because of severe pain was not necessary. Progress during the therapy: within one week, the wounds, which had previously still been infected, healed completely; after three weeks a slight elevation appeared on the shin bone (sign of callus on the growing bone). X-ray on January 7, 1999 (seven weeks after the start of treatment): tibia completely healed with a thick callus; he can put his weight on his leg, but it is still being protected with a final plaster cast, presumably for four weeks."

6. Thanks to the company Vita-Life

• *Patient M. T., male, 23 years old. Diagnosis: Forearm fracture, plaster dressing for two months, no improvement, renewed surgery imminent. Results of MRS therapy: Healing of the fracture.*

7. Thanks to Mrs. Verena Zwahlen

• *Patient L.G., female, 55 years old; automobile accident on September 6, 1998. Diagnosis: Comminuted fracture of humerus with torn tendon. After surgery: no feeling in thumb and forefinger. After eleven weeks, the patient still could not lift his arm. Results of MRS therapy: "After the first treatment, Mrs. G. felt a pleasant warm feeling throughout her entire body; she can now lift a full glass again (impossible before the treatment). On the second day, she was able to raise her right hand up to her head. Mrs. G. also feels that the cramps in her thigh and kidneys has stopped. She no longer has any pain in her knee when climbing stairs. Her digestion has normalized. She feels much better in general and is happy to have had such great success after this brief treatment."*

Appraisal of MFT: **90 % very good results**

1.18. Meniscus injuries:

see "Sports medicine"

1.19. Perthes' disease (osteochondrosis)

Perthes' disease involves destruction of bone tissue because of an oxygen deficiency in the area of the head of the hip. The precise cause of this tissue destruction is not yet known. This disease affects mainly children (boys four times more often than girls) with the age peak being between the ages of 5 and 6. The onset of this disease is usually gradual. At first, the child will limp slightly but this favoring of one leg often leads to transient pain in the

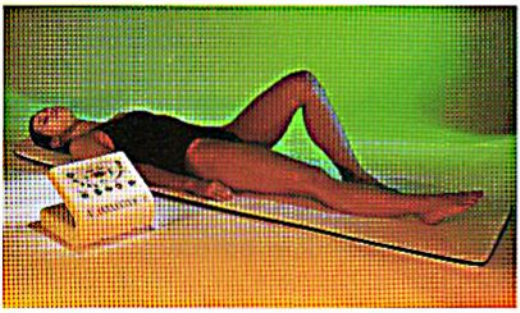
knee and groin. Movement of the hip is greatly restricted. The longer the disease goes undiagnosed, the more likely it is to lead to an actual shortening of the leg. The younger the child is at the start of the disease, the more favorable the prognosis. It is important to take the child to an orthopedic specialist to have an x-ray made as soon as the least suspicion arises. Treatment depends on the stage of the disease and usually consists of relieving the pressure or performing surgery on the neck of the femur. It is often necessary to use analgesics to treat the pain, which becomes worse and worse as the disease progresses. Magnetic field therapy can bring some relief here.

Effect of magnetic field therapy on Perthes' disease:

supporting, promoting circulation, relieving pain, relaxing muscles

Proper use of MRS for Perthes' disease

- Whole-body mat: twice a day 8 minutes each time: 100 % level in the morning, 10 % level in the evening
- Pad: twice a day for 24 minutes each time, 100 % level on the head of the hip
- Special instructions on use: Be patient! The treatment takes a long time - it may require up to three years.



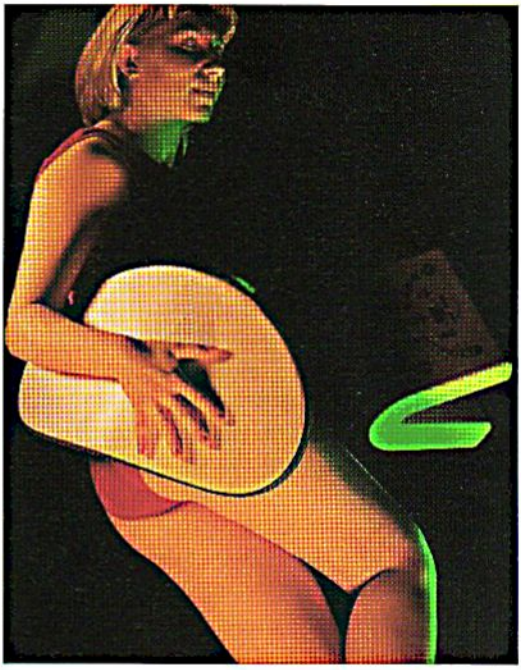
Basic treatment for Perthes' disease

- Notes on the initial reaction: there is an initial reaction in 2-3 % of the cases
- Forms of therapy supportive of MFT: physical therapy, acupuncture

Scientific studies on the treatment of Perthes' disease with MFT

A study is currently underway at the District Hospital in Graz on the topic of the MRS 2000+ MED in Perthes' disease. Individual results are positive, but we will still have to wait for the overall result of the study.

- M. H. M. Harrison et al.: "The Results of a Double-blind Trial of Pulsed Electromagnetic Frequency in the Treatment of Perthes' Disease," Royal Orthopedic Hospital Birhimgham, Journal of Pediatric Orthopedics, 1997. - This double-blind study investigated the treatment of Perthes' disease with pulsating electromagnetic fields. Twenty-one boys with Perthes' disease were divided into two groups, with one group being treated with MFT. The time until reconstruction of the head of the femur was recorded. The healing time in the group receiving MFT was 12 months, and in the second group was 12.5 months.



Local treatment for Perthes' disease

- S. D. Schvchenko et al.: "Experience with Treating Some Orthopedic Diseases with Millimeter Range Radiation of Non-thermal Intensity," Millimeter Waves in Medicine and Biology, Moscow 1997. - This study investigated

Perthes' disease in children and found a significant improvement in complaints.

- S. A. Schastnyi et al.: "A Contact-free, Biologically Adequate Electromagnetic Stimulation of Repair Regeneration of Osseous, Cartilaginous and Muscular Tissues in Children," Vestn Ross Akad Med Nauk (3), 1994, pp. 38-42. - This article reports on the efficacy of electromagnetic fields in the treatment of Perthes' disease and describes the good results.

Patient reports on the treatment of Perthes' disease with MRS

1. Thanks to the company Medline

- *Patient H.J.K., male, diagnosis: "In May 1993 I had an accident as a result of which I developed severe pain in my left leg and hip area. A hematoma in the left hip area and a hip joint necrosis were diagnosed. From this time on, various specialists reported to me that this disease is considered incurable medically and that my pain could be eliminated only by an artificial hip joint prosthesis. I received only medication and physical therapy for pain treatment because at the age of 40 I still did not want the hip joint surgery. Because of the pain I could only move within my home and I had increasing circulatory and metabolic problems, besides being severely depressed. In this condition, I was looking for alternative treatment methods with the support of my regular physician." Results of MRS therapy: "I obtained initial positive results through trial use of the device. In the beginning, during the first 14 days, there was an initial exacerbation of pain. Thereafter, my general condition improved significantly. Today I am again experiencing subjective well-being, I am mostly pain free and I am again pursuing my employment. Meanwhile I have stopped all medication and can do things that I considered impossible at the beginning of this year (long walks, climbing stairs, swimming, even going dancing in August)."*

Appraisal of MFT: **75 % good to very good results**

1.20 Sudeck's disease

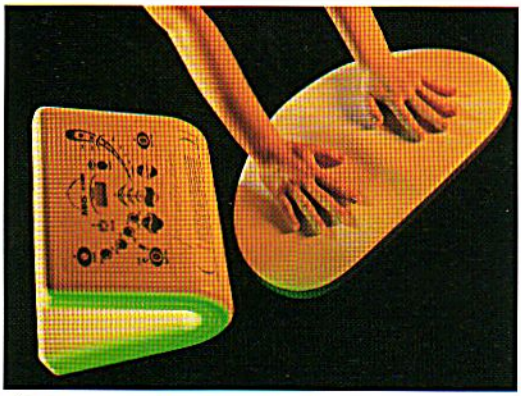
Sudeck's disease involves a painful destruction of tissue in the extremities in combination with local circulation disorders in the soft tissue and bones. This disease often affects psychologically and autonomically labile people with a history of disappointment and loss (divorce or death). With an appropriate predisposition, certain external influences such as an injury or surgery can lead to inflammation. The causative factor is unknown in approximately 20 % of the cases. The most common cause of Sudeck's disease is a bone fracture, which is why the disease is also known as the so-called "fracture disease." This disease takes place in three stages over a period of several weeks: at first is strong circulation in the extremity with a thick swelling which is very painful. This phase lasts 2-8 weeks. In the second phase, the swelling subsides, but there remains a severe and unpleasant pain during movement. The skin is pale and shiny. After 3-6 months, the patient experiences increasing functional disorders because the muscles around the inflammation deteriorate. There is no uniform therapeutic recommendation. However, active physical therapy and psychotherapy are important in any stage.

Effect of magnetic field therapy on Sudeck's disease:

supporting, promoting circulation, relieving pain, having a positive influence on the autonomic nervous system

Proper use of MRS for Sudeck's disease

- Whole-body mat: 3 times a day 8 minutes each time: 100 % level in the morning (gradually increasing from the sensitive level), 50 % level at noon, sensitive level in the evening
- Pad: twice daily 24 minutes each time: 200 % level
- Special instructions on use: Increase the dose gradually! Increase the intensity level only once every 10-14 days.
- Notes on the initial reaction: There is an initial intensification of pain in approximately 25 % of the cases (increase dose gradually!).
- Forms of therapy supportive of MFT: acupuncture, relaxation training, autogenous training



Local treatment for Sudeck's disease

Scientific studies on the treatment of Sudeck's disease with MFT

- E. Betti et al.: "Effect of Electromagnetic Field Stimulation on Fractures of the Femoral Neck. A Prospective Randomized Double-blind Study," Second World Congress for Electricity and Magnetism in Biology and Medicine, June 8-13, 1997, Bologna, Italy. - This double-blind and placebo-controlled study demonstrates the positive effect of electromagnetic pulsating fields after bone fractures, with the course observed being uncomplicated.
- V. Sollazzo et al.: "Effects of Pulsed Electromagnetic Fields (PEMF) on Human Osteoblast-like Cells and Human Chondryocytes: In Vitro Study," Second World Congress for Electricity and Magnetism in Biology and Medicine, June 8-13, 1997, Bologna, Italy.
- N. Haimovici: "Magnetic Field Therapy in Clinic and Research," Herder Clinic Bremen, therapy week 31, 1981, pp. 7317-7330. - This study describes 102 cases of Sudeck's dystrophy and the positive results of using MFT on this condition.

Physician reports on the treatment of Sudeck's disease with MF

1. Salzburg District Hospital, Physical Medicine and Rehabilitation Department

- *Patient, female; diagnosis: Sudeck's disease after a fracture of the right forearm, femoral artery occluded more on the right than on the left. Treatment: The patient was treated with the MF mat from July 18, 1996 to August 12, 1996. Results of MRS therapy: "The patient was able to walk only a few meters with severe pain at the time of the initial examination and she also had a definite fist closing deficiency on the right. After 15 treatments (last treatment on August 12, 1996), the distance she could walk had increased to more than one kilometer, and the patient had no pain while walking. She was also able to close her fist."*

Patient reports on the treatment of Sudeck's disease with MRS

1. Thanks to Mrs. Maria Pfeifer

- *Patient G.S., male, Diagnosis: In an occupational accident, a door panel had fractured the inner ankle bone on the left foot, causing a double torsion fracture of the ankle bone plus a high fracture of the fibula. Four screws were used in the surgery, but the wound has not yet healed (despite approximately 600 different attempted therapies). Removal of the screws brought some pain relief but not the anticipated healing. A diagnosis of Sudeck's disease was made. Results of MRS therapy: After ten weeks, the patient was able to reduce his use of pain pills to one a day. The pulsating pain improved. After a treatment, the patient felt a "numb" or "dull" feeling (relief from pain).*

2. Thanks to Mrs. Beatrice Studer

- *Patient, female, 29 years old. Diagnosis: 1989 open fracture of right humerus. The bone was screwed, and second degree Sudeck's disease developed on the right hand. Adult-onset diabetes (above 50) - treated with medication. Hypothyroidism treated with medication. Her hand was shiny bluish whitish, always cold and very painful, the patient could not spread her arm away from her body. Her diabetes levels were very bad and she was soon to begin insulin injections. Results of MRS therapy: Today in January of 1999, the patient can use her hand for minor manipulations again and can grip with her thumb and forefinger; she has good circulation, can move all fingers freely and lift her arm 100 % from her body. Her diabetes has also improved enormously.*

Appraisal of MFT: **60-65 % good to very good results**

1.21. Muscle injuries:

see "Sports medicine"

1.22. Myalgia

Myalgia is understood to refer to a painful muscle dysfunction which can affect the individual muscles or muscle groups or the entire body. Infections (such as colds), overexertion, metabolic disorders (such as diabetes, gout) or collagenoses lead to generalized myalgia.

Effect of magnetic field therapy on myalgia:

relieving pain, relaxing muscles, supporting

Proper use of MRS for myalgia

• Whole-body mat: 3 times a day for 8 minutes each time: 100 % level in the morning, 100 % level at noon, 25 % level in the evening

Whole-body treatment for myalgia

• Notes on the initial reaction: brief hardening of the muscle occurs in about 8 % of the cases.

Scientific studies on the treatment of myalgia with MFT

• V. I. Kovalchuk et al.: "Use of Extremely Low-frequency Magnetic Fields in Clinical Practice," Fizicheskaia Meditzina, 4(1-2), 1994, p. 87. - This study investigated the effects of extremely low-frequency magnetic fields in the treatment of 650 patients suffering from various symptoms. The analgesic effect of the magnetic field is especially emphasized with muscle pain.

Physician reports on the treatment of myalgia with MF

1. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0043/1/40 666 00

• *Patient H. B., female, 45 years old. Diagnosis: Generalized myalgia with a tentative diagnosis of lupus. The pain had increased to the extent of being intolerable. The patient was unable to sleep and was dispairing because she could no longer pursue her daily activities in the household. Results of MRS therapy: Definite improvement after three treatments, sleep normalized after two weeks, after three months Mrs. B. is again performing all her activities in the household and the garden herself.*

Patient reports on the treatment of myalgia with MRS

1. Thanks to the company Vita-Life

• *Patient R.V., male, 37 years old. Diagnosis: Myalgia with muscle pain and joint pain, piercing pain in the chest, dizziness. Results of MRS therapy: Considerable improvement in muscle and joint pain, dizziness has disappeared completely and the pain the chest has largely disappeared.*

Appraisal of MFT: 80 % good to very good results

1.23. Myogelosis (hardening of muscle)

Myogelosis refers to a hardening of the muscles due to constant muscle strain. Myogelosis often occurs as the result of a spinal cord disease (such as a prolapsed disk) because the body is attempting to stabilize the injured area through the muscle tension. In addition to MFT, relaxing medication (muscle relaxants), application of heat and massage are prescribed.

Effect of magnetic field therapy on myogelosis:

relaxing muscles, relieving pain

Proper use of MRS for myogelosis

• Whole-body mat: 3 times a day for 8 minutes each time: 100 % level in the morning, 100 % level at noon, 25 % level in the evening.

• Pad: 2 times a day for 24 minutes each time, 50-100 % level, at the site of the muscle hardening

• Notes on the initial reaction: none

Scientific studies on the treatment of myogelosis with MFT

• F. Petrossi: "Physician Perceptions of the Value of Physical Modalities in the Treatment of Musculoskeletal Disease," Internet: Medline

Physician reports on the treatment of myogelosis with MF

1. Dr. Gustav Skreiner, General Practitioner, Graz

• Diagnosis: Muscle tension, chronic joint complaints due to wear, ischialgia, rheumatic complaints, migraines, chronic pain, autonomic dystonia, depression, circulation disorders, condition after a stroke, hypertension, exhaustion. Results of MRS therapy: Good results in all areas.

Patient reports on the treatment of myogelosis with MRS

1. Thanks to the company Vita-Life

• *Mrs. X.L., 54 years old. Diagnosis: "For years I have been suffering from recurrent myogelosis. This muscle tension in the area of the shoulder has interfered with my daily work as a gardener." Results of MRS therapy: "After six months, the tension is greatly reduced and now I no longer need any pain medication."*

Appraisal of MFT: **80 % good to very good results**

1.24. Necrosis

Necrosis is understood to refer to the destruction of tissue area or an organ. Necrosis develops due to inadequate circulation (e.g., myocardial infarction), chemical toxins (acids, bases), heat or cold, radiation (e.g., x-rays), mechanical effects (e.g., pressure), glandular secretions entering the wrong tissue (e.g., pancreatic secretion in pancreatitis), etc.

Effect of magnetic field therapy on bone necrosis:

supporting, stimulating bone cells, inhibiting inflammation, accelerating cell division.

Proper use of MRS for necrosis in the bones

• Pad: 3 times a day for 24 minutes each time: 200 % level, at the site of the necrosis

• Probe: 5 times a day for 16 minutes each time: 400 % level, on the wrist and tarsal bones

• Notes on the initial reaction: none

• Forms of therapy supportive of MFT: enzymes, homeopathy, medicinal herbs that promote circulation (gingko biloba, grape seed extract, gotu kola)

Scientific studies on the treatment of necrosis of the bones with MFT

• C. A. Basset: "Beneficial Effects of Electromagnetic Fields," Journal of Cellular Biochemistry 51 (4) April, 1993, pp. 387-393. - In this extensive review study, numerous double-blind studies are summarized and the possibilities of influencing osteonecrosis by using MT are discussed. An extremely positive effect was found.

Physician reports on the treatment of bone necrosis with MF

1. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0043/1/40 666 00

• *Patient, male, 25 years old, recreational soccer player; diagnosis: treatment-resistant necrosis in the area of the heel bone after an injury. Results of MRS therapy: The bone has been restored after four months of supportive MFT.*

Appraisal of MFT: **50-60 % good to very good results**

1.25. Osteochondrosis (damaged intervertebral disk)

The intervertebral disks consisting of fibrous cartilage with a pulpy nucleus in the middle serve as buffers between the individual vertebrae. In the course of a person's life, there is slight wear on the disks. The vertebrae may shift or become tilted due to a congenital weakness in the connective tissue, poor posture, curvature of the spine, spondylitis (an inflammation of the spine) and the like. This leads to irritation of the ligaments, the nerves, the blood vessels or the muscles of the back, resulting in severe pain. Once the spinal column is overstressed, a careless or faulty movement such as carrying a heavy load can result in slippage or protrusion of a disk. Healthy balancing exercise such as swimming can prevent this. Obesity and poor sitting habits and jobs which stress the intervertebral disks should be avoided.

The result of a damaged intervertebral disk is often the development of an edge bulge on the vertebrae (spondylosis deformans). Any change in the height of the disk (drying out) can result in nerves being pinched and irritated, which has effects on all parts of the body supplied by the affected nerve. Tears in the fiber ring cause the disk to swell toward the back, forward or side. Again in this case, nerves may be irritated. If a disk slips out completely, this is called a prolapsed disk (see "Prolapsed disk").

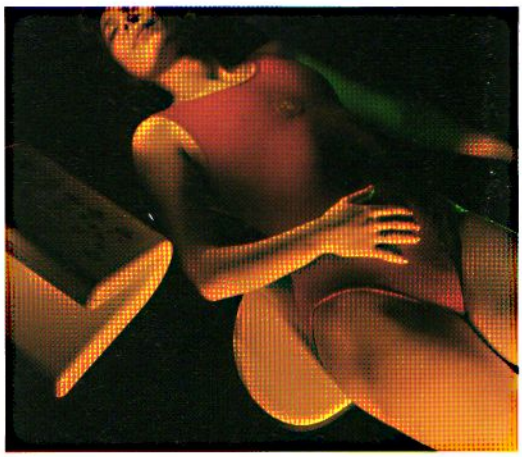
The sympathetic nerve plexus runs parallel to the spinal cord, with fibers of these nerves running in the hole in each vertebrae, so a damaged disk also has autonomic effects (e.g., circulation disorders, heavy sweating, disturbances in organ functions).

Since the cervical spine is the most mobile part, it also shows wear the easiest. This results in headaches, earaches, dizziness, lacrimation (tears) and vomiting. The shoulder-arm pain occurs mainly in the early morning hours. It is accompanied by a tingling feeling like "ants crawling over" the hands, which often "go to sleep." When the arm is extended, severe pain occurs (e.g., when carrying a purse or when letting the arms hang down).

The lumbar spine is affected by intervertebral disk damage the most frequently, or precisely the last disk (where the weight of the body is transferred from the spine to the sacrum). If it simply protrudes, the disk can slip back again at any time. This temporary disturbance is manifested by lower back pain (lumbago). If the nerve roots are irritated by the protruding disk, the leg nerve symptom (ischialgia) occurs with pain that can be felt as far as the big toe.

Effect of magnetic field therapy on osteochondrosis:

relieving pain, relaxing muscles, can prevent additional fiber destruction



Local treatment of the lumbar spine

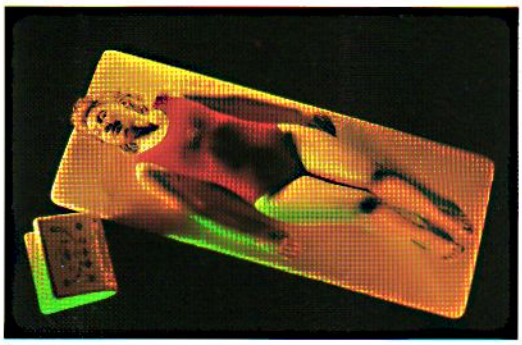
Proper use of MRS for osteochondrosis

- Whole-body mat: twice a day for 8 minutes each time: 50 % level in the morning, 10 % level in the evening
- Pad: 3 times a day for 24 minutes each time: cervical spine 25 % level, thoracic 50 % level, lumbar spine 100 % level
- Special instructions on use: Keep knees bent! Roll over on your side before standing up.
- Notes on the initial reaction: an initial reaction occurs in approximately 5-10 % of the cases. Therefore, increase dose gradually!
- Forms of therapy supportive of MFT: acu-

puncture, neural therapy, relaxation techniques and therapeutic movement

Scientific studies on the treatment of osteochondrosis with MFT

• L. L. Butenko: "The Use of Alternating Magnetic Fields in Spinal Osteochondrosis," Mechanisms of Biological Action of Electromagnetic Fields, October 27-31, 1987, Pushchino, USSR, USSR Academy of Sciences, Research Center for Biological Studies. - This study investigates the effects of magnetic alternating fields, compared and combined with conservative treatment in patients suffering from osteochondrosis of the spine. In 95 % of the cases, the combined variant was successful, whereas with conservative therapy alone, only 30 % of the cases showed a positive reaction.



Basic treatment in osteochondrosis

Physician reports on the treatment of osteochondrosis with MF

1. Dr. Kurt Pinter, M.D., Graz

• *Patient H. I., female, 53 years old. Diagnosis: Shoulder-arm syndrome. This patient is under great stress both professionally (lifting and cleaning work, etc.) as well as privately (care of a bedridden mother for a long period of time). The course of the syndrome became more complicated due to extremely bad posture of the spine. Degenerative changes: osteochondrosis of the lower cervical spine, extreme scoliosis of the thoracic and lumbar spine. Within the last three years, the patient also had radiculalgia (pain at the root of the nerve) in the area of the lower lumbar spine in addition to the shoulder-arm syndrome. An MRI performed subsequently showed protrusion of disks L4-S1 without any significant narrowing of the spinal canal. In addition to basic therapy with NSAIDs, paravertebral infiltrations were also administered to the patient when her symptoms were severe, but they yielded only a relatively brief improvement (2-3 days), probably also because of inadequate compliance on the part of the patient. Results of MRS therapy: After her initial skepticism, she experienced a definite relief of her pain symptoms.*

• *Patient K R., female, 62 years old. Diagnosis: Severe osteochondrosis and spondylosis with deformity of the entire spinal column. Results of MRS therapy: Patient free of symptoms after six sessions.*

2. Dr. Ernst Paukner, M.D., General Practitioner, Pasching

• *Patient, male, 36 years old. Diagnosis: Cervical and lumbar spine syndrome. Somatoform dissociative pain disorder in overload situations. Results of MRS therapy: Definite improvement in overall subjective well-being and local spine complaints after just a few treatments.*

3. Dr. Franz-Josef Albers, M.D., General Practitioner, Ottobrunn

• *Patient, female, 75 years old. Diagnosis: Shoulder-arm syndrome, gonarthropathy with knee surgery on both sides, pain and poor mobility. Results of MRS therapy: Patient stated that the treatments made her feel good and that she had less pain.*

Patient reports on the treatment of osteochondrosis with MRS

1. Thanks to the company Vita-Life

• *Mr. M. G., 66 years old. Diagnosis: Severe wear on the intervertebral disks in the lumbar spine area radiating out to the big toe, often impossible to walk because of muscle weakness. Numbness on the right outer shin bone. Results of MRS therapy: Definite improvement after four weeks: "I have had feeling in my calf again for the first time in two years. The pain is tolerable, I can walk from my house to the bus station myself. Even my doctor is pleasantly surprised at my improvement."*

Appraisal of MFT: **70 % good to very good results**

1.26. Osteomyelitis

In osteomyelitis, the bone becomes infected by bacteria (usually Staphylococcus aureus). The long bones of the extremities (tibia and femur, humerus). The infection can occur through the bloodstream or through an external injury. In children this disease is usually acute, with fever and chills, swelling, redness, heat and pain in the joints. The infectious process may extend into the soft tissue (abscess) or may spread outward (fistula). In adults, it often will not heal and the osteomyelitis becomes chronic, i.e., the infection will flare up again after years. Antibiotics should conquer the infection within a few days. If this is not the case, surgical opening and cleaning of the lesion is necessary. A rinsing and suction drain is used for mechanical cleaning, so the bone is rinsed with fluid for a few days (approximately 4-6 liters per day). Osteomyelitis is one of the most feared complications of bone fractures.

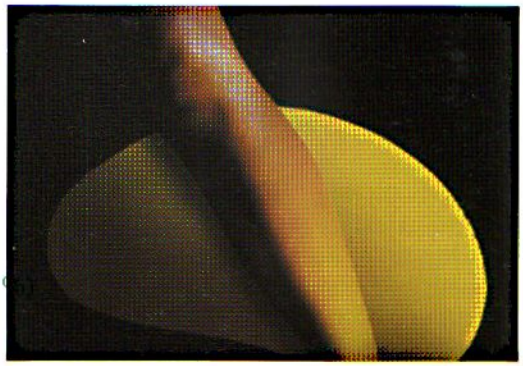
Effect of magnetic field therapy on osteomyelitis:

reducing inflammation, promoting bone growth (faster regeneration)

Proper use of MRS for osteomyelitis

- Whole-body mat: twice a day for 8 minutes each time: 100 % level in the morning (gradually increasing from 25 %), 25 % level in the evening (gradually increasing from 10 %).
- Pad or probe: 2-3 times a day for 24 minutes each time 100-200 % level (probe up to 400 %).

Basic treatment in osteomyelitis



Local treatment for osteomyelitis

- Special instructions on use: It is important to be aware that the healing time may be quite long especially with chronic osteomyelitis. Therefore, treatment times of up to one year or even more are not unusual.
- Notes on the initial reaction: none
- Forms of therapy supportive of MFT: enzymes, homeopathic remedies

Scientific studies on the treatment of osteomyelitis with MFT

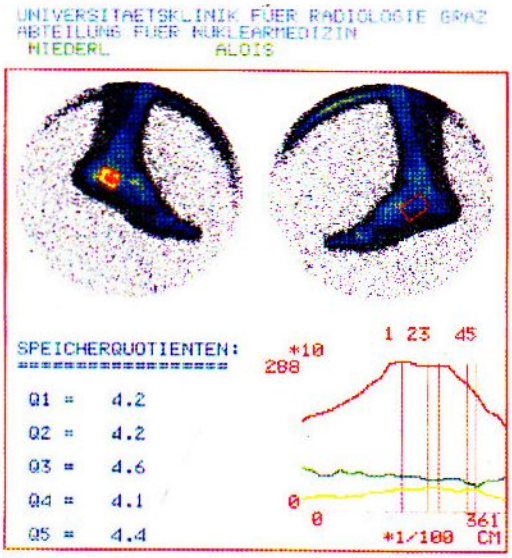
- J. Barovic, G. Fischer et al.: "Magnetic Field Therapy in Idiopathic Necrosis of the Head of the Femur," Marburg/Graz, Osteologie, Vol. 6, 1997, Supplement 1. - Eighty-one patients were tested; despite the severe course of the disease, 48 of these patients experienced a definite reduction in pain, greater mobility and increased bone density according to x-rays.
- T. Takano-Mamamoto: "Effect of Pulsing Electromagnetic Field on Demineralized Bone Matrix Induced Bone Formation in a Bony Defect in the Premaxilla of Rats," Osaka University.

Physician reports on the treatment of osteomyelitis with MFT

1. Dr. Franz Reinisch, M.D., St. Redegund

- *Patient, male, 21 years old. Diagnosis: In January 1987 the patient suffered an open fracture of the left tibia in an automobile accident; after surgical treatment, osteomyelitis with a fistula*

developed and had already been revised twice in an orthopedic hospital without any permanent success despite the use of antibiotics until the start of MFT in November of '87. A third surgery was planned. Results of MRS therapy: The wound healed after just 10 treatments with a relatively attractive scar.



Scintiscan of the heel

Patient reports on the treatment of osteomyelitis with MRS

1. Thanks to Mr. Ludwig Müller

• *Patient N. A., male, 60 years old. Diagnosis: Chronic osteomyelitis after injury of the heel bone in 1964. Pain despite 25,000 pain pills taken in the last 30 years. In 1997, chronic osteomyelitis was diagnosed at the District Hospital of Graz and a partial amputation was recommended. Mr. N. asked for time to think it over. Treatment with MRS pad and mat according to the recommendation of Dr. Reinisch. Results of MRS therapy: Patient free of pain after 6 months, osteomyelitis 50 % better after 18 months. Amputation no longer necessary. "I no longer take pain pills. After 33 years with pain, I feel good again."*

Appraisal of MFT: 65-70 % good to very good results

1.27 Osteoporosis

Bone tissue is some of the most stable tissue in the human body. So-called osteoblasts, the cells that produce bone, ensure that bone material will be replenished each day (whereas osteoclasts destroy old tissue). In a healthy adult, approximately 20 % of the bone mass is resynthesized each year. Bone density can be measured by densitometry.

Osteoporosis (literally: "porous bones") is one of the most common diseases of our time. Bone mass naturally declines in both sexes after middle age. Women are affected by osteoporosis much more often than men because the female body produces only small amounts of the sex hormone estrogen after menopause. Estrogen regulates the mineral balance in bones; a deficiency of minerals, especially calcium, therefore makes bones weaker and progressively more porous. Ultimately, this may reach such an extent that the bones are so fragile as to fracture even with an abrupt movement. 40 % of the women in Central Europe suffer from latent or manifest osteoporosis. Removal of both ovaries, smoking and poor diet can increase a person's susceptibility.

Curvature of the spine

Osteoporotic bone fractures are mostly vertebral fractures and fractures of the neck of the femur. When vertebrae fracture, the spine develops a forward curvature over a period of time and the patient develops a hunched (or hump) back, also known in the vernacular as

a "widow's hump." In a fracture, severe pain occurs at the point of the fracture and can last for several weeks or even months. This pain is caused by the shortening of muscles and cramps, because tendons and ligaments are suddenly being stretched, twisted or compressed. One woman in ten more than 65 years of age will suffer a collapsed vertebra. Bones weakened by osteoporosis not only break easily, but also heal badly.

The best treatment is prevention. A healthy lifestyle with a lot of activity (exercise, walking, dancing, jogging, swimming, bicycling, muscle stretching), avoiding smoking and drinking coffee while consuming a high-mineral diet (cheese, low-fat milk, lettuce, herbs and other green vegetables, nuts, mineral water) are guidelines that should be followed even by the young. To be avoided as much as possible: an extremely high protein intake and consuming substances that deplete the body of calcium, such as alcohol, fats and phosphates like those present in sausage products. To delay the onset of osteoporosis, doctors often recommended hormone replacement therapy from the beginning of menopause. The usual treatment options include analgesics (warning: side effects!), a combination of magnetic field therapy with neural therapy, various orthopedic techniques, a corset or spinal exercises (training in back health).

Magnetic field therapy has been used successfully as both a prophylactic and a therapeutic measure in treating osteoporosis.

Effect of magnetic field therapy on osteoporosis:

inhibits bone loss

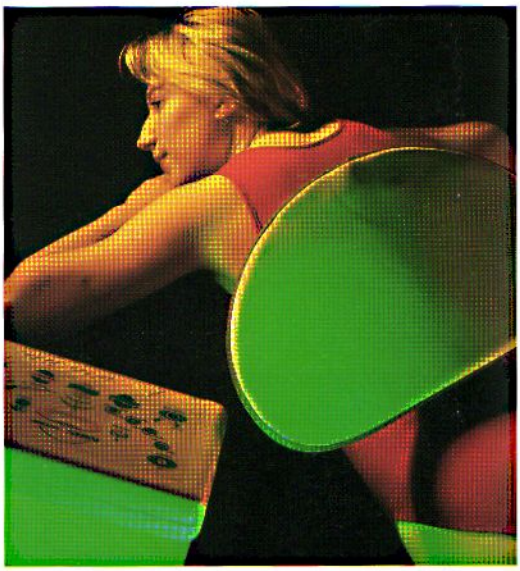
Proper use of MRS for osteoporosis

• Whole-body treatment: 3 times a day for 8-16 minutes each time: 100 % level in the morning (gradually increasing from 10 %), 100 % level at noon, 25 % level in the evening

• Pad: once a day for 24 minutes: 100 % level, chest and lumbar spine areas

• Special instructions on use: Assume a comfortable reclining position! For severe osteoporosis where lying on the back is painful, it may be necessary to adjust the dose.

• Duration of treatment: The treatment takes a long time, although patients experience some pain relief after an average of 4-6 weeks. Long-lasting success is achieved after 1 to 1 1/2 years of treatment. There is no point in measuring bone density before two cell cycles - in other words, the measurement should be performed at the soonest after 9-12 months. Even if bone density has not increased after one year, you should not conclude that the treatment has been ineffective. We know from experience that the progress of this disease can often be inhibited or even brought to a standstill.



Local treatment for osteoporosis

• Notes on the initial reaction: There is a slight intensification of pain in approximately 15 % of the cases of osteoporosis associated with pain, although this exacerbation usually disappears again within 7-10 days; the dose may have to be adjusted.

• Forms of therapy supportive of MFT: homeopathic remedies, muscle training, movement therapy, acupuncture, neural therapy, calcium preparations, vitamin D, shark cartilage extract, herbal remedies (field horsetail)

Scientific studies on the treatment of osteoporosis with MFT

A study is currently underway on the treatment of osteoporosis with the MRS 2000+ MED system at the University of Jena.

- W. Wang et al.: "Comparison of Dose-response and Mechanism(s) of Capacitive Coupling, Combined Fields and Inductive Coupling in the Proliferative Stimulated Bone Cells," Departments of Orthopedic Surgery and Bioengineering, University of Pennsylvania, Philadelphia, 1998. - This study was presented by the author himself under the moderator Michael Cho of the Harvard Medical School. The increase in bone cell mitosis activity was investigated and it was found that magnetic fields can increase this activity.

- F. L. Tabrah et al.: "Clinical Reports on Long-term Bone Density After Short-term EMF Application," University of Hawaii School of Medicine, Department of Physiology, Straub Clinic and Hospital, Honolulu. Bioelecromagnetics 1998, 19 (2), pp. 75-78. - This article resulted from the observation of patients who were treated with MFT for three months ten years previously. The bone parameters had definitely improved immediately after this treatment period but were not upheld. The scientists argue that the effect had disappeared ten years after the treatment because MFT was not continued for a long enough period of time.

- J. A. Spadaro, W. H. Bergstom: "Evidence that a Pulsing Magnetic Field Inhibits PTH-mediated Calcium Release From Bone in Vivo," Departments of Orthopedic Surgery and Pediatrics, State University of New York, Health Sciences Center, Syracuse, November 1998. - This study shows that the definite influence of MFT on bone calcium metabolism comes about due to the inhibiting influence on parathyroid hormone (PTH) and the related lower degradation of calcium.

- R. J. Fitzsimmons et al.: "Combined Magnetic Fields Increased net Calcium Flux in Bone Cells," Department of Medicine, Loma Linda University, California. Calcif-Tissue-Int November 1994, Vol. 55 (5). - This investigation revealed a definite influence on calcium uptake in bone cells while using MFT.

- Zati et al.: "Effects of Pulsed Magnetic Fields in the Therapy of Osteoporosis Induced by Ovariectomy in the Rat," Boll Soc Ital Biol Sper, 69 (7-9), July-August 1993, pp. 469-475. - This study shows that bone loss in women is reduced by 10 % on the average and bone mass degradation is decreased under the influence of MFT.

- Trabrah et al. demonstrated an increase in bone density with single-photon densitometry monitoring. 1990.

- John et al. treated a group of patients with MFT; a higher bone density was found four months after the start of treatment (quantitative CT). 1990.

- C. T. Rubin et al.: "Prevention of Osteoporosis by Pulsed Electromagnetic Fields," Journal of Bone Joint Surgery, 71 (3), March 1989, pp. 411-417.

Physician reports on the treatment of osteoporosis with MFT

1. Dr. T. Schütze, M.D., General Practitioner, Rosenheim

- *Patient, female, born 1921; diagnosis: chronic pain with osteoporosis. Results of MRS therapy: According to the patient, there has been a long-lasting improvement in pain.*

2. Dr. W. R. Maus, M.D., Überlingen

Patient, male, 90 years old. Diagnosis: severe osteoporosis and pain. Results of MRS therapy: The mat helped after eight weeks.

3. Dr. Michael Pommer, Specialist in Orthopedics and Orthopedic Surgery, Graz

- *"Magnetic field therapy has proven excellent in my practice; in bone fractures, the healing success is greatly improved and loosened prostheses can be stabilized again. In osteoporosis and arthrosis, excellent therapeutic results have been achieved due to the cell-regenerating, anti-inflammatory and circulation-promoting effects."*

4. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0043/1/40 666 00

- *Patient H.M., female, 70 years old. Diagnosis: Osteoporosis for five years, fractured verte-*

brae, severe pain, restricted movement. Treated unsuccessfully for five years with infusions, acupuncture, massage and physical therapy. Results of MRS therapy: Patient largely free of pain after 12 treatments and can again do light gardening and normal household activities, walking without a cane is possible again for the first time.

5. Dr. Gerhard Beck, M.D., Aspach

• *Patient, female, 85 years old. Diagnosis: Multiple vertebral fractures, osteoporosis, dorsolumbalgia with degenerative spinal cord changes. The patient was wearing a support corset when she came to the treatment center and was able to walk for short distances only with the help of two canes and analgesics. Results of MRS therapy: The patient was again able to walk almost free of pain without the use of crutches or a support corset at the end of her rehabilitation stay (three weeks). She reduced her reliance on pain medication on her own initiative.*

Patient reports on the treatment of osteoporosis with MRS

1. Thanks to Mrs. Beatrice Studer

• *Patient, female, born 1938. Diagnosis: Osteoporosis in an advanced stage, rheumatism (caused by poor nutrition, spent a long time in cold damp cellars and bunkers in World War II), appendix surgery 10 years ago, tonsil surgery, removal of polyps from the nose, throat and bronchial tubes 13 years ago, menstrual periods with heavy prolonged bleeding and pain - since then, circulatory disorders, migraines and swollen legs. Radical hysterectomy at the age of 30, finding: malignant. Lumpectomy at the age of 31: left breast, benign. Cyst surgery at 48: removal of large and small cysts in the entire abdominal cavity, intestines and on the organs. Heart diagnosis at the age of 50: left bundle-branch block. At 57: sigmoid colon carcinoma: 50 cm. Removal of colon. At 58: lumbar disks 4-5 collapsed, no surgery. Results of MRS therapy: The osteoporosis measurement (bone density) after one year showed a bone improvement, stabile circulation, after three months no more migraine attacks, after four months good bowel habits. Heart symptoms only above a pulse of 150 (previously above 90). Back pain disappeared entirely after 6 months, rheumatism complaints have also disappeared.*

2. Thanks to Mrs. Beate Martina

• *Patient M.P., male, 83 years old. Diagnosis: Osteoporosis, immunodeficiency, sleep disorders, heart valve defect, low blood pressure 110/80, polyarthritis and severe rheumatism, hip joint pain, slight depression, chronic sinusitis, cysts in the jaw, ringing in the left ear; patient has had no sense of smell for 33 years, bronchial asthma until two years ago, torticollis (wryneck), 2/3 of the stomach removed after perforation of stomach, hepatitis B, total of 15 surgeries, including two faulty surgeries. Results of MRS therapy: Definite improvement in overall health: sleeping better, walking without a limp and without the use of a cane, mobility improved in general.*

3. Thanks to Mr. Karl Garber

• *Patient A.H., female, 54 years old. Diagnosis: Osteoporosis: 1994 bone density: 65 %. Results of MRS therapy: After four weeks, the pain in the hip joint had subsided greatly. In April 1997 the bone density had increased by 9 % and the bone had rebuilt itself.*

4. Thanks to Mr. Wolfgang Gasteiner

• *Patient H.W., female, 53 years old. Diagnosis: Osteoporosis, extreme pain in the pelvic area and in the right thigh, joint pain in the knee, elbow and shoulder, circulation disorders in the feet. Results of MRS therapy: Circulation in feet optimal after the initial use, extreme relief in climbing stairs and pain relief the next day. Sleep disorders eliminated due to the pain relief. After three days, movement therapy was possible (walking rapidly for 5-6 km). Stabilization of circulation after the first days - daily medication stopped. Medication for osteoporosis and gout stopped after 14 days. After four weeks, the patient experienced a pain-free state and physical well-being.*

5. Thanks to Mrs. Heidemarie Schäfer

• *Patient U.E., male, 72 years old. Diagnosis: Severe lower back pain and disk complaints. The patient could stand up only with assistance. The pain was caused by osteoporosis. Results of MRS therapy: The symptoms improved slowly, but a definite improvement was apparent only after about 20 weeks. "The patient is still not com-*

pletely pain free. He was taking calcium pills for bone density."

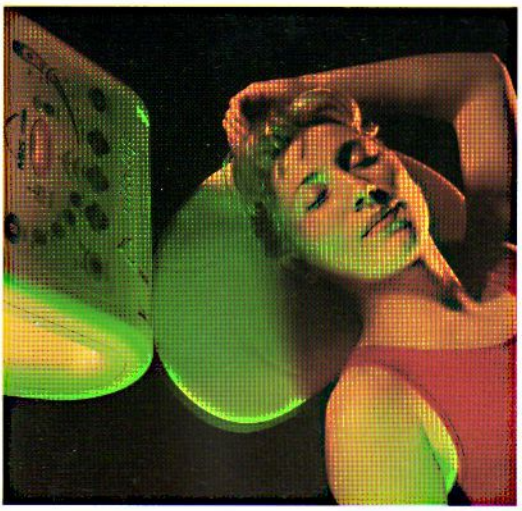
Appraisal of MFT: **70 % good to very good results**

1.28. Whiplash syndrome

Due to an accident, there may be overextension of the ligaments and capsules in the area of the cervical spine, leading to irritation of the nerve roots and the autonomic nerve plexus. It is characteristic of this syndrome that there is an interval of at least one hour after the accident when the patient is initially free of symptoms - thereafter, pain occurs in the neck and back of the head. This results in restricted movement of the cervical spine. A neck brace is usually used as treatment and should be worn for 10-14 days. The prognosis is good.

Proper use of MRS for whiplash syndrome

- Pad: 4-5 times a day for 8 minutes each time 100 % level in the area of the neck, the patient may sit or lie
- Special instructions on use: a maximum dose of 25 % should not be exceeded in those with hyperthyroidism.
- Notes on the initial reaction: none



Local treatment of the neck with a pad

Physician reports on the treatment of whiplash syndrome with MRS

1. Dr. Werner Raufelder, M.D., Bad Endorf

- *Patient G.B., male, born 1940. Diagnosis: Condition after cervical whiplash injury: cervicobrachial syndrome, scoliosis, left leg shortened, sleep disorders, irritable gastritis, dizziness, joint complaints in the shoulders. Results of MRS therapy: Cervical spine improved after the seventh session, only slight to moderate remaining complaints, mobility improved. Follow-up showed almost no symptoms until today (January 8, 1998).*

Patient reports on the treatment of whiplash syndrome with MRS

1. Thanks to Mr. Adolf Wohlgemuth

- *Patient S.M., male, 42 years old. Diagnosis: Traffic accident on December 9, 1997: cervical whiplash syndrome, head: contused-lacerated wound, both knees swollen thick, hematoma, index and middle finger of the left hand were severely swollen. Severe pain throughout the entire body. Results of MRS therapy: "After two days I was pain free (without medication). Then the swelling on the knee and hand went down, and my neck improved after 14 days. I feel better, more balanced and healthier."*

Appraisal of MFT: **70 % good to very good results**

1.29. Rheumatic diseases

In rheumatic diseases of the joints and soft tissue, intense pain occurs, migrating to various parts of the body. Rheumatic diseases are caused by focal infections which disperse bacteria (streptococci) into the bloodstream. The susceptibility for rheumatism may be hereditary (families of rheumatic patients) or acquired (certain occupational groups) with low-temperature stimuli, mechanical overexertion, obesity and tissue damage due to previous infections, accidents, etc., being possible causative factors. Rheumatic patients are sensitive to the weather.

The actual disease process takes place in the connective tissue, affecting muscles, cartilage, bone or tendons, forming chronic inflammatory small lesions of changes which may develop into nodules. The cartilage becomes loosened in the course of the disease, saturated and later disintegrates into small lumps. The joint capsules thicken, the joints becomes loose and finally become deformed. The nerves also undergo characteristic changes. Rheumatism proceeds in attacks, so that younger and older stages can be observed side by side. Supportive treatment options to relieve pain include baths, preferably mud

Basic treatment in rheumatic diseases

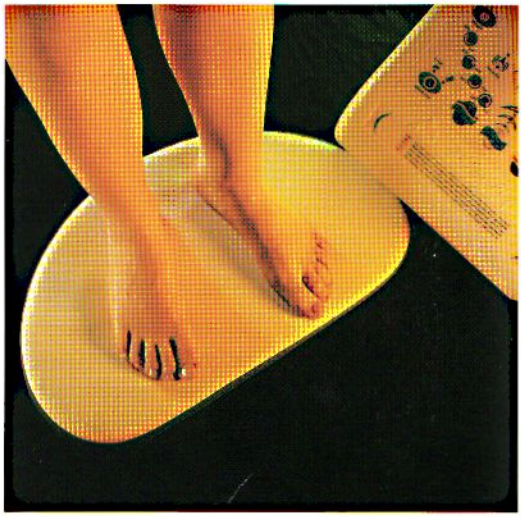
baths or sulfur baths as well as herbal baths (hayseed, oat straw), wrappings and in special cases hot packs (hay packs, mud packs, clay packs or wraps, etc.); hot potatoes are also used as a home remedy. Effective plants for rheumatism include arnica, echinacea and bryony. Varieties of tea that cleanse the blood and dietary changes (no meat, large amount of raw food in the diet) act to regulate the intestines. Liquid fasts promote detoxification and cleansing of the blood (including stinging nettle, equiseti or field horsetail, dandelion). Any attack of fever requires bed rest, and the acutely inflamed joint should be kept in a middle position until the temperature goes down. The joint can be stabilized with pillows, a rolled up towel or blanket or a sandbag.

Effect of magnetic field therapy on rheumatic diseases:

relieving pain, supportive. In individual cases, the rheumatic attacks may occur less often. The reason for this, however, is not yet known.

Proper use of MRS for rheumatic diseases

- Whole-body mat: 3 times a day for 8 minutes each time: 150 % level in the morning (gradually increasing from 25 %), 100 % level at noon, 50 % level in the afternoon, 25 % level in the evening
- Pad: 2-3 times a day for 16 minutes each time: shoulders, neck, hips and lower abdomen: 25-50 % level, elbow and knee: 100-150 % level, foot and hand: 150-200 % level.



Local treatment of the feet with a pad

- Duration of treatment: a spontaneous healing should not be expected. This is a therapy of small steps.
- Notes on the initial reaction: in approximately 10 % of the cases, patients with diseases from the rheumatic group may experience a brief intensification of pain. Such an initial exacerbation may last from 3-4 weeks and can be prevented for the most part by gradually increasing the dose.
- Forms of therapy supportive of MFT: acupuncture, homeopathy, enzyme cures, ayurvedic medicine, kinesiology, saline

therapy, medicinal herbal extracts with a diuretic action (juniper berries, dandelion, stinging nettle, field horsetail, prickly bindweed), anti-inflammatory medicinal herbal extracts (rampion, white willow bark, yucca root).

Scientific studies on the treatment of rheumatic diseases with MFT

Various studies on this topic have already been discussed in the individual subsections of this chapter (arthritis, arthrosis, fibromyalgia, etc.). We shall report here on merely a few general studies in this field.

• W. Kobinger, G. Fischer, J. Barovic et al.: "Pain Relief and Increasing Mobility in Diseases of the Motor Apparatus Through the Use of Magnetic Field Therapy," Hygiene Institute of the University of Graz and the Marburg Teaching Hospital, AMA Acta Medica Austriaca, 1995. - Twenty-eight patients suffering from various diseases of the motor apparatus and supporting system were treated exclusively with magnetic resonance. A highly significant improvement was achieved.

Physician reports on the use of MFT in rheumatic diseases

1. Thomas Drach, non-medical practitioner, Bermatingen-Ahausen

• *Patient S.D., female, 78 years old. Diagnosis: Rheumatoid arthritis, especially in the shoulder, wrist and ankle on both sides, very inflamed, partial inability to move the middle finger and thumb. Patient has been experiencing pain for more than five years. She has taken pain pills which have had considerable side effects in the gastrointestinal tract and have caused hair loss. She could only stand up from a sitting position. For three years she has been suffering from sleep disorders. Results of MRS therapy: "Since I have had the magnetic field, I can sleep wonderfully again. Most of the joint pain has disappeared except when there are severe weather changes. The mobility of my joints is excellent. I have been able to completely stop taking the strong pain pills and rheumatism medication. I can stand up again without assistance."*

2. Dr. Annegret Wennig

• *Patient E. F., male, 70 years old. Diagnosis: Pain in the motor system for 15 years, especially in the area of the lumbar spine and in the joints due to rheumatic diseases. Results of MRS therapy: Perceptible decrease in pain in the lumbar spine after 4 weeks, feeling good on the whole.*

Additional reports: see individual diseases of the motor apparatus

Patient reports on the treatment of rheumatic diseases with MRS

1. Thanks to the company Vita-Life

• *Patient M.P., female, 73 years old. Diagnosis: Polyarthritis and severe rheumatism, pain in the hip joint. Results of MRS therapy: Improvement in overall health: sleeping better, rheumatism gone, general mobility improved.*

2. Thanks to Mrs. Sieglinde Kapun

• *Patient P.M., male, 70 years old. Diagnosis: Wear on the intervertebral disk, rheumatism, tension in the shoulder area, dizziness attacks with low blood pressure; when asleep: his right hand, left shoulder and right knee go to sleep. Results of MRS therapy: Circulation much better after seven days, likewise pain in the joints improved. After three weeks, tension in the shoulder area is much better. Hand, shoulder and knee no longer fall asleep, rheumatism pills no longer needed.*

• *Patient F.Z., female, 58 years old. Diagnosis: Rheumatic finger symptoms, back pain, shoulder and arm pain, pain in the knee joint after two surgeries, allergic to penicillin, sunlight, iodine. Results of MRS therapy: Significant improvement in shoulder, arm and knee symptoms, back pain less often. Rheumatic symptoms occurred previously mainly in the cold season - none at the moment (winter).*

3. Thanks to Beatrice Studer

• *Patient, female, born 1938. Diagnosis: Rheumatism since the age of 8 (caused by poor nutrition, staying in cold damp cellars and bunkers for a long time in World War II). Results of MRS therapy: The rheumatism symptoms have disappeared.*

4. Thanks to Mr. Dietmar Hauser, certified engineer

• *Patient, male; diagnosis: rheumatism symptoms in the right shoulder/upper arm. Diabetes, circulation disorders, nerve disease, ulcers on both legs, inflammation of the right foot, sleep disorders. Results of MRS therapy: February 4, 1998: feeling in the area of both soles for the first time in four years - after one week of treatment. Headache improved, tingling in the feet during treatment. February 9, 1998: continued feeling in the soles of the feet, slow progress in wound closure on the sole of the right foot, years of headaches disappeared after the second week of treatment. Rheumatism pain (acute) in the area of the right upper arm improved greatly after one week of treatment. May 5, 1998: diabetes: improved values. Circulation in the feet improved, healing of ulcer progressing well, inflammation subsided, sleep improved, rheumatism in the shoulder gone.*

5. Thanks to Mrs. Giovanna Fakin

• *Patient R.F., male, diagnosis: PCP (rheumatoid immobilization syndrome), i.e., constant rheumatic fever attacks, gouty deformation, stiffening, spots on the face, on the neck, lower arm and between the fingers resembling burn wounds. The bronchial tubes were also affected. Additional infections caused by streptococci, extreme lymph node swelling on the neck, under the arm and in the groin. Results of MRS therapy: An improvement in general condition of 80 % is apparent after four weeks of treatment. The rheumatoid fever has disappeared completely, the bronchial tubes have stabilized and there is no longer any apparent lymph node swelling. Patient has been able to stop taking medication.*

Appraisal of MFT: **65-75 % good to very good results.**

1.30. Backache

In our civilized society, back pain is one of the most common complaints. Sitting too much while working, too little movement, mattresses that are too soft, improperly adjusted office chairs, general poor posture as well as osteoporosis and obesity can lead to tension and cramping of the back muscles. Back pain also occurs frequently during pregnancy. Psychological reasons, stress, heart disease, lung problems, kidney diseases or disorders in the intestinal area are also known to cause back pain. In addition, changes in tendons, ligaments or muscles may also cause back problems.

If part of the spinal system is disturbed, in the long run this has a negative effect on the entire spinal column. The resulting pain may occur suddenly or may increase slowly. This may be a piercing pain or a dull pain which may increase to the point of being intolerable. Backaches caused by tense back muscles usually disappear on their own within 1-2 weeks, but sometimes they may last for months. Muscle training and weight loss relieve the stress on the back. Hot compresses may help in severe acute pain.

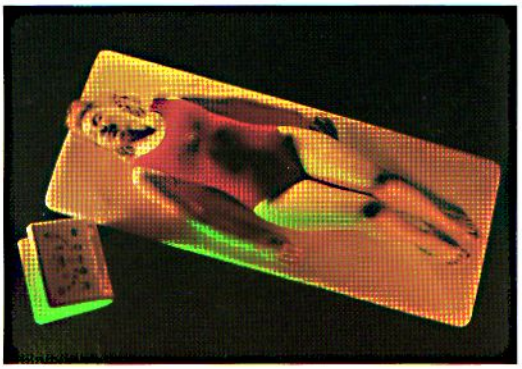
Effect of magnetic field therapy on back pain:

muscle relaxing, stopping cramping, relieving pain (by raising the stimulus threshold of the nerve endings), supportive

Proper use of MRS for back pain

• Whole-body mat: once daily for 8 minutes: 100 % level in the morning (gradually increasing from 25 %)

• Pad: 2-3 times a day for 16-24 minutes each time: cervical spine area: 25-50 % level, thoracic spine area: 50-100 % level, lumbar spine area: 100-150 % level

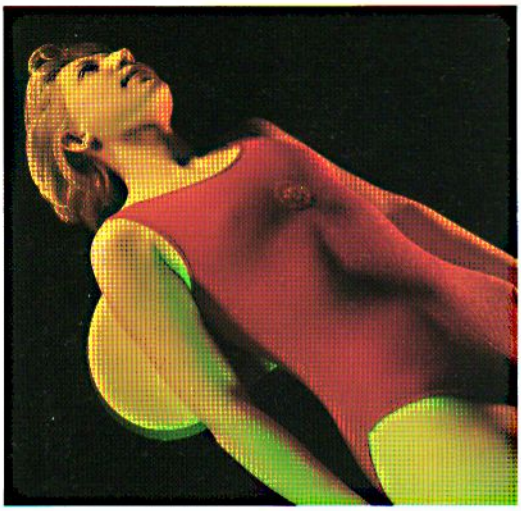


Basic treatment for back pain

• Special instructions on use: Keep knees bent! (Stabilizing the pelvis, relaxing the back muscles)

• Notes on the initial reaction: in 1-3 % of the cases some form of initial reaction is experienced.

• Forms of therapy supportive of MFT: relaxation exercises (such as Jacobson training), biofeedback, chiropractics, homeopathic remedies, shiatsu massage, neural therapy



Local treatment of the thoracic spine with a pad

Scientific studies on the treatment of back pain with MFT

• D. Foley-Nolan et al.: "Low Energy High Frequency Therapy for Persistent Neck Pain. Double-blind Placebo-controlled Trial," Bioelectromagnetics Society, 12th Annual, June 10-14, 1990, San Antonio, p. 73. - In this double-blind, placebo-controlled study, the effects of low-energy pulsating electromagnetic electric fields on persistent back pain were investigated. Clearly positive results were demonstrated.

Physician reports on the treatment of back pain with MRS

1. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0043/1/40 666 00

• *Patient M.W., female, 67 years old. Diagnosis: Lower black pain, migraines. Results of MRS therapy: After the initial treatment, her headaches just "disappeared." The patient felt a definite relief of the lower back pain. After the third treatment, a further improvement was confirmed.*

2. Ute Sigel, non-medical practitioner and traditional osteopathic practitioner, Würzburg

• *Patient, male, 32 years old. Diagnosis: Recurrent pain in the lower back/pubic bone joint and the lower lumbar spine for approximately 10 years, very severe pain at the time of the initial treatment, especially when standing up from a sitting position or from lying down, slight pain with inactivity. Results of MRS therapy: The patient felt very relaxed after the MF treatment. He felt a great deal of warmth and pain in the affected areas during the initial treatment with the mat. Thereafter, he felt warmth and tingling in the problem zones with each MF treatment. On the second day, the pain had virtually disappeared and has not returned since.*

3. Dr. Ernst Baumann, M.D., Munich

• *Patient, male, 49 years old. Diagnosis: Severe lumbar and knee symptoms, especially with any exertion such as climbing stairs, greatly restricted mobility of the lumbar spine. Results of MRS therapy: After four weeks, the patient has almost free mobility of the lumbar spine again and hardly any pain. The knee symptoms are less, but the patient still has pain when climbing stairs with a load (a briefcase), but skiing is not painful.*

4. Dr. Gerhard Antensteiner, M.D., General Practitioner, Kindberg

• *"I have been using magnetic field therapy for slightly more than one year in my practice. The main areas for use were for pain states involving the motor apparatus, in particular the spinal column which responded very well to the treatment. The second main area of indications was for circulation disorders and peripheral arterial occlusive disease in stage IV was also treated, and a definite improvement was achieved even in severe cases. Increased vitality during the day and better quality sleep at night were also*

achieved in patients with mild to moderately severe depression."

5. Dr. Hoffmann Kuhnt, M.D., Orthopedic specialist, Nuremberg

• *"In the period from June 2, 1997 through July 25, 1997, I treated 26 patients in my practice as often as possible, i.e., on successive days, at least 3 times a week, treating the specific pain region on the extremities or the spinal column. Of 26 patients, 9 patients reported that they were free of pain after conclusion of the treatment, 7 reported a definite to significant improvement in symptoms. Six patients have not had any headaches or rheumatic joint pain since the treatment. Four patients terminated the treatments after two to six sessions and did not report either a positive or negative reaction."*

6. Professor Dr. P. Schwarzfischer, M.D., specialist in Internal Medicine and Nuclear Medicine, State Sanitarium "Im Sonnenfeld", Bad Wiessee

• *Patient E.O., male, 74 years old. Diagnosis: Tendomyotic and degenerative spinal syndrome with recurrent neck pain and back pain, coronary heart disease, condition after a myocardial infarction, cardiac insufficiency NYHA stage III; diabetes mellitus (insulin dependent), renal insufficiency, stage II. Results of MRS therapy: Patient reported a perceptible relief of his back pain. The other physical therapy consisted of relaxing massage and fango packs.*

Patient reports on the treatment of back pain with MRS

1. Thanks to Mrs. Ursula Lange

• *Patient M.W., male, Diagnosis: Back pain (lumbar spine syndrome) and pain in the right forearm into the wrist. Results of MRS therapy: "After a few minutes I felt the pain worsen in my right forearm, but it subsided by the end of the treatment and the pain is now definitely reduced."*

• *Patient S.I.W., male, 39 years old. Diagnosis: General back complaints. Results of MRS therapy: No more back complaints, very good relaxation, improved situation in falling asleep.*

• *Patient G.K., male, 72 years old. Diagnosis: Variable condition (completely exhausted to daily inability to cope), diabetes, high blood pressure, renal failure - dialysis three times a week, back pain (lumbar spine syndrome) due to spinal displacement, signs of paralysis, painful knee joint inflammation, severe impairment in walking and in movement, regular use of analgesics, nausea, dizziness, sluggishness of the bowels, constipation, only 30 % visual acuity, lack of drive, numbness in the feet. Results of MRS therapy: Mobility improved (easier to climb a hill and easier to climb stairs), back: much better, sometimes can do without pain medication for days at a time. Right knee: swelling somewhat subsided, numb feeling in the legs reduced, tingling felt again. General condition better, dizziness only in turning, cholesterol level dropped from 390 to 356 (in four weeks), no longer needs laxatives.*

2. Thanks to Mr. Karl Garber

• *Patient J.G., male, 45 years old. Diagnosis: lower back pain. Results of MRS therapy: Lower back pain eliminated.*

• *Patient C.F., female, 50 years old. Diagnosis: Severe pain in the lumbar and cervical spine areas, on the right leg, in the area of the sole of the right foot and the left shoulder. Results of MRS therapy: Nine days after the start of treatment in combination with acupuncture, the pain in the lumbar area has disappeared, likewise the pain in the thigh (after two days). The pain in the sole of the foot also subsided after five more days.*

3. Thanks to Mr. Adolf Wohlgemut

• *Patient M.M., female, 40 years old. Diagnosis: "My main problem was my lumbar spine. For several years I have repeatedly suffered from severe pain which was relieved in part with medication. I was often fatigued and drained. When playing tennis in September 1997 I tore muscle fibers on the right calf." Results of MRS therapy: "My problems in the lumbar spine disappeared in the course of the first three months. I felt much more vital and energetic. Today, two years later, I no longer have any back problems. I was able to put weight on my leg with the torn muscle fiber again normally after two weeks."*

4. Thanks to Mr. Reinhard Schlag

• *Patient F., female, 45 years old. Diagnosis: Complaints in the area of L4/L5. Hardly any movement possible without pain. Results of MRS*

therapy: Reduction in pain during the very first treatment. The patient no longer felt any more pain during the remaining treatments.

• *Patient R., male, 71 years old. Diagnosis: Back pain, arthrosis in the right knee, severe pain. Shoulder pain, circulation disorders in the arms (feeling of numbness), prostate problems. Results of MRS therapy: After three treatments, all symptoms improved. After two weeks of treatments, Mr. R. is completely free of symptoms. He can now walk without pain and the pain in his shoulder and back have disappeared. He sleeps very well and no longer has any prostate problems. The feeling of numbness in his arms has disappeared completely.*

• *Patient, female, 65 years old. Diagnosis: Severe painful back problems. Results of MRS therapy: Improvement up to complete stoppage of pain after the treatment.*

5. Thanks to Mrs. Heidemarie Schäfer

• *Patient S.L., female, 50 years old. Diagnosis: Severe, acute pain in the lumbar spine area, recurring at intervals of approximately four weeks. Mrs. S. was therefore receiving cortisone injections. Results of MRS therapy: "Since using MF, I have not needed any injections, fango therapy or massages. Whenever the pain returns, I use the pad more. Since using MF I have felt fresher and more energetic."*

6. Thanks to Mrs. Maria Pfeifer

• *Patient K., male, 67 years old. Diagnosis: Lumbar-thoracic pain, high blood pressure, coughing for 6 months. Results of MRS therapy: After 14 days, the spinal pain stopped and the tedious coughing also disappeared.*

7. Thanks to the company Medline

• *Patient H.F., female, Diagnosis: "I was having problems in the autonomic nervous system, nervous heart symptoms and constant back pain since the birth of my son." Results of MRS therapy: "After just a few weeks, the back pain had improved significantly. Today I am mostly free of pain, although my treating physician had said 'I regret to tell you that you will always have back pain.' My autonomic nervous system has also stabilized to the extent that the heart symptoms associated with these problems have disappeared."*

• *Patient S., male, 44 years old. Diagnosis: severe back pain. Results of MRS therapy: complete improvement.*

• *Patient J.M., female, diagnosis: Lower back pain. Results of MRS therapy: "After three weeks of regular use, I have already noticed a significant improvement in my lower back pain, which I had been experiencing regularly until then, and also a significant improvement in circulation and activation of my digestive system. Although I have been concerned with my health, preventive health care and following a balanced high vitamin diet for several years, my overall well-being and vitality have improved greatly since using this device. The pain of a broken bone five years previously which recurred whenever the weather changed has now disappeared completely."*

8. Thanks to Mrs. Gabriele Kothmayer

• *Patient G.K., male, 38 years old. Diagnosis: Extreme pain and muscle cramps after fracture of vertebrae in the area of the thoracic and cervical spine (especially after sitting for a long time and in damp, cold weather), often associated with headaches due to tension in the neck area. Results of MRS therapy: Significant improvement in back pain after one month, almost pain free after two months and therefore much greater mobility, no more headaches since the neck area is much more relaxed.*

9. Thanks to Mrs. Franziska Engeli

• *Patient M.K., female, born 1960. Diagnosis: Back pain, very fatigued, no energy, list lessness. Results of MRS therapy: Now balanced, more energy, no more back pain, menstrual symptoms disappeared, menstrual cycle has stabilized, headaches only rarely. The patient can work with a great deal of energy. Her blood pressure is normal.*

10. Thanks to Mr. Gerold Pfann

• *Patient K.J., male, 71 years old. Diagnosis: "I have had lower back pain for 50 years; I was supposed to have surgery 20 years ago, but I would not consent to it. I was going to non-medical practitioners who took me through the rounds." Mr. J. was also suffering from sinusitis in the frontal sinus. Results of MRS therapy: "After 10 days, the frontal sinus no longer caused me any problems. After the fifth week, the pain in the low back area had disappeared. This treat-*

ment has been excellent for my internal diseases (intestine, liver). I can again eat things that I have not been able to eat for several years."

- *Patient U.M., female, 52 years old. Diagnosis: Severe lower back pain and intervertebral disk complaints. Results of MRS therapy: "The complaints improved gradually, with a definite improvement after about 10 weeks."*

11. Thanks to Mr. Helmut Pein

- *Patient M.M., male, 37 years old. Diagnosis: "I had permanent lower back pain, especially after a hard day of work. The treatments prescribed by doctors had not been successful. In addition, I had a type of skin allergy on both hands for about 10 years." Results of MRS therapy: "After treatment for 3 weeks, my lower back pain disappeared completely. The condition of my hands has improved significantly."*

12. Thanks to Mrs. Helga Kohlhuber

- *Patient H.K., male, 57 years old. Diagnosis: Shoulder pain, lower back pain, digestive problems. Results of MRS therapy: "In the first week my shoulder pain became much worse. Amazingly, the lower back pain subsided in the first week and the shoulder pain in the second week. After a few months they had disappeared completely. My digestive problems (I was often able to go to the bathroom only once or twice a week) improved in the second week (now I go once or twice a day), so my frequent gastrointestinal pains have also disappeared."*

Appraisal of MFT: **75-80 % good to very good results**

1.31. Torticollis

Torticollis (wryneck) is hereditary in most cases. Muscular torticollis is due to a shortening of the major sternocleidomastoid muscle on one side. The head is inclined toward the affected side and bent slightly to the rear and the face turns towards the healthy side. The best time for surgery is at the end of the first year of life; until then a plaster cast must be worn. Torticollis can also be caused by changes in the spinal column (e.g., cervical ribs or fused vertebrae), due to paralysis of the neck muscles, contraction of scars or infections. Rheumatic torticollis is caused by a disease of the muscles of the throad and neck.

Effect of magnetic field therapy on torticollis:

relaxing muscles, anticonvulsive effect (influencing the stimulus threshold at the nerve endings)

Proper use of MRS for torticollis

- Whole-body mat: twice a day for 8 minutes each time: 50 % level in the morning, 10 % level in the evening
- Pad: once a day for 24 minutes: 100 % level
- Probe: once a day for 24 minutes: 200-400 % level, with soothing massage movements at the origin and attachment of the muscle
- Notes on the initial reactions: none

Local treatment for torticollis

Scientific studies on the treatment of torticollis with MFT

- I. E. Detlav: "The Influence of Constant and Pulsed Electromagnetic Fields on Oxidation Processes in Muscle," in I. E. Detlav (ed.), Electromagnetic Therapy of Injuries and Diseases of the Support Motor Apparatus, International Collection of Papers, 1987. - This study shows the accelerated recovery phase in muscle injuries using MFT.

Physician reports on the treatment of torticollis with MRS

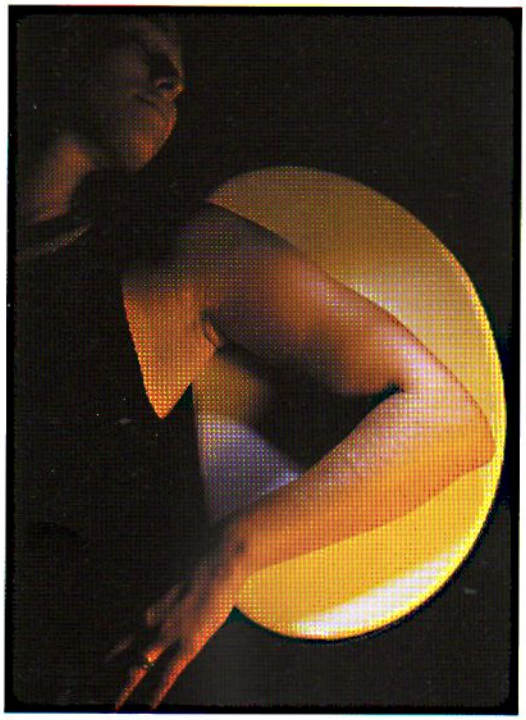
1. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0043/1/40 666 00

• *Patient, female, 8 years old. Diagnosis: muscular torticollis on the left side. Results of MRS therapy: findings six months after surgery and MFT: almost complete recovery from torticollis.*

Appraisal of MFT: **40 % good to very good results**

1.32. Bursitis

The synovial bursa is a sac filled with fluid that serves as a shock-absorbing cushion between the bones and the muscles or tendons. It can become inflamed due to unaccustomed exercises and activities, bad shoes, gout or rheumatic diseases. The knees are affected most commonly; people who kneel a lot are especially susceptible. An inflammation may develop at the elbow if one puts weight on this joint too often. Bursitis of the Achilles tendon occurs in athletes whose shoes are too tight.



Local treatment of the synovial bursa

Treatment of bursitis depends on the cause. If pressure or unaccustomed movement is the reason for the inflammation, then these causes can be avoided easily. Ice packs and anti-inflammatory drugs support more rapid healing.

Effect of magnetic field therapy on bursitis:

anti-inflammatory, relieving pain, supportive

Proper use of MRS for bursitis

• Pad: 2-3 times a day for 24 minutes each time: 150 % level for the knee and elbow, 100 % level for the shoulders and hip joints.

• Notes on the initial reaction: approximately 5 % of these cases will experience an intensification of pain for 1-5 days.

Scientific studies on the treatment of bursitis with MRS

• A. A. Pilla: "State of the Art in Electromagnetic Therapeutics: Soft Tissue Applications," Second World Congress for Electricity and Magnetism in Biology and Medicine, June 8-13, 1997, Bologna, Italy. - This study provides information on the positive influence on pain and swelling in the area of the joints and bursa using MFT.

• Weinberger et al.: "Treatment of Experimental Inflammatory Synovitis with Continuous Magnetic Field," 1st Journal of Med Sci, 32 (12), December 1996, pp. 1197-1201. - This study investigates the effects of MFT on inflammation of the joint capsule in rats. The result shows a definite anti-inflammatory effect of MFT.

Physician reports on the treatment of bursitis with MRS

1. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0043/1/40 666 00

• *Patient T.C., male, 28 years old, soccer player; diagnosis: bursitis with severely impaired movement and pain in the right knee. Results of MRS therapy: Mr. C. was free of symptoms within three days, the swelling went down greatly and he was able to put his weight on the knee again after one week.*

Patient reports on the treatment of bursitis with MRS

1. Thanks to Mr. Ewald P. Müller

• *Patient F.M., male, 29 years old. Diagnosis: stress due to shift job, old injury of the synovial bursa in the knee occasionally painful. Results of MRS therapy: "I feel much fresher in my work, especially at night. My knee hurt more for the first week, but after the third week it was almost completely pain free, especially when applying weight to it."*

Appraisal of MFT: 70 % good to very good results

1.33. Snapping finger

Snapping finger is due to a disease of the flexor tendon and its sheaths, leading to distension of tendon sections and to constriction of the tendon sheath. Due to this circumstance, sliding of the tendon is prevented, resulting in a characteristic snapping when the finger is bent. In most cases, surgery is necessary.

Effect of magnetic field therapy on snapping finger:

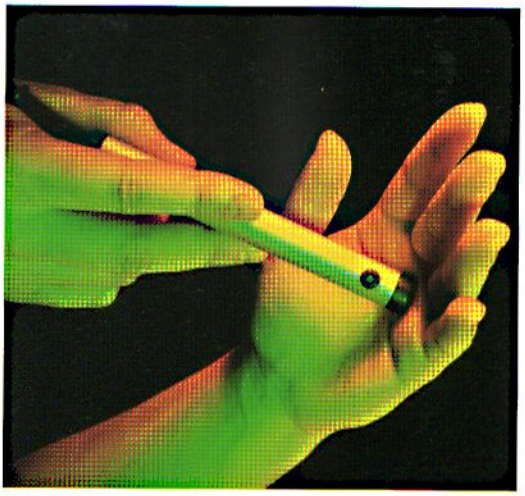
relaxing, relieving muscle cramps, supporting

Proper use of MRS for snapping finger

• Pad or probe: 3-4 times a day for 16 minutes each time: 200-400 % level, massaging the entire course of the tendon up to the point of muscle attachment with a circulating motion using the probe.

• Duration of treatment: this treatment may take a very long time. One must not become discouraged here, initial results occur at the soonest after 9-12 months of regular treatment.

• Notes on the initial reaction: none



Local treatment of the fingers with a probe

Scientific studies on the treatment of snapping finger with MFT

• Binder et al.: "Pulsed Electromagnetic Field Therapy of Persistent Rotator Cuff Tendinitis. A Double-blind Controlled Assessment," Lancet, 1 (8379), March 31, 1984, pp. 695-698. In this double-blind placebo-controlled study, the positive effect of electromagnetic fields on tendinitis in the area of the rotators is discussed.

Patient reports on the treatment of snapping finger with MRS

1. Thanks to the company Vita-Life

• *Mr. R.T., 58 years old. Diagnosis: Progressive shortening of the tendons for the last six years. Results of MRS therapy: "The first improvements were apparent after three months: I was again able to open my finger with my other hand. Two months later, I was almost able to straighten the finger out for the first time. Today, eight months after the first treatment with MRS, I can move my finger normally and I have problems only in the morning."*

Appraisal of MFT: 50 % good to very good results

1.34. Tendon injuries:

see "Sports medicine"

1.35. Scoliosis

Scoliosis is understood to be a fixed lateral bend in the spinal column associated with rotation of the vertebrae. In 90 % of the cases the causes are unknown (idiopathic scoliosis). The known causes include neuromuscular diseases, with paralysis on one side leading to the lateral bending, primary muscle diseases, bone deformations of the vertebrae or metabolic disorders.

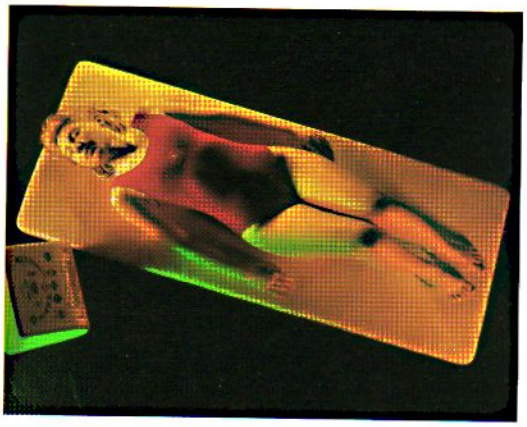
Idiopathic scoliosis develops during growth, mainly in girls between the ages of 10 and 12. The curvature causes a shortening of the soft parts on one side, the growth joint is damaged and consequently, asymmetrical vertebrae develop. This results in a "hump" of the ribs, i.e., the ribs stand out further in the thorax area, especially when bending forward. In the area of the lumbar spine, the extensor muscle of the back is predominant, forming the "lumbar bulge." Scoliosis itself is not painful but it can lead to premature wear phenomena. The treatment depends on the patient's age and the cause and extent of the scoliosis (scoliosis angle). There is a possibility of physical therapy (up to an angle of 20°), use of a corset (angles between 20° and 50° in growing children, to be worn the entire day) and surgery (angle more than approximately 50°).

Effect of magnetic field therapy on scoliosis:

relaxing muscles, relieving cramping, relieving pain

Proper use of MRS for scoliosis

- Whole-body mat: 2-4 times a day for 8 minutes each time: 100 % level in the morning, 50 % level at noon, 25 % level in the afternoon, 10 % level in the evening
- Special instructions on use: Keep knees bent!
- Notes on the initial reaction: none
- Forms of therapy supportive of MFT: movement therapy and instruction in proper use of the back



Whole-body treatment for scoliosis

Scientific studies on the treatment of scoliosis with MFT

- M. Marinkev et al.: "Therapeutic Effects of Pulsating Energy Resonance Therapy in Vertebrogenic Diseases," instructor at the higher medical institute - Plovdiv., 1995. - The result of this study demonstrates that well-being, physical endurance and sleep can all be improved with the use of MFT, and the perception of pain decreases.

Physician reports on the treatment of scoliosis with MF

1. Dr. Barbara Adolf, M.D., gynecologist, Fürstenfeldbruck

- *Patient C.W., female, Diagnosis: Severe scoliosis. Results of MRS therapy: The back pain has disappeared completely, slight improvement in nasal symptoms.*

Appraisal of MFT: **60-70 % good to very good results**

1.36. Talipes equinus:

see "Splayed foot"

1.37. Spondylolisthesis

In true spondylolisthesis, the vertebrae cannot get any hold because of a hereditary defect in

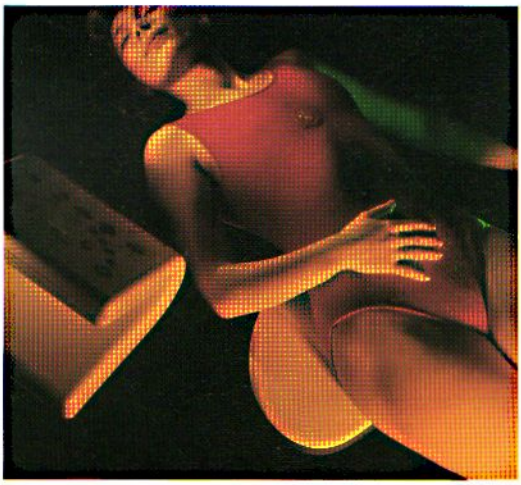
the vertebral arch and the vertebrae slide forward. This process usually begins in childhood and stops in puberty. It most commonly affects the fourth and fifth lumbar vertebrae. In the extreme case, one vertebra will slip directly in front of the other. This causes extreme lower back pain which defies treatment. Another form is secondary spondylolisthesis, where one vertebra is twisted out of the spinal column under a high load. The prerequisite for this is intervertebral disk damage associated with a curvature of the spine. Surgery is then usually unavoidable. In mild cases, it may help to strengthen the muscles or use a support corset.

Effect of magnetic field therapy on spondylolisthesis:

relieving pain, relaxing muscles, promoting circulation, supporting. Spondylolisthesis itself cannot be treated, only the pain can be treated.

Proper use of MRS for spondylolisthesis

- Whole-body mat: once a day for 8 minutes: 50 % level
- Pad: twice a day for 24 minutes each time: cervical spine area: 25-50 % level, thoracic spine area: 50-100 % level, lumbar spine area: 100-150 % level



Local treatment for spondylolisthesis

- Special instructions on use: Keep knees bent!
- Notes on the initial reaction: Young women may experience an initial painful reaction (rare).

Scientific studies on the treatment of spondylolisthesis with MFT

- M. Marinkev et al.: "Therapeutic Effects of Pulsating Energy Resonance Therapy in Vertebrogenic Diseases," Instructor at Higher Medical Institute - Plovdiv. 1995. - The result of this study has shown that the use of MRS improves well-being, physical endurance and sleep quality while reducing the perception of pain.

Physician reports on the treatment of spondylolisthesis with MF

1. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0043/1/40 666 00

- *Patient C.S., male, 19 years old. Diagnosis: Massive problems due to spondylolisthesis for two years. Previously: muscle training with moderate success, daily pain. Results of MRS therapy: After one month of treatment, the pain occurs only occasionally with faulty distribution of weight.*

Patient reports on the treatment of spondylolisthesis with MRS

1. Thanks to the company Vita-Life

- *Patient M.H., female, 45 years old. Diagnosis: Spondylolisthesis L5/S1, thoracic/lumbar osteochondrosis, prolapsed disk, pain for many years, especially when lying down at night, often severe disorders in the left leg with severe pain in the ball of the foot, pain in the left shoulder." Results of MRS therapy: "I can again sleep through the night, I no longer have piercing pain in my leg. The pain in my left shoulder has partially disappeared and in general I feel good and feel a lot of energy and vitality."*

Appraisal of MFT: **60-70 % good to very good results**

1.38 Splayed foot (hammer toe, hallux valgus, claw foot) and talipes equinus

1.38.1. Splayed foot

In splayed foot, the front transverse arch of the sole of the foot is flattened, resulting in a broadening of the forefoot so more weight is placed on the heads of the metatarsal bones. This results in the development of calluses and severe foot pain, especially when walking and standing. Splayed foot (it may develop on its own or it may be a concomitant manifestation of flatfoot and talipes cavus or hollow foot) is the most common deformity of the foot, especially in large cities. Risk factors include connective tissue damage, obesity, improper shoes (high heels), deformity of the calcaneal part of the foot and the metatarsus or inflammatory rheumatic diseases. Deformity of the toes occurs due to the fact that spreading of the forward part of the foot causes tension on the tendons, pressing the toes together. The change in static condition causes a shift in the direction of tension of the tendon and the toes become deformed.

Hammer toe: The toe is flexed in a fixed position in the end joint.

Hallux valgus: The big toe is twisted outward.

Claw foot: There is a fixed flexion in the middle and end joints with the metatarsophalangeal joint being overextended. Calluses and so-called corns develop due to the pressure on the shoe.

Splayed foot is treated with massage and physical therapy to strengthen the muscles of the foot and to stretch tendons that have become shortened. If the symptoms persist, surgery on the soft tissue or on the bone is necessary.

1.38.2. Talipes equinus

Talipes equinus develops due to paralysis of the fibula, e.g., after childhood paralysis or after an injury. Talipes equinus may also develop due to improper positioning of the foot in rheumatic patients or patients who must spend long periods of time in bed. The talipes equinus position is characterized in that the foot is always placed with the tip first. This results in the typical "stepper gait." Orthopedic shoes or devices and physical therapy can contribute greatly toward an improvement in symptoms. In some cases, surgery is helpful.

Effect of magnetic field therapy on splayed foot or talipes equinus:

promoting circulation, supporting

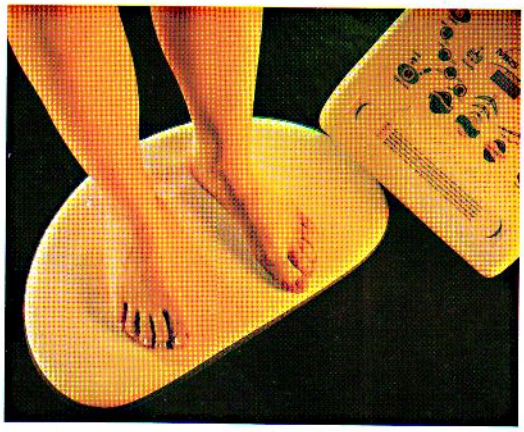
Proper use of MRS for splayed foot or talipes equinus

- Pad: three times a day for 16-24 minutes each time: 200 % level (Med device: 400 %), placing the pad on the floor and then placing the feet on the pad
- Special instructions on use: Use regularly!
- Notes on the initial reaction: none
- Forms of therapy supportive of MFT: orthopedic measures

Scientific studies on the treatment of splayed foot or talipes equinus with MFT

- D. C. Laycock: "Biological Effects of Natural and Pulsed Magnetic Fields," Bioelectronic Engineering consultant. - In an analysis of more than 1,000 scientific studies on the topic of MFT, the definitely positive effect on muscle pain, tendon injuries and bone problems was found.

Physician reports on the treatment of splayed foot or talipes equines with MF



Local treatment for splayed foot and talipes equines

1. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfelderg. 10, tel. 0043/1/40 666 00

• *Patient, female, 60 years old. Diagnosis: splayed foot: pronounced hallux, clawfoot second and third degree, both sides. Results of MRS therapy: after surgery and MFT: definite improvement, rapid healing*

Patient reports on the treatment of splayed foot and talipes equines with MRS

1. Thanks to the company Vita-Life

• *Patient M.S., male, 3 1/2 years old. Diagnosis: talipes equines on the left. This small patient has only been able to crawl and has never used his left foot. He was receiving physical therapy regularly. Results of MRS therapy: "Magnetic field therapy did him a lot of good because he has begun to walk a few steps since then."*

Appraisal of MFT: 40-50 % good to very good results

1.39. Tennis arm:

see "Sports medicine"

1.40. Synovial cyst

A synovial cyst is a benign cystic tumor filled with a gelatinous material on the hand. It is found most commonly in women between the ages of 20 and 30. Perhaps a chronic overexertion of the joint is the cause. The cysts may become very painful and sometimes require surgery.

Effect of magnetic field therapy on a synovial cyst:

relieving pain, promoting circulation, influencing the calcium metabolism.

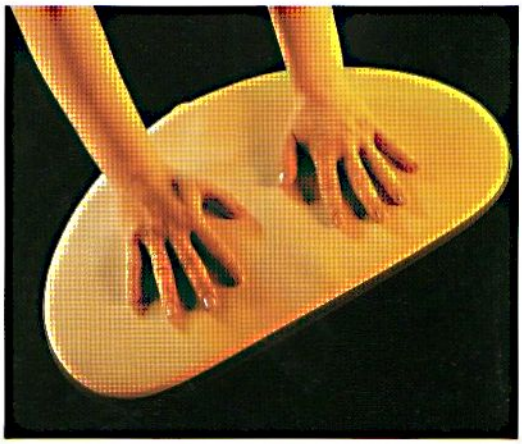
Proper use of MRS on a synovial cyst

• Pad: 2-4 times a day for 24 minutes each time: 200-400 % level

• Probe: 2-4 times a day for 24 minutes each time: 400 % level

• Notes on the initial reaction: none

• Forms of therapy supportive of MFT: acupuncture, neural therapy



Local treatment for synovial cyst

Physician reports on the treatment of a synovial cyst with MF

1. Dr. Thomas Batze, M.D., General Practitioner, Kirchheim

• *From May 5, 1997-June 6, 1997 (1 month) I treated 16 patients with MFT. Ten treatments were prescribed for each patient, with two sessions a day each lasting 8 minutes. In addition to many other syndromes, hyperostosis syndrome also occurred among these patients. Results of MRS therapy: Some of the patients, namely approximately 35 %, showed a definite improvement in their symptoms. In approximately 45 % of the cases, the results were not convincing. In 20 % there was no improvement in symptoms.*

Patient reports on the treatment of a synovial cyst with MRS

1. Thanks to the company Vita-Life

• *Patient M.M., male, 64 years old. Diagnosis: "I have had a synovial cyst for four years. The pain is sometimes unbearable and I have been taking medication on a daily basis without experiencing any significant relief." Results of MRS therapy: "For more than six months I have been*

treating myself with the pad, at first with moderate success. For two months, I have been pain free, the synovial cyst has become smaller according to my physician and according to my own perception."

Appraisal of MFT: **40 % good to very good results**

1.41. Injuries and rehabilitation

Rehabilitation serves to restore a patient's usual occupational ability and general capacity after severe chronic or acute diseases, after surgery or after a serious accident. Rehabilitation measures may be carried out on an outpatient basis or in a hospital.

Effect of magnetic field therapy on injuries and rehabilitation:

anti-inflammatory, reducing swelling, relieving pain, promoting circulation, mainly through the autonomic nervous system, shortening regeneration time

Proper use of MRS for injuries and rehabilitation

- Whole-body mat: twice a day for 8 minutes each time: 50 % level in the morning, 10 % level in the evening
- Pad: several times a day for 16 minutes each time: 50-100 % level (need not be increased gradually)
- The sooner magnetic field therapy is used, the better its effect will be.
- Special instructions on use: Lie down on the mat and relax!

Basic treatment for injuries and rehabilitation

- Duration of treatment: In treatment of pain, the first results will be apparent after 1-2 weeks, but treatment must be continued until the injury is healed.
- Notes on the initial reaction: in 6-8 % of the acute injuries, there was a brief painful initial reaction lasting a few hours or a few days.
- Forms of therapy supportive of MFT: enzymes, acupuncture

Scientific studies on the treatments of injuries and rehabilitation with MFT

- S. A. Schastnyi et al.: "A Contact-free, Biologically Adequate Electromagnetic Stimulation of Repair and Regeneration of Osseous, Cartilaginous, and Muscular Tissues in Children," Vestn Ross Akad Med Nauk (3), 1994. - This article reports on 508 patients who were treated with MFT mostly after traumatic injuries. The treatment was effective in 75 % of the cases.
- A. M. Begue-Simon, R. A. Drolet: "Clinical Assessment of the Rhumart System based on the Use of Pulsed Electromagnetic Fields with Low Frequency," International Journal of Rehabilitation Research, 16 (4), 1993, pp. 323-327. - This study documents the positive effect of magnetic field therapy on various injury-related problems. Definite improvements were observed, especially in soft tissue injuries and in injuries involving bones and joints.

Physician reports on the treatment of injuries and rehabilitation with MF

1. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0043/1/40 666 00

- *Patient H.M., male, 19 years old. Diagnosis: traffic accident on November 23, 1996: open fracture of the calcaneum (heel) on the right (first-degree open), fracture of the navicular bone on the right foot, contusion of the soft tissue at the heel and on the forefoot right with subsequent dry skin necrosis. Patient using crutches until March 22, 1997, poor gait pattern, still inadequate wound healing. Results of MRS therapy: After eight months of regular*

treatments with MF, this patient can walk normally again. Only when using MFT did the wound close completely within three weeks without any other aids. Healing of the wound with strengthening of tissue required approximately three months. The swelling in the injured area subsided after the second month, making it possible for the patient to wear normal shoes after three and half months, where it should be pointed out that the patient started out with an athletic shoe size of 54 (normally 46).

2. Dr. Manfred Zauner, M.D. and Professor Willi Dungl

• *Patient, male, ski racer; diagnosis: injury to the calf with a lacerated contusion wound (to put it mildly). Treatment: soft laser (helium-neon laser) at 633 nm, reflex therapy, special ointment dressings. Results of MRS therapy: Acceleration of healing in combination with Energy Pack. With this treatment it was soon possible for him to race again.*

Patient reports on the treatment of injuries and rehabilitation with MRS

1. Thanks to Mrs. Sieglinde Kapun

• *Patient, male, W.A., 29 years old. Diagnosis: prolapsed disk L5/S1, stiff knee after surgery (torn meniscus, cruciate ligament and collateral ligament). Results of MRS therapy: disks: minimal improvement after one week. Second to third week: reduction in pain and use of pain pills, injections were stopped completely; pain free after 12 weeks. Knee: first to third weeks: chondrification dissolved in the knee joint. "After the fifth week, I was able to complete a light running training again and after 16 weeks I could move my knee fully again. It is now pain free."*

4. Thanks to Mrs. Maria Pfeifer

• *Patient G. A., female, 33 years old. Diagnosis: Severe riding accident: eight broken ribs, contusion of liver, bleeding of liver, dehiscent wound on the head, all vertebrae and almost all bones with severe contusions. The physician had predicted that it would take about 8-9 weeks until the patient would be pain free, about 10-12 weeks (with physical therapy) until the patient would be able to work and at the soonest 3-4 months to resume athletic activity (riding, skiing, tennis). Results of MRS therapy: "After four weeks of therapy, I was able to work again, all my ribs were fused again satisfactorily and I had no pain in movement. My liver is completely normal. Five weeks after the accident I was able to ride again, in the sixth week I was able to ski and now I am already playing tennis."*

3. Thanks to Mrs. Susanne Büttner

• *Patient H.B., male, 41 years old. Diagnosis: after a bicycle accident contusions (thigh, arm, half of face), hematoma on the eye. Results of MRS therapy: "the patient was sent by his doctor to me two days after the accident for massage with stimulating use of electric current. He came to me limping and in great pain." Results of MRS therapy: "the patient returned in the afternoon with somewhat less pain. His symptoms improved each day, the hematoma in his eye disappeared after five days and the patient was able to slowly resume bicycle training. After four weeks he rode in a successful time trial in his club."*

Appraisal of MFT: **70-80 % good to very good results, depending on the type and degree of injury**

1.42. Tension

see "Lumbago"

1.43. Soft tissue rheumatism: fibromyalgia and frozen shoulder

Fibromyalgia is a special form of soft tissue rheumatism where muscles, tendons as well as nerves may be affected. In Germany alone, officially approximately 1.6 million people suffer from this disease, 80 % of them women - and several billion DM are spent for treatment. The disease occurs in attacks - with excruciating pain in varying body locations (back, shoulder or hip). In addition, fatigue states, sleep disorders and depression are not uncommon. The pain in the muscles and tendon attachments is especially great in cold damp weather. Heat can relieve these symptoms somewhat.

The cause of this disease has not yet been elucidated. Defects in the nerve switching points in the brain are suspected. Genetic and con-

comitant psychological factors (chronic mental or physical stress) can promote an outbreak. Often these patients are perfectionists who live up to the high demands they put on themselves.

Since the disease can hardly be detected medically, years of unnecessary surgery and disappointment often elapse before the disease is diagnosed. X-rays and blood tests do not give much information about this disease. The diagnosis is best made with the help of a patient history and very specific pressure points on the body, so-called tender points. So far, the only possibility is to relieve the symptoms of fibromyalgia. Physical activity (such as swimming, bicycle riding and walking), physical therapy, massage and hot packs are important supporting measures. Relaxation techniques (autogenous training, breathing therapy) also help in living with the disease better.

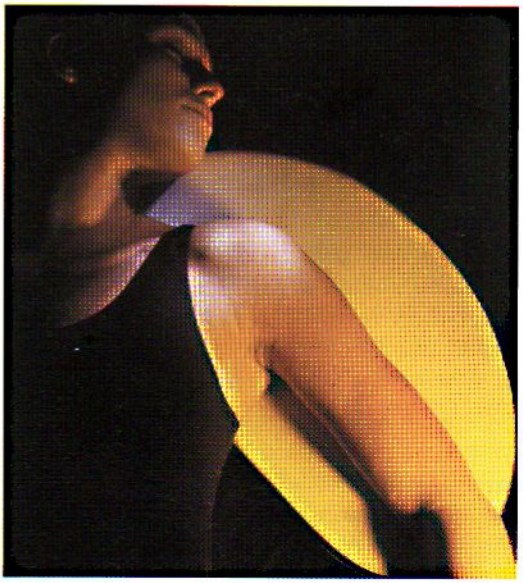
So-called frozen shoulder is often found today in conjunction with fibromyalgia. The person affected with this condition can no longer lift his/her shoulder because an almost intolerable pain does not allow this movement. The pain subsides only when the arms are pressed tightly against the body. To avoid the risk of stiffening of the shoulder, medical treatment is necessary immediately (in no case should this be treated with heat because heat will only worsen the pain). The only possibility of restoring mobility is to release the fused joints under anesthesia.

Effect of magnetic field therapy on soft tissue rheumatism:

relieving pain, increasing mobility, acting in the area of the autonomic nervous system, relaxing muscles

Proper use of MRS for soft tissue rheumatism

- Whole-body mat: 2-4 times a day for 8-16 minutes each time: 50 % level in the morning (gradually increasing), 25 % level at noon, 10 % level in the evening
- Frozen shoulder: additional use of pad: twice a day for 24 minutes each time: 50 % level



Local treatment for soft tissue rheumatism

- Forms of therapy supportive of MFT: breathing exercises and relaxation exercises
- Notes on the initial reaction: initial reactions can occur with any increase in dose (at 25 %). The remedy is to increase the dose very slowly.

Scientific studies on the treatment of fibromyalgia with MFT

- A. A. Pilla: "State of the Art in Electromagnetic Therapeutics: Soft Tissue Applications," Second World Congress for Electricity and Magnetism in Biology and Medicine, June 8-13, 1997, Bologna, Italy. - This review article points out that treatment with electromagnetic fields manifests its effect relatively rapidly in injuries involving the connective tissue and muscles.
- K. R. Robinson: "Endogenous and Applied Electrical Currents," Natural and Applied Voltage in Vertebrae Regeneration and Healing (New York), 1989. - G. C. Coats: "Pulsed Electromagnetic (Short-Wave) Energy Therapy," British Journal of Sports Medicine, 23 (4), 1989, pp. 213-216. - These studies show a definitely positive influence on acute diseases of the connective tissue and muscle tissue through the use of pulsating electromagnetic fields.

Physician reports on the treatment of fibromyalgia with MF

1. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0043/1/40 666 00

• *Patient, female, 64 years old; fibromyalgia with 12 tender points. Concomitant autonomic symptoms. Results of MRS therapy: The patient feels better, her complaints have almost disappeared, the tender points are much less tender on pressure and less myogelosis.*

• General: A definite improvement in disease symptoms is observed as a result of MFT in patients with a concomitant diagnosis of autonomic dystonia and psychological exhaustion.

2. Health Center of Wolfgang Kropshofer, Dr. of Chiropractics, 1080 Vienna, Alserstrasse 43/8a, tel. 0043/1/40 373 80

• *Patient P.V., male, born 1927; diagnosis: April 1, 1997 radiology specialist: definite narrowing of the joint space with scoliosis of both hip joints, some small cysts and edge beating. In addition, a homogeneous soft tissue calcification 1.5 cm in size on the left. Another calcification of a similar size but with a slightly different configuration and vague outlines in the trochanter solids; otherwise normal findings. Results of MRS therapy: May 20, 1998 by the same radiologist: "the calcification described at that time on the left is no longer visible in the soft tissue. Since April '97, the calcification has regressed completely in the sense of the bursitis calcaria peritrochanterica."*

Patient reports on the treatment of fibromyalgia with MRS

1. Thanks to the company Vita-Life

• *Patient H.L., female, 56 years old. Diagnosis: "Three years ago I was diagnosed with fibromyalgia. My main problem was that it hurt everywhere, each muscle was extremely painful. It was impossible to think of doing housework or sports." Results of MRS therapy: "After seven weeks, I felt a definite improvement for the first time. Today, six months later, I am almost free of symptoms, I can swim again and I go jogging regularly. Life is a pleasure for me again and my sleeping problems have also disappeared. I would also like to mention that I at first did not want to believe in MFT, especially when I felt like my pain was getting worse, but after three weeks I had survived it all and today I am glad I kept with it."*

2. Thanks to Mrs. Giovanna Fakin

• *Patient F.G., male, Diagnosis: "I have been suffering from extreme soft tissue rheumatism for 11 years, constantly recurring hayfever, asthma attacks, elevated thyroid function and sleep disorders. The asthma attacks were especially strong at night. In addition, I suffered from a severe iron deficiency. Results of MRS therapy: "After three weeks of treatments, I no longer have any pain. I have been able to stop taking the various medications I had been perscribed. I would classify my overall physical condition as especially good."*

3. Thanks to Mr. Max Keiser

• *Patient V.S., female, , born 1948; diagnosis: in 1982 abdominal surgery to remove cyst weighing 1.5 kg, surgery on uterus, ovaries and fallopian tubes. Soft tissue rheumatism, allergy from February to the end of November (pollen), very severe neck problems, Scheuermann's disease, gastrointestinal problems, hemorrhoids. 1986 some varicose veins removed through an incision in the groin. Results of MRS therapy: "After one week, I felt that the magnetic field was doing something in my body. After a short period of time, I noticed an improvement in my neck problems which I had had for about 10 years. I was always under medical treatment: chiropractic doctors, electrotherapy, back and neck message, etc. After about three months, the pain in my left arm became worse, so I could hardly move it for about six weeks. But then from one day to the next the pain disappeared. The symptoms of the soft tissue rheumatism have subsided. Scheuermann's disease: after three days of treatment, I had pain in my back and shoulder worse than any I had ever had before. The next day I could not feel my back at all, it had become so light. When I have any pain today, it disappears immediately after a treatment with the magnetic field."*

Appraisal of MFT: **70-75 % good to very good results**

1.44. Sensitivity to weather

Approximately 30 % of all people are affected by the phenomenon of sensitivity to weather. This number should probably be higher, because far more people are influenced by changes in weather, at least in terms of moods. Recent studies at the University of Giessen (1998) prove that people react to all types of electromagnetic fields preceding a change in weather with different intensities. In patients with chronic symptoms, this often leads to a brief flare-up of their condition, resembling the initial reaction in a therapy.

Whole-body treatment for weather sensitivity

Effect of magnetic field therapy on weather sensitivity:

Even though there have not been any studies in this regard, reports about the experiences of various patients and doctors who have dealt with this phenomena, suggest that MFT could help in reducing the symptoms associated with sensitivity to weather.

Proper use of MRS for weather sensitivity

- Whole-body mat: 3 times a day for 8 minutes at the sensitive level

Patient reports on the treatment of weather sensitivity with MRS

1. Thanks to the company Vita-Life

- *Patient, female, G.H., 36 years old. Diagnosis: joint pain, menstrual pain, weather sensitivity. Results of MRS therapy: All symptoms disappeared after twelve weeks.*

2. Thanks to Mrs. Verena Singer

- *Patient M.M., female, 78 years old. Diagnosis: severe weather sensitivity, tension in shoulder and neck area, circulation disorders, age-related impairment in motor apparatus. Results of MRS therapy: "The tension was rapidly relieved and my mobility improved. I no longer have cracks in the skin on my fingertips and my sensitivity to weather has improved and I feel more balanced. My circulation disorders have also improved greatly. The age-related impairments have changed into a better quality of life."*

3. Thanks to Mrs. Gabiele Heidt

- *Patient G.H., female, diagnosis: "I was having extreme circulation problems in my left leg and I was very sensitive to weather." Results of MRS therapy: "After two weeks of treatments, I had hardly any symptoms in my legs. Another 14 days later, changes in the weather no longer caused me any problems. I no longer had any menstrual complaints after two months. I now feel good all the way around. I no longer have difficulty in getting up in the morning."*

Appraisal of MFT: **80 % good to very good results**

1.45. Strains

see "Sports medicine"

SPORTS

Muskelkater

Muscular soreness

2. Sports medicine

by Dr. Piero Lercher, M.D.

Sports medicine is a medical specialty that can be divided in principle into three subareas: internistics sports medicine (e.g., a study of training, performance, diagnostics), sports traumatology (sports injuries, sports damage) and physical sports medicine (e.g., rehabilitation).

The most important concepts from all three subareas are presented and explained below in alphabetical order. Following the sports medicine terminology, the main possible applications of magnetic field therapy in sports medicine will be presented in keeping with this book.

With regard to treatment guidelines, individualization of treatment is important, especially in sports medicine, and a combination of several forms of therapy should be selected. In this way, it is not only possible to promote the cooperation and understanding of athletic patients in the healing process but also the highest possible success rate can be achieved.

2.1. What is warm-up training?

Warm-up is understood to refer to measures taken before training or a competition to achieve an optimum physical and mental attitude. The metabolism is stimulated and the mental attitude is trained in a movement sequence, so that performance can be improved.

In active warm-up training, it is advisable to begin with a slow warm-up or playing with one other person and then two others (e.g., in sports involving a ball) to activate the cardiovascular system and the muscles. This may be followed by stretching exercises of a medium intensity, also combined with coordination exercises. A short-term increase in intensity of the sport-specific movements optimizes the interplay of all organ systems involved in the exertion. A period of 20-60 minutes is considered an adequate warm-up time.

The best time for ending warm-up training is about 5-10 minutes before the start of the competition or actual training. The warm-up effect declines very rapidly and has disappeared completely after 45 minutes.

2.2. What is endurance?

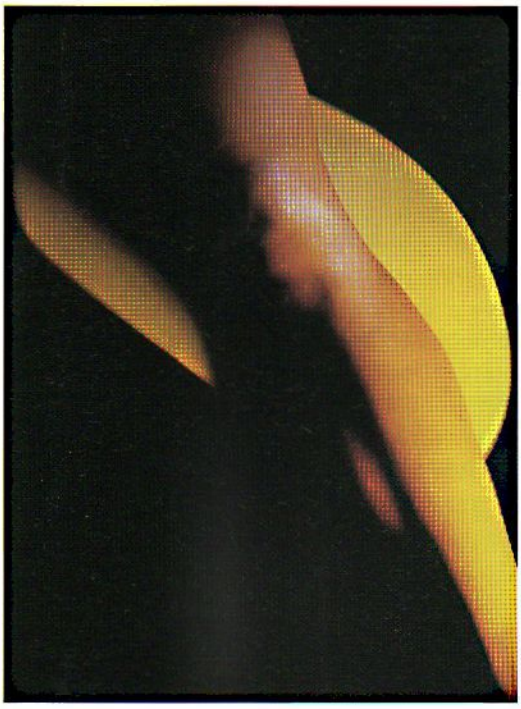
Endurance is a term used in sports to refer to an athlete's resistance to fatigue and the ability to execute an activity at a consistently high quality level for the longest possible period of time.

2.3. What is a torn ligament (ruptured ligament)?

Ligaments are tissue structures in the form of ribbons or strands that connect and hold together the moving parts of the skeleton.

With ligaments, the range of possible injuries is from a partial tear to a complete tear or detachment from the attachment points on the bone. Since ligaments together with the joint capsule form an autonomously functioning unit, torn ligaments are also combined with a torn capsule. Causes for this include non-physiological exertion such as a fall in skiing or a foul in soccer. Diagnostics poses considerable problems so that torn ligaments are often misdiagnosed as a sprain.

Treatment: depending on localization and extent of the tear, age of the injured person and the type of sport being engaged in, the treatment may be conservative (plaster cast) or surgical (suture of ligament, syndesmoplasty). Magnetic field therapy (MFT): supporting. Pad: 3-4 times a day for 16-24 minutes each time, maximum intensity



Local treatment for torn ligament with pad

Full load-bearing capacity can be achieved in six to twelve months after suturing a cruciate ligament (knee) or in about three months after a syndesmoplasty (ligament suture) in the ankle.

2.4. What is doping?

According to a definition by the International Olympic Committee from the year 1971, doping refers to the use of all substances - including those used for therapeutic purposes!! - that influence performance on the basis of either dosage or composition. Doped athletes experience a loss of protective physiological barriers (such as the feeling of exhaustion) which is in turn associated with the risk of collapse or failure of vital functions and can unavoidably lead to death. Side effects of doping preparations include, for example, development of secondary male sex characteristics (in women), impotency (in men) and early closure of growth joints of the bones (in juveniles).

Doping methods are becoming progressively more refined and it is becoming increasing difficult to detect them (e.g., blood doping). However, those using these methods must be aware that they are not only putting their health and their life on the line but they are also acting in an extremely unfair and unsportsmanlike manner.

The first documented case of doping was a swimmer in 1865. The first death due to doping occurred in a bicyclist in 1886.

2.5. What is a joint cartilage injury?

(see "Arthrosis" in the chapter "Diseases of the motor apparatus and supporting system")

2.6. What is a fracture?

Fractures occur relatively commonly as part of sports training. They have a certain sport-specific tendency and constitute the majority of sports injuries in children and juveniles.

So-called stress fractures or fatigue fractures are observed very commonly in adults (for more detailed information, see "Fractures" in

the chapter "Diseases of the motor apparatus and supporting system").

2.7. What is periostitis?

The periosteum is a connective tissue membrane that covers all the bones; this is where the muscles are attached. Increased tensile force or stress on the muscle can cause the periosteum to become detached, thus causing minor bleeding and inflammation. This form of inflammation is observed very frequently in runners.

Treatment: pause in training, physical medicine

MFT: pad: 3-4 times a day for 16-24 minutes each time, maximum intensity

Local treatment for periostitis

2.8. What is condition?

From the standpoint of sports medicine, this is understood to be instantaneous physical and mental readiness for performance; more precisely, the sum of all physical capabilities that determine performance and their implementation through properties of the personality such as will and motivation.

2.9. What is strength (muscle strength)?

Strength is the ability of the muscles to develop tension. Due to the resulting muscle contraction, a movement occurs acting against a resistance and against gravity. In terms of sports physiology, different types of muscle force are differentiated: for example, fast twitch, force endurance, dynamic force, isometric force, etc.

2.10. What is lactate analysis?

Lactate (from lactic acid) is a degradation product of muscle metabolism. Using the measured lactate level, a person's training condition (short-, medium- and long-term endurance) and the anaerobic energy supplied at maximum exertion can be analyzed and evaluated. Thus, it is possible to find the ideal intensity of exertion for training while also monitoring the effectiveness of training.

2.11. What is performance ability?

Performance ability is the potential with which exertion (in sports) is accomplished. It embodies the totality of so-called basic motor abilities (flexibility, coordination, force and endurance).

Investigations of performance permit an evaluation of health stability and a determination of the efficacy of certain training methods. In addition, they make it possible to establish wealth-founded concepts for planning and management of training.

2.12. What is a meniscus injury?

The meniscus is a crescent-shaped disk of fibrocartilage located in the knee joint (also in the shoulder blade and ankle joints!). They have a shock-absorber function and may be damaged by a direct injury, chronic overloading (e.g., due to obesity) or due to degeneration and wear. People affected by this condition complain of load-related pain, restricted movement and joint blocks.

Treatment: The current treatment of choice is surgery (e.g., arthroscopy) to (partially) remove the meniscus. Recent research studies have run in the direction of preparing fibrocartilage cell cultures and reimplanting the cultured "replacement part." All attempts to use other types of tissue as replacement parts have so far been unsatisfactory.

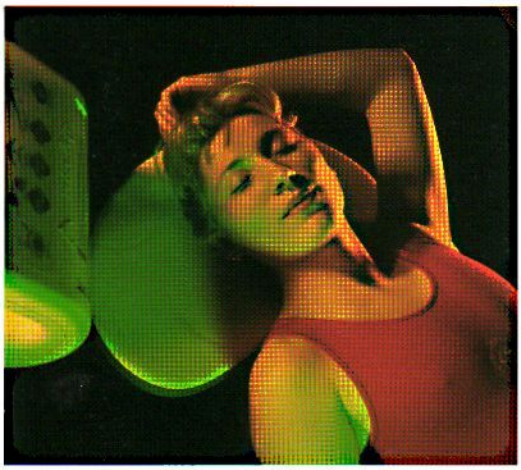
MFT: supportive postoperative use. Pad: 3-4 times a day, 16-24 minutes each time, maximum intensity

2.13. What is torn muscle fiber?

see "Strained muscle"

2.14. What is myogelosis (hardening of a muscle)?

Myogelosis refers to defined nodular or bead-like hardening of a muscle. It is a result of a disturbance in muscle metabolism caused by overexertion, overfatigue, cold or overacidification and results in swelling (edema) and dull spontaneous pain. The muscle sections affected depend on the specific type of sport (for example, upper body muscles for batters, hand muscles on free climbers).



Local treatment of the neck with a pad

However, myogelosis may also occur as a reaction in joint diseases (such as arthroses), malpositioning of a joint and postural problems involving the spinal column.

Treatment: local heat (hot air, fango packs), avoiding cold and drafts (caution when wearing clothing damp from perspiration!), gentle massage techniques (also lymph drainage), friction treatments, active and passive stretching, electric current therapy (short wave, ultrasound)

MFT: pad: 3-4 times a day for 16-24 minutes each time, maximum intensity

2.15. What is muscle soreness?

Muscle soreness is characterized by pain, pulling, sensitivity to touch, hardening and often slight swelling of the muscles. These symptoms occur at the latest two days after an unaccustomed muscle stress or high-exertion sports activities. There are different theories regarding the causes of this condition. One model to explain it describes a metabolic disorder with a subsequent inflamation in the muscles caused by an increased buildup of lactic acid (= lactate). Other research articles have reported on microtrauma (extremely small injuries) in the area of the muscle fibers and reduced capillary circulation. It is precisely here that the circulation-promoting effect of magnetic field therapy can be used as a supportive measure.

Treatment: application of heat, especially agitated baths in hot water (optimal: thermal water), loosening exercises and autogenic training are recommended for treatment of muscle soreness. Pain-relieving gels and ointments are available in pharmacies and drugstores.

MFT: pad: 3-4 times a day for 16-24 minutes each time, maximum intensity

Massage or new exertion should absolutely be avoided! To effectively prevent muscle soreness, balancing gymnastics, warm-up and stretching exercises are recommended. Training or any other athletic activity should be terminated immediately whenever pain occurs.

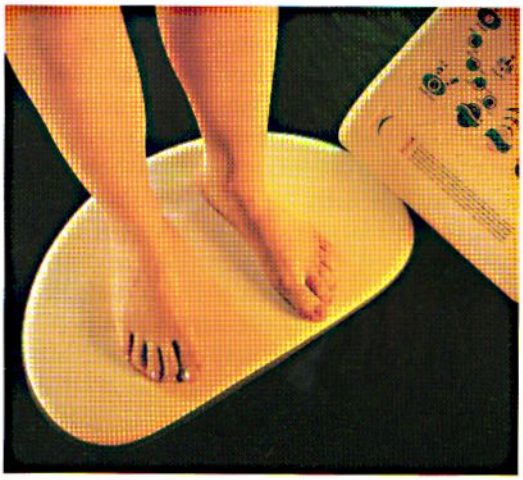
2.16. What are muscle cramps?

Muscle cramps are involuntary muscle contractions which can occur in people of all age classes after athletic activity or when the person is at risk (mainly at night). They are considered to be signs of fatigue caused by electrolyte loss, hyperacidity and circulation disorders.

Treatment: anticonvulsive medication and/or magnesium.

MFT: pad: 3-4 times for 16-24 minutes each time, maximum intensity

The best preventive measures against muscle cramps after athletic activity have proven to be thorough warm-up and loosening exercises in the meantime and also drinking isotonic beverages.



Local treatment for muscle cramps

2.17. What is bruising of a muscle (contusion)?

Bruising of a muscle is caused by a direct action of force or a fall with impact. The extent of the injury depends mainly on the circulation in the muscle section affected while the traumatizing force is in effect. High circulation rates such as those occurring under extreme exertion can cause increased bleeding into the surrounding tissue.

Treatment: in the acute phase, i.e., immediately after the accident: local application cold, immobilization, functional dressing, puncturing the blood effusion, possibly pain medication. After approximately 2-3 weeks: heat therapy, ultrasound, iontopheresis, movement therapy and gentle massages to increase circulation and metabolism.

MFT: pad: 3-4 times a day for 16-24 minutes each time, maximum intensity

2.18. What is a torn muscle?

This injury pattern occurs more frequently on bicipital muscles (e.g., musculus gastrocnemius, m. rectus femoris, m biceps femoris, m. gracilis). Externally, a visible and palpable dimpling or indentation is immediately apparent, forming a gap so to speak, which cannot be overlooked when the muscles are exerted. In addition, those affected complain of sudden piercing pain and loss of function. This type of injury is caused by inadequate stretching of the muscles, inadequate warm-up as well as poor technique and the wrong type of athletic equipment.

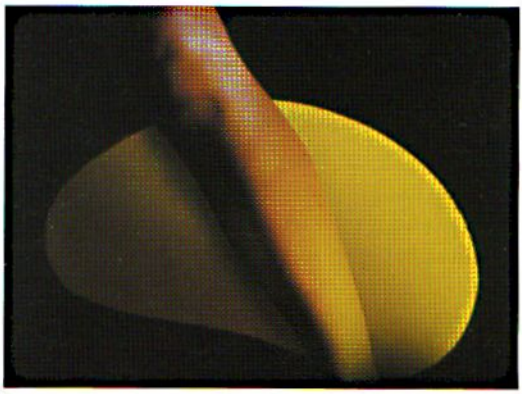
Treatment: surgery; supportive physical medicine postoperatively

MFT: pad: 3-4 times a day for 16-24 minutes each time, maximum intensity

Warning: Late complications are often observed when muscle injuries are treated inadequately at first: healed scars with loss of function, load-dependent pain, increased tendency to cramp, development of cysts, ossification (myositis ossificans) and new tears.

2.19. What is a strained muscle?

This involves overstraining of individual muscle fibers, which represent the smallest functional unit of the muscle (in the extreme case, individual muscle fibers may actually be severed! = torn muscle fiber). In addition, microtears in the connective tissue membrane or sheathing of the muscle have also been described. In addition to poor warm-up and overestimating one's own training condition, other causes include external factors such as cold. Fatigue is an important pathological factor; for example, long distance runners often develop strains in the final spurt due to lack of coordination in muscle regulation.



Local treatment for strained muscles

Symptoms of strained muscles include pain, relieving posture, possibly local blood effusions. It should also be pointed out that no palpable dimpling can be detected.

Treatment of strained muscles and torn muscle fibers: convalescence, supporting compression dressings, application of cold, compresses, gels, ointments; a pause in the sport, physical therapy, electric therapy, ultrasound

MFT: pad: 3-4 times a day for 16-24 minutes each time, maximum intensity

Full load-bearing capacity of the muscles is generally restored after three to six weeks.

2.20. What is a bruise (contusion)?

Bruises occur either due to a direct, blunt force (hit, strike, fall) or indirectly due to the propagating effective of force as part of a compression. Visible signs include: swelling, blood effusions and restricted function. This most commonly involves the major joints (e.g., hip or knee joints). Bruising of the back may even result in brief respiratory paralysis; those so affected then often attempt to cry out in vain.

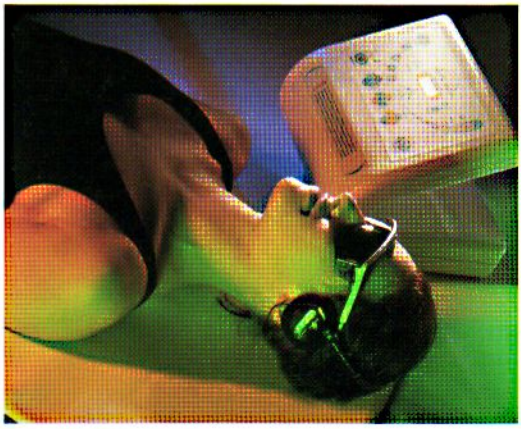
Treatment: cold compresses (e.g., ice pack, cold pack), immobilization, optionally functional and stabilizing dressings

MFT: pad: 3-4 times a days for 16-24 minutes each time, maximum intensity

2.21. What does regeneration mean?

Regeneration means biological restoration or healing. Especially after increased stress and strain on the body, it is important to remove the metabolic products and slow down the increased activity of the cardiovascular system. Another important point is to restore the depleted reserves of energy through an intake of suitable nutrients. If nutrition is imbalanced, electrolytes, essential amino acids and vitamins should also be administered. Adequate time to sleep and relax are essential. Especially in high-performance athletes, a little more pause means a greater training effect. Training too intensively can actually lead to so-called overtraining (see below). MFT can be used very effectively as part of regeneration, but it is absolutely important for the electrolyte balance to be restored.

MFT: mat: 3-4 times a day, 25-50 % level



Whole-body treatment for regeneration

2.22. What is the resting pulse?

Depending on the exertion situation, the heart reacts with an increase or reduction in performance. This is manifested by a change in heart rate or blood pressure.

At rest, the heart rate is 60-70 beats per minute. Endurance athletes even have a resting heart frequency of 32 beats per minute. The resting heart frequency (= resting pulse) is best measured early in morning immediately after waking up.

2.23. What is bursitis?

The bursae (synovial bursae) are membrane sacks in the area of the joints filled with mucous or "joint lubricant." They cushion and absorb shock at the pivot points and pressure points where moving elements (e.g., bones and muscles, tendon or skin) may cause friction or impact. Bursitis can develop due to direct damage or as a result of an ongoing inflammation process.

Treatment: immobilization, physical therapy, possibly surgery (bursectomy)

MFT: pad: 3-4 times a day for 16-24 minutes each time, maximum intensity

2.24. What is inflammation of a tendon (tendinitis)?

Tendons are the connecting pieces between muscles and bones. The tendons may become inflamed due to an acute or chronic overexertion or due to a bruise or contusion. The symptoms include pain and loss of function in the area of the inflammation.

Treatment: protective therapy, immobilization, local cold therapy, ultrasound, iontopheresis, optionally pain medication (e.g., NSAIDs = non-steroidal anti-inflammatory drugs)

MFT: pad: 3-4 times a day for 16-24 minutes each time, maximum intensity

2.25. What is a torn tendon (ruptured tendon)?

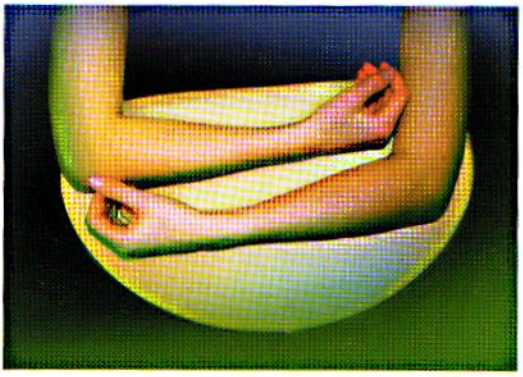
A torn tendon may occur either due to a directly acting force or sudden passive movements where the muscle is immobilized. Promoting factors include metabolic disorders, advanced age and a muscle cross section that is too large (= disproportion between the tendon cross section and the muscle force in favor of the muscle). Inadequate healing of previous injuries or continued exertion despite symptoms may also be causative factors. A distinction is made between complete tears and incomplete tears (= partial tears) of the tendons. This affects mainly the Achilles tendon, patella or ankle tendons. In a torn tendon, pain suddenly occurs, often accompanied by a loud snapping noise. Those affected by this condition experience an immediate loss of function; in addition, swelling and blood effusions also occur. A partially torn tendon, however, will often be manifested by chronic symptoms, initially manifested as a load-dependent pain which disappears in warm-up but occurs again after brief increased loading.

The recommended treatment is immediate surgery.

MFT: postoperative: pad: 3-4 times a day for 16-24 minutes each time, maximum intensity

2.26. What is an inflammation of a tendon sheath (tendovaginitis)?

As a result of an inflammation process, there is a reduction in mobility or impaired passage of the tendon in its sheath. However, if further load is applied to it, this will lead to severe mechanical irritation, resulting in a "viscous cycle" which again exacerbates the inflammatory process.



Local treatment for tendovaginitis

Patients complain of pain on movement in the tendon area, pain on pressure, movement-dependent rubbing noise ("snow crunching"), redness and swelling. Visible signs include functional impairment and a protective posture.

Tendovaginitis occurs most commonly in the wrist, shoulder and ankle joints.

Treatment: protective positioning, immobilization, cold treatments, underwater massage, ultrasound, iontopheresis, magnetic field therapy, percutaneous therapy with analgesics and optionally the administration of non-steroidal anti-inflammatory drugs.

In chronic forms, functional dressings combined with heat therapy or magnetic field therapy have proven to be especially effective. In rare cases, surgical measures must be taken.

MFT: pad: 3-4 times a day for 16-24 minutes each time, maximum intensity

2.27. What is a strained tendon?

see "Strained muscle"

2.28. What is a "stitch in the side"?

This refers to cramp-like pain occurring on one or both sides of the lower rib cage.

The cause is often inadequate supply of oxygen to the diaphragm muscle due to improper breathing technique. Likewise, eating too much before engaging in athletic activity or inadequate adaptation to an increased load level can lead to a pain in the side. The pain symptoms can be relieved very effectively by simply reducing your tempo and practicing forced breathing.

2.29. What is an athletic heart?

This term was defined by S. Henschen in 1899 when he observed an enlargement of the heart when examining endurance athletes. An athletic heart is a physiological adaptation of the heart to an increased level of functional load. This results in enlargement (= dilatation) of the heart cavities and also an increase in muscle mass (= hypertrophy) with the original heart muscle cells becoming enlarged, but not multiplying, as is often falsely assumed. The processes described above result in an increase in the capacity of the heart from 700-800 mL to 1400-1600 mL. The increase in heart muscle mass may lead to doubling of the normal weight of the heart. However, the so-called "critical heart weight" of 500 grams is not exceeded in this physiological adaptation process. When this limit is exceeded, which occurs due to many heart diseases, it means that the supply of energy to the heart muscles is no longer guaranteed. The quality and quantity of the adaptation phenomena of the heart are determined genetically and depend on the age at which regular training was begun. It is noteworthy that not all types of sports lead to development of an athletic heart, but the main ones that do are the endurance sports (e.g., bicycling, cross-country skiing, boating, long-distance running), team sports (football, handball, basketball) and forms of training that greatly emphasize the endurance component. Changes taking place in the athletic heart in comparison with a "normal" heart are quickly and continuously reversible to different extents after the athlete stops the (high) performance sport. However, if the athlete stops the performance sport suddenly, this results in an imbalance between the suddenly reduced demand on the heart and the body's reactions, which are adapted to a higher performance level. Features of this condition include reduced performance, a feeling of dizziness, heavy sweating, cardiac complaints and feeling poorly in general. Resumption of moderate athletic activity, however, can lead to a rapid improvement in these complaints. Therefore, it is advisable not to end an athletic career suddenly but rather to taper off gradually to allow the adaptation processes of the cardiovascular system to reverse themselves.

2.30. What is training?

Training refers to regularly, repeated, scheduled exercises to maintain and increase physical and intellectual abilities. The body reacts with organic growth processes and optimization of organ performance and metabolic processes. The best known forms of training in sports are endurance training, strength training and technique training.

2.31. What is a synovial cyst (ganglion)?

Synovial cysts are new growth originated from joint capsule structures or from tendon or synovial tissue. They occur mainly on the extensor side of the hand and finger joints, but also in the area of the back of the foot and the knee. Symptoms include pain on movement and sensitivity to touch or pressure.

The recommended treatment is surgical removal, but they very often recur.

2.32. What is overtraining?

Overtraining is a hormonally induced, mental and physical overwork syndrome which can occur in very poorly trained people as well as in high-performance athletes. It is caused by recovery phases that are too short, lack of sleep, overdone technique training or inter-

vals between competition that are too short. The symptoms of overtraining can be recognized on the basis of various measured values for performance medicine, but also by the fact that the athlete cannot endure exertion at maximum force or speed and his/her athletic performance is declining. Warning: Overtraining is often not recognized immediately in training methods that work at a low intensity.

Treatment: Regeneration (see that section) and an active pause for a period of one to two weeks.

2.33. What is a dislocation (luxation)?

This is shift or dislocation of two bones connected by a joint (often favored by straining of the ligamentous apparatus). The main symptoms are severe pain, swelling and a functional disturbance. Visible signs include deformation and faulty positioning of the joint ends and blocked joint fixation. The joint most often dislocated is the shoulder joint.

Treatment: repositioning must be performed only by a physician!

Additional: brief immobilization.

MFT: pad: 3-4 times a day for 16-24 minutes each time, maximum intensity

2.34. What is a sprain (distortion)?

Local treatment for sprain (distortion)

Sprains usually occur due to an indirect action of a force. The classical example is spraining the ankle when running due to twisting it on uneven ground or twisting the wrist due to a fall. This results in strain on the capsule-ligamentous apparatus and/or to hydrarthrosis (fluid on the joint). Additional symptoms include pain and functional impairment.

The main aspect of treatment is to protect and immobilize the affected extremity and/or use supportive magnetic field therapy.

MFT: pad: 3-4 times a day for 16-24 minutes each time, maximum intensity

2.35. What is an appropriate way to prepare for a competition?

Essentially any athletic competition should be initiated with a suitable examination done from the standpoint of performance medicine. Professional training requires long-term training planning (in this regard, the reader must refer to technical literature for lack of space here) combined with good lifestyle planning (family, school and occupational training, etc.) and healthy eating habits. With regard to training planning, the training phases must be followed correctly with regular performance medicine checkups. It is essential to grant the body sufficient resting intervals in order to guarantee the exertion-associated adjustments (cardiovascular function, muscle buildup, etc.). In principle, it is better to train somewhat less rather than too much in order to prevent the risk of "overtraining" (see that section) and to still permit enjoyment along with the desired athletic success.

2.36. How is MFT used in training buildup?

Preparatory and transitional period: mat: 2-3 times a day, 100 % level

Before a competition: mat: 8 minutes, 200 % level

After a competition and for regeneration: mat: 16 minutes at 25-50 % level

Important! In overtraining, mat: 8 minutes at 10 % level at most

2.37. What is a strain?

see "Muscle strain"

Effect of magnetic field therapy on the field of sports medicine:

- regeneration (removal of metabolic products, increased supply of nutrients and oxygen in the damaged and affected body sections and types of tissue)

Basic treatment

- stabilization of the sleeping and waking rhythm (e.g., due to jet lag)
- strengthening innervated or reinnervated muscles
- promoting mobility after atrophy due to inactivity
- relieving pain
- promoting muscle metabolism by increasing the supply of oxygen and nutrients.

Proper use of MRS for patients with sports medicine indications

In principle, a distinction must be made between use as part of internistic, surgical orthopedic and physical sports medicine. A general treatment recommendation could not be taken seriously and should depend on the respective injury pattern and the phase of inflammation. It has been found that for injuries to extremities, the pad should always be used at the highest intensity, even with several sessions a day lasting for 16-24 minutes each time. With regard to whole-body use (= mat), however, caution is advised if the athlete suffers from an overtraining syndrome. Otherwise, the treatment guidelines described there also apply to preparation for competition and regeneration.

- Forms of therapy supportive of MFT:

The recommendations listed with the respective specialty term are applicable. It should be emphasized here again that an appropriate combination of several therapeutic forms represents an optimum recipe for success, especially in sports medicine.

- Special instructions on use:

The injury or disease symptoms should always be diagnosed by a specialist. Do not make any self-diagnosis!!!

Especially in injuries, rapid and adequate first aid is essential. Before using MFT, it is advisable to hydrate the athletic patient adequately (e.g., isotonic beverages, infusions). In the case of an overtraining syndrome, the intensity of treatment should not be more than 10 %.

Scientific studies on the use of MFT in the area of sports medicine

To avoid repetition, the reader is referred to the chapter "Diseases of the motor apparatus and the supporting system."

- A. Binder, G. Parr, B. Hazelman, S. Fitton-Jackson: "Pulsed Electromagnetic Field Therapy of Persistent Rotator Cuff Tendinitis. A Double-blind Controlled Assessment," Lancet, March 31, pp. 695-698, 1984. - Top publication of a double-blind study with a very high informational relevance, explaining how pulsed MFT helps to effectively shorten a tedious convalescence procedure involving the rotator cuff (shoulder girdle muscle).
- C. Mabit, C. Pecout: "Non-union of a Mid-shaft Anterior Tibial Stress Fracture: A Frequent Complication," Knee Surg. Sports Traumatol. Arthrosc. 2 (1): 60-61, 1994. - In fatigue factors of the tibia, a conservative combination therapy with pulsed MFT is recommended. Surgery should not be performed unless the fracture resist treatment for a period of more than four to six months.
- G. M. Pennington, D. L. Danley, M. H. Sumko, A. Bucknell, J. H. Nelson: "Pulsed Non-thermal, High-frequency Electromagnetic Energy (Diapulse) in the Treatment of Grade 1 and Grade 2 Ankle Sprains," Mil. Med. 1993 Feb. 158 (2) : 101-4, 1993. - This randomized double-blind study shows that in first and second degree ankle injuries, the treatment time is significantly shortened under the influence of pulsating MFT, and pain and swelling are eliminated rapidly, so that rapid resumption of training is possible.

• G. Untea, I. Stojan (Department of Sports Medicine, Bucharest, Rumania), lecture delivered as part of the World Congress on Sports Medicine in Florida (United States) 1998. - After using magnetic field therapy on performance athletes, sleeping was promoted, regeneration times were shorter and lactate was degraded more rapidly.

2.38. Use of MFT in peak sports

Physicians, therapists and even athletes themselves report on their positive experiences with MFT in peak sports as follows:

A comprehensive search among athletic associations and the performance athletes themselves has yielded some impressive reports of experiences in healing and athletic per formance. All these statements have been checked for accuracy, but of course a certain subjective approach cannot be ruled out. The detailed written reports of the various athletic physicians and team physicians, physical therapists, masseurs and colleagues of the company vita.life® constitute a significant contribution to this section and we want to express our sincere appreciation to them for providing this information.

The variety of user examples presented below demonstrates impressively the therapeutic options for use of magnetic field therapy in sports medicine.

2.38.1. Beach Volleyball:

Swiss beach volleyball team, German National Team (men and women)

2.38.2. Bobsledding

First use of magnetic field therapy in the World Cup in Calgary (Canada 1997): eliminating sleep disorders (jet lag).

2.38.3. Body building

Frank Manz, Jens Biebeg (Mister Universe 1995): Results of MRS therapy: pain reduction in muscle soreness and degenerative joint and muscle inflammations.

2.38.4. Soccer

For example: 1. FC Nuremberg, FC Zürich, AS Rome, Sturm Graz, Herta BSC, Casino Austria Salzbug, Baumit Admira Wacker, FC Tirol, DSV Leoben, TSV Pöllau, Austrian Physicians' Soccer National Team

Use of magnetic field therapy (MRS): tension, regeneration, combination treatment for injuries and chronic complaints involving the motor apparatus, accelerating the healing process after bone injuries.

It is noteworthy that many soccer players complained of headaches after a brief magnetic field treatment, whereas the subjectively positive effects were manifested after a longer period of treatment.

Results of MRS therapy: Freedom from pain after a sprained muscle, building up endurance

2.38.5. Handball

Example: Lower Austrian Hypo

Results of MRS therapy: more rapid regeneration, elimination of sleep disorders, promoting concentration (before the start of a match), combination treatment for irritation and injury to the motor apparatus, relieving stress headaches

Example: Olaf Skirde (Germany), former professional hand ball player

This case is cited because an interesting side effect occurred in the course of long-term use of magnetic field therapy for chronic back pain: his fingers which had been broken repeatedly because of his performance sports training and had become stiffer to some extent in the joint area suddenly developed a significantly better mobility again!

2.38.6. Light athletics

(see also Olympic Games)
Example: A. Partika (Poland), high jump:
Results of MRS therapy and use: shortening of the warm-up phase by 40 %, treatment of sore muscles

2.38.7. Motor Sports (Formula 1)

Ayrton Senna and the legendary McLaren - Honda Team were familiar with and utilized the possibilities of MFT as part of preparation

for the following Grand Prix season. Use for example by the Benetton-Renault Team (G. Berger, J. Alesi), the Sauber team (Johnny Herbert)

Results of MRS therapy: adjuvant therapy for friction blisters on the hands and the consequences of burns (G. Berger), reducing stress, faster regeneration, promoting sleep (J. Herbert)

2.38.8. Olympic Summer Games (Atlanta 1996):

The performance by the Polish Olympic Team should be mentioned here in particular. Their sports medicine advisor was Dr. Kuch, a pioneer in magnetic field therapy. To the amazement of the professional world, this team won 6 medals.

2.38.9 Cycling

Example: Carrera, Mapei, Gewiss (= teams)

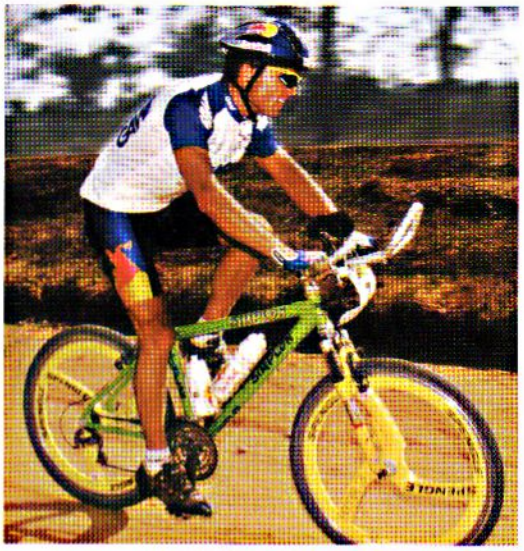
Example: Claudio Chiappucci, Toni Rominger, Pavel Tonkov (= cyclists)

Results of MRS therapy: faster generation, greater resistance to colds, treatment of muscle tension, increasing the effect of manual massage, use of MFT by the AMS team (D. Friedrich, A. & M. Goschier, P. Herz) during the "Race Across America 1997"

Harry Maier: winner of the "Crocodile Trophy 1998 Australia:" The hardest and longest mountain bike race in the world, 2,006 km divided into 14 stages with one day of rest, extremely bad roads, deep passages in the sand for several kilometers at a time, slopes of up to 35 %, hazardous downhills, temperatures of up to 40 °C in the shade. One stage amounts to about 6-10 hours.

Results of MRS therapy: Supporting wound healing after an injury due to a fall and large areas of abraded skin, promoting regeneration - especially crucial to a victory because of the long duration of each stage and the short regeneration times.

P.M., hobby bicyclist (terrain). Results of MRS therapy: Freedom from pain after a strained muscle



Harry Maier

2.38.10. Wrestling

German National Team, Leo Betschart (Swiss Swinger)

2.38.11. Tobogganing

Austrian National Team (natural tobogganers)

2.38.12. Boating

Example: Uschi Profanter (world master in white water rafting), Pia Vogel (Switzerland)

Results of MRS therapy: more rapid regeneration after training

2.38.13. Skiing

a) Alpine:

Austrian Ski Association, men:

Example: Hans Enn: after a fall and a torn muscle in the thigh area, the healing process was accelerated by a combination including magnetic field therapy.

Example: Michael Tritscher: results of MRS therapy: relieving pain and improving mobility after a severe falling injury (splitting the patella tendon), faster adaptation in altitude training in the United States (altitude approximately 4,000 meters!)

ÖSV Austrian Ski Team, women:

Results of MRS therapy: initiation of sleep (jet lag in overseas racing), significant improvement in healing processes (e.g., in sore muscles, torn and strained muscles), increased body consciousness.

US Ski Team: the women:

Example: Hillary Lindh (1997 Sestriere downhill world master)

Results of MRS therapy: relieving intense back pain and restoring competitive condition for the world master in Sestriere in 1997. (H. Lindh had been previously resigned to ending her career). Optimum counseling and a combination therapy with pulsed magnetic field therapy permitted the apparently impossible to be accomplished nevertheless.

German Ski Association team: Junior German Team

b) Nordic:

Austrian Ski Association: ski jump:

Example: T. Innauer, K. Schnabl, H. Neuper, A. Kogler ('80s)

MFT: for accelerating the healing process of tendon and ligament injuries

2.38.14. Biathlon

In the German master teams in Eisenstein in 1997 (Bavaria), magnetic field therapy was performed as a prophylactic measure on 14 German athletes. Unexpected success of these athletes: 3 titles, 2 silver and 2 bronze!

Of course it is impossible to evaluate the extent to which this is related to the magnetic field therapy sessions, but the fact is these impressive results were achieved.

2.38.15. Squash

Example: Pamela Panzis (National master, European junior master):

Results of MRS therapy: regeneration time shortened, psychological well-being before the competition improved, much less muscle pain after the end of the match.

2.38.16. Tennis

Example: T. Muster: After the accident in Key Biscayne (United States) and the resulting knee injury, it was feared that he was at the end of his career. A combination therapy (electrotherapy, chiropractic manipulations, special movement therapies, reflex zone massage, magnetic field therapy, special diet, etc.) at the Dungl Center (Gars am Kamp) and the iron discipline as well as the indefatigable will and ambition of the athlete permitted his return to the performance sport, with the result: Number 1 in the 1995 World Ranking List and "king of the hill."

Salzburger Tennis Association, Rif Performance Center

Results of MRS therapy: shortened regeneration phase

2.38.17. Triathlon

Stefan Holzner (2-time winner of the New Zealand Triathlon)

Use of MRS therapy: to improve regeneration ability, for treatment of chronic injuries of the motor system

2.38.18. Volleyball

Austrian Men's National Team, German Volleyball National Team for men

Use of MRS therapy: as concomitant therapy in follow-up treatment of traumatic injuries, supporting the regeneration phase, stimulating the immune system

This list makes no claims at thoroughness; several prominent users did not want to be named for reasons associated with competition and advertising. In conclusion, Dr. Jochen Gruber, team physician of the First FC Nuremberg: "The medical advantages cannot be disregarded. Unfortunately, however, there are still some 'mystical' views regarding magnetic field resonance therapy among our medical colleagues, so that it is still necessary to publish a lot of reports of experience and research data so that the advantages and disadvantages of magnetic field resonance therapy can be made accessible to a broader group of medical colleagues."

PAIN

Headache

3. Pain

Pain is vital to humans because it signals imminent damage to the body. Thus, pain is not a disease, but rather it is an important warning sign to protect the body. How pain is perceived is always subjective, depending on the constitution and disposition of the individual person, the individual biorhythm as well as the time of day. Pain is usually perceived as being more intense during the night than during the day. Pain itself has many manifestations. It may be manifested as throbbing, cutting, piercing, pressing, dull or paralyzing; it may occur suddenly or periodically. The causes are also varied: heat, pressure, stretching, injuries and other factors can cause pain.

The perception of pain involves so-called pain receptors or nociceptors which receive and relay the stimuli. There are approximately three million such tiny receptors in varying density in our body. Most receptors are located beneath the skin and a very few are located on the soles of the feet. In some body areas such as the head, fingertips or mucous membranes, each square centimeter of skin contains more than 300 nociceptors. There are also receptors in the muscles, ligaments, bones and in the organs - but organs such as the brain, lungs and liver do not have any such receptors, which is why diseases in these areas often go undetected for a very long period of time.

In order for the pain message to reach the brain rapidly, the pain is relayed at a rate of several meters per second. A switching point in the area of the spinal cord decides whether the complaint is important enough to be relayed to the brain. The cerebrum reacts to the message by secreting opium-like substances, so-called endorphins, which inhibit the transfer of the pain stimulus to the brain. The result: the pain is no longer perceived at all or is perceived to a weakened extent.

The effect of magnetic field therapy lies in the fact that the stimulus threshold is raised by hyperpolarization and pain conduction is interrupted for a brief period of time.

Effect of magnetic field therapy on pain:

supporting, relieving pain. Due to the fact that the stimulus threshold is raised, the pain must be much more intense to be perceived by the brain. By no means does this mean that the warning signal is eliminated, but instead the chronic pain is relieved. The extent to which an influence on the autonomic nervous system plays a role here remains to be elucidated.

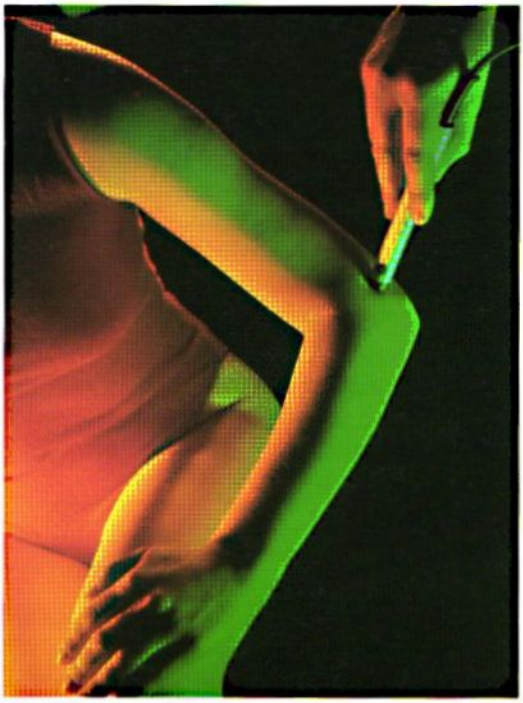
Proper use of MRS for pain

• Whole-body mat: 2-3 times a day for 8 minutes each time; 50 % level in the morning, 25 % level at noon, 10 % level in the evening

• Pad or probe: 4-5 times a day for 16-24 minutes each time; 200-400 % level (do not increase gradually), locally

• The more acute the pain, the more frequent and more intense the treatment should be.

Basic treatment of pain



Local treatment of pain

• Forms of therapy supportive of MFT: acupuncture, relaxation training neural therapy, osteopathy, chiropractic manipulations, Kneipp cure, biofeedback

• Notes on the initial reaction: an initial reaction (in approximately 7 % of the cases) depends on many influences; usually occurring with chronic pain.

Scientific studies on the treatment of pain with MFT

These studies on the topic of pain are discussed individually with the respective health problems.

• F. Sartucci et al.: "Human Exposure to Oscillating Magnetic Fields Produces Changes in Pain Perception and Pain-related Somatosensory Evoked Potentials," Second World Congress for Electricity and Magnetism in Biology and Medicine, 8-13 June 1997, Bologna, Italy. - This double-blind placebo-controlled study investigates the effects of weak pulsating magnetic fields on pain patients. The result: a definite reduction in the perception of pain. Corresponding measurements have shown that fewer pain stimuli are relayed to the brain.

• V.I. Kovalchuk et al.: "Use of Extremely Low Frequency Magnetic Fields in Clinical Practice," Fizicheskaia Meditzina, 4(1-2), 1994, p. 87. - The analgesic effect of the pain treatment was investigated on more than 650 patients treated with MF.

Physician reports on the treatment of pain with MF

1. Dr. Birgit Kleber, M.D., General Practitioner, Rottach-Egern

• *Patient M.R., male, 44 years old. Diagnosis: severe pain in the cervical and thoracic spine area. Results of MRS therapy: A definite improvement after the very first treatment. The patient was free of pain after conclusion of the treatment block.*

2. Dr. E. Liebau, M.D., Novo Balance Clinic Bruneck, Kreuth/Tegernsee

• *Patient, male, 83 years old. Diagnosis: severe pain and restricted mobility on the left thumb joint (no arthrosis in the x-ray). The patient received special movement exercises and compresses. Results of MRS therapy: The pain and restricted mobility improved greatly and the patient can now play the piano again for up to two hours at a time.*

3. Dr. Udo Bloching, M.D. (dentist) Brannenburg

• *Patient, male; diagnosis: pain in the elbow and forearm with overexertion. Results of MRS therapy: Slight pain relief, less medication used, quality of sleep better (patient feels more rested in the morning). When the mat was used for about two hours before going to sleep, mobilization was achieved more easily, and when used for a short period of time before going to sleep, the patient fell asleep rapidly. With the acute overexertion of the arm, the pain was greatly relieved with three sessions with the pad at intervals of about six hours, and the pain disappeared after one and half days.*

4. Dr. Monika Grau, M.D., specialist in general medicine, Munich

• *Patient A.E., female, 70 years old. Diagnosis: old cervical spine and lumbar spine complaints, incipient arthrosis in the shoulder left and right, knee joint arthrosis on both sides. Results of MRS therapy: the patient described treatment (mainly the first week) as highly euphoric, because her general body feeling had improved greatly (she felt lighter and more energetic) and her symptoms had improved perceptibly. After ten days, the patient was able to move both shoulders again without pain in all planes. The knee and spine complaints are improving progressively.*

5. Dr. Robert Prisching, M.D., General Practitioner, Pernegg/Mur

• *Patient P.R., male, diagnosis: chronic pain in the neck-shoulder area. The patient always had to move cautiously so that he would not strain his neck. Frequent pulling in the iliosacral joint. Results of MRS therapy: The symptoms have almost disappeared. The patient felt practically nothing during use of the treatment. Additional effect: falling asleep more rapidly.*

6. Dr. Harald Eckardt, M.D., Dr. Gero Krause, M.D., Dr. Holger Lorenz, M.D. Dr. Josef Kapellmann, M.D., Orthopedic specialists, Rosenheim

• *Patient S., male, diagnosis: patient complains of pain in the shoulder blade and the entire lumbar spine. Prolapsed disk L4/5 on the left, protrusion L5/S1 with root irritation syndrome. Results of MRS therapy: After only five treatments, Mr. S. experienced an improvement in symptoms.*

Patient reports on the treatment of pain with MRS

1. Thanks to Mr. Karl Garber

• *Patient T.L., female, 42 years old. Diagnosis: pain in the shoulder area, making it difficult to inhale deeply (piercing pain). Pain in the pelvic area on the left extending down into the heel, sleep disorders due to pain in the motor system and supporting system. Results of MRS therapy: "After one week, I am sleeping much better and can breath deeply without pain, and the pain in my back area is gone."*

• *Patient J.I., male, 40 years old. Diagnosis: severe hip pain in the left pelvic area, occasional headaches (two days a month), low blood pressure. Results of MRS therapy: The severe hip pain has been eliminated (after about two weeks) and his blood pressure is normal (after four months).*

• *Patient H.K., female, 57 years old. Diagnosis: shoulder pain, lower back pain, digestive problems. Results of MRS therapy: "In the first week, my shoulder pain became much worse. Surprisingly, the lower back pain subsided in the first week and the shoulder pain also subsided in the second week. After a few months, both had disappeared completely."*

• *Patient T.G., female, 56 years old. Diagnosis: Pain in the shoulder-neck area extending into the fingers, her fingers would fall asleep at night, leg cramps twice a night, headaches for several days at a time, once at night. Results of MRS therapy: The neck strain in the shoulder-neck area has greatly improved, no more leg cramps, her fingers no longer fall asleep at night and the day-long headaches have disappeared.*

• *Patient L.F., male, 55 years old. Diagnosis: acute pain radiating out from the surgical area (L4/L5) into the hip joints, painful cramp-like tension in the chest and back muscles, sleep disorders and a certain confusion due to poor circulation in the head, accordingly, variable well-being. Results of MRS therapy: At the start of the treatments, the acute pain became much better after medical treatment. In parallel with the use of the MRS 2000+, physical therapy was also performed in the first four weeks. After two weeks of use, the pain shifted into the left calf with a numb and tingling feeling extending*

down to the big toe. After six weeks, the chest muscles were free in addition to the relief experienced in the back muscles. After eight weeks, his left leg still showed the same symptoms. However, his general condition had improved slightly, as had his sleeping habits.

2. Thanks to Mrs. Doris Paunger

• *Patient J.B., female, 61 years old. Diagnosis: acute abdominal pain, back pain, migraine attacks, shoulder and joint pain, tension in the neck area, wear on the cervical and lumbar spine, pre-existing varicose veins, very poor general condition. Results of MRS therapy: "The acute abdominal pain improved after a few days and after 14 days I was free of symptoms. The tension also improved. There was also a great pain relief from the wear on the cervical and lumbar spine. My quality of life has improved greatly and I again enjoy my work."*

• *Patient P., male, 15 years old. Diagnosis: knee pain, muscle soreness from soccer. Results of MRS therapy: A definite improvement was noticed after athletic activity. The pain due to growth also improved considerably.*

3. Thanks to Mr. Robert Baumann

• *Patient B.B., female, 43 years old. Diagnosis: constant pain in the shoulder and arm areas, especially at night, with the resulting impairment in mobility. 1994 prolapsed disk, no surgery performed. Despite treatment with acupuncture, massage and physical therapy, the prolapsed disk remained with constant pain especially in the right leg. In addition, premenstrual syndrome and menstrual complaints. Results of MRS therapy: Minor success noted in the fourth week: patient no longer stood with a humped back, the pain in the shoulder and neck area disappeared and the main pain in the right leg is greatly reduced and has already disappeared for hours at a time especially at night. No more menstrual complaints either.*

4. Thanks to Mrs. Maria Pfeifer

• *Patient K., male, 67 years old. Diagnosis: lumbar spine-cervical spine pain, high blood pressure, coughing for six months. Results of MRS therapy: The tedious coughing disappeared after 14 days. The spinal pain stopped. His blood pressure normalized due to MFT and medication.*

• *Patient T., male, 48 years old. Diagnosis: cervical spine and lumbar spine complaints, pain in the right shoulder blade and in the knee, menopausal symptoms, osteoporosis, arrhythmia. Beginning of December 97: fracture of the hand, end of December: cast removed. Results of MRS therapy: first week: intense reactions in all areas except in the knee; definite improvement after 3 days. Second week: patient still experiencing the initial reaction except in the hand. Third week: perceptible improvement in the cervical spine. Six-seventh weeks: cervical and lumbar spine much better, knee entirely healed, shoulder not completely but much better, wrist completely healed, almost no more arrhythmias.*

• *Patient C.G., female, 40 years old. Diagnosis: severe pain in the cervical area accompanied by attacks of dizziness. Diagnosis: cervical spondylosis. Results of MRS therapy: "After three days, the pain gradually subsided, then after three more days the pain and the dizziness attacks disappeared completely."*

• *Patient A.W., female, 57 years old. Diagnosis: occasional severe pain in the area of the cervical spine, lumbar spine and right and left arm joints for approximately 25 years, especially when sitting or when bending. This patient cannot do any work at all, cannot lift anything heavy and shoveling snow is impossible. Injections and pills have not helped for a long time and the pain returned even after a stay in a health spa. Low blood pressure (approximately 95/80). Results of MRS therapy: "I was free of pain after about three weeks. I did not experience any reactive pain. I have now had the MRS 2000 for 2 1/2 years and I am still pain free. My blood pressure rose to 125 after just one week and it has remained there."*

5. Thanks to Mr. Frank Robert Belewsky

• *Patient I.K., female, 67 years old. Diagnosis: constant pain in both hips (right hip worse, especially at night). The pain also becomes worse with extreme exertion. This patient has been taking pain pills, blood pressure pills and heart pills (arrhythmias since 1987) for about 30 years. Results of MRS therapy: "After about three weeks of using the MRS 2000, I was no longer having pain in my hip area. I am no longer taking sleeping pills. At the present time I am gradually tapering off my high blood pres-*

sure pills. In July, I experienced severe pain in my heels. After two days of treatment, this pain had disappeared completely. I have also begun to drink a lot of water."

- *Patient A.S., male, 46 years old. Diagnosis: pain in the area of the right shoulder and in the left heel, causing problems in walking. Results of MRS therapy: The pain disappeared after ten sessions.*

6. Thanks to Mrs. Zita M. Spieler

- *Patient H.S., female, 49 years old. Diagnosis: "I had pain in my left ankle for about one year. When there was a temperature change or after exertion, the pain would increase to the point of being intolerable. None of the sports creams I used helped." Results of MRS therapy: "After exactly four weeks of use, all the pain disappeared. Despite intense exertion and long walks, it has not returned."*

- *Patient M.L., female, 40 years old. Diagnosis: For several years I had pain in the joints of my fingers, especially in the morning, and sciatic pain after certain jobs. Results of MRS therapy: "The pain in my joints disappeared after two weeks of treatments. I am treating acute sciatic pain successfully using the small mat."*

7. Thanks to Mr. Rudolf Frauenberger

- *Patient H.H., female, 61 years old. Diagnosis: increasingly severe pain in the finger, hip and knee joints, back pain, susceptibility to infections, weakened immune system. Results of MRS therapy: "A definite improvement has occurred on all levels. The arthritic complaints have subsided greatly. I can again move without pain."*

- *Patient F.C., male, 50 years old. Diagnosis: Severe pain in the lumbar and cervical region and in the right leg with functional inability, scoliosis, pain in the area of the right sole of the foot and the left shoulder. Results of MRS therapy: Nine days after the state of treatment in combination with acupuncture, the pain in the lumbar area disappeared and after two days the pain in the lower leg disappeared. The pain in the feet subsided after five more days of treatment.*

8. Thanks to Mr. Muhry

- *Patient G.H., female, 33 years old. Diagnosis: Joint pain, menstrual symptoms, her feet fell asleep, she was sensitive to weather. Results of MRS therapy: all symptoms have disappeared.*

9. Thanks to Mrs. Walter Ruprechter

- *Patient A.J., male, 24 years old. Diagnosis: Joint pain, headaches, stomach complaints, backaches, burning eyes, fatigues, loss of appetite. Results of MRS therapy: Improvement in almost all areas, appetite stimulated, stomach complaints disappeared, the fatigue, burning eyes and joint pains have become better and to some extent the headaches have disappeared.*

- *Patient R.V., female, 37 years old. Diagnosis: Muscle and joint pain, pain in the chest, dizziness. Results of MRS therapy: Considerable improvement in muscle and joint pain, the dizziness has disappeared completely and the chest pain has been mostly eliminated.*

10. Thanks to Mrs. Gabriele Friedrich

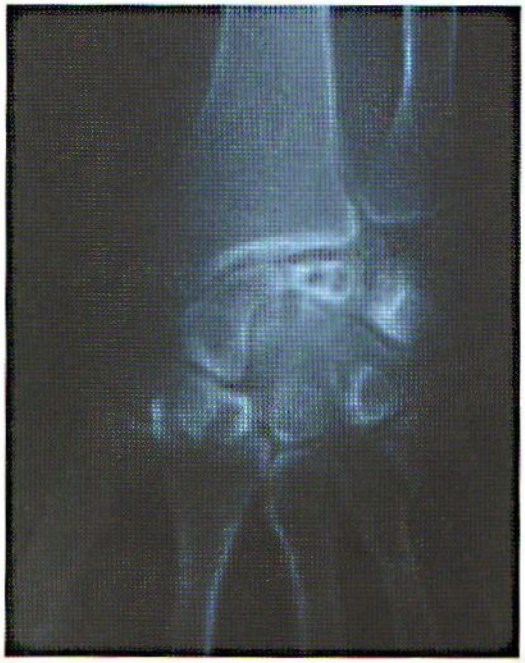
- *Patient B.E., male, 29 years old. Diagnosis: Pain in an extremity, nervous agitation, sleep disorders, circulatory problems, high blood pressure, headaches, tension in the neck and shoulder areas. Results of MRS therapy: "I felt a pleasant feeling of warmth and relaxation with the very first treatment and my headache disappeared. I now feel calmer and more balanced. My sleep disorders, circulatory problems and high blood pressure have normalized. Tension in the neck and shoulder area has disappeared as has the pain in my limbs."*

- *Patient W.H., female, 43 years old. Diagnosis: The patient's right hand was causing her severe pain and she could almost not move it at all, had been experiencing severe headaches for 18 years, even at night - regular use of pain pills, painful period. Results of MRS therapy: After two treatments, she began to have severe headaches which did not disappear until after two weeks. Within three more days she was free of pain and had completely mobility of her hand again, her periods were normal and without pain.*

11. Thanks to the company Vita-Life

- *Patient E.S., female, 76 years old. Diagnosis: Pain in the area of the left leg and left knee became worse at night, preventing her from sleeping. Previous treatments did not help. Results of MRS therapy: The pain would subside when she was resting, allowing her to sleep well again. The pain when walking is also slightly less than before.*

X-ray hand



X-ray hand

• *Patient T.F., female, Diagnosis: severe strain in the shoulder area, pain in the cervical spine, patient has already had two series of injections. Lower back pain after any activity. Sleep disorders. Results of MRS therapy: After two weeks of use, significant improvement in tension; after two months of treatment, patient is pain free in the shoulder area, significant improvement in lower back pain. Patient can again do sports - tennis, skiing, bicycling, without pain. "Since the use of this treatment, I have been feeling especially fit."*

• *Patient G.C., male, 58 years old. Diagnosis: Severe pain in the area of the right palm of the hand and the right fist with swelling, impossible to close his fist. Pain caused by fracture of the fifth finger, and the patient was unable to tolerate the plaster cast apparatus. Patient was able to tolerate acupuncture needles for only ten minutes. Results of MRS therapy: After the treatment he was able to sleep calmly. He tolerates the needles for 20 minute sessions and the swelling has reduced, the pain has subsided and disappeared almost completely after eight sessions.*

• *Patient E.H, female, 69 years old. Diagnosis: Extreme pain in both hands. Almost no movement possible without severe pain. When she tried to grasp objects they would fall to the floor. Results of MRS therapy: After the first treatment, the patient felt an intense, unpleasant tingling, and after eight weeks, the tingling feeling had disappeared and the pain was virtually gone. Despite her osteoporosis, she did not break a bone when she fell.*

• *Patient D.M., male, 51 years old. Diagnosis: Pain in left wrist: for 30 years, pain in bending the wrist or with a rotational movement of the wrist, occasional inflammation of the joint. Results of MRS therapy: Pain relieved after the sixth week, after six months, 90 % improvement, after one year, 100 % pain free and fully able to endure loads occupationally. Energy balance, concentration and attention have improved perceptibly. Acne pustules in the face which the patient had experienced since the age of 46 (cause: estrogen deficiency) stopped after the 8th week until today.*

12. Thanks to Mrs. Christiana Glaush

• *Patient, female, I.C., 64 years old. Diagnosis: Occasional severe pain in the knees and hips for several years. Results of MRS therapy: The pain has almost disappeared as a result of the use of this treatment.*

13. Thanks to Mr. Reinhard Schlag

• *Patient, male, R., 71 years old. Diagnosis: Severe pain in the shoulder and back, arthrosis in the right knee, circulation disorders in the arms, leading to feeling of numbness, poor sleep due to pain, prostate problems. Results of MRS therapy: After three treatments, improvement in all symptoms. After two weeks of use, Mr. R. is completely pain free. He can now walk without pain and his shoulder pain and backache have disappeared. He sleeps very well and no longer has any prostate problems. The feeling of numbness in his arms has disappeared completely.*

14. Thanks to Mr. Walter Jammernegg

• *Patient, female, D.T., 24 years old. Diagnosis: Pain in the abdominal area, weekly migraine attacks, lower back pain, low blood pressure and associated feelings of dizziness, constant tension in the neck area, acne, irritated skin, sensitivity to weather, circulation disorders - cold hands and feet. Results of MRS therapy: "I no longer had any pain in the abdominal area after the very first treatment. The lower back pain and tension improved after about two weeks. After eight weeks, the migraine attacks now occur only once a month."*

15. Thanks to Mrs. Antonia Aldrian

• *Patient, female, M.K., 34 years old. Diagnosis: Severe pain in the left shoulder area, muscle tension because of wear on the cervical spine (radiating pain), pain in the right lumbar area (especially when getting into and out of a car), feeling cold in the morning, low blood pressure. Results of MRS therapy: The pain in the shoulder area has been greatly reduced after one month of use. The pain in the lumbar area has disappeared. The cold feeling in the morning is better. Blood pressure normalized.*

• *Patient, male, A.T., 64 years old. Diagnosis: Pain in the lumbar area. After a period of hospitalization because of ischemic heart symptoms, the patient complained of agitation and sleeplessness. Results of MRS therapy: The pain in the lumbar area subsided after a few days. After six more days on the mat, the patient's agitation and insomnia disappeared.*

16. Thanks to Mrs. Verena Singer

• *Patient, female, E.D., 72 years old. Diagnosis: Shoulder pain, bronchial asthma, circulation problems, varicose veins, hip problems, colds. Results of MRS therapy: The shoulder pain occurs only rarely, the hip pain has improved, likewise the circulation problems, colds (sniffles, sinuses) have also disappeared. She can now stop taking various medications. Her lung activity has improved.*

Appraisal of MFT: **80-85 % good to very good results, pain relieving effect**

3.1. Headaches (cephalgia)

One out of two or three people in Central Europe has headaches regularly. 92 % of them suffer either from migraines or stress headaches.

Headaches are a puzzling phenomenon inasmuch as there are pain receptors only in the meninges and the blood supplying arteries of the base of the brain but in the brain itself. Headaches are caused by various factors: a tumor, alcohol poisoning, nervous agitation, toothaches, inflammations, pregnancy fever, rheumatism, spinal cord complaints, eye diseases and the like may cause a headache.

More than 170 forms of cephalgia are differentiated.

3.1.1. Migraine

A true migraine (not all headaches are considered a true migraine) is manifested as an intense pounding pain on one side of the head; nausea and sensitivity to light, smells and noise are typical concomitant manifestations. One out of ten people suffer from migraines, approximately 5 % of them are children. The reason why three quarters of migraine patients are women is believed to lie in the elevated estrogen level in the female body. It is assumed that a widening of the blood vessels and a resulting pressure against the nerves is responsible for the pain of a migraine. In the meantime, it is known that an overactive brain which processes incoming sensory stimuli up to seven times faster (than normal) is the reason for these attacks. The hyperactivation results in an intense overcontrol and inflammation of blood vessels in the brain, and estrogen can potentiate this effect.

The emotional condition of a migraine patient is extremely irritated. An attack will usually lasts several hours and will subside spontaneously. However, the susceptibility for a new attack remains. Therefore, migraine attacks are recurrent, although with intervals of weeks or even years. A migraine typically occurs in five phases: the first signs of an attack (yawning without fatigue, a heavy head, craving, especially for carbohydrates (chocolate), thirst, muscle heaviness and mood swings) appear approximately 24 hours in advance. Some people feel at their best, whereas others are depressed, confused and dejected. The next is the so-called "aura stage" which is characterized by a high sensitivity to light. In the third stage, the actual headache phase begins - usually within an hour. Many people can no longer pay attention to the simplest things in this phase, while others can bridge this period of time only by taking pain pills. In the fourth stage, the symptoms gradually subside within 2-72 hours. Although in the fifth phase the actual attack is passed, the patients feel drained and still need a while to recover completely.

The best type of prevention of migraine attacks is to avoid the triggering factors which include stress, physical and mental fatigue, environmental conditions (cold, hot, light, noise), dieting or missing meals, certain foods (chocolate, citrus fruit, cheese, coffee, tea, nut), alcohol (especially red wine), changes in daily schedule, too little or too much sleep, traveling, oral contraceptives (the pill).

Treatment: during a migraine, it helps to keep the room dark, stay away from noise, apply cold packs to the forehead and temples on the affected side. This is also recommended when using magnetic field therapy. In mild cases, sometimes a cup of coffee helps. The most common medication for treatment of migraines is Imigran which is very expensive but also very effective. Nevertheless, this preparation is not free of side effects!

Numerous studies have proven that magnetic field therapy (just like acupuncture or neural therapy) has very good results in treatment of migraines. Since magnetic field therapy can be added to the positive effects of acupuncture and can increase the effect of medication, it should absolutely be considered as an interval therapy.

3.1.2. Stress headaches

A stress headache is the most common cause of cephalgia and it is a collective term for all chronic headaches. The cause may be purely psychological in nature (e.g., long lasting stress situations) or (hence the name) it may be caused by muscle tension in the neck or in the spine (e.g., after driving a car for a long time or sitting at a typewriter or computer for a long time). Stress headaches usually radiate out from the neck over the head to the forehead. The actual risk here is that those affected by these headaches may reach for pain pills in their distress, but these pain pills may themselves cause headaches. The patient then rapidly becomes dependent upon stronger medication which can thus initiate a viscous cycle. Therefore, analgesics should by no means be taken for a long period of time for stress headaches!

Effect of magnetic field therapy on headaches:

relieving pain, relaxing muscles (neck muscles), promoting circulation, having a regulatory effect on the autonomic nervous system

Proper use of MRS for headaches

- Whole-body mat: 2-4 times a days for 8 minutes each time: 25 % level in the morning, 10 % level at noon, sensitive level in the evening.
- Pad: once or twice a day for 24 minutes each time: 25-50 % level, in the area of the neck muscles
- Probe (migraine): once or twice a day for 24 minutes each time: 100-150 % level, in addition to acupuncture and local treatment
- Special instructions on use: regular breathing with the proper technique!
- Duration of treatment: The causes vary greatly and each person reacts differently to MFT: success is often manifested after just a couple of treatments, but sometimes it may take up to a few months.

• Notes on the initial reaction: an initial reaction may occur in 12 % of the cases (increase dose gradually!)

• Forms of therapy supportive of MFT: acupuncture, neural therapy, relaxation techniques, ayuredic medicine, biofeedback, homeopathy, chiropractics, kinesiology, NLP (neurolinguistic programming), TENS, shiatsu massage

Basic treatment for headaches

Local treatment for headaches

Scientific studies on the treatment of headaches with MFT

• B.M. Popov, T.A. Al'Shanskaya: "Use of Traditional and Non-traditional Methods in the Treatment of Headache," Millimeter Waves in Medicine and Biology. Digest of Papers of the 11th Russian Symposium with International Participation, 21-24 April 1997, Zvenigorod, Moscow Region, pp. 68f. - This study investigates the effect of therapy in the treatment of 107 patients who suffered from headaches of a wide variety of causes. Acupuncture points were stimulated electromagnetically. More than 80 % of the patients had a positive experience.

• R. Sankyk: "The Influence of the Pineal Gland on Migraine and Cluster Headaches and Effects of Treatment with Picotesla Magnetic Fields," International Journal of Neurosci. 67 (1-4), November-December 1992, pp. 145-171. - This article reports on a migraine patient with acute attacks who was treated and cured with external magnetic fields.

• Prusinski et al.: "Pulsating Electromagnetic Field in the Therapy of Headaches," Hungarian Symposium on Magnetotherapy, 2nd Symposium, May 16-17, 1987. - This study investigates the effect of pulsating electromagnetic fields on patients suffering from chronic headaches. Positive results were achieved in 88 % of the cases with stress headaches, in more than 60 % of those with classical migraines and in 68 % of those with so-called cervical migraines.

• J. Gicze, A. Guseo: "Treatment of Headache [with] Pulsating Electromagnetic Field, a Preliminary Report," Hungarian Symposium on Magnetotherapy, 2nd Symposium, May 1987. - This study shows the efficacy of pulsating electromagnetic fields in prophylactic and therapeutic use on migraine patients.

Physician reports on the treatment of pain with MFT

1. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0043/1/40 666 00

• *Patient, female, M.W., 26 years old. Diagnosis: Migraines. Results of MRS therapy: The headaches virtually disappeared after the first treatment.*

2. Treatment Center in Stuttgart

• *Patient P.L., female, 34 years old. Diagnosis: Frequent migraine attacks, necessitating bed rest. Results of MRS therapy: The first treatment was at the beginning of a migraine attack which then surprisingly failed to occur. After five months of regular use, her migraine attacks were much weaker and in much lower frequency.*

3. Dr. Ursula Miggitsch, M.D., General Practitioner, Graz

• *Patient H.J., male, 48 years old. Diagnosis:*

Headaches, severe pain in the finger joints for about 2-3 years, problems with the cervical spine, sleep disorders because of the pain, chronic constipation. Results of MRS therapy: The pain in the finger joints improved 70-80 %, the headaches about 90 %, patient has no more sleeping problems and his digestion is regular (without the use of laxatives).

4. Dr. Ira Mayrhofer, M.D., Garmisch-Partenkirchen

• *Patient W.K., female, 52 years old. Diagnosis: Frequent cephalgias in the sense of a stress headache, marked stress-induced fatigue (continuous stress for 3 months working 18-20 hours a day), paroxysmal dizziness; 1983: hepatitis A. Results of MRS therapy: First week of treatment: Rapid improvement in headaches and dizziness symptoms, increasing ability to concentrate and endure stress, hardly any difficulty in sleeping through the night. Second week of treatment: Subjective energy surge, high level of energy and enthusiasm, appetite and dizziness attacks have normalized, good intake of fluids, reduction in myogelosis in the area of the cervical spine and consequently also a reduction in recurrent cephalgia (in intensity and frequency).*

This obvious therapeutic success can be attributed to the MRS 2000 without restriction and can be classified as truly dramatic because the external requirements on this patient during this period of time did not change to the advantage of the patient nor did they allow a brief phase for convalescence. This energy surge was so impressive for the patient's colleagues that they were even speculating as to whether Mrs. K. was taking other (chemical) performance stimulants; it was also predicted that she would definitely collapse after this bout of hard work. However, two months after delivering her document project, Mrs. K. is still enjoying 100 % capacity.

Patient reports on the treatment of headaches with MRS

1. Thanks to Mrs. Christina Mühlegger

• *Patient C.M., female, Diagnosis: "In 1995, several total sequestrations were removed from my neck vertebra C6. After the surgery, I was constantly in pain and could never sleep through the night. The worst of all were my migraine attacks which I had once a week. They were so bad that I was no longer capable of performing any work, I had to lie down, keep the room dark and everything around me had to be quiet. Only when I was able to vomit did I feel somewhat better again. These attacks always lasted the entire day and I was not able to do my work again until the next morning." Results of MRS therapy: "When I began to receive the MRS 2000 treatments, my migraine attacks disappeared after about 14 days; the pain in my cervical spine virtually disappeared and I was again to sleep through the night. Over the course of time, my large ugly scar has become smaller and lighter."*

2. Thanks to Mr. Frank Maier

• *Patient M.B., male, Diagnosis: "I suffered from migraine attacks for many years, spreading from the back of my head up to my forehead. The non-medical practitioner was able to achieve only a brief improvement." Results of MRS therapy: "After the initial setback, in other words an initial exacerbation that was so severe I had to terminate the treatment, an improvement gradually occurred. After a few weeks, more success was apparent. My attacks are now rare and are no where near as bad as before."*

3. Thanks to the company Vita-Life

• *Patient L.O., male, 52 years old. Diagnosis: Brain tumor; pressure and pain in the head, equilibrium disorders, severe depression, epileptic seizures, concentration disorders, word finding problems, stiffness in the legs, no more control of the body, incontinence (highest nursing care level required). Results of MRS therapy: In the first four weeks, there was an exacerbation, and then a steady improvement in all the areas mentioned above. The patient's use of medication was reduced. Result of nuclear spin tomography: the tumor has not grown anymore.*

4. Thanks to the company Medline

• *Patient U.K., female, born 1965. Diagnosis: Migraines almost daily since childhood. "The pain was often so bad that I had to give up." The patient was unable to work at all during an attack. Results of MRS therapy: "I no longer am having migraines."*

5. Thanks to Mr. Siegfried Muhry

• *Patient K., female, 46 years old. Diagnosis: Recurrent migraine attacks. Results of MRS therapy: "I am using the mat regularly and I have reduced my use of pain pills to one a day. Meanwhile, I rarely need a pill. I am feeling much more vital, calmer and more balanced. I no longer have migraine attacks.*

• *Patient P., female, 36 years old. Diagnosis: "I have been having migraine attacks since the age of 8, headaches during or after my period (I would often take up to 3 pills a day). Doctors were unable to find a reason for my severe knee pain. In addition, shoulder pain, cold hands and feet, the feeling that I had not slept enough every morning (despite 8 hours of sleep)." Results of MRS therapy: "After three months, I no longer had any knee and shoulder pain, likewise no cold hands and cold feet. The headaches with my period are very rare due to additional regular treatments with the pad. My greatest problem was my migraine attacks: after 1/2 years, I have observed a definite improvement. The intervals are longer and the attacks are no longer so painful. I am finally able to get up in the morning feeling rested and fit."*

6. Thanks to Mrs. Franziska Engeli

• *Patient V.K., female, born 1984. Diagnosis: Migraine attacks once a month, cerebral stroke 1 1/2 years ago (blood clot), spastic cerebral paralysis on the left, sensitive to heat, hip pain. The patient had to go to school in a taxi. Results of MRS therapy: From the beginning, the patient experienced a strong pulling sensation in the left leg during the treatment (a benefit?), the stiffened hand was then opened and relaxed and the feet were tingling severely. Now the patient can walk much better and has good balance. Her migraine attacks occur rarely to none at all. She no longer has pain in her hips and she is able to walk to school."*

7. Thanks to Mrs. Beate Martina

• *Patient T.H., female, 71 years old. Diagnosis: After sleeping for six years close to a radio alarm clock, she experienced severe headache, no feeling in the tips of her fingers, severe fluid on her legs, excessively high blood pressure, no feeling in the legs. This patient could hardly walk at all. In addition, inflammations, bronchitis, back pain and in 1994 a stroke. Results of MRS therapy: After the first treatment with the pad, it has been much easier for her to walk. After three days: feeling returning to her fingertips, legs warm and with good circulation, easier to breath, no more headache and quality of sleep is better.*

8. Thanks to Mrs. Angela G. Boykow

• *Patient H.K.B., female, 42 years old. Diagnosis: Headaches, severe sleep disorders, problems in falling asleep and sleeping through the night, nausea. "I can no longer handle my work." Results of MRS therapy: "I no longer have any headaches, I do not feel any nausea, my sleep is almost normal again and refreshes me."*

9. Thanks to Mrs. Anneliese Kürzl

• *Patient M.L., female, 31 years old. Diagnosis: Headaches 3-4 times a week, permanent tension in the neck, very severe menstrual complaints, lack of energy. Results of MRS therapy: exacerbation of symptoms in the first months. After two months of use, completely pain free. "My quality of life has improved 200 % due to the daily use of the MRS 2000 system."*

10. Thanks to Mr. Dietmar Hauser

• *Patient P.Z., male, 51 years old. Diagnosis: Constant headaches for five years. Results of MRS therapy: His headaches have disappeared as have his sleeping problems and depression (no more medication needed).*

11. Thanks to Mrs. Manuela Hörner

• *Patient K.M., female, 60 years old. Diagnosis: Stress headache. Results of MRS therapy: the headaches disappeared rapidly.*

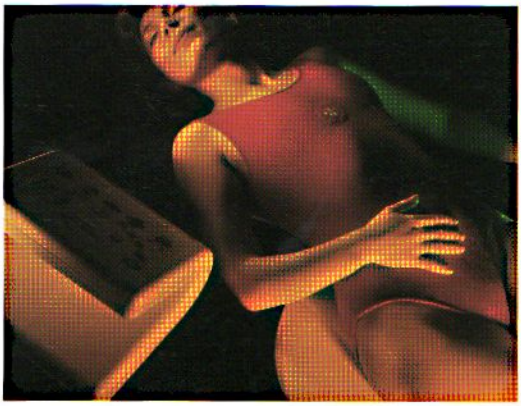
• *Patient M.R., female, Diagnosis: "I have very severe headaches at night; therefore I wake up five times every night." Results of MRS therapy: "After five treatments, the pain has almost disappeared permanently. After five weeks of daily use, my headaches are completely gone and I can now sleep through the night again."*

Appraisal of MFT: **Migraine: 70 % good to very good results**

Stress headache: 70-80 % good to very good results

3.2. Phantom pain

Phantom pain is a pain that usually occurs in attacks and may be either burning, a feeling of pressure or a cramping in the area of the phantom limb (the part of the extremity that no longer exists). This pain is one of the feared complications after an amputation.



Local treatment for phantom pain

Effect of magnetic field therapy on phantom pain:

relaxing, relieving pain

Proper use of MRS for phantom pain

- Whole-body mat: twice a day for 8 minutes each time: 100 % level in the morning (gradually increasing from 10 % level), 10 % in the evening

Local treatment for phantom pain

- Pad: twice a day for 24 minutes each time: 150 % level, for phantom pain of the lower extremities in the area of the lumbar spine, for pain in the upper extremities in the area of the cervical spine (if there is no hyperfunction of the thyroid gland).
- Duration of treatment: sometimes very rapid results are experienced, and sometimes results are not perceived until after many months.
- Notes on initial reaction: none
- Forms of therapy supportive of MFT: acupuncture, TENS

Scientific studies on the treatment of phantom pain with MFT

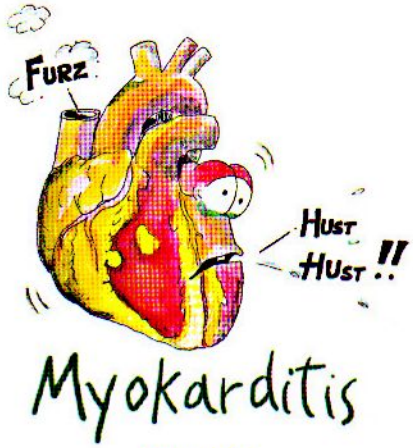
- V. M. Bogliubov, L. A. Skurikhina: "Therapeutic Application of Constant and Low-frequency Magnetic Fields," Vopr Kurortol Fizioter Lech Fiz Kult (2). - This review article investigates the efficiency of low-frequency electromagnetic fields in treatment of various diseases including phantom pain and it demonstrates the positive results.
- A. E. Kucherenko, V. I. Shevchuk: "Treatment of Diseases of Limb Stumps with Alternating Current Magnetic Field," Klin. Khir. 7, pp. 47-49.

Patient reports on the use of MRS in phantom pain

1. Thanks to the company Vita-Life

- *Patient, male, 61 years old. Diagnosis: "I have been a heavy smoker. Two years ago my left forefoot was amputated after a vascular occlusion. Since then, I have constantly had the feeling of very severe pain in the left big toe, although that toe is no longer there." Results of MRS therapy: "For four months I have been using the MRS regularly. After two months, my condition improved for the first time. My pain is almost completely gone."*

Appraisal of MFT: **60 % good to very good results, relaxing effect, relieving pain**



Myocarditis

4. Diseases of the circulatory system

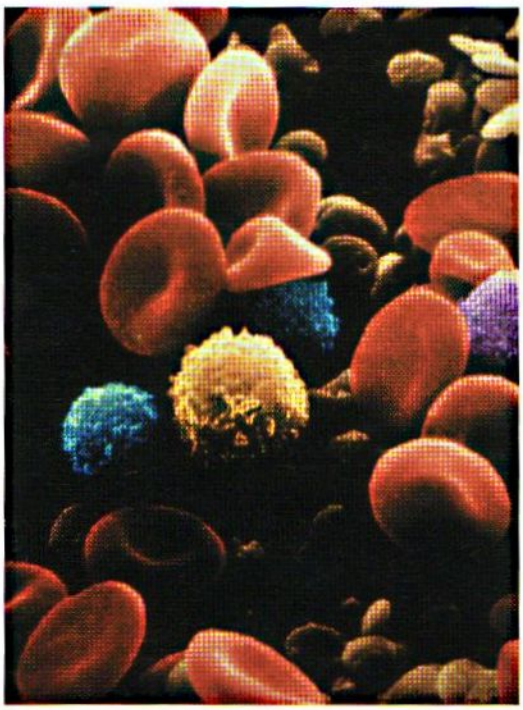
The circulatory system consists of the blood vessels and the heart. The heart is located between the lungs, behind the breastbone and it has the size of a fist in an adult. With each beat (60 to 90 times a minutes) the heart muscle pumps blood through the body in rhythmic contractions. The heart itself has four chambers, with two chambers forming the left heart and two chambers forming the right heart. The two halves of the heart are separated strictly from one another by the cardiac septum and are joined by valves. These valves control the movement of blood in the heart. Blood comes from veins into the right atrium (upper right chamber) and then goes into the lower right ventricle. From there it is pumped into the lungs where the blood releases carbon dioxide (a waste product of cells) and absorbs the vital oxygen. The freshly enriched blood returns to the left atrium of the heart, flowing from there into the left ventricle. It then goes through the aorta, the main artery of the heart, through the thoracic cavity and stomach, continuing on to the arteries which carry the blood that has been enriched with oxygen and nutrients to all the tissues of the body. Carbon dioxide and toxins and waste products are again picked up and transported trough the veins back to the right heart, where the circle begins again.

The complex network of blood vessels consists of various types of vessels which are differentiated according to size, function and physical properties. Arteries may be large and elastic, medium sized and muscular. Small and narrow blood vessels are called arterioles. In the tissue, the arterioles thin out to even smaller vessels, so-called capillaries, which exchange the waste products of the cells for nutrients during the metabolism.

The blood which supplies the cells with oxygen and nutrients and is responsible for removing the waste product from the cells, consists of plasma, a light yellow fluid consisting of proteins and water. The plasma contains red and white blood cells as well blood platelets. One teaspoon of blood contains between 750,000 and 1,750,000 platelets, approximately 27 million red blood cells (erythrocytes) and between 25,000 and 50,000 white blood cells (leukocytes). Blood cells and platelets are formed in bone marrow, a soft tissue inside the bones. Red blood cells contain the pigment hemoglobin, a substance containing iron that, binds oxygen and releases it to the cells.

The function of white blood cells is to protect the body from pathogenic microorganisms (bacteria, viruses, fungi, etc.). When ever the body is wounded or becomes infected, these

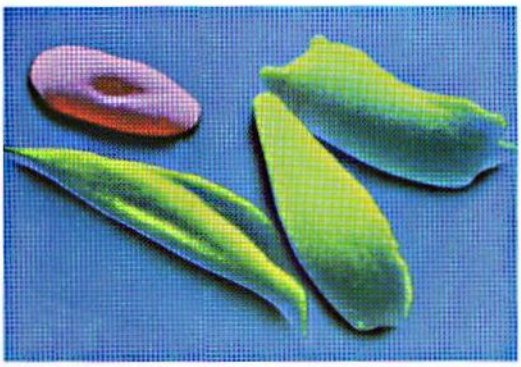
white blood cells go into action: they attack and kill the disease-causing foreign substances. In addition, they also produce antibodies which render the invading microorganisms harmless. Since new white blood cells are formed with any infection, the number of white blood cells in the blood can be used to determine the corresponding inflammation



Blood cells/erythrocytes and leukocytes

4.1. Anemia

Anemia is a deficiency of red blood cells or hemoglobin. Since the red blood cells are responsible for the oxygen supply to the body, a reduction in the number of these cells always means an undersupply of oxygen. The various forms of anemia include iron deficiency anemia, post hemorrhagic anemia, folic acid deficiency anemia, pernicious anemia (vitamin B12 deficiency), aplastic anemia as well as various hemolytic anemias (pathological destruction of red blood cells) as well as sickle cell anemia and icterohemolytic anemia. Each type of anemia has its own cause and therefore requires it own treatment.



Sickle cell anemia

All forms of anemia have in common the loss of or destruction of red blood cells or inadequate production of red blood cells or hemoglobin. The causes for the development of anemia are varied, and include: blood loss, a vitamin deficiency or iron deficiency or a disturbance in the utilization of vitamins or iron, destruction of red blood cells, hereditary abnormalities in the blood, failure of the bone marrow to produce blood cells, drug allergies, cancer, radioactivity. Alcoholics and people with an unbalanced diet develop anemia more easily because of a considerable deficiency of vitamins and iron.

The most common form of anemia is iron deficiency anemia. Possible causes of this pathological deficiency of mineral iron include drastic blood loss, e.g., due to an accident, bleeder's disease (hemophilia), severe menstrual bleeding, hook worm infestation or dietary mistakes (avoidance of dark green vegetables and meat). Women are of course more often affected by iron deficiency anemia. Women not only lose blood each month through menstruation, but during pregnancy, the fetus can also consume the mother's iron reserves.

Anemia may go undetected or it may lead to a total loss of strength or even death. Exhaustion, shortness of breath, a rapid or throbbing heart beat, headaches, loss of appetite, depression, rings around the eyes, fatigue or weakness are the most common symptoms of anemia. One physical sign of anemia is pale skin in the folds of the palm of the hand, under the finger nails and at the edges of the eyelids. Anemia can be detected only by test-

ing the blood. The treatment will depend on the causes and the specific type of anemia. Thus, in iron deficiency anemia, iron preparations and dietary changes are recommended, or in folic acid deficiency anemia, the vitamin reserves should be built up again. In order to control this disease, the causes must of course be discovered and then combated. Vitamin and mineral deficiency anemia can be prevented from the beginning by a balanced diet.

Effect of magnetic field therapy on anemia:

more efficient oxygen supply due to improved binding of oxygen to hemoglobin (the oxygen can leave the blood vessels more readily, and the energy thus saved is available to other areas), building up the energy reserves in the cells and improved well-being, but not a cure.

Proper use of MRS for anemia

- Whole-body mat: 3 times a day for 8 minutes each time: 100 % level in the morning, 100 % level at noon, 25 % level in the evening

Whole-body treatment for anemia

- Notes on the initial reaction: none.
- Forms of therapy supportive of MFT: herbal remedies (curled dock root, pollen), vitamin supplements (vitamin C, vitamin B6, vitamin B12, folic acid)

Scientific studies on the treatment of anemia with MFT

T.V. Golovacheva: "EHF Therapy in Complex Treatment of Cardiovascular Diseases," Millimeter Waves in Medicine and Biology, 10th Russian Symposium with International Participation, April 24-26, 1995, Moscow, pp. 29-31.

Patient reports on the treatment of anemia with MRS

1. Thanks to the company Vita-Life

- *Patient, male, M.E., 31 years old. Diagnosis: "I have suffered from extreme fatigue for a long time, especially with any physical exertion. Sports are especially difficult for me. One year ago, my doctor diagnosed Sickle cell anemia. A subsequent removal of the spleen with complications brought me relief only for a brief period of time." Results of MRS therapy: "Since I have been using the magnetic field mat regularly, I feel better and I again have more energy."*

4.2. Aneurysm

An aneurysm is a dangerous enlargement in a blood vessel (usually in an artery) due to a weakening in the vascular wall. Arteries consist of three layers: the intima (smooth inner membrane), the media (elastic, muscular middle layer) and the adventitia (resistant outer membrane). A true aneurysm is when all three layers are distended, whereas a false aneurysm involves only one or two layers. A fissured or dissociating aneurysm is when the blood penetrates through the middle layer of the vessel and forms its own blood path between the media and adventitia. This disturbance can develop within a matter of hours or days and leads to an inadequate supply of blood to the organs. If the aneurysm extends over the entire length of the artery, there is the risk of rupture of the artery. Because of the sudden extreme reduction in blood supply, the heart can no longer function on its own, so it stops and dies.

The causes of an aneurysm are varied. A genetic defect in the brain (a weakness or a hole in the media) may cause a vessel to suddenly rupture and initiate cerebral hemorrhage and stroke. In the small arteries, an infection is often the cause of a weakening in the arterial wall. Additional causative factors include wounds penetrating through the arteries or

syphilis, an inflammation of small arteries which then die off. If this infection spreads to larger arteries, the vascular walls are weakened. In older people, aneurysms usually develop in a stroke because of arteriosclerotic deposits. If an artery in the thoracic is affected, a sudden severe pain will occur, resembling a heart attack. There will be pain below the breastbone or on the back of the breastbone, leading to difficulties in swallowing, shortness of breath, hoarseness and heavy coughing. The person so affected may hear this pulsating, hissing noise himself or herself. Another sign of an aneurysm may be a soft pulsating mass in the intestine or on the back of the knee. Blood clots can form in the knee and migrate down into the toes, leading to dead tissue and gangrene. In the intestine, the symptoms of dissociation or rupturing of a blood vessel may occur suddenly - abdominal pain extending into the back, with only a little blood flowing into the legs, and circulatory collapse with unconsciousness, pale and damp skin and a rapid but weak pulse. Death can occur very rapidly.

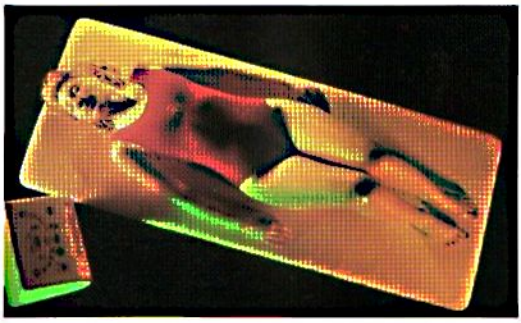
Treatment of an aneurysm should be initiated as soon as possible. People who suffer from a dissociating aneurysm require especially careful and intensive care. Anti-hypertensive drugs can reduce the risk and permit spontaneous healing, especially in people on whom surgery cannot be performed. Although the surgery in which a damaged vessel is replaced by a synthetic or natural vessel is not without hazards, it does bring satisfactory results in almost all cases. New test methods permit early detection of an aneurysm and the risk of surgery can often be avoided by immediate treatment.

Effect of magnetic field on aneurysms:

strengthening the connective tissue (according to scientific studies), supportive

Proper use of MRS for aneurysms

- Whole-body mat: twice a day for 8 minutes each time: 50 % level in the morning, 10 % level in the evening
- Notes on the initial reaction: none



Whole-body treatment for aneurysms

Scientific studies on the treatment of an aneurysm with MFT

- V. M. Bogoliubov, L. A. Skurikhina: "Therapeutic Application of Constant and Low-frequency Magnetic Fields," - This article gives a review of various studies that have documented positive effects in the treatment of arterial aneurysms.

4.3. Angina pectoris - bypass

Cardiovascular diseases are the most common cause of death throughout the world. One out of two people will die of the results of cardiovascular failure, one out of three will die of a coronary heart disease (CHD). The best known risk factors are smoking (cigarette smoke reduces the oxygen content in the breath and thus in the blood), overly rich food (more blood consumption in the stomach), narrowing of the heart?, a high cholesterol level and high blood pressure.

The coronary vessels surround the heart in a ring, supplying it with blood. If a coronary heart vessel is obstructed by arteriosklerotic deposits, the blood supply is reduced and the oxygen supply is only sufficient for the work of the heart at rest. With any physical exertion or emotional agitation, the heart beats faster and the oxygen supply is not sufficient even for the heart itself. The result is an attack of angina pectoris. Such an attack lasts about 3-5 minutes and disappears when the physical exertion is stopped or when the person affected becomes calmer.

An attack of angina pectoris is a definite signal that the supply of blood and thus vital oxygen to the heart is deficient. The attack it-

self does not damage the heart but it creates the conditions for a myocardial infarction. The pain is also similar to that of an infarction, except that it is somewhat milder and shorter. It is usually described as like a belt around the chest, and many people experience it as a pressure behind the breastbone. It often radiates into the left arm down to the small finger or between the shoulder blades into the lower jaw. An attack is usually associated with a strong feeling of constriction and anxiety. Assistance of nitroglycerin (spray or pill) can stop the pain within minutes. If medication is no longer helpful, a bypass operation must be performed.

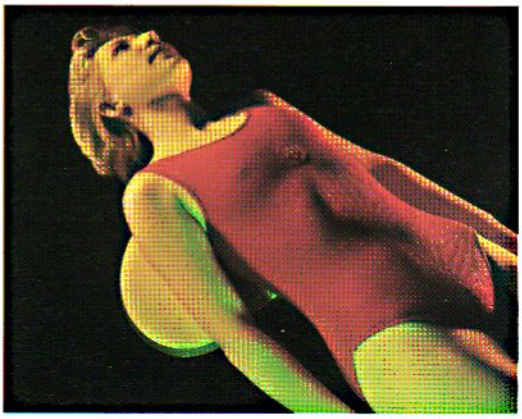
With the help of an EKG and blood test, a myocardial infarction can be ruled out. The best test methods are catheterization of the heart and an angiogram. Natural forms of treatment are aimed primarily at reducing the risk factors - reducing weight, stopping smoking, avoiding stress situations, etc. The patient becomes motivated to include rest pauses to maintain a low cholesterol low-fat diet and to engage in moderate physical activity which should stimulate the blood circulation.

Effect of magnetic field therapy on angina pectoris:

promoting circulation, widening the vessels (better supply of oxygen to the heart), supportive. Some studies indicate that it prevents deposits of calcium and cholesterol in the vessel walls and thus helps prevent classification of vessels. However, the actual relevance of MFT is in prevention!

Proper use of MRS for angina pectoris

- Whole-body mat: 3 times a day for 8 minutes each time: 100 % level in the morning (gradually increasing from 25 %), 50 % level at noon, 10 % level in the evening
- Pad: once a day for 16 minutes: thoracic spine: 100 % level, chest: 50 % level (8 minutes each time)
- Forms of therapy supportive of MFT: relaxation techniques, normalization of weight, avoiding risk factors (such as smoking), coenzyme Q10.
- Notes on the initial reaction: none.



Local treatment for angina pectoris

Scientific studies on the treatment of angina pectoris with MFT

- L. D. Makoeva et al.: "Running Pulse Magnetic Field in Treating Stenocardia," Biofizika July-August, 1996, pp. 949-952. - This article reports on the use of pulsating MFT in treatment of angina pectoris in combination with and without medication. The flow properties of the blood, the cardiac output and clinical symptoms were investigated. It was found that magnetic fields have a definite antianginal action on class 1 and 2 angina patients. With the combination with several drugs on class 3 angina patients, a stronger and better effect of the medications was observed. The incidence of heart attacks was definitely reduced.
- L. L. Orlow et al.: "Evaluation of Antianginal Effects of Running Pulse Magnetic Field and Drug Therapy on the Physical Working Capacity and Hemodynamics in Patients with Stable Angina Pectoris," Kardiologiia, February 1992. - In this study the effect of pulsating magnetic fields and medication against angina pectoris and the combination thereof was investigated on 60 patients with stable first through third degree angina. A monotherapy (just one medication) with MFT had a good anti-anginal action on patients with class 1-2 angina pectoris. The efficacy of the treatment increased definitely when combined with several drugs.
- T. A. Kniazeva, R. Arutiunian: "The Effect of Low-Frequency Magnetic Field and General Iodobromide Baths with the Presence of Mole-

cular Iodine on the Blood Coagulation Processes and the Central Hemodynamics of Patients After an Aortocoronary Bypass," Zeitschrift für Kur- und Physiotherapie [Journal for Cure Therapy and Physical Therapy], 1990.

Patient reports on the treatment of angina pectoris with MRS

1. Thanks to Mrs. Verena Singer

• *Patient T.S., male, 84 years old. Diagnosis: Mild angina pectoris, arthrosis in the shoulder joint and in the knees. Results of MRS therapy: Improvement in the entire supportive system, more strength and mobility, narrowing of the blood vessels (angina pectoris) improved, no more gout attacks and no more pain in the hands and feet.*

2. Thanks to Mrs. Beatrice Studer

• *Patient, female, 61 years old. Diagnosis: Circulatory problems. Heart diagnosis at the age of 50: left bundle block. Results of MRS therapy: circulation stable, no more migraine attacks after 3 months, good bowel movements after 4 months, heart complaints only above a pulse of 150 (previously 90), her backaches completely disappeared after 6 months and the rheumatism complaints also disappeared; after 1 year the osteoporosis measurement (bone density) actually showed a bone improvement in addition to relief from her condition!*

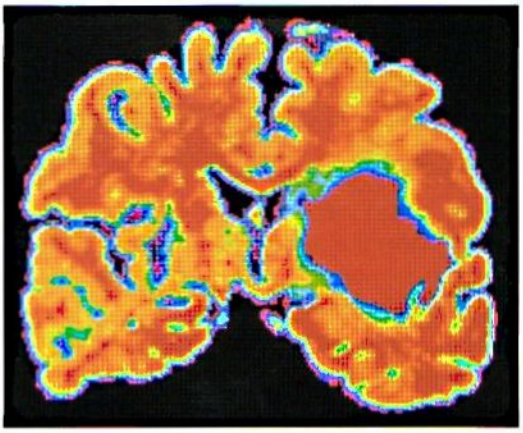
3. Thanks to Mr. Karl Garber

• *Patient H.L., male, 31 years old. Diagnosis: Circulatory complaints from working on the floor, pain in the area of the lumbar spine, sleep disorders once a month, foot "twisted" - therefore swelling in the area of the ankle. Results of MRS therapy: "The swelling in the area of the ankle was eliminated after about two weeks. I no longer have any circulatory complaints. My sleep disorders have disappeared."*

Appraisal of MFT: **60-70 % good to very good results**

4.4. Apoplexy or stroke

A stroke is one of the most feared complications of an arteriosclerotic circulation disorder. In western industrial countries, someone suffers a stroke almost once in every five minutes. Apoplexy is thus the most common cause for handicaps. It is estimated that one in two strokes could be prevented by reducing the risk factors.



Brain with bleeding

A stroke may be caused by various factors. If arteriosclerotic deposits have constricted the diameter of the carotid artery, less blood flows to the brain. If this main artery becomes completely obstructed, the portion of the brain supplied with blood by this artery dies. Likewise, a cerebral hemorrhage can cause a stroke. Then a clot develops, pressing against certain brain cells, which also leads to intense headaches. An aneurysm may also cause an apoplexy, with the dilatation of the artery suddenly interrupting the blood flow to the brain. This predisposition is the cause of stroke, especially in young people. People who have high blood pressure or arteriosclerosis are the first risk groups (the risk for a 40-year-old person with high blood pressure is 30 times greater than that of the same without high blood pressure). Smoking, diabetes, a high cholesterol level and stress also promote apoplexy. Oral contraceptives (the pill) represent a high risk factor, especially in combination with smoking.

As a rule, a stroke announces itself with certain warning signs, so-called TIAs (transitory ischemic attacks). Since these symptoms appear to be harmless, they are usually ignored. These are short attacks of dizziness (often lasting only a few seconds) transitory disturbances in perception or gait, sudden speech or vision disorders caused by brief circulation

disorders. In most cases these signs disappear again within one day.

The diagnosis of a stroke is made on the basis of a patient's history and a physical examination. X-ray techniques show the damage to the corresponding blood vessel. Neither TIA symptoms nor strokes should be treated lightly. They require immediate treatment by an experienced physician. Suitable drugs can improve blood flow properties and thus reduce the risk of a cerebral infarction. Two thirds of the patients who reduce their risk factors after a stroke never experience another stroke. As soon as someone has noticed a TIA, preventive measures should be taken immediately to prevent a stroke.

Apoplexy can lead to serious paralysis. If large portions of the brain are affected, hemiplegia or paralysis on one side may occur, namely on the side opposite the dead brain cells. Additional consequences of a stroke may include loss of memory, difficulties in speaking or walking and problems with control of feelings and movement.

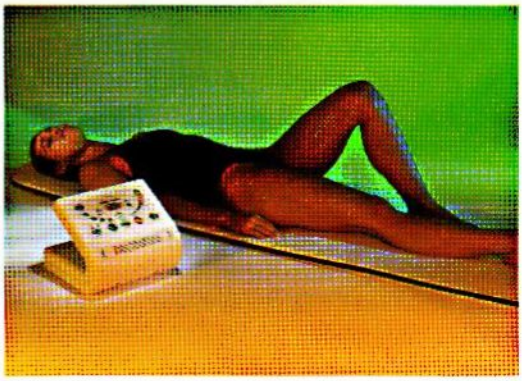
The restoration and buildup phase after a stroke is known as rehabilitation. Magnetic field therapy plays a very important role in this regard and is being used more and more frequently, especially in problems in walking, paralysis, spastic patients as well as in paresthesias and patients with tingling feelings in their limbs. Prompt use is crucial for the success of this therapy.

Effect of magnetic field therapy on apoplexy:

promoting circulation and therefore providing a better oxygen supply to the brain, improving regeneration of nerve cells, accelerating healing processes, activating brain cells that are just fatigued but have not died (restoring function); improving rehabilitation, important in prevention.

Proper use of MRS for apoplexy

- Whole-body mat: 2-4 times a day for 8-16 minutes each time: 150 % level in the morning, 100 % level at noon, 50 % level in the afternoon, 10 % level in the evening



Whole-body treatment for apoplexy

- Forms of therapy supportive of MFT: movement therapy and physical therapy, acupuncture, homeopathy, herbal remedies (gingko biloba, baldrian root, ginseng, gotu kola, grape seed extract, garlic), essential fatty acids (evening primrose oil, borage oil, currant oil), vitamins and minerals (vitamin C, B vitamins, vitamin E, selenium)
- Special instructions on use: Begin treatment as soon as possible!
- Duration of treatment: as intensely as possible for several months, the sooner the better. The older the stroke, the longer the treatment must be continued.
- Notes on the initial reaction: none.

Scientific on the treatment of apoplexy with MFT

Several studies are currently underway at renowned German-Language University Clinics on the topic of apoplexy using the MRS 2000+ med.

- B. Baychev et al.: "Evaluating the Effect of Alternating Magnetic Field on Vasculo-Vegetative and Motor Disorders in Stroke Patients," Kurortol-Fizioter. 27/3 1990. - Thirty-five stroke patients were examined on the basis of various clinical test methods. After 15 days of treatment with MFT, an improved blood supply in both halves of the brain and a clinical improvement especially in the area of the hemiplegia were found. Motor abilities were restored more rapidly and the tendency to spastic symptoms was definitely reduced. MFT was tolerated very well by the patients

and proved to be quite beneficial both in the acute and subacute phases after a stroke.

- R. Cadossi: "Protective Effect of Electromagnetic Field Exposure on Acute Soft Tissue Ischemic Injury," Second World Congress for Electricity and Magnetism in Biology and Medicine, June 8-13, 1997, Bologna, Italy. - Pulsating electromagnetic fields develop a protective mechanism against necrosis in acute ischemia. This experiment was proven on the brains of rats.

- G. Grant et al.: "Protection Against Focal Cerebral Ischemia Following Exposure to a Pulsed Electromagnetic Field," Department of Neurosurgery, Stanford University, California, Bioelectromagnetics 1994. - This study shows that electromagnetic stimulation leads to more rapid healing and repair of damage to cerebral arteries. Studies on rats have shown a positive effect of pulsating electromagnetic fields in the treatment of strokes.

- F. E. Gorbunov et al.: "The Effect of Combined Transcerebral Magnetic and Electric Impulse Therapy on the Cerebral and Central Hemodynamic Status of Stroke Patients in the Early Rehabilitation Period," Vopr Kurortol Fizioter Lech Fiz Kult (3), May-June 1996, pp. 21-24. - These study results prove that treatment of apoplexy patients with pulsating magnetic fields in combination with a stimulus current in the early phase of rehabilitation yields the best results.

Physician reports on the treatment of apoplexy with MF

1. Dr. Gustav Skreiner, M.D., General Practitioner, Graz

- *Patient, male; diagnosis: stroke, chronic joint complaints due to wear, sciatic and rheumatic complaints, migraines, chronic pain, autonomic dystonia, depression, circulation problems, hypertension, exhaustion complaints, muscle tension. Results of MRS therapy: Good results were achieved in all areas and the stroke symptoms improved.*

Patient reports on the treatment of apoplexy with MRS

1. Thanks to Mr. Max Keiser and Mrs. Verena Singer

- *Patient A.M., male, 53 years old. Diagnosis: Patient hospitalized because of a stroke (January 21, 1996). Renal failure due to overuse of medication. After March 1997: dialysis, which failed. Three infections of the peritoneum within one year. Results of MRS therapy: improvement in general condition. "Mr. M. was again able to urinate normally. Weight loss (8-10 kg), normalization of blood pressure. The patient's general well-being has been good to very good since using this treatment, he has more strength and he can walk without assistance, using just a cane, for two kilometers over hills and valleys, although that was previously impossible for him. He can drink more fluids and can eat all varieties of fruit. The hospital required Mr. M. to drink at least 7 dL per day, but he is able to drink up to 3 L a day with no problems."*

2. Thanks to Mrs. Maria Pfeifer

- *Patient T.T., female, 51 years old. Diagnosis: "In January 1997 I had my first stroke, and the next in March and the third in December. After this, I could not move my hands any more and I could only speak with difficulty, I was limited to a wheelchair and could no longer use the toilet - I had to rely on assistance totally. In addition, I was having enormous difficulty in speaking. I was taking 15-20 different drugs a day." Results of MRS therapy: "After about 3 months, I was able to walk again, move my left hand completely, eat on my own and my speech also functioned again. I no longer need the wheelchair or the drugs."*

3. Thanks to Mrs. Beate Martina

- *Patient T.H., female, 71 years old. Diagnosis: Stroke in 1994: severe headache, no feeling in the fingertips or legs ("I can hardly walk"), severe fluid retention in the legs, excessively blood pressure, eye inflammations, bronchitis, back pain. Results of MRS therapy: After the first treatment with the pad, walking already easier, feeling in the fingertips; in three days, her legs became warm and had circulation in them, breathing was easier, no more headache. "I can sleep better. In the third week I was able to go to the bathroom alone."*

Appraisal of MFT: 70-80 % good to very good results

4.5. Arteriosclerosis - bypass

Arteriosclerosis is the most common cause of death in the western world. The blood vessels become constricted due to deposits of fat particles or calcium in the walls of the vessels, thus slowing the flow of blood. At the same time, the risk of a blood clot also increases. This affects the arteries of the heart and brain most commonly, which is why there is such a high incidence of myocardial infarctions and cerebral infarctions in the population.

Even the smallest injury to the wall of a blood vessel enable fat and cholesterol particles to become deposited there. The excess cholesterol is deposited under the innermost layer of the artery, the intima, in the form of crystals which form a small padding or so-called plaques over a period of time. Various components of the blood including calcium become deposited in these stressed positions, thus resulting in calcium deposits - only then do we speak of "calcification." Since this process is not reversible, the internal lining of the vascular wall gradually becomes rigid or brittle and the vascular clearance becomes smaller and smaller. If the intima is injured, blood clots or so-called thrombi can easily become attached here. Smoking, birth control pills (especially in combination with nicotine), a high fat and high cholesterol diet, consumption of too much alcohol, diabetes, certain metabolic disorders or liver diseases or high blood pressure can promote the development of arteriosclerosis. The consequences are circulation problems in the various organs. Arteriosclerosis itself does not have any visible symptoms. Therefore it often remains undiscovered until an artery is completely obstructed.

The goal of any treatment is to promote circulation. Physicians have several options in terms of medication, e.g., drugs that prevent platelets from aggregating such as acetylsalicylic acid (aspirin) or vasodilating substances (calcium antagonists). The most common side effects of these drugs include headaches, dizziness and a possible drop in blood pressure. If the oxygen supply through the obstructed artery is no longer sufficient even at rest, a bypass surgery may be performed as a remedy. In this surgery an artery is transplanted, diverting blood from the obstructed location. This procedure is not always possible - it depends on the extent of the obstruction in the affected region. In most cases, however, a definite improvement in the patient's situation can be achieved in this way. Natural treatment methods include movement training or weight reduction. The best known natural agent for promoting circulation is the standardized extract of the leaves of the gingko tree. Contrast baths and spa baths may also contribute to keeping vessels in good condition.

Effect of magnetic field therapy on arteriosclerosis:

influences the calcium content in the blood, improves oxygen supply in the tissues, help prevents complications, important in rehabilitation, converting the precipitated calcium carbonate into calcium aragonite (water-soluble). The protective mechanism on the vascular wall is currently being discussed. Studies are underway to determine whether MFT is capable of dissolving existing calcium deposits in the blood vessels.

Proper use of MRS for arteriosclerosis

- Whole-body mat: 3 times a day for 8 minutes each time: 100 % level in the morning, 50 % level at noon, 10 % level in the evening

Whole-body treatment for arteriosclerosis

- Forms of therapy supportive of MFT: vitamins and minerals (vitamin C, B vitamins, vitamin E, calcium, magnesium, selenium), coenzyme Q10, essential fatty acids (salmon

oil, flax seed oil, evening primrose oil, borage oil, nigella oil), herbal therapy (gingko biloba, gotu kola, ginseng, field horsetail, alfalfa, garlic, grape seed extract, oak bark)

- Notes on the initial reaction: none

Scientific studies on the treatment of arteriosclerosis with MFT

- C. Wallach: "Electromagnetic Therapy. A New Medical Discipline," California Institutional Review Board, Canoga Park, California, 1998. - This author shows that new areas of use for MFT are opening up and more and more biological effects are being studied and documented by scientists. In addition to the known broad spectrum in injuries, he also reports that current studies on arteriosclerosis patients are showing a positive effect on arteriosclerotic plaques.

- R. T. Gor et al.: "Selective Resolution of Plaques and Treatment of Arteriosclerosis Biophysical Alteration of Cellular and Intracellular Properties," Medical Hypotheses, 7(2) February 1981, p. 217. - In this article the new possibility of treatment arteriosclerosis by pulsating magnetic fields is discussed. The author emphasized that some of the arteriosclerotic plaques that have already formed can be dissolved again without injuring the vessels.

Physician and patient reports:

see the individual diseases

4.6. Bypass:

see "Angina pectoris"

4.7. Circulation disorders (peripheral) - Raynaud's syndrome

Peripheral circulation disorders on the hands and feet or fingers and toes may occur due to severe hypothermia (such as bathing in cold water, long walking in the snow, etc.). This results in a severe loss of color from the skin, often with only the thumb not being affected. In mild cases of circulation disorders, no treatment is necessary. Numbness in the fingers may occur due to excessive exposure to cold and psychological agitation, and then the fingers assume a gray blue color. Such circulation disorders occur in attacks, are painful and last for a few minutes to hours. In the initial stage, the patient's general well-being is hardly disturbed, but later headaches and heart complaints develop and in severe cases there may be destruction of the tissue at the tips of the fingers, finally leading to vascular occlusion (thrombangiitis obliterans). Doughy, swelling of the fingers, hardening of the skin and disturbances in nail growth are additional symptoms.

The cause of Raynaud's syndrome is usually a vascular disease involving the lower extremities. At the beginning of the disease, a feeling of heaviness or cold is often observed, most commonly involving the feet, plus disturbances in perception (furry feeling and tingling of the toes and the back of the foot). During cooling, the skin becomes very pale and later pain occurs (especially in walking) with muscle fatigue and cramps so the person so affected must limp. As the disease progresses, these symptoms are also manifested in the resting phase. The tissue begins to decay and dry or wet gangrene develops.

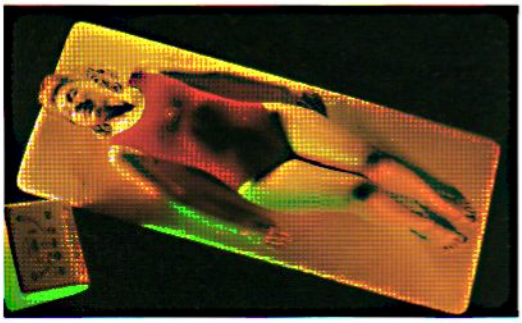
Raynaud's syndrome is treated by massage of the connective tissue, light baths baths on the trunks, arm and foot baths, brush baths, vitamin E treatments and drugs that promote circulation. NO local heat should be applied because this can result in an oxygen deficiency! Furthermore, movement exercises, sports and physical therapy can help to promote circulation; in summertime sun baths, air baths and light baths can also help. If surgery is unavoidable, the vascular nerve strands are removed by surgery. If a complete occlusion of arteries in the extremities has occurred and gangrene has developed, usually the only option is amputation.

Effect of magnetic field therapy on circulation disorders:

promoting circulation and thus improved oxygen supply, ideal for support of medication

Proper use of MRS for circulation disorders

• Whole-body mat: 3 times a day for 8 minutes each time: 100 % level in the morning, 50 % level at noon; 25 % level in the evening



Basic treatment for circulation disorders

• Pad: once or twice a day for 24 minutes each time: 150 % level, at the location of the poor circulation

• Forms of therapy supportive of MFT: acupuncture, TENS, saline solution, herbal remedies (gingko biloba, gotu kola, grape seed extract)

• Instructions on the initial reaction: initial manifestations of pain may occur in 1-2 %, especially cramps (magnesium!).

Scientific studies on the treatment of circulation disorders with MFT

• L. G. Vassilenko: "EGF Electromagnetic Radiation in Treatment of Obliterating Diseases of Inferior Limb Vessels," Second World Congress for Electricity and Magnetism in Biology and Medicine, June 8-13, 1997, Bologna, Italy.

• A. P. Dovganiuk, A. A. Minenkov: "The Use of Physical Factors in Treating Chronic Arterial Insufficiency of the Lower Limbs," Vorp Kurortol Fizioter Lech Fiz Kult (5), 1996, pp. 7-9. - This study investigates the effects of MFT on 450 patients and shows positive results in almost 87 %.

• Y. B. Kirillov et al.: "Magnetotherapy in Obliterating Vascular Diseases of the Lower Extremities," Vopr Kurortol Fizioter Lech Fiz Kult (3), May-June 1992, pp. 14-17. - In this study the authors report on the positive results of MFT in patients with occlusive diseases of the smallest arteries. This positive effect is especially marked in pre-gangrene patients. The success rate is 75-82 %.

• N. Haimovici: "Magnetic Field Therapy in Clinic and Research," Herder Clinic, Bremen, Therapiewoche [Therapy week], 31, 1981, pp. 7317-7330. - Of the 2081 patients treated with low-frequency pulsating magnetic fields in this clinic and as outpatients, 253 cases involved arterial and venous circulation disorders. These tests yielded positive results.

Physician reports on the treatment of circulation disorders with MF

1. Practical team, Dr. Johnston, M.D., Borken

• *Patient, female, 35 years old. Diagnosis: For several years a tendency to cold hands and feet, accompanying irritable lumbago with known spondylolisthesis. Results of MRS therapy: warm hands and feet after three applications, no more back pain after 13 treatments.*

2. Dr. Sepp Fegerl, M.D., General Practitioner, Salzburg

• *Patient R.I., female, 62 years old. Diagnosis: Cold feet and hands, multiple sclerosis since 1954, enteropathy syndrome. Results of MRS therapy: her hands and feet, which had always been cold, became warm and the enteropathy syndrome reacted with rumbling in the abdomen and a bowel movement after each treatment; the patient has felt good and her circulation has shown a positive influence and her mobility seems to be better.*

3. Dr. Gerhard Antensteiner, M.D., General Practitioner, Kindberg

• *"I have been using MFT for slightly more than one year in my consultation practice. The main areas for application were for any pain states involving the motor system, in particular the spinal column, which responded very well to the treatment. The main area of indications was for circulation disorders and peripheral occlusive arterial disease in stage IV was also treated and a definite improvement was achieved even in severe cases. Even in mild to moderately severe depression, an increased vitality during the day and better quality of sleep at night were achieved."*

4. Dr. Kurt Pinter, M.D., Graz

• *Patient W.S., male, 73 years old. Diagnosis: "Mr. S. suffered from the consequences of circulation disorders after a 'vein operation' performed on his lower leg during the post war years, with complications such as eczema and hyperkeratosis, finally developing ulcers the size of a child's hand which could never be made to disappear completely despite countless treatments. Apart from the constant pain, the patient felt very impaired due to the constant dressings on his ulcers and the fact that he could not go to the bath by himself. Results of MRS therapy: after 14 MRS sessions, the patient experienced a massive improvement and the remaining defects the size of a fingernail were healed with supportive soft laser therapy.*

5. Salzburg State Hospital, Department for Physical Medicine and Rehabilitation, Dr. M. Burger-Rafael, M.D.

• *Patient, female, diagnosis: obstruction of the femoral artery, more on the right than on the left, condition after Sudeck's disease after a forearm fracture on the right in 1995. Results of MRS therapy: The patient could walk only a few meters with severe pain at the time of the initial examination. She also had a definite fist closing deficiency on the right. After 15 treatments (last treatment on August 12, 1996), her walking distance had increased to more than one kilometer and the patient no longer had any symptoms while walking.*

6. Dr. Ulla Sebastian, M.D., Kamen

• *Patient J.S., male, 85 years old. Diagnosis: Capillary occlusion in the left foot, venous occlusion in the left leg, open wound on the right toe. The toenail had to be removed because of infection. Results of MRS therapy: "At the time of the treatment, the wounds were six weeks old and were healing very slowly. The wound in the nail bed began to bleed after the first treatment. Two wounds on the tip of the toe closed within one week, and after another week scabs began to develop on the nail bed; after three weeks there is good circulation in the toe and the wound is almost healed. The leg is almost fully load-bearing again when running.*

7. University Fünfkirchner Clinic, First Surgical Department, Dr. Peter Horvath, M.D.

• *Fifteen patients, diagnosis: sympathectomy with arterial obstruction (occlusion) in the lower extremities, including one patient in whom the big toe had been amputated because of a wound that would not heal. Results of MRS therapy: positive influence on circulation in the lower extremities. The ankle pressure increased and circulation improved. The wound on the amputated toe caused tingling during the treatment. After three weeks, the healing process began, the wound developed a scab, which became smaller and regenerated. MFT is the only positive alternative for distal vascular occlusions.*

Patient reports on the treatment of circulation disorders with MRS

1. Thanks to Mrs. Beate Martina

• *Patient G.M., female, 85 years old. Diagnosis: Poor circulation, diabetes mellitus. Results of MRS therapy: significant improvement in circulation after two weeks, patient sleeps better, digestion improved. After five months: stable sugar values, the patient need no longer get up during the night, wound healing has improved enormously, she no longer requires surgery on her eyes because her cataracts have disappeared, the motor system is free of pain, her hair has grown back in darker than before, she no longer has digestive problems. This patient is now taking only one medication for diabetes.*

2. Thanks to Wolfgang Gasteiner

• *Patient H.W., female, 53 years old. Diagnosis: Circulation disorders in the feet, extreme pain in the pelvic area and the right thigh. Blood pressure 90/60; impossible for her to sleep through the night. Results of MRS therapy: circulation in the feet was optimum after the first treatment. Extreme relief in getting up and subsidence of pain the very next day. Her sleep disorder was eliminated because of the pain relief. Circulation stabilized after the first days, the daily pill could be stopped. After four weeks, the patient is painless and experiencing physical well-being.*

3. Thanks to Mrs. Sieglinde Kapun

• *Patient M.W., male, 67 years old. Diagnosis: Circulation disorders in the feet; on dialysis since August 1996. Results of MRS therapy: "The circulation disorders in the feet improved after 14 days. Digestive problems completely eliminated*

after one week. On October 27, 1997, I had severe pain due to a shoulder injury. After treatment with the pad at level 2, the pain was already much better on November 3."

• *Patient M.P., male, 70 years old. Diagnosis: When he goes to bed, his right hand left shoulder and right knee fall asleep. Wear on intervertebral disks and cerebral vertebrae, rheumatism, gout, tension in the shoulder area, attacks of dizziness with low blood pressure. Results of MRS therapy: Circulation already much better after 7 days, joints pain also improved. After three weeks: tension in the shoulder area is much better, hand, shoulder and knee no longer fall asleep; no more rheumatism medication necessary.*

4. Thanks to Mr. Karl Garber

• *Patient B.I., female, 37 years old. Diagnosis: Circulation disorders, very severe digestive problems, menstrual problems, sleeping problems (heavy sweating), low blood pressure. Results of MRS therapy: no more digestive problems since the first treatment, the circulation disorders have improved, the sleeping problems have disappeared and the blood pressure is normal.*

• *Patient J.G., female, 35 years old. Diagnosis: Circulation disorders in the arms and legs, low blood pressure, 90/60, wear and cervical and thoracic vertebrae, therefore severe headaches 3-4 times a week (pills), sleep disorders. Results of MRS therapy: No more headaches, the sleep disorders and lower back pain are gone, and the circulation disorders in the arms and legs have improved greatly.*

5. Thanks to Mrs. Verena Singer

• *Patient M.M., female, 78 years old. Diagnosis: Circulation disorders, tension in the shoulder/back area, cracked skin on the pads of the fingers, severe susceptibility to weather changes, age-related impairment in motor system. Results of MRS therapy: The tension has been relaxed very quickly, mobility improved. No more cracks on the tips of the fingers and her sensitivity to weather has reduced. "I feel more balanced. The circulation disorders have improved greatly. The age-related impairment has changed into a better quality of life."*

• *Patient E.D., female, 72 years old. Diagnosis: circulation disorders, varicose veins, bronchial asthma, shoulder pain, hip problems, colds. Results of MRS therapy: the circulation disorders have improved and the shoulder pain occurs only rarely the hip pain has improved, and the colds (sniffles, sinuses) have disappeared; various drugs have now been stopped and lung activity has improved.*

6. Thanks to Mrs. Gabriele Heidt

• *Patient G.H., female, diagnosis: "I had extreme circulation disorders in the left leg and was very sensitive to weather along with having very severe pain in both legs. Menstrual symptoms (one week before my period started) and back pain combined with headaches as well as tension in the lower abdomen were other symptoms." Results of MRS therapy: "After two weeks of treatment, I had hardly any symptoms in my leg. Another 14 days later, changes in the weather no longer caused me problems. I no longer had menstrual complaints after two months. I am feeling good all the way around."*

• *Patient J.H., male, 52 years old. Diagnosis: circulation disorders in both feet, lower back pain (wear), tension in the shoulder area. Results of MRS therapy: The circulation disorders have improved greatly and the tension disappeared after six weeks. Gout: No longer taking pills, general condition very good.*

• *Patient P., female, 36 years old. Diagnosis: cold hands and feet, migraine attacks since the age of 8. "No doctor was able to explain my severe knee pain." Results of MRS therapy: "My hands and feet are no longer cold. After three months, my knee and shoulder pain disappeared. Now I very rarely have headaches during my period. Finally I am able to get up in the morning feeling very fit."*

7. Thanks to Mrs. Ursula Lange

• *Patient, female, 59 years old. Diagnosis: circulation disorders in the hands and feet: "As if dead." Restricted movement. Results of MRS therapy: Patient free of symptoms after one week. "I am again wearing shoes with higher heels, dancing, doing fitness training and walking again. My extremities are warm and with good circulation, and after 14 days my respiratory tract is free of mucous and secretions, continuing until today."*

• *Patient H.S., male, 58 years old. Diagnosis: circulation disorders in the thighs, pain, difficulty in walking, severe pain in the legs at rest. Vari-*

cose veins on the outside of the knee: 5 cm thick, thick as a thumb, very painful. Very painful lumbar spine syndrome, third and fourth vertebrae, also at night. Results of MRS therapy: "Circulation in my thighs is much better, and the varicose veins have been reduced to approximately 50 % of the original thickness, with a pain reduction in approximately 80 %. They have become soft and it no longer hurts to touch them, even with pressure. I no longer have any difficulty in walking."

Appraisal of MFT: **70-80 % good to very good results**

4.8. Embolism

Blood platelets in addition to red and white blood cells are one of the main components of blood, or more specifically, blood plasma. In a wound, the platelets coagulate, i.e., they stick together to seal the injured location and thus prevent us from bleeding to death.

Although these blood clots are helpful and can save a life, they can also be dangerous because platelets coagulate not only due to external injuries but also at various locations on the interior wall of the blood vessels which have been damaged by arteriosclerotic plaque. Under certain circumstances, a platelet clot (thrombus/blood clot) will become detached from the vascular wall and migrate through the bloodstream into a smaller artery. The thrombus may become stuck in a much narrower section of a blood vessel and cause an embolism. Emboli are usually caused by blood clots in the veins, because the blood flows more slowly in the veins, and therefore the platelets and the respective connecting proteins can come in contact with one another more easily and form aggregates. Thromboses are harmless when they affect only the skin. However, if a thrombus migrates into the lungs, heart, brain or intestine, the blockage of the blood vessel assumes a life-threatening extent. Obstruction of a central vessel not only means a sudden oxygen deficiency (hypoxia) but also an inadequate blood supply to the affected tissue (ischemia). The result is a complete loss of function of the respective organ, as is the case in an infarction, for example.

Three types of emboli are differentiated:

- a "solid" embolism (of tissue, tumor cells, blood clots)
- a "liquid" embolism (of balls of fat or "amniotic fluid")
- a gaseous embolism

Depending on the location of the thrombus, a distinction is made between an arterial embolism, a crossed embolism (the embolus develops in a vein and moves to an artery), a pulmonary embolism, an embolism in the coronary vessel and a cerebral embolism (in the heart or in the arteries in the neck leading to the brain). A fat embolism develops due to a bone injury or damage to the fat cells. An air embolism can occur due to injection of air or as a complication of surgery. A nitrogen embolism can occur with great differences in pressure underwater.

There are drugs that can dissolve an embolus, but they are reserved for emergencies. Physicians often prescribe the drugs heparin or warfarin to prevent an additional embolus. If the embolus is in an accessible artery, it can be removed surgically. If it is inaccessible, a "stopper" is inserted into the accessible veins above it, so that the embolus cannot reach organs such as the lung or heart. An embolism is definitely an emergency situation and the patient must absolutely be taken to a physician or a hospital immediately. Treatment with MFT plays only a subordinate role here or none at all.

4.9. Hematoma

Bleeding of different extents is the unavoidable result of vascular injuries. In any trauma, minor blood vessels and capillaries are opened, but they close up again rapidly. If the main trunk vessels are affected, the peripheral blood supply is impaired, which may become life-threatening. Since loose tissue can absorb more blood than stiff tissue areas (the palm of the hand), the blood loss tendency varies accordingly. In a superficial hematoma, the swelling is at first palpable. Later the collected blood is dissolved and broken up by

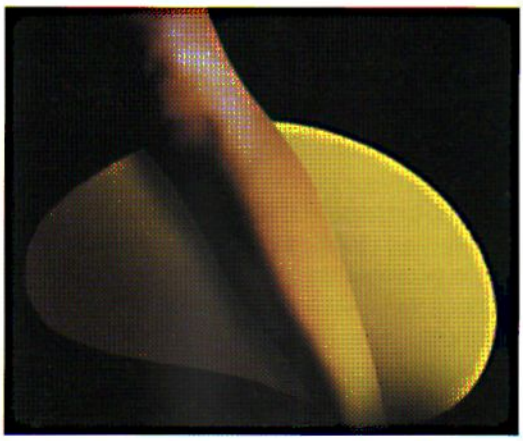
phagocytic cells. As part of this liquefaction, some of the fractions settle out, often reaching the skin surface, where they become visible as bluish spots. If bleeding occurs in a major body cavity, it usually results in a great blood loss. If the quantity of blood lost exceeds the compensation abilities of the body, it results in a drop in blood pressure and ultimately to hemorrhagic shock with organ damage. Bleeding can be limited by compression. Severed main trunk vessels, however, must be sutured surgically. Bruises and strains can also damage blood vessels. Then we speak of a blunt vascular injury.

Effect of magnetic field therapy on hematomas:

supporting, reducing swelling, relieving pain, improving removal of waste products

Proper use of MRS for hematomas

- Pad or probe: 3-5 times a day for 24 minutes each time: 200 % level, 400 % level with the MRS med, locally
- Forms of therapy supportive of MFT: enzymes
- Special instructions on use: elevate the affected location!
- Duration of treatment: 4-6 weeks, depending on the extent and any additional injuries
- Notes on the initial reaction: none



Local treatment for hematomas on lower leg

Scientific studies on the treatment of hematomas with MFT

- A. M. Begue-Simon, R. A. Drolet: "Clinical Assessment of the Rhumart System Based on the Use of Pulsed Electromagnetic Fields with Low Frequency," International Journal of Rehabil Research, 1993. - The research results of these extensive studies have shown positive effects on all traumatic events in the body.

Physician reports on the treatment of hematomas with MF

1. Dr. Sigrun Schaller, M.D., Zell am See

- *Patient O.S., female, 56 years old. Diagnosis: Gluteal hematoma on the left after a fall onto a concrete edge, extreme impairment of movement in climbing stairs, impossible to sit down, no pain-free position could be found lying down either. Treatment with high-dose Wob enzyme, arnica dressings. After six days, there was still no improvements. Results of MRS therapy: After one day, her pain was already reduced to the extent that her sleep at night was no longer disturbed. The next day, it was possible to climb stairs in an alternating step. After five days, the patient was healed and the swelling was no longer palpable.*

Patient reports on the treatment of hematomas with MRS

1. Thanks to Mrs. Zita M. Spieler

- *Patient E.W., female, 82 years old. Diagnosis: "I fell on a rock when hiking and my left foot was swelling up, forming a hematoma from the knee to the ankle. The entire thing was very painful." Results of MRS therapy: "I no longer had any pain and the swelling subsided. The hematoma subsided slightly. After one week, the hematoma disappeared promptly and the pain disappeared. In general, I feel very fresh and good."*

2. Thanks to Mrs. Susanne Buttner

- *Patient H.B., male, 41 years old. Diagnosis: After a bicycle accident, contusions on the right thigh, right arm, right half of the face, hematoma on the right eye. Results of MRS therapy: Two days after the accident, this patient was sent to me by his physician for massage with a stimulating current. He arrived with*

a severe limp accompanied by intense pain. When he returned that afternoon, he was experiencing somewhat less pain. In addition to MFT, he received a light massage on the thigh. His symptoms improved each day and the hematoma on his eye disappeared after five days. The patient began bicycle training again slowly. After four weeks, he successfully rode in a time trial in his club.

Appraisal of MFT: **80-90 % good to very good results**

4.10. Hemorrhage (bleeding)

A hemorrhage is uncontrolled bleeding toward the outside or inside. The effects depend on the body part affected and the amount of blood lost and may be a symptom of many serious diseases or injuries. A hemorrhage occurs when blood vessels are damaged or there is a tendency to bleeding. Normally, coagulation of blood stops a hemorrhage within seconds or minutes. In a serious injury or a disturbance in coagulation function, however, the person affected may bleed to death. Such a disturbance in blood coagulation may be transient (as with many diseases) or it may be the result of another disease (hemophilia, platelet deficiency, peptic ulcer, cancer or diseases affecting the stomach, kidneys or urinary tract). Severe bleeding leads to a rapid pulse, dizziness, weakness, collapse, shock, an increase in blood pressure, an increase in heart rate and pale, cold, sweaty skin. Black tarry stool is typical from bleeding of the digestive tract. Blood in the vomit indicates bleeding in the stomach. Blood in the urine concerns the kidneys or urinary tract. You should always consult a physician immediately if you find blood in your stool, urine or vomit.

Whole-body treatment for hemorrhages

Effect of magnetic field therapy on hemorrhage:

supportive, reducing inflammation, reducing swelling, an the regulatory effect on the autonomic nervous system may play a role

Proper use of MRS for a hemorrhage

- Whole-body mat: once or twice a day for 8 minutes each time: 10-25 % level
- Notes on the initial reaction: none

Scientific studies on the treatment on hemorrhage with MFT

- V. V. Aleschenko, I. O. Pisanko: "EHF Therapy for Hemophilic Arthropathy and Hemarthroses of the Knee Joint," Millimeter Waves in Medicine and Biology, Digest of Papers, April 1995, Moscow. - In this study, hemophiliacs who have hemorrhaging into the joints are treated with electromagnetic fields. All the results indicate that treatment with magnetic fields clearly has a positive supportive effect on all other forms of treatment.

4. 11. Myocardial infarction

In addition to a stroke, myocardial infarction is the most common cause of death. In a myocardial infarction, a coronary vessel is obstructed by arteriosclerotic deposits (vascular calcification) or by a blood clot so that no blood can flow through it. Due to the vascular occlusion, the oxygen supply to a certain area of the heart muscle is no longer guaranteed so the muscle is damaged. Hypertension, diabetes, a high cholesterol level, birth control pills, smoking, excessive stress, mini diets and a lack of physical exercise increase the risk of an infarction.

A myocardial infarction may remain unnoticed or it may be manifested with the typical intense pain behind the breastbone. This pain often radiates into one or both arms. In addition, a person experiencing a myocardial infarction will often experience difficulty in breathing, fatigue, heavy sweating, fever and a feeling of impending doom. The pain symptoms are the same as those occurring with angina pectoris, except that they last much longer and they are more intense. A

myocardial infarction may follow a completely harmless course and not have any permanently negative effects on a person's quality of life or it can lead to immediate death. The consequences depend on the area of the heart muscle destroyed and the extent of the damage.

An ECG (also known as EKG) measures the electric pulses coming from the heart. Since the pulses must travel around the disturbed area, this is shown in the charts. The amount of white blood cells is also checked because the body produces more white blood cells to remove the dead cells. The blood is also tested for proteins which may indicate a disturbance in the heart muscle. However, these diagnoses do not yield results until 24-72 hours after the infarction. Therefore, whenever someone is experiencing any symptoms it is important to get that person to a hospital. Tests have shown that infarction patients wait on the average up to 3 hours before they consult a physician. Many deaths could be avoided if these patients were treated immediately. In the case of a myocardial infarction, hospitalization is hardly avoidable.

To train the damaged heart and to determine the limits of its load-bearing capacity, rehabilitation is enormously important after an infarction. In addition, medications which should prevent a second infarction are administered. Nitroglycerin is the best known and most commonly used of these drugs, but it has some very unpleasant side effects such as a drop in blood pressure or the typical nitroglycerin headache. Beta-receptor blockers are the second large group of drugs used by these patients; they counteract an attack of angina pectoris by regulating the heart's oxygen demand. The side effects include a slowing of the heart rate, cramps in the bronchial muscles (therefore beta-blockers should be used only with caution by asthmatics), nausea, fatigue and sleep disorders. Calcium antagonists form the third group which also lowers the heart's oxygen demand. Adverse effects include swelling, redness of the skin, constipation and headaches. Obstruction of coronary vessels can be dissolved to some extent with the help of thrombolytic drugs. However, these drugs must be injected as quickly as possible, at the latest 12 hours after an attack. In natural treatment, reducing the risk factors is the primary concern, i.e., losing weight, stopping smoking, avoiding stress situations and sudden temperature changes. The patient is motivated to observe resting pauses and to follow a low-cholesterol, low-fat diet.

Effect of magnetic field therapy on a myocardial infarction:

promoting circulation (with vessels that are still permeable) and thus improving the oxygen supply in the isolated portion of heart muscle, for prevention and rehabilitation

Proper use of MRS: see "Angina pectoris"

- Notes on the initial reaction: none
- Forms of therapy supportive of MFT: vitamins and minerals (vitamin C, B vitamins, vitamin E, calcium, magnesium, selenium), coenzyme Q10, essential fatty acids (salmon oil, flax seed oil, evening primrose oil, borage oil, nigella seed oil), herbal remedies (gingko biloba, gotu kola, hawthorn berries, ginseng, field horsetail, alfalfa, garlic, grape seed extract, oak bark)

Scientific studies on the treatment of myocardial infarction with MFT

- J. Jerabek: "Pulsed Magnetotherapy in Czechoslovakia - A Review," Rev Environ Health, April-June 1994, pp. 127-134. - In this article, the author describes the use of MFT in Czechoslovakia. He reports that MRS has been used successfully in his country for more than 10 years in treatment of rheumatism and ischemic diseases.
- C. A. Basset: "Beneficial Effects of Electromagnetic Fields," Journal of Cell Biochem, April 1993. - This summary report shows that already more than a quarter of a million people worldwide with chronic non-healing factors have been treated successfully with MFT. In addition, the author reports on the good effect of this treatment in other diseases including myocardial infarction and apoplexy.
- E. I. Sorokina et al.: "Use of Low-Frequency Magnetic Field in the Combined Treatment of

Middle-aged and Elderly Patients with Ischemic Heart Disease and Osteochondrosis of the Cervical-thoracic Spine," Vopr Kurortol Fizioter Lech Fiz Kult 1989 (2), pp. 18-22. - In this study, the effect of low-frequency magnetic fields on coronary heart disease is discussed. The results show a definite improvement in autonomic heart regulation and prevention is ischemic heart damage.

Physician reports on the treatment of myocardial infarction MF

1. Dr. Manfred O. Eder, M.D., Anger/Bavaria

• *Patient N.K., male, 73 years old; diagnosis: this patient has a known history of myocardial infarction. Several years ago he developed recurrent edema of both legs with incipient elephantiasis and attacks of erysipelas. This year he also developed a deep vein thrombosis on the right leg, followed by repeated attacks of erysipelas with variable edema on both legs. Results of MRS therapy: the patient again feels good and has no further complaints.*

2. Dr. W. R. Maus, Natural Healing Methods, Überlingen

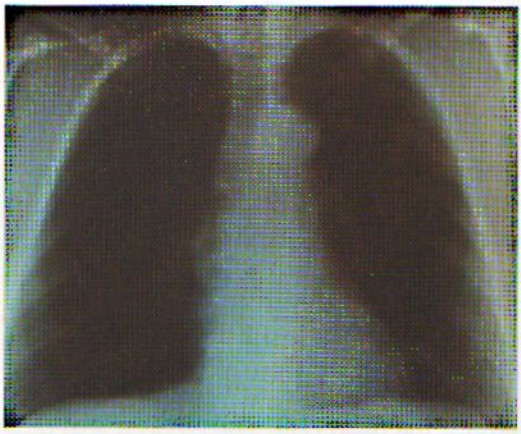
• *Patient, female; diagnosis: myocardial infarction, bypass surgery, renewed occlusion of the bypasses. Results of MRS therapy: after three weeks, the patient has experienced well-being and renewed surgery has been avoided.*

Patient reports on the treatment of myocardial infarction with MRS

1. Thanks to the company Vita-Life

• *Patient R.G., female, 59 years old; diagnosis: very poor general condition, daily headaches, back problems with pain extending into her right foot, ankle would give way uncontrollably, no longer psychologically well-balanced, restricted movement of the hands due to rheumatism. Since 1982, grapefruit-size cysts in the outer pericardium. Results of MRS therapy: her headaches have completely disappeared since using this treatment. She is psychologically more balanced again. After eight months of treatments, the cyst has regressed. Since the treatments, the patient has been able to stop taking drugs.*

Appraisal of MFT: **70 % good to very good results**



X-Ray with reconizisable heart cyst

X-Ray after 8 months with MRS ; cyst has healed

4.12. Cardiac insufficiency (heart failure)

The human heart beats approximately 90,000 times a day - that's more than 30 million beats of the heart per year. In an average lifetime of 70 years, a heart will have beaten more than two billion times. If the performance of the heart subsides in the course of the aging process or due to certain diseases, it results in a weakness of the heart muscle (cardiac insufficiency) which greatly restricts the pumping capacity of the heart. Consequently, blood from the heart congests in the minor and major circulation. In order to convey this volume of blood, the already overworked heart begins to beat even faster and

becomes enlarged. Because of its muscular weakness, the heart is pumping less blood through the body so the normal activity of the kidneys is impaired. The kidneys then attempt to produce even more blood and they withdraw less water and salt from the blood. In order to compensate for the pressure in the overfilled veins, fluid penetrates outward into the surrounding tissue. This results in an accumulation of water, called edema, which is manifested by swelling at the ankles and over the sacrum. If blood congests in the lungs, rales can be heard in breathing and shortness of breath develops due to the increased air pressure in the lungs. The liver and spleen may also become enlarged. It is typical for the swelling to subside during the night and there is a need for frequent urination.

Cardiac insufficiency usually develops due to heart damage. The causes of heart failure include: coronary heart disease, untreated high blood pressure (hypertension) which damages the heart muscle over a period of years, dysfunctional heart valves, rheumatic fever, aneurysms, arrhythmias or heart muscle diseases caused by toxins, alcohol or viruses.

For more than 200 years, cardiac insufficiency has been treated effectively with the help of red foxglove (Digitalis purpurea). Exercise, weight loss, normalization of blood pressure, a balanced low-salt diet, moderate physical activity, adequate sleep, avoiding nicotine and alcohol and regular follow-up examinations can prevent cardiac insufficiency and the resulting consequences for the heart.

Effect of magnetic field therapy on cardiac insufficiency:

supporting, promoting circulation, improving oxygen supply, calming, influencing the calcium metabolism, strengthening the heart muscle.

Proper use of MRS: see "Angina pectoris"

- Forms of therapy supportive of MFT: hawthorn, gingko biloba, coenzyme Q10.
- Notes on the initial reaction: none

Scientific studies on the treatment of cardiac insufficiency with MFT

- F. Petrossi: "The Effect of Combined Treatment with the Use of Magnetotherapy on the Systemic Hemodynamics of Patients with Ischemic Heart Disease and Spinal Osteochondrosis," Internet: Medline hyperlink .
- Z. Omura: "Basic Electrical Parameters for Safe and Effective Electrotherapeutics for Pain, Neuromuscular Skeletal Problems, and Circulatory Disturbances," Heart Disease Research Foundation, Brooklyn, 1987. In this study, a wide variety of physical therapy measures are investigated with respect to cardiovascular diseases and their effects on the body are described

Physician reports on the treatment of cardiac insufficiency with MF

1. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0443/01/40 666 00

- *Patient A.A., female, 86 years old; diagnosis: this patient has been suffering from coronary heart with increasing cardiac insufficiency and severe angina complaints as well as massive circulation disorders for 10 years despite intensive treatment with medication. Third degree cardiac insufficiency (according to NYHA scale). The patient is unable to walk several steps in succession, cannot lie down flat and has shortness of breath at rest and extreme edema on her ankle and leg cramps. Results of MRS therapy: after nine weeks of regular adjuvant treatment with MRS, this patient is again capable of moving freely in her home. She can go shopping on her own again. The swelling of her ankles has improved considerably and she has less shortness of breath.*

Patient reports on the treatment of cardiac insufficiency with MRS

1. Thanks to Mr. Max Keiser and Mrs. Verena Singer

- *Patient H.F., female, Diagnosis: Cardiac insufficiency. Results of MRS therapy: "After only a few weeks, I again had more energy and more enthusiasm for life, I was able to go for walks and I am as fit as before."*

• *Patient M.K., female, 72 years old. Diagnosis: Angina pectoris, shortness of breath with exertion. Results of MRS therapy: "I cannot say that I had success immediately, but instead I initially experienced an exacerbation, e.g., pain in the area of my joints. Very soon, I had a feeling of relief in my body, I was able to breath better and I didn't have to go to the doctor so often. I feel so fit again that I am able to play ball with my dog."*

Appraisal of MFT: **60-70 % good to very good results**

4.13. Arrhythmias

Arrhythmias are a deviation from the normal steady heart beat (not due to sudden exertion). The cause is often a damaged heart (e.g., after an infarction). Hereditary heart defects, a left heart weakness, rheumatic fever, drug abuse, heavy smoking or high caffeine consumption can cause arrhythmias.

Arrhythmias are especially dangerous when they involve additional heart beats by the ventricles, so-called ventricular extrasystoles. These electric discharges may in the worse case trigger a type of short circuit in the stimulus conduction system and, if the chambers of the heart no longer contract properly and begin to flutter, this may be life-threatening. In the worst cases, this fluttering develops into atrial fibrillation. In fibrillation, the individual muscle cells of the heart contract in an uncoordinated manner and execute random movements, so the heart is unable to pump blood into the blood stream. This often occurs after a myocardial infarction, but it can also occur after an electric shock.

Anyone's heart may beat faster occasionally, but if it is beating irregularly, this may be due to an arrhythmia. A heart beating normally can hardly be perceived, but if it briefly loses the rhythm and if there is occasionally a pause or a type of misfiring, you will feel it immediately. If the heart "stumbles" frequently and over a long period of time, this is a dysfunction in the heart forming or conducting the pulses. If the ventricles contract outside the normal beating rhythm, we call this an extrasystole. If the heart beats more than 100 times a minute, this is called tachycardia. However, the heart may also beat too slowly. If it beats less than 50 times a minute, this is called bradycardia. This is completely normal in well trained athletes (physiological bradycardia). In case of disease, a slow heart beat is manifested by fatigue, inability to concentrate and attacks of dizziness. Those so affected will see black spots and feel weak. A heart beat of less than 40 beats per minute is dangerous. In most cases, such a phenomenon is based on a blockade in the stimulus conduction system.

The cases of arrhythmias can be detected with an EKG. The physician can draw inferences regarding the action currents which occur in stimulation of the heart muscle, and can thus detect any possible arrhythmias. Arrhythmias always require a medical diagnosis. These disturbances are often treated with a pacemaker. A pacemaker is a battery-operated pulse generator (clock generator) which stimulates the heart to beat in the proper rhythm and correct the disturbed sequence of beating. This electronic device is implanted near the heart.

Effect of magnetic field therapy on arrhythmias:

supporting, calming through the autonomic nervous system, influencing the calcium metabolism, direct influence on the stimulus of the heart (electromagnetic interaction).

Proper use of MRS: see "Angina pectoris"

• Forms of therapy supportive of MFT: hawthorn.

• Special notes on use: Increase the dose gradually! Use only when accompanied by a physician!

A pacemaker is a contra-indication for magnetic field therapy, i.e., one must not use a magnetic field for treatment under any circumstances. This is one of the few absolute contra-indications for magnetic field therapy. In severe arrhythmias, use of this treatment is still being disputed scientifically.

• Notes on the initial reaction: none. One exception here is an autonomic reaction on the part of the patient. This means that many patients experience anxiety and then feel a "palpitation of the heart" (their normal heart beat). This is usually due to the fact that they are completely relaxed when lying on the magnetic field mat and suddenly become aware of the beating of their own heart. This is a condition which is unusual and may cause anxiety if the patient has not previously been informed. The anxiety can then result in an accelerated heart beat, which increases the patient's discomfort.

Scientific studies on the treatment of arrhythmia with MFT

• F. Petrossi: "The Effect of a Low-Frequency Magnetic Field on Erythrocyte Membrane Function and on the Prostanoid Level in the Blood Plasma of Children with Parasytolic Arrhythmia," Internet: Medline hyperlink

• L. N. Budkar et al.: "Magnetolaser Therapy in Treatment of Ischemic Heart Disease and Heart Rhythm Disorders," Doktor Lending, 4(3), 1996, pp. 10-13.

• E. M. Vasil'eva et al.: "The Effect of a Low-Frequency Magnetic Field on Erythrocyte Membrane Function and on the Prostanoid Level in the Blood Plasma of Children with Parasystolic Arrhythmia," Vopr Kurortol Fiziother Lech Fiz Kult (2), March-April 1994, pp. 18-20. - This study reports on the results obtained on 23 children with parasytolic arrhythmia who experienced an improvement with MFT in both humoral and cellular processes which are involved in the regulation of the heart rhythm.

Patient reports on the treatment of arrhythmias with MRS

1. Thanks to Mr. Max Keiser and Mrs. Verena Singer

• *Patient G.H., male, diagnosis: infarction in 1969, cardiac arrest twice caused by a posterior wall infarction. Exercise EKG in February 1998 revealed arrhythmias. Results of MRS therapy: the follow-up examination in July 1998 revealed excellent results; no more arrhythmia and the blood picture is normal.*

2. Thanks to Mr. Felix Sachs

• *Patient F.S., male, 54 years old; diagnosis: aperiodic, medically unremarkable (no findings in the EKG) and undiagnosed arrhythmias manifested in an apparent "stoppage" of the heart beat lasting from 1-2 seconds. This first occurred when the patient was about 20 years old (about 3 1/2 decades previously), repeated at irregular intervals of 1-10 or 14 days up to practically everyday or night (typical reaction in chronic syndrome). Results of MRS therapy: First treatment on April 20: "About 2 hours later (after lunch) I began to experience a unique tension in the heart area with an increasing feeling of pressure which lasted about 3 hours and disappeared gradually. Renewed weaker occurrence on the following days. The heart disorders described here, however, had not yet been eliminated, but instead they occurred repeated, but at greater intervals and with a weaker intensity, for the next three months; after four months, the phenomenon seemed to have disappeared. A rare nosebleed in childhood had gradually developed to a chronic complaint after the age of 20. Practically everyday I experienced mild to occasional heavy nosebleeds on the right and left two to three times a day. I had tried everything to stop it. The MRS system at first seemed to produce no improvement over approximately half a year. Then in the fall I began to experience a definite improvement; since November, the right side of my nose has not lost a single drop of blood, and the left side is on the way to complete healing!"*

3. Thanks to the company Vita-Life

• *Patient T., male, 48 years old; diagnosis: arrhythmias. Results of MRS therapy: intense reactions in all areas in the first week, definite improvement after three days, today practically no more arrhythmias.*

• *Patient S.M., male, 37 years old; diagnosis: arrhythmias, circulation disorders. Results of MRS therapy: "After four weeks, I have the arrhythmias under control."*

Appraisal of MFT: **50-60 % good to very good results.**

4.14. Hypertension and hypotension (blood pressure problems)

Approximately 15-20 % of the population suffers from high blood pressure (hypertension), including 90 % so-called essential hypertension. The actual causes of this form of hypertension are still unknown, but it is assumed that a hereditary predisposition plays a major role. Essential hypertension is promoted by obesity, excessive salt consumption, excessive alcohol consumption, lack of exercise, elevated fat levels in the blood, stress and nicotine, especially in combination with oral contraceptives. High blood pressure is when the systolic (upper) value is more than 160 and the diastolic (lower) value is over 90 mm Hg. These values which have been established by the WHO (World Health Organization) are standardized.

Since hypertension does not have any "visible" symptoms, we often speak of it as the "silent disease." An elevated blood pressure is a causal factor in damage to the arteries and vascular walls and therefore it is partially responsible for the development of arteriosclerosis, where blood vessel in the brain, heart and kidneys are often especially affected. The inadequate circulation caused by narrowing of the vessels can be preparation for a stroke in the brain (apoplexy) or a narrowing of the heart (angina pectoris) or a myocardial infarction.

The results of blood pressure measurements can vary greatly within a short period of time. Agitation, e.g., due to visiting a doctor ("white coat phenomenon") and a person's moods have an effect on these values which should not be underestimated. Therefore, measurements should be performed frequently. In performing the measurement, it is essentially important to keep the arm horizontal and at the level of the heart and not allow the arm to hang down. Although the systolic value indicates the pressure in the beating of the heart (in contraction) the diastolic value indicates the pressure when the heart is filling. The diastolic value is always lower than the systolic. The normal blood pressure of an adult is approximately 120/80 (depending on age).

Mild cases of hypertension (up to 140/100) can be influenced in a positive manner by changes in lifestyles. In severe cases, drugs should be considered. In most cases, a physician will prescribe a diuretic or an antihypertensive drug, or a medication which has a positive influence on the blood pressure center in the brain. If this is not sufficient, a drug that enlarges the arteries will be prescribed or a combination of various medicines. A diet to reduce weight and avoiding an intake of more than five grams of salt a day are especially important. Foods with a high salt content include smoked meat, sausages, fish, nuts and pretzels. Mineral water with a high sodium content should also be avoided. However, a diet high in potassium (fruits, green vegetables, potatoes) tends to lower the blood pressure.

Hypotension or low blood pressure is manifested by fatigue on awakening, dizziness when standing up and a long warm-up time. Low blood pressure is defined as a systolic value in a women being below 100 or below 110 in a man. Hypotension is rarely treated with medication. Physical exercise (gymnastics, swimming, etc.) and an increased fluid intake (including caffeinated beverages) are simple means for counteracting low blood pressure.

Effect of magnetic field therapy on blood pressure problems:

dilating the vessels (reducing the resistance and thus lowering the diastolic blood pressure reading), acidifying the vascular wall, regulating the autonomic nervous system, direct effect on pressure receptors in the area of the carotid sinus, stabilizing the blood pressure in patients with low pressure.

Proper use of MRS for blood pressure problems

- Whole-body mat: 2-3 times a day for eight minutes each time: 25 % level in the morning, 10 % level at noon, sensitive level in the evening
- Pad: twice a day for 16 minutes each time: 50 % level in neck area (up to the hairline)

Local treatment of the neck with a pad

• Forms of treatment supportive of MFT: weight reduction, low-salt diet, biofeedback, qi gong; for high blood pressure: vitamins and minerals (vitamin C, B vitamins, vitamin E, calcium, magnesium, selenium), essential fatty acids (salmon oil, flax seed oil, evening prim rose oil, borage oil, nigella seed oil), herbal remedies (hawthorn, grape seed extract)

• Special instructions on use: drink lots of fluid! For low blood pressure: elevate legs (to prevent the blood from settling and to promote the return of blood to the heart), placing a wedge pad under the treatment mat at the foot end.

Basic treatment for blood pressure problems

• Duration of treatment: Long-term treatment results will depend closely on weight reduction in obese patients. Blood pressure medicine must be taken in any case.

• Notes on the initial reaction: At the start of treatment, especially in patients with low blood pressure, there may be fluctuations, but they will disappear over the course of treatment.

Scientific studies on the treatment of blood pressure problems with MFT

• G. A. Pochechueva et al: "Effect of Running Pulse Magnetic Field on Certain Humoral Indicators and Physical Ability to Work in Patients with Neurocirculatory Hypotension and Hypertension," Biofizika 1995. - This study is concerned with the influence of pulsating magnetic fields on patients with hypertension and hypotension. These effects which have been observed and documented have shown on the average a drop in blood pressure in patients with hypertension and an increase in blood pressure and patients with hypotension. In addition, an improvement in physical endurance, general condition and concentration was observed in both groups.

• L. L. Orlov et al.: "Effect of a Running Pulse Magnetic Field on some Humoral Indices and Physical Capacity in Patients with Neurocirculatory Hypotension and Hypertension," Biofizika 41 (4), 1996, p. 944 ff. - This controlled study shows the positive effects of MFT in patients suffering from blood pressure that is either too high or too low. Patients which high blood pressure showed a definite improvement in symptoms such as headaches, chest pain, numbness of extremities, systolic and diastolic blood pressure and capacity for work.

• T. A. Kniazeva: "The Efficacy of Low-Intensity Exposures in Hypertension," Vopr. Kurortol Fizioter Lech Fiz Kult 1, 1994, p. 8-9. - This double-blind placebo-controlled study with low-frequency and low-intensity electromagnetic fields has shown that MFT can help to normalize blood pressure in patients with high blood pressure.

• S. G. Ivanov et al.: "Use of Magnetic Fields in the Treatment of Hypertensive Disease," Vopr. Kurortol Fizioter Lech Fiz Kult (3), 1993, pp. 67-69. - This placebo-controlled study found a very positive effect in the treatment of hypotension (stage 2) with pulsating magnetic fields (supportive effect in 78 %), whereas only 30 % in the control group showed an equivalent improvement.

• N. N. Bogdanov et al.: "Optimization of the Effects of Physical and Health Resort Factors in Ischemic Heart Diseases and Arterial Hypertension," Ter-Arkh 1986, pp. 108-111. This author presents the positive results when using MFT in prevention and rehabilitation of 300 patients with arterial hypertension.

• S. G. Ivanov: "The Comparative Effect of Non-drug and Drug Methods of Treating Hypertension," Ter Arkh, 65(1) 1003, p. 44f. - This double-blind, placebo-controlled study has shown that MFT is very effective in the treatment of symptoms of stage 2 hypertension patients (headaches, dizziness, etc.).

Physician reports on the treatment of blood pressure problems with MF

1. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0443/01/40 666 00

• *Patient, female, B.B., 48 years old; diagnosis: hypotension, suffering from stress, tension and chronic fatigue. Results of MRS therapy: after the second treatment, a definite improvement was felt, lasting three days. After two months, the patient feels fresher and the initial dizziness has disappeared completely. Definite improvement in autonomic symptoms.*

• *Patient T.F., female, 56 years old; diagnosis: hypotension; blood pressure 90/55, menopausal symptoms and depression. Results of MRS therapy: her blood pressure has normalized and she is no longer depressed.*

2. Dr. Gustav Skreiner, M.D., General Practitioner, Graz

• *Patient, male; diagnosis: hypertension, autonomic dystonia, depression, circulation disorders, condition after stroke, exhaustion complaints, muscle tension. Results of MRS therapy: so far good results have been achieved.*

3. Professor Dr. P. Schwarzfischer, M.D., Specialist in Internal Medicine and Nuclear Medicine, State Sanatorium "Im Sonnefeld," Bad Wiessee

• *Patient A.W., female, 48 years old; diagnosis: arterial hypertension, condition after surgery for an aneurysm of the medial cerebral artery and a brain tumor (surgery 4 weeks previously), considerable degree of adiposity, reduced general health. Results of MRS therapy: Mrs. W. reported a tangible improvement in general condition.*

Patient reports on the treatment of blood pressure problems with MRS

1. Thanks to Mrs. Sieglinder Kapun

• *Patient S.K., male, 65 years old; diagnosis: high blood pressure, circulation disorders throughout his entire body. Results of MRS therapy: movement and sleeping difficulties greatly improved after one week. Blood pressure somewhat lower after two months, circulation disorders on the feet milder. In general, there was an improvement in movement.*

2. Thanks to Mr. Dietmar Hauser, Certified Engineer

• *Patient P.Z., male, 51 years old; diagnosis: hypertension. Results of MRS therapy: June 11: blood pressure tending to be too low at the moment (medication same as before), but headaches, sleep disorders and depression reduced or eliminated. Concomitant use of herbal remedies. July 15: blood pressure normalized with reduction in medication at the same time, while headaches, sleeping problems have disappeared (no medication being taken).*

3. Thanks to Mrs. Gabriele Friedrich

• *Patient B.E., male, 29 years old; diagnosis: high blood pressure, nervous agitation, sleep disorders, circulatory problems. Results of MRS therapy: "I felt a pleasant warmth and relaxation with the very first treatment and my headaches disappeared. I feel more balanced and calmer. My sleeping problems, circulatory problems and high blood pressure have normalized. The tension in the neck and shoulder area has disappeared, as has my joint pain."*

4. Thanks to Mrs. Franziska Engeli

• *Patient K.K., male, 50 years old; diagnosis: excessively high blood pressure (3 tablets), cystic kidney. Results of MRS therapy: blood pressure: after one year, the patient needs only 1 tablet a day, feels energetic and balanced.*

• *Patient M.K., male, 39 years old; diagnosis: excessively low blood pressure, very tired, no energy, listless. Results of MRS therapy: the patient is now more balanced, has a great deal of energy and can work with great energy and enthusi-*

asm. Her blood pressure is good. Mrs. K has been using the MRS for 1 year.

5. Thanks to Mrs. Karl Garber

• *Patient J.I., male, 40 years old; diagnosis: low blood pressure, severe hip pain in the left pelvic area, occasional headaches (twice a month). Results of MRS therapy: the severe hip pain has been eliminated (after about two weeks) and the blood pressure is normal (after 4 months).*

• *Patient B.I., female, 37 years old; diagnosis: low blood pressure, very severe digestive problems, menstrual problems, circulation disorders, sleeping problems (outbreaks of sweating). Results of MRS therapy: no more digestive problems since the first treatment, and her circulation disorders have improved, her sleeping problems have disappeared and her blood pressure is normal.*

6. Thanks to Mrs. Antonia Aldrian

• *Patient M.K., male, 34 years old; diagnosis: low blood pressure. Results of MRS therapy: her blood pressure has normalized, the pain in the shoulder area has greatly reduced after 1 month of treatments and the pain in the inguinal area has disappeared. The feeling of coldness in the morning is better.*

7. Thanks to Mrs. Maria Pfeifer

• *Patient A.W., female, 57 years old; diagnosis: "I had low blood pressure, approximately 95/80 and for about 25 years I had occasional severe pain when sitting or bending in the area of the cervical and lumbar spine and the right and left arms. I could not do my work, I could not lift anything heavy, I could not shovel snow. Injections and pills did not help for long and my pain returned even after a stay at a nealth spa." Results of MRS therapy: "After three weeks of use, I was pain free. I did not experience any reactive pain. Now I have been using the MRS 2000 for 2 1/2 years and I am still pain free. My blood pressure rose to 125 after a week and it has remained there."*

8. Thanks to Mr. Wolfgang Gasteiner

• *Patient H.W., female, 53 years old; diagnosis: blood pressure 90/60 - 1 capsule. Results of MRS therapy: circulation in the feet optimal after the first treatment, extreme relief in climbing stairs, circulation stabilized after the first days - daily medication (1 capsule) and medication for osteoporosis and gout stopped after 14 days. After four weeks, the patient is pain free and experiencing physical well-being.*

9. Thanks to Mrs. Gabriele Kothmayer

• *Patient G.K., female, 38 years old; diagnosis: low blood pressure 90/60, circulatory complaints. Results of MRS therapy: significant improvement in backache, after one month no more headaches, and the neck area is much more relaxed and the blood pressure is relatively stable (repeated measurement: 10/70).*

10. Thanks to Mrs. Heidi Herrmann

• *Patient K.L., female, 50 years old; diagnosis: cold feet and hands due to low blood pressure. Results of MRS therapy: "I have needed much less sleep since October 1, 1998 (after three weeks of treatment). My blood pressure has normalized at 120/80. I no longer have cold hands and feet. I have more energy and feel full of 'power' despite hard emotional stress due to my family. A sore throat (influenza epidemic in October) disappeared immediately after a treatment. My varicose veins and a red scar on my right shoulder blade have faded. My beautician has confirmed that my skin has improved due to the good circulation. I can now sleep for eight hours without waking up."*

• *Patient C.K., female, 50 years old; diagnosis: high blood pressure, tension, circulatory disorders, sciatic nerve. Results of MRS therapy: definite improvement in blood pressure and circulation, less tension, patient has been able to stop medications and injections. Better general well-being.*

Appraisal of MFT: **70 % good to very good results**

4.15. Coronary heart disease (CHD)

In coronary heart disease, the heart needs more oxygen than it usually receives through the coronary arteries for the circulation through its own muscle. The poor oxygen supply is causally related to arterial sclerotic deposits which narrow the clearance in the coronary vessel. This vascular constriction in turn causes eddies to develop in the blood

stream which promote the development of blood clots which occlude the vessels. If left untreated, these occlusions become the cause of myocardial infarction, arrhythmias and cardiac insufficiency.

In western industrialized nations, coronary heart disease is the most common cause of death. It affects mainly men between the ages of 40 and 60 due to the professional and social stress, but women are being affected to a greater extent.

Four groups of drugs are available for medication of these patients: nitrates, calcium antagonists, beta-receptor blockers and platelet aggregation inhibitors. In balloon dilatation, a balloon catheter is advanced into the constricted area of the coronary artery and inflated with a high pressure in order to widen the constriction. If the existing constrictions cannot be reopened, a bypass is performed surgically (bridging the affected site). Veins from the person's own body (from the leg) are used for the small coronary vessels. The problem with a bypass is that the primary disease is progressive and even the transplanted vessels can become obstructed again. The annual occlusion rate is 2-3 %. To prevent this condition, absolute abstinence from nicotine, avoidance of obesity, hypertension and metabolic disorders and regular physical exercise is recommended.

Effect of magnetic field therapy on coronary heart disease:

promoting oxygen supply, preventing the formation of plaques (see also "Angina pectoris," "Cardiac insufficiency" and "Arrhythmias")

Proper use of MRS: physician and patient reports

see "Angina pectoris," "Cardiac insufficiency" and "Arrhythmias"

Scientific studies on the treatment of coronary heart disease with MFT

- N. N. Bogdanov et al.: "Optimization of the Effects of Physical and Health Resort Factors in Ischemic Heart Diseases and Arterial Hypertension," Ter-Arkh 1986, p. 108-111. - The author presents and discusses the results of MFT in prevention and rehabilitation in 280 patients with coronary heart disease and comes to very good combination results when using MFT together with the known drugs.

Appraisal of MFT: 65-70 % good to very good results

4.16. Peripheral occlusive arterial disease

In peripheral occlusive arterial disease, there is continuous reduction in the clearance of arterial blood vessels. The risk factors are the same as those for coronary heart disease and stroke. Smoking plays an especially important role in the development of peripheral occlusive vascular disease.

According to Fontaine, four stages of the disease are differentiated, with I denoting the mildest stage and IV denoting the severest form (pain, tissue death). Advanced stages are characterized by inadequate circulation to tissue with a susceptibility to injury, reduced hair growth on the legs and feet and pain at rest. The first treatment measure should be to eliminate risk factors. In the advanced stage, the patient must lie down and be wrapped in warm cotton. Vasodilating medication is used for treatment. In necrotic tissue destruction (e.g., the so-called smoker's leg), amputation is often unavoidable.

Basic treatment for peripheral occlusive arterial disease

Effect of magnetic therapy on peripheral occlusive arterial disease:

promoting oxygen supply, preventing plaque from building up (see also "Angina pectoris," "Cardiac insufficiency" and "Arrhythmias")

Proper use of MRS for peripheral occlusive arterial disease

- Whole-body mat: 2-3 times a day for eight minutes each time: 100 % level in the morning, 50 % at noon, 25 % level in the evening
- Pad: once a day for 24 minutes: 150 % level, at the site of poor circulation
- Forms of therapy supportive of MFT: enzymes, herbal remedies (gingko biloba, gotu kola, grape seed extract, oak bark, field horsetail), vitamin C, vitamin E, essential fatty acids
- Notes on the initial reaction: none

Scientific studies on the treatment of peripheral occlusive vascular disease with MFT

- L. G. Vassilenko: "EHF Electromagnetic Radiation in the Treatment of Obliterating Diseases of Interior Limb Vessels," Second World Congress for Electricity and Magnetism in Biology and Medicine, June 8-13, 1997, Bologna, Italy. - This study shows a definitely positive effect on arteriosclerotic obstructions of vessels and the related symptoms.
- Additional studies: see "Circulation disorders" and the chapter "Diseases of the skin" under "Decubital ulcer"

Physician and patient reports:

see "Circulation disorders"

Appraisal of MFT: 70 % good to very good results

4.17. Shop-window legs

Shop-window legs is a term referring to a circulation disorder of the leg arteries caused by arteriosclerosis. When the leg arteries calcify, become narrower and allow less and less blood to flow through, the amount of blood is no longer sufficient to adequately supply the legs and feet with oxygen in an active state of movement. This oxygen deficiency occurs with even the least exertion such as walking and causes severe pain. Only when the person affected allows his/her legs to rest for a while and stands still does the pain stop again because the oxygen demand at rest is met. For the observer it seems as if this person is standing to look in certain shop windows. If the disease progresses, the oxygen demand may not be covered even at rest. The toes may die and become gangrenous. Today this situation can be remedied by bypass surgery which allows a transplanted blood vessel to divert blood past the obstructed area.

Effect of magnetic field therapy on shop-window legs:

promoting circulation, see also "Circulation disorders"

Proper use of MRS, studies, physician reports and patient reports:

see "Circulation disorders"

Appraisal of MFT: 70-80 % good to very good results

4.18. Dizziness

see chapter "Diseases of the nervous system"

4.19. Thrombophlebitis

see "Diseases of the veins"

4.20. Diseases of the veins

varicose veins, hemorrhoids, thro bophlebitis and other vein problems

4.20.1. Varicose veins

The veins are the blood vessels that bring the blood back to the heart from the various organs. They have valves in the interior which

open on the heart side, preventing the blood from flowing back. In a disease such as protrusion of veins, the venous valves may loose their ability to close and then the blood moves back and forth in that section of the vein and congests there. Since the tissue in the vicinity of the damaged vein is no longer adequately supplied with nutrients, brownish pigment spots develop on the skin, which can ultimately develop into an "open leg." If such an ulcer is on the lower leg, it is called a crural ulcer.

In varicose veins, the veins are so swollen that the venous valves no longer close properly. Consequently, more and more blood collects there, further expanding the veins. This congestion of blood can be seen as blue lines on the skin. As long as the varices are not inflamed, they do not hurt and do not cause any pain. With a great deal of movement, special gymnastic exercises and cold showers, the progression of the disease can be postponed. However, varicose veins become painful and even dangerous when they cause phlebitis, leg ulcers or thromboses. In phlebitis, the leg swells painfully, the skin turns a bluish color and bulges outward, the legs feel tired, especially at the end of the day and the skin itches at the affected location. In addition, there is a general feeling of sickness. Sometimes the ankles swell and cramps occur at night. Diseases of the veins always acquire immediate medical assistance. If varicose veins become inflamed, ointments containing horse chestnut (Aesculus hippocastanum) extract can help relieve the troublesome congestion symptoms.

Varicose veins often develop due to a hereditary weakness of the veins. Any stress such as lack of movement, an occupation standing on one's feet all day, sitting for long periods of time, especially with the legs crossed, can cause the walls of the vein to expand. Thin and damaged vein walls and a retarded blood flow due to this widening promote inflammation as well as the development of blood clots within the veins. The actual risk is of an embolism, where a clot is entrained by the blood stream into the lungs. This occlusion of a pulmonary artery can develop into an acute life-threatening event.

Today obliteration of varicose veins is a cosmetically satisfactory solution. In this procedure, a medication is injected into the varicose vein, causing the inside vascular wall to stick together, cutting off the vein. A vein can also be stripped, i.e., the diseased enlarged portion of the vessel is removed through a small incision in the skin. Compressions are another possibility for treating enlarged veins. Unfortunately, this simple and successful method is not carried out conscientiously in 50 % of the cases or it is terminated prematurely. The reason for this is that a compression dressing or support hose must be worn constantly.

In general, the formulation of the vein specialist Robert Mayer applies to treatment of varicose veins "Not SS (standing and sitting) but RL (running and lying)" are the keys to success. The burden on the veins is best relieved by elevating the legs above the level of the heart. Patients with varicose veins should never take hot baths because temperatures above 28 °C lead to a further dilatation of the veins. Magnetic field therapy can relieve the congestion symptoms and should be used as a supportive therapy. However, even magnetic field therapy cannot make varicose veins that have already become entrenched disappear.

4.20.2. Hemorrhoids

Hemorrhoids are pockets of small superficial veins inside or outside the anus. A diet containing a large amount of refined foods such as white flour and sugar promotes the development of hemorrhoids. Other reasons include a high venous pressure, liver or heart diseases or a tumor. Hemorrhoids often develop due to delaying evacuation of the bowels. If enlarged veins become inflamed, it causes intense pain. If the bowel movement is dry and hard, it irritates the inflamed veins even more. Hemorrhoids usually develop slowly. Typical of hemorrhoids is the itching, burning or weeping of the skin around the anus, possible swelling, pain with bowel movements and under some circumstances, bright red blood on the stool. If a great effort is made in evacuation, it is possible for a portion of the

rectum to be pushed outward, but then slip back inside again because of its elasticity so the person does not even notice it. People who sit when doing their jobs, have a low-fiber diet and also have a hereditary weakness in the vascular walls have an especially high incidence of hemorrhoids.

Four stages are distinguished in hemorrhoidal symptoms. In the first stage, one usually does not feel any pain; in the second stage, pain occurs mainly in pushing. However, hemorrhoids usually disappear on their own and they only occasionally bleed. In this phase, treatment with creams and suppositories is still appropriate, but a causal treatment is no longer possible, i.e., the symptoms can be relieved but they cannot be cured ultimately.

Hemorrhoids of the third and fourth degree no longer retract and instead they protrude into the rectum. These hemorrhoids must be treated by a doctor. They can be obliterated or surgery can be performed. There is also the possibility of an injection that causes the veins to shrink or the use of an elastic girdle that keeps the hemorrhoids in place. Pain treatment with magnetic field therapy is possible in any stage of the disease, but the best results are obtained in stages 1 and 2.

4.20.3. Thrombophlebitis

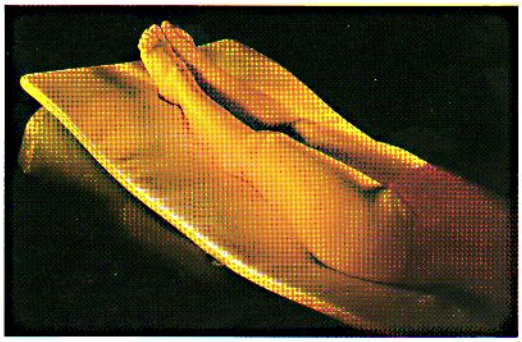
Thrombophlebitis is an inflammation of the wall of the vein with the development of a blood clot. Swelling, pain, a feeling of heaviness in the leg or in the affected region, an area of skin that is often red and hot and an extreme sensitivity to touch are characteristics of this form of phlebitis. This condition is often observed in deep veins in the legs but also in the pelvis and in the arms. If a leg is affected, the pain becomes intense when walking or when moving the foot back and forth. There are various factors which can promote this disease: among others, being bedridden for a long period of time, inactivity, a heart defect, injuries, taking birth control pills, pregnancy, sitting or standing for long periods of time, obesity, advanced age or chronic infections. In superficial thrombophlebitis, anti-inflammatory analgesics and elastic support hose for the legs are used. A deep thrombophlebitis can easily lead to a pulmonary embolism. Therefore, hospitalization and bed rest with elevation of the legs are necessary. An anticoagulant (an agent that prevents blood from clotting) is administered intravenously.

Effect of magnetic field therapy on vein problems:

Varicose veins and hemorrhoids: regulating effect through the autonomic nervous system, influence on the connective tissue of the veins (strengthening it), improving the flow properties of blood. Veins that have already protruded cannot be corrected (prevention). Effect of magnetic field therapy on thrombophlebitis: reducing swelling, counteracting inflammation

Proper use of MRS for vein problems

- Whole-body mat: 3 times a day for 16 minutes each time: 100 % in the morning (gradually increasing from 10 %), 50 % level at noon, 10 % level in the evening
- Forms of therapy supportive of MFT: enzymes, support hose, herbal remedies (oak bark, grape seed extract, gotu kola, gingko biloba), shark cartilage extract, essential fatty acids (evening prim rose oil, borage oil, flax seed oil, salmon oil), vitamin C, vitamin E.
- Special instructions on use: elevate the legs (wedge cushion at the foot end of the mat)



Whole-body treatment for vein problems

- Thrombophlebitis: Do not use MFT in the acute phase, use it only after the inflammation has subsided.
- Notes on the initial reaction: none

Scientific studies on the treatment of diseases of veins with MFT

A study using MRS in conjunction with venous insufficiency is currently underway at the University Clinic in Fünfkirchen under the direction of Dr. Halmos, M.D. The preliminary results were strongly positive.

- A. P. Dovganiuk: "Balneologic and Physical Therapy of Chronic Venous Insufficiency of Extremities," Vopr Kurortol Fizioter Lech iz Kult, 2, 1995, pp. 48-49. - This article reports that MFT has been used successfully in a variety of diseases, mainly for treatment of chronic venous insufficiency.
- E. I. Pasynkov et al.: "Therapeutic Use of Alternating Magnetic Field in the Treatment of Patients with Chronic Diseases of the Veins of the Lower Limbs," Vopr Kurortol Fizioter Lech Fiz Kult, 5. - This study on 271 patients with chronic venous insufficiency yielded good results after the treatment on 236 patients.
- Additional studies: see "Decubital ulcer" in the chapter "Diseases of the skin"

Patient reports on the treatment of diseases of the veins with MRS

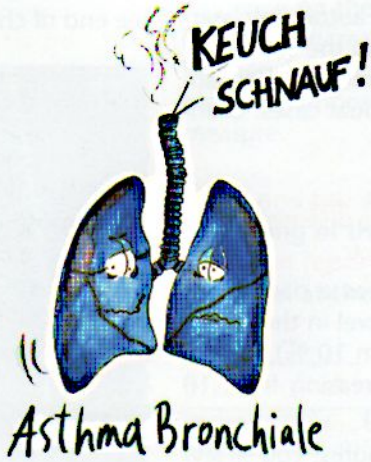
1. Thanks to Mrs. Maria Pfeiffer

- *Patient J.S., female, 75 years old; diagnosis: "Since the age of 50 I have had varicose veins and since then I have been wearing support hose everyday. At night I would be awakened by severe cramps in my feet. Since 1990 I have had a severe bronchial irritable cough, I've been unable to sleep at night and I have tried many medications in vain. I have had high blood pressure for many years." Results of MRS therapy: "After about two weeks, my high blood pressure stabilized and my irritable cough has almost disappeared entirely. The cramps in my feet have stopped and the small spots on my feet have disappeared. I no longer have any complaints with the varicose veins."*

2. Thanks to Mr. Max Keiser and Mrs. Verena Singer

- *Patient V.S., female, 51 years old; diagnosis: 1986 varicose veins partially removed an incision in the groin, hemorrhoids. Results of MRS therapy: "After one week I felt that the magnetic field was doing something in my body. After a short period of time, I experienced an improvement in my neck problems, which I have had for 10 years. At the age of 24, I had already had hemorrhoids cut out and treated with a laser. However, they were still there and caused me pain. Then they were fixed with rubber, which is a short-term solution. I still had complaints. However, since magnetic field therapy, I have never had to return for a doctor's treatment again because of hemorrhoids. One varicose vein had appeared again after the operation, but after the MRS treatment, it became flatter and no longer caused me any pain."*

Appraisal of MFT: **65-75 % good to very good results**

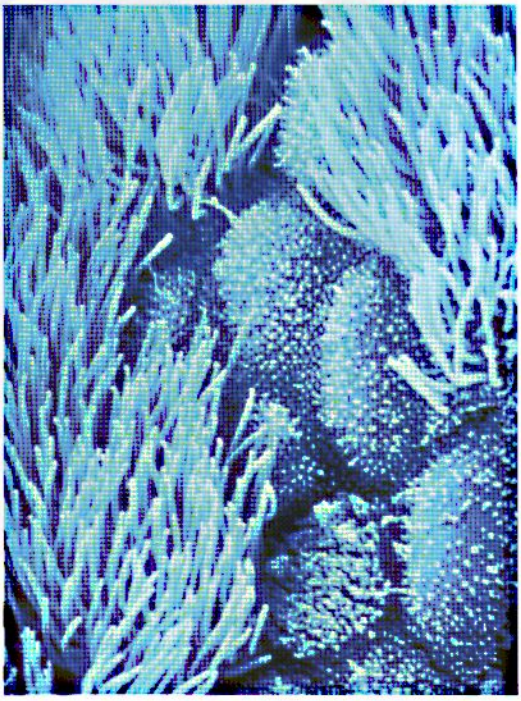


Bronchial asthma

5. Diseases of the respiratory tract

The organs of the respiratory system include the nose, the throat, the larynx, the windpipe (trachea), the bronchial tubes and the lungs. When we inhale, air is moistened, warmed and filtered in the nasal cavities and flows through the throat and into the windpipe or trachea. The trachea is divided into two bronchial branches which lead into the lungs. In the lungs, the branchial tubes branch off (25 times) into bronchial tubes (bronchioles) which become smaller and smaller until they end in grape-shaped sacks, the air cells or alveoli. Each alveolus is surrounded by a network of small blood vessels (capillaries). The gas exchange takes place on the walls of these capillaries, i.e., oxygen is absorbed into the blood (which carries the oxygen to the individual cells) and carbon dioxide is released into the lungs through the alveoli, leaving the body on exhalation.

When we inhale, our lungs expand, and when we exhale they contract. The lungs are moved by the rib muscles and by the diaphragm. During inhalation, the diaphragm becomes tense and lowers itself so that the lungs can expand and take in air. In exhalation, the diaphragm relaxes and the lungs are compressed again. The pleura is a thin, moist membrane covering the lobes of the lungs and surrounding the chest. It compensates for the friction resulting from respiration and in this way prevents the lungs from being injured on the ribs during the breathing movement.



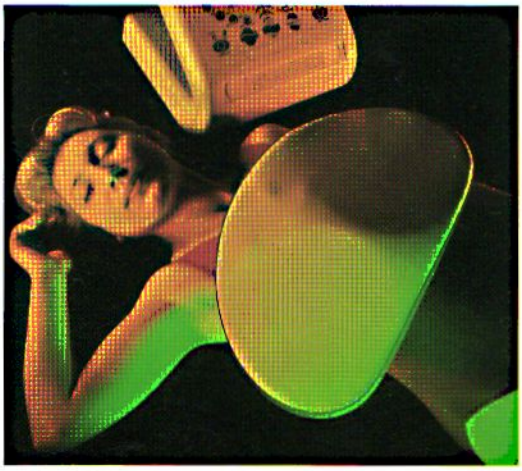
Tracheo/ciliated epithelium

Effect of magnetic field therapy on diseases of the respiratory tract:

harmonizing effects on the autonomic nervous system, relaxing effect on the intercostal muscles and diaphragm: permitting deep abdominal breathing; in individual cases: bronchodilating, mucolytic

Proper use of MRS for diseases of the respiratory tract

- Whole-body mat: 2-3 times a day for 16 minutes each time: 150 % level in the morning (gradually increasing from 10 %), 100 % level at noon (gradually increasing from 10 %), 25 % level in the evening
- Pad: once a day for 24 minutes: 100 % level, in the area of the thoracic spine (whole-body application: reduce from 16 minutes to 8 minutes)



Local treatment of the lungs with a pad

- Forms of therapy supportive of MFT: bronchovaxom, ayurvedic medicine, bioresonance, NLP, qi gong, TCM, acupuncture, aroma therapy, Kneipp cure, herbal remedies in general (mullein, thyme, coltsfoot, marshmallow root, ginger, licorice root, chickweed, grape seed extract)
- Special instructions on use: perform breathing exercises during the treatment, do not fall asleep (breathing becomes too shallow)!
- Notes on the initial reaction: none

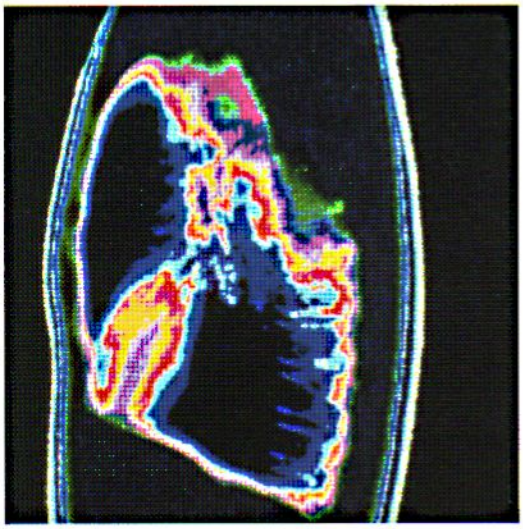
Studies, physician reports and patient reports:

see end of chapter

5.1. Asthma

In asthma, a distinction is made between allergic and non-allergic forms of the disease. The symptoms of allergic asthma are caused by one or more specific substances from the environment. The most common allergens (substances causing an asthma attack) are pollen, house dust, animal hair and mold spores. Chemical substances may also play a role in the development of allergic asthma. Non-allergic asthma may be caused by an ear, nose or throat infection (rhinovirus), cold room air or emotional stress. Children whose parents both suffer from asthma have a 50 % higher risk of developing asthma themselves. In 30 % of asthma cases, the disease begins during the first five years of life. The initial signs include fatigue and inability to pay attention during the day. Asthmatic children often have sleeping problems. Both forms of asthma are characterized by the unpredictable attacks where the respiratory tract swells up and also cramps. Inhalation is made difficult by the fact that the lungs are not completely emptied on exhalation and thus not enough fresh air can be taken in. Due to the acute shortness of breath, the person affected believes he/she is suffocating. The attacks may occur regularly or just a few times a year, at any time of day or night. They may be harmless or very intense and even life-threatening. In addition to the tightness in the chest and coughing, typical signs of an asthmatic include whistling exhalation which occurs when the stream of air flows through the constricted branchial tubes. The disturbed exhalation makes it impossible for an asthmatic to blow out a candlelight or speak. Anxiety, a rapid pulse and cold sweats are typical accompanying symptoms. Only after the attack can the patient cough up the viscous mucous which is clogging up the cramped branchial tubes. The reduced supply of air to the lungs often causes hazardous inflammations, under some circumstances even with the development of an abscess. If asth-

ma goes untreated for a long period of time, it also creates an enormous burden for the heart.



Bronchial asthma

There is no cure for asthma, but there are various possibilities for bringing it under control. To relieve the symptoms, breathing exercises are extremely important. Primarily, substances that cause an attack should be avoided. Through appropriate testing, the harmful allergen can be determined. So-called desensitization is of the most recent form of therapy which is of the greatest medical interest. In this procedure, the substance to which the person is allergic is administered by injection to the person at first in very low doses and then in increasing doses to produce a type of training effect in the body. An attempt is also made to stop the inflammation and swelling through medication to prevent an attack before it occurs. Such drugs are usually inhaled such as corticosteroids. The inhaler makes it possible to inhale the medication in the form of fine microdroplets. Pills must also be taken if an attack is very severe. Although they are effective for a short period of time, they entail some significant side effects over a longer period of time. Helpful alternatives also include preparations and therapy forms from natural medicine.

Magnetic field therapy has primarily a supporting effect on regulation of respiratory mechanics. In addition, it can increase the breath time volume and, through the direct influence on the autonomic nervous system, it can also increase the patient's vital capacity. Oxygen is also utilized optimally. MFT also plays an important role as a prophylactic measure.

Effect and use of MFT can be found at the beginning of this chapter; study results, physician reports and patient reports can be found at the end of this chapter.

5.2. Bronchitis

Bronchitis is an inflammation of the afferent respiratory tract, which swells and produces increased mucus. In order for the branchial tubes to be able to function in a healthy manner, this mucus must be coughed up. In this case we speak of acute bronchitis. According to a definition of the World Health Organization (WHO), chronic bronchitis is a disease condition where coughing and expectoration last for more than three months a year, and this event must be repeated at least twice a year.

The main cause of bronchitis is smoking (75 % of those affected are smokers), but recurring infections, environmental pollution, air pollution and weather influences are also harmful components. Dust and bacteria that can enter the body through the air are normally prevented from reaching the bronchial tubes by cilia, which are fine hairs on the mucus membranes of the respiratory tract. Smoking causes these cilia to be covered by tarry substances and the pathogens can then enter the body unhindered and cause an infection. The bronchial tubes becomes scarred and rigid due to the repeated infections and the alveoli become distended like a bag, reducing the surface area in the lungs. This at the same time reduces the area available for gas exchange. The result: the right heart must increase its output, until it is overstressed and fails.

People who have bronchitis should drink a lot of water and hot fluids. An atomizer so that warm moistened is inhaled and inhalation

preparations are also helpful. Acute bronchitis usually requires treatment with an antibiotic. In any case, not smoking is the best protection.

Effect and use of MFT can be found at the beginning of this chapter; studies results, physician reports and patient reports can be found at the end of this chapter.

5.3. Emphysema

Emphysema is a chronic progressive disease causing expansion of the lungs. It occurs when the narrow respiratory tract to the alveoli becomes overstretched and the walls which subdivide the alveoli are destroyed or damaged. The spherical bulging which then forms reduces the surface available for gas exchange and the lung tissue becomes useless in this area. The main feature of emphysema is being short of breath, a painful cough with coughing up mucus is a frequent accompanying phenomenon. The difficulty in breathing (the person must breath more often in order to be able to take in the same amount of air as with a normal breath) leads to an extremely high energy consumption. Therefore, these patients become easily fatigued and need more calories to maintain their weight. Many patients develop a barrel chest, and enlarged rounded chest with overdeveloped chest muscles because of the expanded lungs. Because of the oxygen deficiency in the blood, their lips, earlobes, skin and fingernails may become bluish in color.

Emphysema often occurs in combination with chronic bronchitis. When the disease progresses, many complex changes take place in the body. Thus, for example, the oxygen content in the blood becomes lower while the carbon dioxide content increases. In addition, the lung tissue loses elasticity. Change also occurs in the blood vessels in the lungs. The right half of the heart, which pumps low-oxygen blood from the veins to the lungs must work much harder. If the right half of the heart is overstressed too much in the long run due to this performance pressure, the heart becomes weak until it fails. With heart failure, less blood is delivered to the cells, which causes great swelling in the feet, ankles and legs. So far mainly men after the age of 50 have been affected by emphysema. Since the number of women smoking has increased greatly in recent years, however, this disease is also being seen increasingly among women.

There is no treatment for emphysema. Irritating substances, mainly cigarette smoke, should be avoid. Intake of abundant fluids helps to dilute the mucus in the lungs. Special diets and certain breathing exercises (using the chest and intestinal muscles) to facilitate breathing are recommended as supportive measures. Air conditioning and room humidifiers should clean the air. Medications are used mainly to dilute the mucus and to relax and expand the air passages. Antibiotics are administered to fight infections.

Effect and use of MFT can be found at the beginning of this chapter; studies results, physician reports and patient reports: can be found at the end of this large chapter.

5.4. Lung infection

In a lung infection or so-called pneumonia, the small alveoli in one or more areas of the lungs become inflamed. The alveoli filled with fluid and white blood cells which try to combat the infection. Pneumonia is very dangerous, especially for very young and very old people.

Pneumonia mainly affects peoples whose immune system has been weakened by a cold, influenza or a long-term infection such as chronic bronchitis, emphysema, asthma, diabetes, cancer or sickle cell anemia. Viruses, bacteria, fungi or other pathogenic microorganisms may cause pneumonia. However, chemicals, foods, vomitus or foreign bodies that enter the trachea instead of the esophagus may also cause pneumonia. Smoking, excessive drinking, prolonged bed rest, anesthesia, sedatives and certain medications can increase susceptibility to pneumonia. Pneumonia very often occurs following an influenza and cold epidemic, especially in the winter

when people stay in their houses and homes more, where bacteria and viruses are more easily transmitted.

The four main symptoms of pneumonia are chest pain, a rapid increase in body temperature, coughing and difficulty in breathing. Bacterial pneumonia occurs suddenly in conjunction with chills, a rapid rise in temperature, a shallow breathing and coughing with bloody, dark yellow or rust-colored expectoration. The oxygen deficiency which is often associated with a bacterial pneumonia causes headaches, nausea and cyanosis (blue discoloration of the lips and fingertips). Viral pneumonia is less serious than bacterial pneumonia. The viruses cause coughing and other cold symptoms as well as general fatigue, fever, chest pain and difficulty in breathing.

Viral pneumonia is usually treated with bed rest, abundant fluid intake, a light diet and pain pills. Bacterial pneumonia requires antibiotics such as penicillin, bed rest, and, in severe cases, hospitalization.

Effect and use of MRS: **See the beginning of this chapter.**

Scientific studies on the treatment of colds of the respiratory tract with MFT

- Khomenko et al.: "Use of Millimeter Range Electromagnetic Radiation in Complex Therapy for Pulmonary Tuberculosis," Millimetrovie Volni v Biologii I Medicine (3), 1994, pp. 53-61. - This study shows the supportive effect of MFT in the treatment of patients who had tuberculosis of the lungs and received the usual therapeutic medication. There was no effect on the bacterium itself, but there was more rapid regeneration of the patient in the recovery phase.

- L. V. Iashchenko: "Low-Frequency Magnetic Fields in the Combined Therapy of Inflammatory Lung Diseases," Prob Tuberk, 3, 1988, pp. 53-56. This study shows the positive effect of low-frequency MFT in combination with conventional therapy measures on rats with various inflammatory lung diseases. A group of 165 with the same diseases received the same treatment and showed a definite reduction in the risk of complications such as a pulmonary abscess.

- G. A. Mozhaev et al.: "The Prevention and Treatment of Suppurative Inflammatory Complications in the Bronchopulmonary System During Prolonged Artificial Ventilation," Anesteziol Reanimatol., 1992 (4). - This study shows the positive results when using MFT in combination with increased lung ventilation in purulent inflammations of the respiratory tract. Improved production of mucus, optimized operation of the phagocytes and improved immune defense have been demonstrated.

- V. M. Iurlov et al.: "The Efficacy of the Use of Low-Frequency Electromagnetic Fields in Chronic Bronchitis," Voen Med Th, 3, 1989, pp. 35-36. - The results of this double-blind, placebo-controlled study show that treatment with electromagnetic fields has a very good effect on patients suffering from chronic bronchitis. Treatment with the usual medications was continued during the study.

- E. A. Gaidashev et al.: "An Evaluation of the Effect of Magnetic Laser Therapy on External Respiratory Function in Complicated Forms of Acute Pneumonia in Children," Vopr Kurortol Fizioter Lech Fiz Kult. - The results of this study document the finding that MFT in combination with laser can significantly reduce the risk of severe complications in children between the ages of 1 and 12 in acute infections of the respiratory tract.

- V. M. Bogoliubov, L. A. Skurikhina: "Therapeutic Application of Constant and Low-Frequency Magnetic Fields," Vopr Kurortol Fizioter Lech Fiz Kult (2). - This article gives a review of the possibilities of low-frequency magnetic field therapy in treatment of a number of different diseases. Positive results were found in treatment of bronchial asthma.

Physician reports on the treatment of diseases of the respiratory tract with MF

1. Dr. Birgit Kleber, General Practitioner, Rottach Egern

- *Patient S.S., male, 8 years old; diagnosis: bronchial asthma: increased need for medication for several weeks. The patient cannot sleep*

through the night, has shortness of breath just when climbing the stairs and cannot participate in school sports. Results of MRS therapy: the boy slept through the night for the first time after his first MRS treatment. After three treatments he no longer needed any medication. He is now coming only once a week and is stable.

2. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0043/01/40 666 00

• *Patient E.F.J., male, 23 years old, track & field athlete. Diagnosis: Stress asthma: severe restriction, especially in international competitions. Results of MRS therapy: after the first treatment, the clinical parameters of spirometry improved. The athlete is almost free of symptoms today and his performance is at a peak.*

• *Patient M.K., male, 10 years old. Diagnosis: Severe asthma (to pollen) for four years. Results of MRS therapy: after half a year of treatment, the boy is free of symptoms and no longer needs any medication. He is again sleeping well.*

Patient reports on the treatment of diseases of the respiratory tract with MRS

1. Thanks to Mr. Siegfried Müller

• *Patient M.R., male, 9 years old; diagnosis: asthma, neurodermatitis, allergy. At the age of half a year, he developed neurodermatitis which was exacerbated by improper treatment (cortisone). Asthma attacks since the age of 6, bad breathing - shrugging his shoulders. Allergies: especially to animal hair, hayfever, pollen allergy, constant scratching. Results of MRS therapy: Sleeping calmly, breathing more easily - even with a cold, no more whistling. Allergy to animal hair: no more scratching, no redness, no typical allergy reaction with horses.*

2. Thanks to Mrs. Giovanna Fakin

• *Patient G.F., female; diagnosis: constantly recurring hayfever for 11 years, asthma attacks. The attacks were especially violent at night. Results of MRS therapy: "After three weeks of use, I have no more symptoms and have been able to stop the various medications. I would classify my overall physical condition as especially good."*

3. Thanks to Mr. Reinhard Schlag

• *Patient C., female, 3 years old; diagnosis: chronic bronchial cough. The patient would lie down on the mat together with her grandmother. Results of MRS therapy: there was a definite improvement. On the third day after treatment, Mrs. K. called to report that her granddaughter had felt a mild headache on the way home and fell asleep. Upon waking up, she vomitted followed by a single intense expectoration of mucus. Since then, she has not had any more coughing. She also changed and is no longer so anxious, is much more balanced and relaxed.*

• *Patient S., female, 38 years old; diagnosis: severe asthma, severe backaches and shoulder complaints, sleep disorders, stomach and intestinal problems and psychological problems. Results of MRS therapy: after two treatments, there was an initial exacerbation of her asthma. After one week, there was a definite improvement in all symptoms. The patient can now sleep well again. Her backaches and shoulder aches have improved each day, and her bowel movements have normalized. Since the second week of treatment, she has stopped taking medication and has also become calmer and more balanced.*

4. Thanks to the company Vita-Life

• *Patient D., female, diagnosis: bronchial asthma and severe hayfever, taking vasodilating medication and seasonal antihistamines, eye drops and nose drops, aerosol spray and cortisone. Results of MRS therapy: improvement after the second treatment, stopping the medication after six treatments.*

5. Thanks to Mrs. Verena Singer and Mr. Max Keiser

• *Patient E.D., male, 72 years old; diagnosis: bronchial asthma, circulation disorders, varicose veins, shoulder pain, hip problems, colds. Results of MRS therapy: her circulation disorders have improved, the shoulder pain occurs only rarely, the hip pains have improved, the colds (sniffles, sinuses) have disappeared. Various medications have been stopped. Her pulmonary activity has improved.*

• *Patient A.H., female, 61 years old; diagnosis: shortness of breath for several years due to scars in the lungs. Results of MRS therapy: respiratory*

activity easier, intervertebral disk problems: pain-free for five months. General and psychological well-being has greatly improved.

6. Thanks to Mrs. Manuela Hörner

• *Patient R.S., female, 66 years old; diagnosis: "For decades I have been suffering from chronic bronchitis: at first I had only a bad cough in the morning, but recently I have been having up to three or four coughing attacks, even at night. In addition, I have had more and more mucus and it seems more viscous and I also have shortness of breath. Medication has not helped." Results of MRS therapy: "I soon felt a significant relief. My breathing improved and the coughing attacks occurred less frequently. I can mostly cough up the heavy mucus easily. I am glad to be sleeping through the night undisturbed. My mucus membranes in my neck and throat have changed. I am no longer taking medications and sprays."*

7. Thanks to Mrs. Ursula Lange

• *Patient, female, 59 years old; diagnosis: "Since about 1983 my respiratory tract has been full of mucus. I have done a lot for it: sports, teas, fresh air, movement, yoga, tai chi, etc." Results of MRS therapy: after 14 days the mucus and secretion were dissolved (purulent), and then my respiratory tract was free and has remained so. "I am again wearing shoes with higher heels, dancing, doing fitness training, walking a lot and my extremities are warm and have good circulation."*

8. Thanks to Mrs. Beate Martina

• *Patient T.H., female, 71 years old; diagnosis: respiratory problems. Results of MRS therapy: "After the first treatment with the pad, it was much easier for me to breathe. I again have feeling in my fingertips and my legs are warm and have good circulation after just three days. I am sleeping better."*

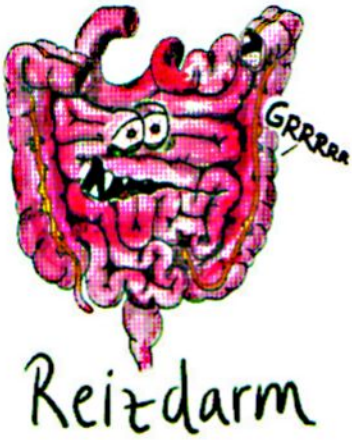
9. Thanks to Mrs. Maria Pfeifer

• *Patient K., male, 67 years old; diagnosis: coughing for six months, high blood pressure, lumbar and thoracic spine pain. Results of MRS therapy: after 14 days, the tedious coughing (despite repeated treatments by a specialist) disappeared. The spinal pain also stopped and the blood pressure can be classified as normalized (medication and MFT).*

• *Patient J.S., male, 75 years old; diagnosis: "For eight years I have been suffering from bronchial irritable cough: I could not sleep and no medication helped me. For several years I had high blood pressure - pills were no help." Results of MRS therapy: "After about two weeks, my high blood pressure has stabilized and my irritable cough has almost disappeared."*

• *Patient J., female, 8 years old; diagnosis: J. had suffered as a small child from severe bronchial coughing irritation which was constantly acute. The girl was plagued by constant coughing all day and all night. Medication, ointments and other rub-in preparations were unable to bring her any relief. Results of MRS therapy: she had an extremely severe coughing attack and coughed up a considerable amount of mucus the evening after her first treatment. Since then she has not had any more coughing attacks even till today.*

Appraisal of MFT: **70 % good to very good results**



Irritable intestine

6. Diseases of the digestive tract

The digestive tract includes the mouth, esophagus, stomach, small intestine and large intestine (the colon). The muscles of the individual digestive organs convey food forward in the system. Each of these hollow organs fulfills an important function during the digestion process. In the mouth, food is reduced in size with the help of the teeth and saliva is added. Saliva facilitates the conveyance of food and contains enzymes (special proteins) which initiate digestion. The paste of food travels through the throat and the esophagus into the stomach sack where gastric acids and digestive juices of the stomach glands further prepare the food. The mucus produced in the gastric mucosa protects the digestive tract from damage due to these strongly acidic substances. In the duodenum the food slurry is further broken down with the help of juices from the pancreas and the liver (bile). The liver produces the bile required for the digestion of fats in the small intestine. It is also responsible for cleaning blood, producing glucose and processing drugs and toxins. The liver, gallbladder and pancreas support digestion.

Food components in liquid form go into the small intestine, where they are broken down into the smallest chemical components (building blocks of sugars, proteins and fats) and enter the blood stream through the wall of the small intestine. Blood carries the nutrients into the individual cells, exchanges them for their metabolites and transports them to the excretory organs. The gallbladder is on the lower side of the liver and is an organ without a direct digestive function. It stores the bile which is produced in excess by the liver. If the gallbladder contracts when we eat a meal with a lot of fat, bile juice is excreted into the small intestine. The pancreas is located beneath the stomach. Its digestive juices ensure the disintegration of proteins, fats and carbohydrates. In addition to the digestive juices, it secretes insulin for the utilization of sugar. The substances that are not absorbed into the blood travel into the large intestine where electrolytes and water are withdrawn from the residues from the small intestine in order to maintain the fluid balance in the body.

If a section of the digestive tract is dysfunctional, this can have effects on all the other digestive organs in a manner that is harmful to their health. If we consider the great number of harmful substances that pass through the gastrointestinal tract each day, it should not be surprising that gastrointestinal disorders are some of the most common diseases in the world.

6.1. Appendicitis

The appendix is a small worm-like projection of the intestine at the point of transition from the small intestine to the large intestine. It is actually part of the immune system. Despite its allegedly minor significance, an inflammation of the appendix is not without problems. This inflammation is usually the result of an infection. It develops when toxins or waste products, intestinal worms or bacterial pathogens obstruct the appendix. In the initial stage, appendicitis causes a dull or sharp pain in the area of the navel. Any movement, coughing or sneezing intensifies the pain. Nausea, an inability to eat and constipation are other concomitant symptoms. 10 % of those affected with appendicitis suffer from diarrhea. Adults may have a fever of up to 39 °C, and even higher for children. The pulse increases up to 100 beats per minute. Within hours, the pain becomes more intense. The location of the appendix in the abdominal area varies with each individual, and the pain may be manifested in the back, in the side, in the pelvis or even on the opposite side. The entire area around the appendix becomes especially sensitive because the surrounding muscles are contracting. When the fever is higher and the pain increases, there is risk of rupture of the appendix. In this case, the appendix is severely swollen and is filled with so much pus and bacteria that it can rupture and the infection can spread so rapidly that the much-feared peritonitis may develop within a few hours after the first symptoms are noticed. Any fever combined with nausea and abdominal pain should be investigated by a physician. A ruptured appendix is a medical emergency. It can occur in anyone, but is most common in people between the ages of 10 and 30. An immediate diagnosis permits effective treatment. If there is a suspension of appendicitis, the person affected must not eat or drink anything or take any pain pills before seeing a physician. Eating and drinking stimulate intestinal activity and can therefore lead to complications.

Magnetic field therapy has a place in post operative care of appendicitis, i.e., in the rehabilitation phase.

6.2. Ulcerative colitis:

see "Diseases of the large intestine"

6.3. Diabetes (blood sugar disease):

see chapter "Metabolic diseases"

6.4. Diseases of the large intestine

X-ray: large intestine

6.4.1. Colitis and irritable colon

Colitis is an inflammation of the large intestine, whereas in irritable colon there are no signs of inflammation in the intestine. The cause of irritable colon is a disturbed equilibrium in the autonomic nervous system and not in the intestine itself. Approximately 70 % of all doctor's visits because of abdominal pain are due to an irritable colon. The symptoms, which are caused by intense muscle activity of the lower abdomen, range from diarrhea, constipation headaches and cramping to a slightly elevated temperature, and sometimes

there is mucus and blood in the stool. Irritable colon is a so-called diagnosis of exclusion, i.e., it is diagnosed by excluding all other possible diseases first. Magnetic field therapy has extremely good prospects for success especially in irritable colon.

Colitis is a definite inflammation of the intestine: the bacterial inflammation, ulcerative colitis and Crohn's disease are the most common causes. Colitis usually begins with intestinal discomfort, mild diarrhea or constipation and a general sick feeling. When the situation becomes more serious, abdominal pain or bleeding in the intestine may also occur. If the disease occurs suddenly, it is accompanied by fever, bloody diarrhea, loss of appetite and weight loss. Ulcerative colitis is not an infection with bacteria, but instead is a disease of the large intestine, the cause of which is not known, and which can lead to various tumors on the intestinal mucosa. The disease is usually painful, occurs in attacks, related to stress situations. For a diagnosis, the intestinal walls are examined with the help of a colposcope, where a tube with a light is inserted into the intestine and if necessary, a tissue biopsy is taken and examined under a microscope. Patients with mild colitis may make do with a normal diet. More serious cases must be treated in a hospital, because water and the electrolytes that are essential to life are lost with diarrhea or bleeding and must be replaced immediately. Medicines such as antibiotics and cortisone are used in chronic colitis. Sometimes surgery must be performed to remove the inflamed area of the intestine.

6.4.2. Diverticulitis

In diverticulitis, small bulges in the intestinal mucosa become inflamed. One third of the those over the age of 60 suffer from this disease and the incidence of complications increases with age. It is assumed that the pressure caused by abnormal intestinal movements forms gaps in the vascular muscle, causing these protrusions. Many people with diverticulitis do not have any symptoms - only one fourth of those affected complain of symptoms. If the bulges are near a blood vessel, they can lead to suppuration and begin to bleed and escape through the anus. If hardened feces collect in the pockets, they press against the thin walls and reduce circulation. This area then becomes susceptible to bacterial infections.

An inflammation of the diverticula can lead to a rupture, an abscess (a closed pouch with pus around the perforation) or to peritonitis. Constipation may alternate with diarrhea. Symptoms include severe cramps and sensitivity to pressure, especially in the left lower intestinal area. It is not uncommon for the infection to spread into the bladder or the vagina. Pain in urination indicates an infection of the bladder, feces in the urine indicate an abnormal connection between the intestine and bladder (fistula). In acute infections of the diverticula, a fever also develops. A tentative diagnosis is made on the basis of the symptoms. A medical examination can provide information regarding the mass in the left lower intestinal area. An x-ray, CT scan or colposcopy can provide information regarding complications and the location of the pockets. In serious cases, hospitalization with intravenous feeding are necessary. In fever or other signs of an infection, antibiotics are usually prescribed. If there is also peritonitis, surgery must be performed in any case. Then the affected section of intestine is removed and reconnected by an end-to-end anastomosis or an artificial outlet is created until the inflammation and infection have subsided. A high-fiber diet seems to be the best way to prevent diverticulitis.

Effect of magnetic field therapy on diseases of the intestines:

calming effect on the autonomic nervous system (Plexus myentericus), promoting circulation, protecting the mucus membranes.

Irritable colon: best prospects for success within the diseases of the gastrointestinal tract

Proper use of MRS for diseases of the intestine

- Whole-body mat: 2-3 times a day for 8 minutes each time: 50 % level in the morning, 25 % level at noon, 10 % level in the evening

• Pad: twice a day for 16 minutes each time: 8 minutes in the lower back area with legs bent, 100 % level

8 minutes below the costal arch, lying on the stomach, 25 % level

• Forms of therapy supportive of MFT: symbiosis guidance, enzymes, acupuncture, homeopathics, NLP, osteopathy, qi gong, shiatsu, herbal remedies (plantago psyllium, Indian flea-wort, flaxseed oil, ginger, garlic, orange root, chamomile), digestive enzymes, vitamin B complex, supplements of acidophilus and bifidus bacteria for regeneration of the intestinal flora

Basic treatment for diseases of the intestine

• Special notes on use: Drink lots of fluids!

• Notes on the initial reaction: Mild cramping or intestinal irritation may occur in 3 % of the cases at the start of treatment.

Scientific studies on the treatment of intestinal diseases with MFT

• B. Bulent-Mentes et al.: "Influence of Pulsed Electromagnetic Fields on Healing of Experimental Colonic Anastomosis," Department of Surgery, Gazi University Medical School et al., Diseases of the colon and rectum, 1996. - This study investigated the influence of pulsating electromagnetic fields on the mechanical strength and collagen content (connective tissue fibers) of uncomplicated anastomoses (suture connections of two portions of the intestine separated by surgery) in the intestine of rats. It was demonstrated that connective tissue becomes more stable under MFT and the suture can be more durable.

• L. Navratil et al.: "Possible Therapeutic Applications of Pulsed Magnetic Fields," Cas Lek Cesk, 132 (19), October 11, 1993, pp. 590-594. - The results of this study show the success of treatment with MFT in treating inflammatory disorders in the area of the gastrointestinal tract.

• A. M. Begue-Simon, R. A. Drolet: "Clinical Assessment of the Rhumart System Based on the Use of Pulsed Electromagnetic Fields with Low Frequency," International Journal of Rehabil Research, 16(4), 1993, pp. 323-327. - In this study the effects of MFT on various diseases are discussed in greater detail, including gastrointerologic problems. Various studies have shown positive effects, especially in stress-related diseases of the gastrointestinal tract.

• R. A. Drolet: "Rhumart Therapy: a Noninvasive Cell Regeneration Ion and Anti-Inflammatory Therapy Using LF-EM Fields," Bioelectromagnetics Society, 4th Annual Meeting, Los Angeles. This article describes the effect of a low-frequency electromagnetic therapy on a variety of applications. In addition to the pain reduction, the calming and anti-inflammatory effects are emphasized in particular.

Local treatment for diseases of the intestine

Physician reports on the treatment of intestinal diseases with MF

1. Dr. Sepp Fegerl, M.D., General Practitioner, Salzburg

• *Patient G.E., male, 66 years old; diagnosis: spastic on one side due to a birth trauma, exacerbated by stress, therefore, he has been occu-*

pational y disabled since 1994; 1995 surgery for colon cancer, enteropathy syndrome. Results of MRS therapy: his energy has greatly improved, likewise his mobility and spastic symptoms.

- *Patient R.I., male, 62 years old; diagnosis: multiple sclerosis since 1954, enteropathy syndrome. Results of MRS therapy: initially he experienced severe fatigue following a treatment. After an adjustment in dose, the patient felt good, and his hands and feet, which were otherwise always cold, became warm. The enteropathy syndrome reacted with rumbling in the abdomen and a bowel movement after each treatment.*

2. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0043/01/40 666 00

- *Patient R.G., male, 43 years old; diagnosis: ulcerative colitis for six years. Condition after surgery: the patient complains of severe pain and cramps in the intestine. Results of MRS therapy: after three and a half months of treatment, there has been a definite improvement in pain symptoms, no more cramping with evacuation, increased well-being and better quality of life.*

Patient reports on the treatment of intestinal diseases with MRS

1. Thanks to the company Vita-Life

- *Patient G.S., female, 52 years old; diagnosis: sluggishness of bowels, constipation, lack of energy. Results of MRS therapy: "I no longer needed to take laxatives after four weeks of treatment."*

- *Patient K.K., female, 50 years old; diagnosis: digestive disorders, sluggishness of bowels, hemorrhoids, constant fatigue, listlessness and lack of energy. Results of MRS therapy: "The inflammation of the intestinal mucosa disappeared after three months of treatments. Circulation in the skin improved and I no longer feel any pain."*

Appraisal of MFT: **75-80 % good to very good results**

6.5. Diarrhea

see "Digestive disorders"

6.6. Fatty degeneration of the liver

see "Liver diseases"

6.7. Adiposity

see "Obesity" in the chapter "Metabolic diseases"

6.8. Gallstones

see "Liver Diseases"

6.9. Gastritis, gastroenteritis and peptic ulcers

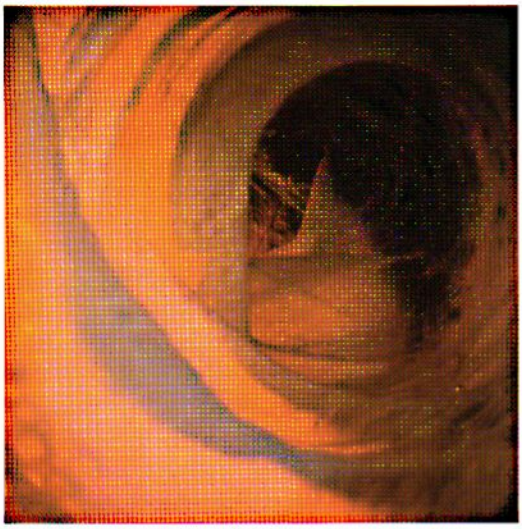
6.9.1. Gastritis

In gastritis, the mucus membrane of the stomach is inflamed. Poor nutrition with spicy, broiled, high-carbohydrate dishes and too much alcohol and coffee can "upset" the stomach. Nausea, a feeling of fullness, belching and heartburn are the characteristics signs of an upset stomach. In gastritis, a suitable diet can bring a great deal of relief. With all gastric and duodenal complaints, it is first important to determine whether they involve an infection with a certain bacterium, the so-called Helicobacter pylori which can in some cases be destroyed by antibiotics and by blocking hydrochloric acid. Nervous gastritis occurs relatively commonly and should also be classified with the psychosomatic diseases because it is caused primarily by stress and nervousness. Magnetic field therapy is especially successful in this field due to its calming and anticonvulsant effects (hyperpolarization).

6.9.2. Gastroenteritis

Gastroenteritis is an inflammation of the gastric and intestinal mucosa caused by viruses and bacteria, allergic reactions to certain foods or beverages, infectious diseases such as influenza, food poisoning or certain drugs. It involves headaches, vomiting, diarrhea and

pain in the gastrointestinal area. Normally, gastroenteritis disappears within a few days on its own, but the diarrhea may last up to ten days. If no improvement has occurred by then, it is advisable to consult a physician. The greatest danger of this disease is the loss of fluid, especially in the elderly and in children. Therefore, fluids should be drunk in small quantities distributed throughout the day. It is especially important to observe absolute hygiene in the kitchen area. Possible causative allergies should be determined, and alcohol should be consumed only in small quantities.



Small intestine/endoscopic image

6.9.3. Stomach ulcer

A stomach ulcer (peptic ulcer) or a duodenal ulcer often occurs due to hyperacidity of the stomach, which can also cause an inflammation of the lower esophagus (esophagitis). Men are affected by duodenal ulcers ten times more commonly than women. Approximately one in ten in Central Europe suffers from an ulcer, and approximately one in three suffers from a primary illness involving severe heartburn.

An ulcer involves damage to the mucous membrane, a type of crater created by the gastric acid in the mucous membrane. Although the precise causes of ulcers in the gastrointestinal tract are not known, an excess of aggressive digestive juices is assumed. However, a gastric ulcer may also occur due to a hereditary weakness in the gastric wall or on insufficient protective function of the mucous membrane. Recent studies have shown that here again, the Helicobacter pylori bacterium may also play a role. Stress is the triggering factor for an ulcer in many cases. A predisposition, blood type O, liver diseases, rheumatoid arthritis and flatuence increase the risk of an ulcer. The most common symptom is a burning sensation in the abdomen, above the navel, which feels like a hunger pang. In peptic ulcer, the pain occurs 30-120 minutes after eating, whereas with a duodenal ulcer the pain usually occurs in the middle of the night as a typical fasting pain. The complications include dangerous internal hemorrhaging. Signs of this include blood in the stool or in the vomitus, a feeling of weakness and severe thirst. Serious infections may occur if the ulcer perforates the intestinal wall.

Peptic and duodenal ulcers can flare up repeatedly and ultimately lead to stiff scars in the intestinal area which are a problem (form an obstruction). Although tests of these patients were previously performed with the help of x-rays (the patient had to drink a liquid that would make the intestinal tract visible), today gastroscopy is preferred. A tube system is inserted through the mouth, so that the stomach can be observed in detail from the inside. In addition, the presence of bacteria can be ascertained by a biopsy.

In treatment of peptic ulcers, the main approach is to eliminate hydrochloric acid and strengthen the mucous membrane protection. Stress situations, which are a common cause of relapses (recurrence of the disease) can be handled well with the help of autogenous training. Foods that cause pain should be avoided. Milk has a calming effect on the stomach (milk in coffee reduces the irritating effect on the stomach). Most ulcers today heal four-six weeks after the start of treatment. Coffee, cigarettes and alcohol should be avoided in the future. If diet and medication do not help, there is always the possibility of surgery.

Effect of magnetic field therapy on injuries to the gastric mucosa:

calming the autonomic nervous system, promoting circulation, improving the production of mucus for protection against aggressive gastric acid, relieving pain, preventing recurrences

Proper use of MRS for injuries to the gastric mucosa

- Whole-body mat: 3 times a day for 16 minutes each time: 25 % level in the morning, 10 % level at noon, sensitive level in the evening.
- Pad: once a day for 16 minutes each time: 50 % level, in the upper abdominal area
- Forms of therapy supportive of MFT: roller cure with chamomile extracts, basic powders and acid binding agents, herbal remedies (licorice root, orange root, meadowsweet, cayenne, ginger, baldrian)
- Special instructions on use: The ideal time for treatment is midday and in general after a meal.

Local treatment for injuries to the gastric mucosa

- Duration of treatment: three to five weeks for acute ulcers, longer accordingly for chronic inflammations
- Notes on the initial reaction: none

Scientific studies on the treatment of injuries to the gastric mucosa with MFT

- M. V. Poslavsky et al.: "Experience with Application of Millimeter-Range Radiation for Treatment and Prophylaxis of Stomach and Duodenal Ulcer," Vopr Kurortol Fizioter Lech Fiz Kult (4), 1998, pp. 31-36. - In this study the effect of magnetic fields on 317 patients suffering from peptic and duodenal ulcers was tested. A complete closure of the wound in the mucus membrane was achieved in 95 % of the cases, in contrast with 78 % in the control group. These studies showed after one year that the patients were still free of relapses in 54 % of the cases (much lower in the control group).
- O. V. Bukanovich et al.: "Sinusoidally Modulated Currents in the Therapy of Chronic Gastroduodenitis in Children," Vopr Durortol Fizioter Lech Fiz Kult 2, 1996, pp. 22-26. - This controlled study investigated the effects of electromagnetic fields on children suffering from chronic gastroduodenitis. The results show that the signs of inflammation in the gastric mucosa subsided after treatment in 72 % of the cases.
- T. Krantzova et al.: "Efficacy of Magnetic Puncture Treatment of Patients with Duodenal Ulcers," Doktor Lending, 4(13), 1996, pp. 22-24. - In this review, 2,642 patients with duodenal ulcers were tested, with a complete closure of the wound in the mucous membrane being detectable in 80 %, and the pain disappearing in almost 100 %.
- T. Kravtsova et al: " The Use of Magnetic Puncture in Patients with Duodenal Peptic Ulcer," Vopr Kurortol Fizioter Lech Fiz Kult (1), 1994, pp. 22-24. - This study reports on definitely positive experience in supportive treatment of peptic and duodenal ulcers with MFT.
- S. Comorosan et al.: "The Effect of Diapulse Therapy on the Healing of Decubitus Ulcer," Romanian Journal of Physiology, 1993, pp. 41-45. - This study emphasizes the faster reconvalescence of patients with chronic duodenal ulcer.
- M. V. Teppone et al.: "Extremely High-Frequency Therapy of Duodenal Ulcer," Klin Med, 1991, pp. 74-77. - This controlled study shows an extremely positive effect in treatment of gastroduodenal ulcers with MFT.
- Additional studies: see "Wound healing" in the chapter "Diseases of the skin"

Physician reports on the treatment of injuries to the gastric mucosa with MF

1. Dr. Werner Raufelder, M.D., General Practitioner, Social Medicine, Balneologist, Bad Endorf

• *Patient G.B., male, 59 years old; diagnosis: recurrent gastritis, cervical syndrome and many other symptoms. Results of MRS therapy: after the first session, his sleep improved, and after the seventh session, the cervical spine improved, his stomach has been symptom-free, he has improved mobility with little to moderate residual symptoms.*

2. Dr. Ira Mayrhöfer, M.D.

• *Patient W.K., female, 52 years old; diagnosis: marked stress-induced fatigue (continuous stress for three months working 18-20 hours a day), frequent stress headaches, increasing insomnia for four weeks, lack of appetite, postprandial (after eating) epigastric pain, difficulty in concentrating, attacks of extreme fatigue while working 20 hours a day with dizziness symptoms related to position, recurrent feelings of weakness and exhaustion. Results of MRS therapy: First week of treatment: rapid improvement in headache and dizziness symptoms, increasing ability to concentrate and endure loads, hardly any difficulty in sleeping through the night, temperature in the evening increasing to 37.6-37.8 °C, no signs of any infectious process. Second week of treatment: subjective energy surge, high level of energy and enthusiasm, normalized appetite, good intake of fluids. The dizziness attacks have become minimal (i.e., more likely a vertebrogenic cause), reduction in myogelosis in the cervical spine area, consequently also a reduction in the intensity and frequency of the recurrent headaches. Therapeutic appraisal: "Energy and efficiency restored almost completely in the first week of treatment with MFT. This obvious therapeutic success can be attributed unrestrictedly to the MRS 2000 and can be regarded as truly dramatic, because the external requirements in this time did not change to the advantage of the patient nor did they allow a brief pause for reconvalescence. This energy surge was so impressive that it was even speculated as to whether Mrs. K. was taking other (chemical) performance stimulants; after this enormous output of work, it was even predicted that she would definitely collapse.*

3. Christine Wolf, Non-medical practitioner, Überlingen

• *Patient B.E., female, 45 years old; diagnosis: lower abdominal complaints of unclear etiology. Results of MRS therapy: after the third treatment there was already a slight improvement and her condition stabilized considerably. Since the eighth treatment, the patient has been symptom-free.*

4. Dr. Manfred O. Eder, M.D., Anger, Bovaria

• *Patient H.K., female, 48 years old; diagnosis: chronic symptoms involving the entire spinal column for many years, incipient osteoporosis, recurrent peptic ulcers with Mallory-weiss syndrome, variable depressive moods. In recent months, the patient has been complaining of weight gain and lidedema in the morning. Results of MRS therapy: the lidedema in the morning has disappeared, likewise the paresthesias in the area of the fingers and the dizziness attacks. The diffuse bone pain has practically disappeared. The patient's mood has improved significantly. The gastritis symptoms have disappeared and she has no more stomachaches. A recurrent urticaria which is also psychosomatic has also disappeared.*

5. Dr. Franz Reinisch, M.D., St. Radegund

• *Patient, female, 64 years old; diagnosis: upper abdominal colic, fresh duodenal ulcer. Results of MRS therapy: after just one treatment, the colic disappeared. The treatment was continued in series. The fresh duodenal ulcer developed a smooth scar after two weeks.*

Patient reports on the treatment of damage to the gastric mucosa with MRS

1. Thanks to the company Vita-Life

• *Patient G.M., male, 42 years old; diagnosis: "I had severe symptoms in the stomach area since February 1997, with cramping and constant pain. At the end of July, a doctor declared to me after performing gastroscopy and colposcopy unsuccessfully that there are situations with which one must learn to live." Results of MRS therapy: "I did not feel any improvement after the first three treatments, but after five*

more treatments my stomach aches stopped completely. In addition, I feel more vital and more satisfied. My metabolism is now functioning without complaint."

- *Patient S.B., female, 36 years old; diagnosis: Iron deficiency anemia for 12 years caused by macrohematuria. The patient reacted to taking iron preparations over a period of years with severe nausea, diarrhea and stomachaches. Results of MRS therapy: The headaches disappeared almost spontaneously each time. Now she only has to take iron preparations rarely because her blood values do not drop as drastically as before and the iron preparations are also tolerated better.*

2. Thanks to Mrs. Walter Ruprechter

- *Patient J.A., male, 24 years old; diagnosis: stomachaches, fatigue, loss of appetite. Results of MRS therapy: improvement in almost all areas: his appetite has been stimulated, his stomach complaints have disappeared and his fatigue is better.*

Appraisal of MFT: **70-80 % good to very good results**

6.10. Gastroenteritis

see "Gastritis"

6.11. Jaundice

see "Liver diseases"

6.12. Hemorrhoids

see "Diseases of the veins" in the chapter "Diseases of the circulatory system"

6.13. Hepatitis

see "Liver diseases"

6.14. Liver diseases

6.14.1. Fatty degeneration of the liver

This is the most common liver disease in Central Europe, developing due to fat deposits in the liver tissue which lead to a functional impairment of the liver. In most cases, this disease is due to a general obesity or excessive alcohol consumption. Fatty degeneration of the liver can develop into cirrhosis of the liver without prompt and effective treatment. Diseases of the liver only rarely cause pain. One of the main symptoms is fatigue. In many cases, fatty degeneration of the liver can be stopped by observing precautionary measures. Liver function is maintained for a long time, because for humans only 10 % of the liver is necessary for survival. An essential part of treatment is to avoid alcohol, sweets, fats (of animal origin), cholesterol and excessive protein intake. So far, there is no medication that has yielded definite success.

6.14.2. Gallstones

Gallstones are found very commonly in the western world. Approximately 1 in 10 people suffer from gallstones, especially women more than 40 years of age who have not yet reached menopause and consume a high-fat diet. The stones themselves consist of 80-90 % cholesterol and only 10-20 % bilirubin, the pigment in bile. If the bile fluid contains too much cholesterol, the portion that is not needed is precipitated, forming stones together with the bile fluid, bile salts and other components. The cholesterol level in the bile cannot be measured because there is no correlation between cholesterol in the blood and that in the bile. Gallstones are promoted by a diet too high in fat, infections, liver diseases and various forms of anemia (such as sickle cell anemia). People who are overweight, who gain and lose weight constantly, women who have had two or more children and diabetics have an increased risk of gallstones. More than half of all gallstones do not cause any symptoms, while others lead to inflammations of the gallbladder (cholecystitis) or to bile colic which can cause jaundice. Bile colic occurs when a stone enters a bile duct and obstructs it. The colic begins with a piercing pain on the right side, which can move to the back and the right shoulder. In most cases, the attack will occur after a heavy meal and leads to severe nausea. The skin and the white of the eye turn yellow after a period of time. Due to the constant friction, the stones in the gallbladder can cause chronic inflam-

mations which in the worst case can develop into gallbladder cancer. Therefore, many surgeons recommend early surgical removal of the gallbladder (through the technique of laparoscopy, the gallbladder is removed by means of small incision in the abdominal wall. Gallstones are clearly visible on an x-ray. To destroy the stones, very intense ultrasound waves are used.

6.14.3. Jaundice

Jaundice is caused by an abnormal transfer of bile pigment (bilirubin) to the blood, so the skin, mucous membranes and other tissue parts assume a yellow color. Bilirubin is formed from the spent red blood cells and is produced in the bile. Bile (not to be confused with the gallbladder) is a yellowish green liquid that is needed for the digestion of fat. It is produced by the liver, stored temporarily in the gallbladder and delivered to the intestine as needed. More than 50 % of newborn infants and 80 % of premature infants have signs of jaundice although it disappears within a few weeks.

In many disease cases, jaundice occurs due to an obstruction of the path from the gallbladder to the intestine. Gallstones, a tumor or parasites in the bile ducts can obstruct the passage. Jaundice is also an accompanying system of hepatitis, where the liver is incapable of processing bilirubin due to an inflammation or liver damage. In addition, jaundice also occurs in conjunction with other liver diseases such as cancer and certain infections caused by viruses or parasites. Then the liver becomes enlarged and functions only to a limited extent. The feces assume a loamy color, the urine is light yellow to brownish green, and the skin color ranges from lemon yellow to a dark olive green. A blood test can determine the cause of the jaundice. Ultrasound or an x-ray of the bile duct can also be informative. If an obstruction of the bile duct is diagnosed, it must be corrected.

6.14.4. Hepatitis

Hepatitis is a viral infection of the liver. The first sign is jaundice, where the skin and the white of eyes turn yellow. The disease may be caused by various viruses, mainly hepatitis A and hepatitis B. Hepatitis C is the most common pathogen in blood transfusions. All types of viruses enter the body as tiny microorganisms and attack the liver cells. The hepatitis A virus travels through the intestinal tract and is transmitted by infected foods and water or fecal matter. The disease often occurs as an epidemic, especially in areas where sanitary facilities and sewage system are inadequate. The incubation time is between 14 and 40 days. Many patients do not show any symptoms of the disease, despite having the infection, but can nevertheless transmit the disease. Hepatitis B is transmitted through the blood (by blood transfusions or drug abuse and sharing needles). The symptoms of this virus are often manifested only after 40 to 180 days. Since the hepatitis B virus survives in almost all body fluids (in saliva, sperm, urine, tears), it can be transmitted through sexual contact, use of the same toothbrush, the same razor blade, etc. The first signs of hepatitis are fatigue, pain in the joints and muscles, loss of appetite, nausea, vomiting, diarrhea or constipation and a low-grade fever. When hepatitis occurs, the liver becomes enlarged and is sensitive to pressure. Chills, weight loss and the characteristic jaundice occur as additional symptoms. A sudden attack of fever, extreme drowsiness or severe pain absolutely require medical assistance, especially to prevent liver damage. Chronic hepatitis can lead to irreversible liver damage and cirrhosis, but it never occurs as the result of an infection with hepatitis A virus.

Since hepatitis is caused by a virus, there is no medication for curing it. Even the treatment of acute hepatitis is limited. Only the body's own immune system itself can cure the disease. Physical activity must be stopped during the disease, and bed rest is prescribed. Hospitalization is necessary in serious cases to guarantee immobilization of the body. Alcohol is absolutely forbidden for patients with hepatitis. The risk of an infection can be reduced by a vaccination. Vaccines against hepatitis A (for vacationers in high-risk countries) and B (for people who come in direct contact with hepatitis carriers) stimulate the body to produce antibodies.

6.15.5. Cirrhosis

The liver is not only the largest gland in the body, but with its weight of approximately 1.5 kg it is also the heaviest organ. Approximately 1-2 liters of blood flow through the liver each hour and are purified there. The liver is an extremely robust organ. Only infections such as hepatitis or chronic damage to the liver structure can impair its functioning. Cirrhosis involves the destruction of, and changes in the liver tissue (development of nodules). The tissue becomes harder and the organ itself shrinks. If the blood flow and lymph flow is disturbed, the liver may fail.

Two main causes play a role in the development of cirrhosis: heavy alcohol consumption and infection with hepatitis B virus. Alcoholism is the most common cause. The virus infection may develop silently without being noticed over a period of months or years as chronic active hepatitis. Very strong medication, hereditary disturbances in physical or chemical processes in the body, syphilis or a weak heart may cause cirrhosis. Cirrhosis is manifested by general fatigue, an unwell feeling, loss of appetite, weight loss or loss of interest, and also in a man by impotency and growth of the breast (estrogen can no longer be degraded). Nausea, constipation, diarrhea and a dull abdominal pain are typical accompanying symptoms. Due to the protein deficiency, water penetrates into the free abdominal space and so-called "spider veins" develop in the face and extensive varicose veins on the abdominal wall caused by diversion of the blood from the liver. Hair on the chest and pubic hair may fall out, the testicles may shrink and often there is typical itching on the hands and feet. Possible internal bleeding and the restricted (detoxification) function of the liver may be life-threatening. One risk is in severe distension of vessels where blood collects. Consequently, the vessels become thin and can easily rupture or tear.

In cirrhosis of the liver, first the cause of the disease must be treated. For example, if the main problem is alcohol, the patient must remain abstinent. In addition, a high-protein diet is prescribed, plus good vitamin supplements (especially vitamins A, B, D, and K, which cannot be stored in the sick liver). To reduce the fluid in the body, diuretic medication is recommended. To avoid overloading the liver, several small meals should be eaten throughout the day.

Magnetic field therapy is an adjuvent form of therapy in patients with liver problems and it can also be used systematically. The best method of avoiding this disease is to drink lots of fluids - but no alcohol!

Effect of magnetic field therapy on liver diseases:

stimulating the individual liver cells, promoting circulation and thus having a better detoxifying effect, relieving cramping in colic. The precise mechanisms of action have not yet been determined.

Proper use of MRS for liver diseases

- Whole-body mat: once or twice a day for 8 minutes each time: 100 % level in the morning, 10 % level in the evening

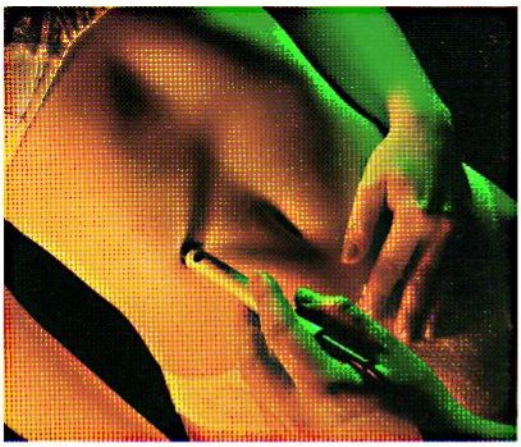
Pad or probe: twice a day for 16 minutes each time: 150 % level, on the right upper abdomen

- Forms of therapy supportive of MFT: fat-free and alcohol-free diet, vitamins (A, B, D, K), herbal remedies (milk thistel, artichokes, Indian saffron (turmeric), red beets, dandelion, orange root, licorice root, spirulina and chlorella)
- Notes on the initial reaction: none

Local treatment for liver diseases with pad

Scientific studies on the treatment of liver diseases with MFT

• A. Bellossi et al.: "The Effect of a Pulsed Magnetic Field and That of Methyl-Silane Triol on Galactosamine Induced Hepatitis Among Rats", Laboratory of Biophysics, Faculty of Medicine, Rennes, Panminerva-Med. 1996 September, 38(3). - This study was conducted on rats. It was shown that there is a protective effect of the magnetic field on liver cells due to the influence on calcium metabolism (intracellular).



Local treatment for liver diseases with probe

• A.A. Shul'diakov et al.: "Electromagnetic Radiation of Millimeter Range in Treatment of Children with Acute Viral Hepatitis," Millimeter Waves in Medicine and Biology, April 1995, Moscow. - This double-blind placebo-controlled study investigated the effects of MFT in combination with conventional methods in treatment of viral hepatitis in children. The results show an improved success of the combined therapy in comparison with exclusive conventional therapy. A rapid restoration of liver function is typical.

• A. D. Deineka, A.M. Pozdniakov: "Magnetolaser Therapy of Constitutional Hyperbilirubinemia," Fiz Med, 4(1-2), 1994, pp. 104-105. - This study shows a supportive effect on a variety of patients with hyperbilirubinemia.

• V. V. Kransnov, A. I. Shilenok: "Magnetotherapy of Hepatitis A and B in Children," Pediatria 10, 1991, pp. 54-57. - This study investigated the effect of MFT on children suffering from various forms of viral hepatitis. The results show a positive effect of MFT: the liver functions recovered more rapidly and the children could recover without complications.

Physician reports on the treatment of liver diseases with MRS

1. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0043/01/40 666 00

• *Patient A. A., female, 45 years old; diagnosis: chronic cholecystitis for several years. Previous treatment remained unsuccessful. This patient is overweight and is taking the pill. Results of MRS therapy: after eight months, she passed a stone directly following a treatment, with brief colicky pain. Since then, the patient has been following her diet and has been using MFT. The current ultrasound findings are within the normal range. The patient no longer has any pain.*

Patient reports on the treatment of liver diseases with MRS

1. Thanks to Mrs. Maria Pfeifer

• *Patient G.A., male, 33 years old; diagnosis: severe riding accident: eight broken ribs, contusion of the liver, hepatic hemorrhage, lacerated wound on the head, all vertebrae and almost all bones very severely contused. According to the physician's findings, the patient would be pain-free in 8-9 weeks at the soonest. Results of MRS therapy: "After four weeks of treatment, I was again able to work, all my ribs had fused satisfactorily and I no longer had any pain on movement. My liver was completely okay. Five weeks after the accident, I was able to ride again, in the sixth week I went skiing and now I am also playing tennis again."*

• *Patient J. M., female; diagnosis: gallbladder problems, lower back pain. Results of MRS therapy: "I can already feel a significant improvement in my lower back pain, which I had experienced regularly until now, after just three weeks of regular treatments. My occasional gallbladder problems have also disappeared almost completely. Although I had already been concerned with health, health care and high-vita-*

min diet for several years, my overall well-being and vitality have been much better since using this device."

2. Thanks to the company Medline

• *Patient M.K., male; diagnosis: "I always had elevated liver values for almost 20 years. Since September 1994, I have been using the MRS system regularly." Results of MRS therapy: "The liver values have normalized. My doctor was surprised and very happy with the result. Today I am pain free, my general well-being is many times better so that I can no longer imagine life without the MFT device."*

3. Thanks to Mrs. Beate Martina

• *Patient M.P., male, 83 years old; diagnosis: weakened immune system, hepatitis B. Results of MRS therapy: "After eight years, there has been a pause for the first time, and my blood liver values have definitely improved. I feel healthier and I am sleeping better."*

Appraisal of MFT: **60-70 % good to very good results, depending on the cause of the disease**

6.15. Crohn's disease

see "Colitis"

6.16. Surgery – use of MFT after surgery

Magnetic field therapy can improve wound healing and promote regeneration after surgery. Scientific studies indicate that people treated with magnetic fields recover more quickly. However, MFT should not be used immediately after surgery but instead only after a certain interval, which will depend on the extent of the surgical procedure. The more serious the surgery the greater the blood loss and the longer one should wait before using MFT. It is recommended that patients wait one week to use magnetic field therapy, but this of course also depends on whether the patient is discharged to go home with nursing care there.

The positive effect of MFT has been documented by many physicians, and patients have reported on the good experience they have had by using magnetic field therapy following surgery.

Effect of MFT before and after surgery:

promoting circulation and thus improving the oxygen supply and speeding up healing of the surgical wound; stimulating connective tissue cells (better scaring)

Proper use of MRS before and after surgery

• Postoperatively: whole-body mat: twice a day for 8 minutes each time: 25 % level in the morning, 10 % level in the evening

• Pad or probe: twice a day for 16 minutes each time: 100 % level (gradually increasing from 10 %), directly on the scar

• Preoperatively: whole-body mat: twice a day for 8 minutes each time: 100 % level in the morning, 25 % level in the evening

Basic treatment before and after surgery

• Special instructions on use: one should preferably begin one month before surgery. After surgery, the extent of the surgical procedure should be taken into account. The ideal time will usually coincide with the patient being discharged from the hospital.

• Forms of therapy supportive of MFT: for wound healing: shark cartilage extract, vitamins (E, B complex), herbal remedies (aloe vera, evening prim rose oil, gotu kola); for detoxification of the liver after anesthesia: milk thistel

Scientific studies on the treatment with MFT before and after surgery

• V. A. Lebennikov et al.: "First Experience in Using a Whole-Body Magnetic Field Exposure

in Treating Cancer Patient," Vopr Onkol, 41 (2), 1005, pp. 140-141. - This study investigated the effects of a whole-body treatment with MFT in patients who had cancer and had to have surgery. Definite improvements in the immune system and in the postoperative recovery phase were found.

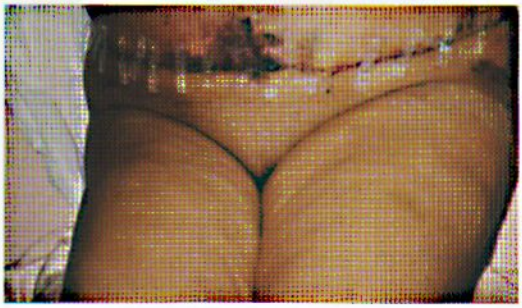
- D. V. Miasoedov et al.: "Experience with the Use of Resonance Therapy as a Modifying Factor in Ontological Therapy," Abstracts of the First All-Union Symposium with International Participation, May 10-13, 1989. - This study shows the effects of magnetic resonance therapy on patients treated with MFT before and after surgery. It was found that 87 % of the patients who had already been treated with the magnetic field before surgery profited from it, but 68 % positive results were also obtained postoperatively.

Patient reports on the treatment of surgical wounds with MFT

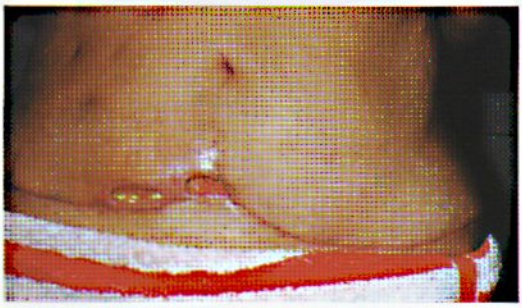
1. Thanks to the company Vita-Life

- *Patient C.G., female, 60 years old; diagnosis: 1950 surgery for appendicitis; 1960 miscarriage; 1961 tonsil operation, five lower abdominal operations, three bladder operations, two intestinal obstructions, artificial bile ducts, vein operations on both legs, halux on both feet, pyelonephritis (infection of the renal pelvis) several times, three knee surgeries, thrombosis in the left leg with a subsequent prosthesis, 1995 bladder tumor, 10 years of depression, surgery for a rupture in the abdomen on February 12, 1998, surgical removal of a pressure point on the toe on March 19, 1998, surgical removal of a spiny wart on the toe, intervertebral disk damage, low blood pressure, yeast infections, two difficult pregnancies with a normal birth, hypothyroidism, rheumatism, allergy to wheat, hayfever, asthma, herpes, nonsmoker, antialcoholic (reformed alcoholic). Results of MRS therapy: "I have been using the magnetic field since January 1, 1997. At first, I felt a lot worse, and many diseases flared up again. Over the next 1 1/2 years, several things changed: I no longer need sleeping pills and now I take only half a pill for my hypothyroidism; my wheat allergy has disappeared and my rheumatism is 80 % better. The magnetic field has definitely had a positive effect on the healing process after the abdominal surgery (February 12, 1998). After four months, everything had healed well, as shown by the photographic results."*

The healing process with MRS:



5 days after surgery



32 days after surgery

105 days after surgery

Appraisal of MFT: 80-90 % good to very good results, optimum wound healing, beginning even before the surgery

6.17. Pancreatitis (acute)

An inflammation of the pancreas usually occurs in conjunction with other pathological

changes in the liver, gallbladder or gastrointestinal tract. Poor diet, especially meals that are high in fat and consumption of alcohol often play a causal role or are contributing factors. A severe inflammation begins with intense pain in the middle of the upper abdomen, radiating toward the left, following the costal arch or fanning out over the entire left half of the abdomen. This leads to disturbances in general well-being, nausea, vomiting, diarrhea, constipation with severe flatulence, and sometimes an elevated temperature. The symptoms often go into remission briefly or develop into a chronic manifestation. A mild form is often interpreted as an upset stomach. Pain relieving medications, enzymes to regulate the disturbed digestion of fat, sitz baths and half baths, hot hay packs, compression of the abdomen and lumbar wraps are used therapeutically.

Effect of magnetic field therapy on pancreatitis:

reducing inflammation, relieving pain, relieving cramping, calming effect, positive influence on the autonomic nervous system

Proper use of MRS for pancreatitis

- Whole-body mat: twice a day for 8 minutes each time: 25 % level in the morning, 10 % level in the evening
- Pad: twice a day for 16-24 minutes each time: 100 % level (gradually increasing from 25 %), on the upper abdomen
- Forms of therapy supportive of MFT: low-fat diet, digestive enzymes (pancreatin, papaine)
- Notes on the initial reaction: none

Scientific studies on the treatment of pancreatitis with MFT

- O. G. Savina et al.: "A Low-Frequency Pulsed Current and a Low-Intensity Laser Radiation in the Treatment of Acute Pancreatitis," Vopr Kurortol Fizioter Lech Fiz Kult (2), 1995. - This controlled study investigates the effects of pulsating electromagnetic fields in combination with conventional treatment methods. The results show a superior advantage of the combination method in comparison with the individual methods.

Local treatment for pancreatitis with a pad

- V. V. Kents et al.: "The Efficacy of the Combined Use of 5-Fluorouracil Electrophoresis and Magnetotherapy in Experimental Pancreatitis," Vopr Kurortol Fizioter Lech Fiz Kult (3), 1994. - This study documents the positive effects of MFT on patients with chronic pancreatitis.
- Z. M. Sigal et al.: "Organic Hemodynamics in Modeled Acute Pancreatitis," Vestn-Khir, October, 1981. - During this study, the pressure in the pancreas was measured with a complicated method. The efficacy of using a permanent magnetic field with respect to hemodynamic diseases involving the pancreas was demonstrated.

Patient reports on the treatment of pancreatitis with MRS

1. Thanks to Mr. Ludwig Müller

- *Patient K.J., female, 58 years old; diagnosis: "I developed pancreatitis six years ago and had to be fed through a tube. After hospitalization I frequently experienced relapses (mild inflammations)." Results of MRS therapy: "Since starting the treatment, I have not had any recurrence of the infection and I have not had any digestive problems either. I can eat anything, even pork fat. I avoid alcohol. My general condition today is very good and I can again do all my work."*

Appraisal of MFT: **60 % good to very good results**

6.18. Reflux disease – heartburn

Reflux disease is understood to refer to an increased or prolonged reflux of acid stomach contents into the lower esophagus. If the reflux is associated with an inflammation it is so-called reflux esophagitis.

The cause of reflux esophagitis is a disturbed closing mechanism between the esophagus and the stomach, usually caused by a hiatal hernia (prolapse of the upper part of the stomach through the diaphragm into the chest cavity). Other causes such as disturbances in the movement process of the esophagus while swallowing or a disturbance in gastric emptying are less common. The main symptoms include heartburn and pain behind the breastbone, especially when lying down and after meals. In addition, there are painful difficulties in swallowing, and food that has been eaten comes back up into the esophagus or the mouth; nausea and vomiting are also experienced. Esophagogastroduodenoscopy can clarify a pre-existing inflammation.

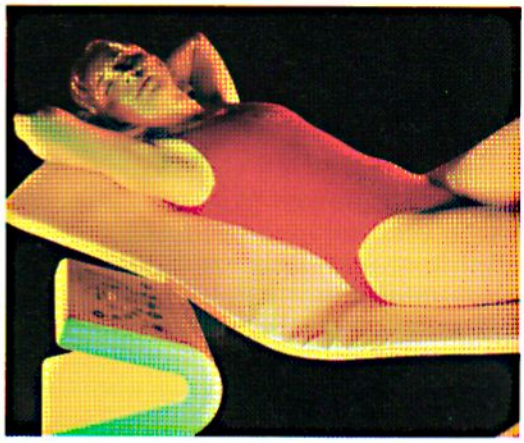
Treatment begins with general measures: normalization of weight, several small meals, avoiding foods that produce acid. Use of medication will depend on the stage of the disease. Unfortunately, there is often a relapse after stopping the medication. If the disease is so advanced that the lower esophagus is lined with gastric mucosa (Barett's esophagus), then regular endoscopic biopsies may be necessary to ensure that no carcinoma of the esophagus develops. If no improvement occurs with treatment, surgery is performed (fundoplication) where a slit is made in the diaphragm and the fundus of the stomach is wrapped around the esophagus like a cuff. This results in a valve mechanism in filling of the stomach. In some cases, the stomach may be sutured to the diaphragm (gastropexy). The prognosis is good with consistent treatment.

Effect of magnetic field therapy on reflux esophagitis:

supporting, calming effect on the irritated mucosa, strengthening the closing muscles of the stomach (see also Gastritis).

Proper use of MRS for reflux esophagitis:

- Whole-body mat: 3-4 times a day for 16 minutes each time: 25 % level in the morning, 25 % level at noon, 10 % level in the afternoon, sensitive level in the evening
- Forms of therapy supportive of MFT: proper diet
- Special instructions on use: It is very important to raise the head end of the mat by about 30° - for example, with wooden blocks that are placed under the head end of the mat.
- Notes on the initial reaction: none



Whole-body treatment for reflux esophagitis

Scientific studies on the treatment of reflux disease with MFT

- O. V. Bukanovich et al.: "Sinusoidally Modulated Currents in the Therapy of Chronic Gastroduodenitis in Children," Vopr Durortol Fizioter Lech Fiz Kult, 2, 1996, pp. 22-26. - This controlled study investigates the effects of electromagnetic fields on children suffering from chronic gastroduodenitis. The results show that after treatment, the signs of inflammation in the gastric mucosa have disappeared in 72 % of the cases and reflux into the esophagus or reflux from the duodenum into the stomach is eliminated in 77 % of the cases. This was the case in only 29 % of the children in the control group.
- Additional studies: see "Gastritis, Gastroenteritis and Peptic Ulcer"

Physician reports on the treatment of reflux esophagitis with MF

1. Dr. Manfred Doepp, M.D., Salzburg

• *Patient A.F., male, 60 years old; diagnosis: lumboischialgia, metabolic disorders, lower back pain and nausea since the middle of September - therefore, the patient has been unable to work, can hardly bend; scoliosis, obesity, hypertension, heartburn and constipation, nodular goiter stage I-II, osteoporosis, elevated transaminases, urinary tract infection. Parallel treatment: L-thyroxin 80 mg tablet, calcium gluconate pill (1 pill 3 times a day), sage tea, tinctura toraxace (2-15). Results of MRS therapy: patient largely free of symptoms, able to work. EAP result (Prognos): considerable improvement except for residual pancreas findings.*

Patient reports on the treatment of reflux esophagitis with MRS

1. Thanks to the company Vita-Life

• *Patient H.Z., female, 34 years old; diagnosis: "I suffer from chronic acid eructation. I wake up especially at night - despite many medications - repeatedly with intense pain." Results of MRS therapy: "After four months, my symptoms have been greatly reduced. I again sleep through the night and I only feel the heartburn when I don't eat right."*

Appraisal of MFT: **60-70 % good to very good results**

6.19. Irritable colon or irritable bowel syndrome (IBS)

see "Colitis"

6.20. Heartburn

see "Reflux disease"

6.21. Nausea and vomiting

The body reacts by vomiting when it wants to get rid of toxic substances quickly. There may also be causes having nothing to do with the stomach. Vomiting is usually preceded by a feeling of nausea. Vomiting itself is controlled by the vomit center in the brain. It receives information from the digestive tract, from blood or from other parts of the body and reacts accordingly. Nausea, sweating, secretion of saliva, paleness and dizziness are the result. Nausea does not always lead to vomiting. Sometimes fresh air or a drink of water will help. In vomiting, the muscle between the stomach and the lungs moves downward rapidly, the closing muscle of the stomach relaxes and its contents can travel upward. Too much fatty food, excessive consumption of alcohol or food poisoning due to bacteria or chemicals can lead to more or less intense nausea. Ulcers in the digestive tract, gallstones, hepatitis, a tumor or simply hormone imbalance during pregnancy (sixth to fourteenth weeks) are additional causes. Nausea from movement, so-called travel sickness occurs when the equilibrium organ in the inner ear is stimulated by movement.

Acupuncture helps with all forms of nausea and vomiting. In severe cases, e.g., due to radiation therapy, medication may be used. Normally, vomiting is harmless; therefore, one should give in to the body's natural urging.

Effect and proper use of MRS, as well as studies and physician reports:

see "Digestive disorders"

Forms of therapy supportive of MFT: ginger extract

Patient reports on the treatment of nausea and vomiting with MRS

1. Thanks to the company Vita-Life

• *Patient M.B., male, 10 months; diagnosis: (mother writes): "When I was three weeks old, I had an obstructed pylorus; my stomach could fill up but then I would throw up everything again. At the pediatric hospital I received artificial nutrition and the doctors wanted to give me antibiotics because I was too weak and small for surgery. However, my parents took me home immediately and helped me with various therapies. After seven more months, they learned about the MRS system. Twice a day, I would lie*

down on the mat and within a week I was able to eat cereal without vomiting. Today I am doing very well: I can eat everything on the table. My parents and I are extremely happy. Besides, my doctor told me at the last visit that everything was okay with my stomach."

Little Marco

- *Patient H.K., male, 42 years old; diagnosis: severe problems in falling asleep and sleeping through the night, headaches, nausea. The patient can no longer handle his work. Results of MRS therapy: "I no longer have headaches and I do not feel nauseated. I am almost sleeping normally again and I am refreshed."*

2. Thanks to Mr. Rudolf Frauenberger

- *Patient H.H., female, 61 years old; diagnosis: weak immune system, nausea. Results of MRS therapy: "There has been definite improvement on all levels. I can again move without pain. The MRS mat helps me quickly whenever I don't feel good, e.g., with an infection."*

Appraisal of MRS: **70-75 % good to very good results**

6.22. Digestive disorders, diarrhea and constipation

6.22.1. Digestive disorders

Digestive disorders occur when we eat too fast, too much or when the food has too much fat or is too spicy or when too much pressure is placed on the stomach (from obesity or pregnancy). A tumor, gastritis or a hiatal hernia may also cause digestive disorders. In most cases, there is a feeling of being overly full in the upper gastric area, flatulence (even immediately after eating) and belching and heartburn. Smoking, too much alcohol, stress or anxiety states can exacerbate symptoms. The digestive disorder may last from a few hours to a few days. If there is no improvement despite the use of medication and if the disturbance lasts for more than two weeks, a physician should be consulted.

Those affected should take small portions of food several times a day and should eat slowly in particular. Fats and spicy foods should be avoided; likewise coffee, nicotine and alcohol.

6.22.2. Diarrhea

Most cases of diarrhea are brief and harmless. Should they be accompanied by fever, loss of appetite or another sickness, the person requires medical assistance because dehydration is imminent. In older children or adults, diarrhea usually passes within a few days and does not require treatment. Diarrhea may be attributed to food that is not tolerated well and intestinal infection (gastroenteritis), anxiety or the results of taking antibiotics. In intestinal infections, not enough fluid is removed from the intestine. Anxiety and infections cause food to pass through the intestine too rapidly, so that too little fluid is transferred to the blood. Infections caused by such microorganisms such as Escherichia coli, Salmonella or Giardia lamblia may be transmitted by inadequate hygiene (therefore always wash your hands before cooking and eating!). In this case, it is a more serious form of diarrhea. Food allergies may also cause diarrhea, and in babies it is

often caused by an allergy to lactose. The cause is rarely found in an inflammation of the digestive tract.

High intake of fluids and careful hygiene help to combat this condition. Medication should be used only if no toilet is available. If the diarrhea lasts a long period of time, a physician should be consulted.

6.22.3. Constipation

Almost half the people in Central Europe suffer from constipation. A coordinated sequence of digestive processes is necessary to permit the intestine to empty itself daily. Chronic constipation usually occurs due to poor diet, leading to distension of the intestine, inflammation and toxic effects on the intestinal mucosa, cramping of the intestinal muscle, reduced production of digestive juices and a disturbed intestinal flora. The basic requirement for normal bowel movements is to drink enough fluids; the ideal is 2-3 liters of fluid a day. Unfortunately, we often forget to drink enough fluids. The bowel evacuation reflex is often suppressed or ignored. Our hectic lifestyle does not always allow us to give in to this reflex. Abuse of drugs, diseases of the liver and gallbladder, lack of exercise, tumors, pregnancies and emotional problems all lead to constipation. In no case should one take laxatives regularly, because the intestine rapidly becomes accustomed to this then higher and higher doses are necessary. Senna leaves (a natural product) can also irritate the intestine and have a harmful effect in the long run. A glass of lukewarm water before breakfast and regular high-fiber meals can effectively prevent constipation. Occasional days of fasting, once a week if possible, and cleansing the intestinal flora should be set as goals.

Effect of magnetic field therapy on digestive disorders:

balancing, harmonizing effect on the autonomic nervous system, consequently calming, regulating in the abdominal area (solar plexus and plexus myentericus), normalizing peristaltic action (intestinal motility).

Proper use of MRS for digestive disorders

- Whole-body mat: 3 times a day for 16 minutes each time: 25 % level in the morning, 25 % level at noon, 10 % level in the evening
- Pad or probe: twice a day for 8 minutes each time: 50 % level: at the lower edge of the costal arch (epigastric angle)

Local treatment for digestive disorders

- Forms of therapy supportive of MFT: symbiosis guidance (measure to regulate intestinal flora), aroma therapy, ayurvedic medicine, biofeedback, herbal remedies for constipation (Indian flea wort, plantago psyllium, flaxseed oil, aloe vera, buckthorn bark, rhubarb root, raspberry leaves); for regeneration of intestinal flora: supplementation with acidophilus and bifidus bacteria
- Special notes on use: Drink lots of fluids! (3 liters a day)
- Notes on the initial reaction: Mild flatulence occurs in approximately 5 % of the patients.

Scientific studies on the treatment of digestive disorders with MFT

- C. A. Bassett: "Beneficial Effects of Electromagnetic Fields," Journal of Cell Biochem., April 1993. - In this article, which summarizes various studies on MFT, nerve regeneration and the positive influence in the area of the gastrointestinal tract are emphasized in addition to the well-known diseases of the motor system.

- A. M. Begue-Simon, R.A. Drolet: "Clinical Assessment of the Rhumart System Based on the Use of Pulsed Electromagnetic Fields with Low Frequency," International Journal of Rehabil Research, 1993.

- Smirnova et al.: "The Possible Role of the Hypothalamus in the Pathogenesis of Vegetative Disturbances During a Brief Exposure to the Constant Magnetic Field," Patologiceskaja Fiziologija i Eksperimental Naja Terapija, 23-7. - This study proves the soothing and regulating influence of magnetic field therapy on the autonomic nervous system.

- Additional studies: see "Autonomic dystonias" in the chapter "Diseases of the nervous system"

Physician reports on the treatment of digestive disorders with MF

1. Dr. Battrè, M.D., Grossmainerhof Sanatorium

- *Patient, female, 72 years old; diagnosis: meteoric abdomen with pressure on the stomach. Results of MRS therapy: very good relief from flatulence.*

2. Dr. Ursula Miggitsch, M.D., General Practitioner, Graz

- *Patient H.G., male, 48 years old; diagnosis: chronic constipation; sleep disorders because of the pain. Results of MRS therapy: "The pain has improved, and I no longer have any sleeping problems. My digestion is now regular without any laxatives.*

3. Thomas Drach, non-medical practitioner

- *Patient D.B., female, born 1947; diagnosis: chronic fatigue for many years, fatigue in the morning, confusion, not feeling good, nausea; pimples on her face for 30 years (psychological stress); recurrent painful gastritis with disturbed bile flow, constant constipation. Results of MRS therapy: "I feel that my internal organs have been harmonized and I feel balanced and calm and I take things better. My skin has become soft and I no longer have pimples. My morning complaints now occur only rarely and disappear quickly after a treatment. I have gained a great deal in terms of quality of life."*

Patient reports on the treatment of digestive disorders with MRS

1. Thanks to the Mrs. Beate Martina

- *Patient M.D., male; diagnosis: tendency to abdominal distension. Results of MRS therapy: "I no longer have any abdominal cramps or flatulence and I can again eat anything I want."*

- *Patient G.M., female, 85 years old; diagnosis: digestive problems and the resulting bowel problems, diabetes mellitus, poor circulation, sleep disorders. Results of MRS therapy: significant improvement in circulation after two weeks, the patient sleeps better, has no digestive problems and is taking only one drug for diabetes.*

2. Thanks to Mr. Karl Garber

- *Patient B.I., female, 37 years old; diagnosis: very severe digestive problems, menstrual problems. Results of MRS therapy: "Since the first treatment, I no longer have any digestive problems, my circulation problems have improved and my sleeping problems have disappeared.*

- *Patient, female, 25 years old; diagnosis: digestive problems, tension in the neck, sleeping problems. Results of MRS therapy: "After three days the neck tension disappeared, the digestive problems improved and I wake up feeling lighter."*

3. Thanks to Mr. Reinhard Schlag

- *Patient S., female, 38 years old; diagnosis: gastrointestinal problems, severe asthma, severe pain in the back and shoulder, sleep disorders and psychological problems. Results of MRS therapy: definite improvement in all symptoms after one week, the patient can now sleep well again, the back pain and shoulder pain has improved each day and her bowel habits have normalized. In the second week of treatment, the medication was stopped. In addition, this patient is calmer and more balanced.*

4. Thanks to Mrs. Verena Zwahlen

- *Patient L.G., female, 55 years old; diagnosis: automobile accident on September 6, 1998 with many complications, poor digestion. Results of MRS therapy: her digestion has normalized. The patient feels better in general and is pleased with the great success after this brief treatment.*

• *Patient H.H., female, 47 years old; diagnosis: sleep disorders, severe digestive problems for 25 years. Results of MRS therapy: "The sleep disorders were eliminated immediately and the lower back pain was relieved. I now have full mobility in both hands again and I am pain-free. After about three months, the digestive problems were eliminated and my circulation had stabilized."*

5. Thanks to Mrs. Beatric Studer

• *Patient, female, 61 years old; diagnosis: cancer of the sigmoid colon at the age of 57: 50 cm of intestine removed; at 58: intervertebral disk prolapsed, no surgery performed. Results of MRS therapy: stable circulation, no more migraine attacks after 3 months, good bowel movements after 4 1/2 months, heart complaints only above a pulse of 150 instead of a pulse of 90. The backaches disappeared entirely after 6 months and the rheumatism complaints have also stopped since then. The osteoporosis measurement (bone density) after one year actually showed an improvement in bone density in addition to the absence of disease.*

6. Thanks to the company Vita-Life!

• *Patient C.G., male; diagnosis: intestinal sluggishness with chronic constipation. Results of MRS therapy: the symptoms were eliminated in two months.*

Appraisal of MFT: **70-80 % good to very good results**

6.23. Cirrhosis

see "Liver diseases"

INFECTIOUS DISEASES

Bacterium

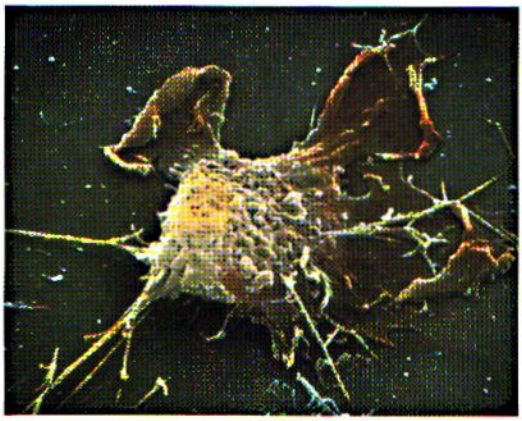
7. Infectious diseases

Billions of microorganisms live in a human body. Many of them are harmless and in fact are essential for human life such as the bacteria in the healthy intestinal flora. When outside microorganisms invade the body, they cause infectious diseases which are contagious. They may be transmitted by skin contact, blood and secretions, contaminate foods and beverages, through the respiratory tract or from animals and insect bites. The two best known pathogens are viruses and bacteria. Bacteria are single-celled organisms, billions of which exist in the body, but they can also live outside the body. They reproduce by splitting into two parts. Most bacteria are harmless, like those in the digestive tract. However, there are bacteria that cause diseases either by attacking the body or by secreting a toxic substance (toxin). Bacterial infections can be combated with antibiotics or they can be prevented by vaccinations. Viruses are the smallest known microorganisms. They are the most common cause of infectious diseases and mostly they are relatively harmless. Viruses can reproduce only in living cells. Humans are a host for many viruses. Since the viruses live in cells, there is no effective medication against them. If substances that destroyed viruses were used, the cells would also be damaged. Therefore, with diseases caused by viruses, we can only combat the symptoms and inhibit the spread of the infection.

The human body is not helpless in the face of invading pathogens. Defense against disease-carrying microorganisms takes place in three steps: the skin is the first barrier that must be overcome, and perspiration which contains antiseptic substances offers additional protection. If pathogens nevertheless invade the body, they are attacked and rendered incapable of harm. Since many types of organisms cannot survive at elevated temperatures, the temperature increase is activated - we get a fever. Where there are natural orifices, there are also defense systems. For example, the eye is protected by the tear fluid which contains antibacterial substances. Many orifices of the body as well as internal passages are lined with mucous membranes. If a foreign body penetrates, mucous is produced and the invader is bound by the mucous. Special body organs such as the spleen and liver are also responsible for fighting infections. They filter out harmful substances from the blood and eliminate them from the body.

The mucous membrane of the stomach produces hydrochloric acid which destroys most microorganisms in food. The lymphatic system and blood are equipped with white blood cells which attack and destroy penetrating microorganisms. The lymph system is

a network of vessels that carry lymphatic fluid through the body. Lymph drainage cleans the blood veins and the body of waste products by filtering the toxins out of the lymph nodes. In addition to toxins, pathogens are also enclosed, attacked and destroyed by white blood cells. This is the most successful and primary line of our defense system.



Macrophage in action

The lymphatic system also produces antibodies that render foreign bodies incapable of attack. Antibodies called antitoxins render the toxins of bacteria harmless. This immune reaction which takes place automatically presents resistance to any invasion of viruses or bacteria. Once antibodies have been formed to a certain disease, the person in question will not develop this disease a second time. We then speak of immunization. Immunity can be produced artificially through vaccinations. The vaccine consists of a weakened form of the pathogen and it stimulates the body to produce antibodies, which often remain in the body and protect it for a person's entire lifetime. In addition to vaccination, there are other possibilities of supporting the body's natural defense mechanisms. Bacterial infections are treated with antibiotics. Antibiotics are produced from living fungi (e.g., penicillin). Penicillin, trimethoprim, tetracycline and erythromycin are the most commonly used antibiotics. Each of them is successful in certain diseases. They destroy bacteria and prevent them from reproducing.

7.1. Influenza

True influenza must be differentiated from an influenza-like infection (an ordinary cold) inasmuch as it can be caused only by a virus. It is characteristic of an influenza virus that it changes its appearance constantly, and thus a person cannot develop any permanent resistance to it. Viruses are transmitted through the air, but they are also transmitted by droplets of saliva in speaking, kissing and sneezing. Lower temperatures are optimal for the influenza virus.

Influenza begins with sniffles, a sore throat and coughing or sneezing and at first resembles a simple cold in all its symptoms. In addition, it is often accompanied by joint pain and burning eyes. The fever may exceed 38 °C. In many cases, there is also an intestinal infection (intestinal flu). Influenza lasts exactly as long as a cold (7-9 days) but the recovery phase takes longer, i.e., the body needs at least 2 weeks of rest and must be protected from harmful influences and overexertion in particular in this period of time. Otherwise, influenza may be life-threatening, such as the avian influenza in Japan in 1998. If patients have respiratory difficulty, blood in mucous that is coughed up, a bluish skin or severe coughing, a physician should be consulted immediately. Like a cold, there is no effective medication against influenza, but a preventive vaccination (against certain viruses) is recommended, especially for elderly patients and those with a weakened immune system. Bed rest is recommended for fever. Anyone who underestimates the flu must expect severe complications such as phenomena.

Effect of magnetic field therapy on influenza:

supporting, relieving pain, reducing inflammation, strengthening the immune system, preventing and regenerating effect. MFT does not have any direct antimicrobial effect, i.e., it cannot combat the viruses directly, but it provides better protection against the virus by stimulating production of immune cells.

Proper use of MRS for influenza

- Whole-body mat: 4-6 times a day for 8 minutes each time: 150 % level in the morning, 100 % level at noon, 50 % level in the afternoon, 10 % level in the evening

Whole-body treatment for influenza

- Forms of therapy supportive of MFT: wet vinegar dressing around the thighs, aroma therapy, homeopathy, osteopathy, TCM, urine therapy, high doses of vitamin C, zinc, herbal remedies (echinacea, astragalus root, pollen, ginseng)
- Special notes on use: Place the mat in bed! Drink lots of fluids!
- Notes on the initial reaction: In about 25 % of the patients, sniffling increases in the acute phase. In 8 % there is an initial increase in temperature (therefore it is preferable to wait until the fever has gone down when treating elderly patients.

Scientific studies on the treatment of influenza with MFT

There are numerous scientific studies on the topic of MFT with viral infections and studies of the immune-stimulating effect of MFT. An example that can be mentioned here is the study by M. B. Mirtskhulava et al. (ISSN: 0442-8787) published in 1991 which discusses the antiviral effect of alternating magnetic fields for the cell.

Physician reports on the treatment of influenza with MF

1. Dr. Manfred O. Eder, M.D., Anger

- *Patient W.H., male, 7 years old; diagnosis: in recent months, the young patient has had repeated attacks of angina - that were treated with antibiotics (erythromycin) - and also abdominal symptoms of unclear etiology. For several weeks, he has had recurrent febrile flu-like infections, febrile temperatures each evening and a feeling of weakness. His skin color was pale and livid. In the laboratory chemical blood analysis, a definite reduction in lymphocytes was found without any increase in leukocytes. Results of MRS therapy: "The child was subsequently free of symptoms and the febrile temperature disappeared. He had a rosy skin coloring after the first treatment. He is currently doing well and is definitely more alert than before."*

Patient reports on the treatment of influenza with MRS

1. Thanks to the company Vita-Life

- *Patient H.R., male, 40 years old; diagnosis: fatigue and sore muscles with physical overexertion, labial and genital herpes, chronic suppurative catarrh of the frontal sinus - hardening. Results of MRS therapy: "I have hardly any muscle soreness at all, I have more energy and the herpes outbreaks on my lips and in the genital area have subsided. I have now gone two winters without influenza infections and without sinus problems."*

2. Thanks to the company Medline

- *Patient K.H., male, 32 years old; diagnosis: frequent intestinal flu. Results of MRS therapy: "I have been using the treatments as a preventive measure and I am now less susceptible. Approximately one year ago I had another intestinal flu, but my strengthened immune system got over the disease much better and I was able to return to work after 3-4 days of sick leave. I feel very good now. After a difficult day of work or heavy exertion, I turn the device on and then I no longer feel so bad the next day, but instead I am fit and ready for life. My metabolism has also improved significantly. I feel quite healthy and vital."*

Appraisal of MFT: **90-100 % good to very good results**

7.2. Herpes zoster - shingles

The term shingles refers to a painful secondary infection with the varicella (chicken-

pox) virus which can emanate from one or more nerves. The infection causes a blistering itching skin eruption above the affected nerve accompanied by racing pain along this nerve. The eruption on the skin resembles the blisters of chickenpox, which is a related condition. A history of a chickenpox infection is always a prerequisite for an outbreak of shingles.

Shingles

However, this does not mean that shingles need necessarily break out after chickenpox. It is assumed that the virus remains in the body and is reactivated only when the affected location is injured or the person is exposed to an extreme emotion or psychological stress. The elderly tend to be affected by shingles more often. It rarely occurs in people less than 15 years of age. More than 50 % of these patients are more than 45 years old. With shingles, the healing process takes longer than with chickenpox, and only the zone above the inflamed nerve is affected. Shingles affects mainly the nerves of the neck, back, chest, arms or legs, but also nerves in the face. The eruption appears as a band or strip and follows the course of the affected nerve - usually on only one side of the body. The eruption does not subside until after 2-3 weeks, but the pain lasts for another week, sometimes even up to a month or even longer. The most common complication is a bacterial infection. This can lead to scarring and to severe deformities. If facial nerves are affected, the possibility of eye diseases or a one-sided facial paresis cannot be ruled out as complications. There may be short-term or even long-term (years) impairment in all affected areas. Therapeutically, it is possible only to relieve the symptoms or limit replication of the viruses. Pain medication can reduce the burning, and anti-inflammatory drugs are prescribed for the elderly. Baths with warm water to keep the skin clean are important in preventing infections. Scratching should be prevented (if itching is severe, the fingernails should be cut and clothing worn at night to reduce scratching).

Effect of magnetic field therapy on shingles:

relieving pain, reducing inflammation, relieving stress, strengthening the immune system, overcoming the development of blisters more rapidly, promoting (wound) healing, greatly reducing the incidence of complications and reducing the duration of the condition

Proper use of MRS for shingles

- Whole-body mat: 2-3 times a day for 8 minutes each time: 50 % level in the morning, 25 % level at noon, 10 % level in the evening
- Pad: 4 times a day for 24 minutes each time: 150-200 % level, alternating on the spinal column (at the point where the nerve departs) and the affected area of skin

Local treatment for shingles

- Forms of therapy supportive of MFT: TENS, vitamins and trace elements, herbal remedies (grape seed extract, grapefruit seed, echinacea)
- Duration of treatment: the desired results are achieved after 4-6 weeks, but a followup treatment is recommended.

• Notes on the initial reaction: in 5 % of the cases there may be a slight increase in pain for 3 days

Scientific studies on the treatment of shingles with MFT

We have four studies with consistently positive results, especially with regard to rapid wound healing.

• B. Jankovic et al.: "Peripheral Nerve Regeneration Stimulated by Pulsating Electromagnetic Field (PEMF) and Laser," Second World Congress for Electromagnetism in Biology and Medicine (8- 13 June 1997 in Bologna). - This study describes the results of MFT in treatment (alone or in combination with a laser) of nerve damage and nerve inflammations and the favorable course of wound healing on the skin in comparison with an untreated control group.

Physician reports on the treatment of shingles with MFT

1. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0043/01/40 666 00

• *Patient, female, 45 years old; diagnosis: shingles with intense pain and typical skin symptoms in segment L1-L2 on the right, treatment exclusively with MRS. Results of MRS therapy: after four days, the itching was relieved, after 10 days the patient was pain-free and after 12 days she was free of skin eruptions, no complications.*

Patient reports on the treatment of shingles with MRS

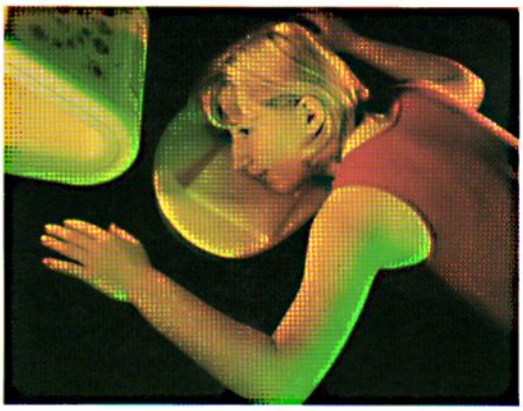
1. Thanks to the company Vita-Life

• *Mrs. L.R., 54 years old; diagnosis: shingles. "I have been suffering from intense lower back pain for 3 months and I have pain radiating to the inside of my thigh. I can no longer go to work and my sleep is disturbed because I wake up several times a night (up to 10 times) because of the pain." Results of MRS therapy: "After six weeks of treatment, the symptoms have disappeared completely, my sleep has normalized, the scars from the blisters have become smooth again (they were elevated and unattractive) and the lower back pain is virtually gone."*

Appraisal of MFT: **75 % good to very good results**

7.3. Herpes

Herpes simplex virus infections are very widespread throughout the world. More than 90 % of the population in the western world are infected with the virus, but most infected people do not have any clinical symptoms. Only 1-3 % of those with the virus develop blisters on the lips, on the nasal passages, the oral mucosa, the cornea of the eye, in the genital area or the anus. On initial contact, the viruses penetrate through tiny injuries in the skin and mucous membranes, reproduce and travel along nerve pathways to the corresponding ganglia (group of nerve cells) where they can remain concealed for an entire lifetime.



Local treatment for herpes with a pad

There are various groups of herpes viruses which are activated by certain internal and external circumstances (UV radiation, fever, menstruation, stress). Transmission may take place through air-borne infection and contact infection. An initial infection with herpes simplex virus 1 (HSV1) usually occurs in childhood, but an infection with HSV2 does not occur until the age of sexual activity. Diseases of the urinary tract and reproductive system may occur as the result of HSV2 infections. In HSV1, the skin and mucous membranes in

the area of the face and mouth are affected after an incubation time of 3-7 days. Only a few people so affected have more than two fever blisters per year; the frequency and duration decrease with age.

A fever blister is always a signal to slow down, because the virus normally affects those who are stressed out and have a weakened immune system. A first sign is itching in the affected area. This is followed by redness and development of blisters. The surrounding region becomes inflamed, the blister itches, burns or feels numb. Within a few days, it enlarges, ruptures and then dries out, forming a scab. A physician

Local treatment for herpes with probe

may prescribe an antiviral medication that should restrict the replication of the virus in a case of severe fever blisters. Ice packs reduce the itching. In many people, wind or sun can trigger a fever blister (therefore use a sunscreen). In order not to endanger other people, it is important to be sure, for example, not to use a hand towel of an infected person and to always wash glasses thoroughly.

Effect of magnetic field therapy on herpes:

antiviral, anti-inflammatory, immunizing, autonomically balancing, positive effect on wound healing

Proper use of MRS for herpes

- Whole-body mat: 2-3 times a day for 8 minutes each time: 100 % level in the morning, 50 % level at noon, 10-25 % level in the evening; the Sound and Light Relax System may be used as a supportive measure
- Pad (cover with a fresh towel for each treatment): twice a day for 24 minutes each time: 150 % level
- Probe: 2-3 times a day for 16 minutes each time: 200-400 % level (short term)
- Special instructions on use: do not perform treatment after 8:00 p.m.; most successful in the itching stage!
- Forms of therapy supportive of MFT: aroma therapy, high doses of vitamin C and trace elements (zinc and selenium), herbal remedies (echinacea, St. John's wort), lysine (essential amino acid)
- Notes on the initial reaction: in 1-2 % of the cases, there may be a short-term intensification of blistering

Scientific studies on the treatment of herpes diseases with MFT

- C. Kusaka et al.: "Pulse Magnetic Treatment and Whole-Body, Alternating Current Magnetic Treatment for Post-Herpetic Neuralgia," Journal of Japanese Biomagnetism Bioelectromagnetics Society, 8(2), 1995, pp. 29-38. - This study shows that pulsating MF can be used very effectively in the treatment of post-therapeutic neuralgia in elderly patients.
- E. N. Grebnev, A.V. Shumskii, "Immunocorrective Therapy in the Treatment of Chronic Herpetic Stomatitis Using Magnetic Autohemotherapy", Stomatologiia (Mosk), 74(2), 1995, pp. 37-39.

Physician reports on the treatment of herpes with MRS

1. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0043/01/40 666 00

- *Patient, female, 22 years old; diagnosis: monthly eruptions of labial herpes with severe scabbing during stress due to scholastic examinations. Results of MRS therapy: "A rapid healing effect was observed with regular treatments. After 3 months I no longer had any fever blisters*

- despite the stress of my examinations. I have been free of relapses for 9 1/2 months."

2. Dr. E. Liebau, Kreuth, Tegernese

• *Patient, female, 55 years old; diagnosis: herpes zoster, persistent severe pain and feeling bad. This patient was receiving special infusions. Results of MRS therapy: "On the day of treatment, the pain would disappear by the evening. Now, I do not have herpes zoster of such a severe intensity."*

Patient reports on the treatment of herpes with MRS

1. Thanks to the company Vita-Life

• *Patient H.R., male; diagnosis: fatigue with physical overexertion, labial and genital herpes. Results of MRS therapy: "I have more energy and the herpes outbreaks on my lips and in the genital area have stopped."*

7.4. Infectious diseases of childhood and youth

7.4.1. Infectious mononucleosis or Pfeiffer's glandular fever

Mononucleosis is an infectious disease caused by a virus affecting the lymph glands in the neck and throat. Typical symptoms include sore throat, swollen tonsils and definitely enlarged lymph nodes in the neck (glands), accompanied by fever. Mononucleosis is caused by Epstein-Barr virus. It penetrates into the glands and attacks the lymphocytes which are responsible for production of white blood cells. If the viruses come in contact with the white blood cells, they change their shape and replicate. At first there are not any symptoms because it takes a few weeks for enough altered cells to be present to cause clinical signs of disease. First there is mild throat pain, sluggishness and fever. Symptoms disappear after the immune system has had six to eight weeks to fight it off. Glandular fever is transmitted through droplets of saliva, by kissing, drinking from the same glass, using the same toothbrush or coming in contact with objects near the mouth. Teenagers and young adults are the most commonly affected, and hardly anyone past the age of 35 gets this disease. Mononucleosis normally proceeds without complications. Sometimes the infection spreads to other parts of the body, such as the liver or spleen. Antibiotics have no effect because a virus will not respond to them. As long as there are no complications, it is best to remain in bed and drink lots of fluids until the fever goes down.

7.4.2. Measles

Measles is a disease affecting mainly school-aged children. The virus attacks the respiratory system, skin and eyes. Measles was at one time one of the most feared childhood diseases because it could be associated with dangerous complications. Meanwhile, we have vaccinations. The virus enters the body through the respiratory system (droplet infection) and infects the cells. The disease can be transmitted as much as four days before it breaks out and for six days after the skin eruptions have disappeared. The incubation time is between eight and twelve days.

Measles normally begins with a head cold with a runny or congested nose, sneezing, a dry cough and fever between 39 and 40 °C. After three to four days, the eyes become sensitive to light and are reddened and swollen. At this time, red spots with a white center can be seen in the mouth. On the fourth or fifth day, the fever rises again and the eruptions begin to spread over the face, neck, behind the ears and finally over the entire body. The spots become larger, multiply and merge. At first they are dark red and then brown. After the third week, they deteriorate into individual flakes. The feared complications range from pneumonia to meningitis. Occasionally an ear infection or bronchial infection will also occur, especially in young patients. To relieve the symptoms, the air should be humidified. Hot compressions (against the inflammation) and low light relieve the course of the disease. Soap should not be used in washing so as not to irritate the skin. Baking powder in the bath water or a soothing lotion are helpful for the itching. Children today re-

ceive preventive vaccinations against measles between the ages 12 and 15 months.

7.4.3. Mumps

Mumps is highly infectious childhood disease. 85 % of those with this disease are less than 15 years of age. The virus attacks the salivary glands, mostly the parotid gland causing painful swelling of the face in the area of the ear and along the jaw. The disease is transmitted as an air-born infection - even by people who have not developed mumps. The infection may occur during the entire year, but preferably in the spring months. The symptoms may be so mild that they are not detected or they may be very intense. Fever (38.5 to 39.5 °C), headaches, loss of appetite and earaches are possible concomitant symptoms. The swelling usually begins on one side. Within the next days, the other side may also be affected. The infection causes problems with eating and swallowing and sometimes also affects other glands (such as reproductive glands). Swelling of the testicles is very painful. In girls it may affect the ovaries. Since it is virus, we can only combat the symptoms. Bed rest is not absolutely necessary. Soft foods and liquids make it easier to swallow. Fruit juices with a high acid content such as oranges or grapefruits burn when swallowed and should therefore be avoided. Hot or cold compression with an ice pack will relieve the pain. Most symptoms disappear within 10 days. Vaccination prevents an outbreak of the disease in 95 % of the cases. It is administered together with the vaccine for measles and rubella between the ages of 12 and 15 months.

7.4.4. Rubella

Rubella [German measles] is a virus infection associated with a short-lived eruption and symptoms like a cold. The disease is infectious but not dangerous, except during a pregnancy when the unborn child may suffer serious long-term damage from a rubella infection. A disease is especially dangerous during the first trimester of pregnancy because the fetus is being formed in this phase: heart defects, hearing or vision problems, blood diseases, mental retardation or other brain damage may the result of a rubella infection in the mother. Since there is a vaccine, rubella has become rare. The disease is transmitted as an air-born infection. This is possible from one week before an outbreak until five days after the eruption has subsided. Although there are cases of rubella occurring a second time, this is very rare. Rubella begins with a runny nose, swollen neck glands a low fever (up to 38.5 °C). Two days later, an eruption develops with small red or pink spots on the face and neck. When the first spots disappear, others develop, covering the entire body. This eruption is passed in three days, but the glands may remain swollen for up to a week. Then all the symptoms disappear. In elderly patients, joint pain occurs more often and this may take another week to disappear. The incubation time is 14-21 days. In most cases, no medication is necessary. Since children are vaccinated against measles, mumps and rubella at the age of 12-15 months, this disease now occurs only rarely. Girls who have not been vaccinated should get the rubella vaccination at the age of 12 so that the disease cannot in any case break out during a pregnancy.

7.4.5. Chickenpox

Chickenpox is an extremely infectious disease characterized by eruption of pustules. It usually affects children between the ages of 5 and 8. Chickenpox is so highly infectious that usually entire groups of children are affected. The disease is transmitted by the varicella zoster virus. The symptoms vary in intensity depending on the age of the person affected. The infection may be spread by simply touching an infected object. Chickenpox remains infectious until all the pustules have dried up. The incubation time is 10-21 days. In the initial stage, pustules which itch severely develop. They begin as small red spots on the torso and become larger and filled with fluid within a few hours. Then they spread over the face, head, arms and legs. During the next days, they fill up with pus, rupture and devel-

op a scab. New pustules appear over the next two to six days. In some cases they may also appear on the soles of the feet and the palms of the hands. The eyes, mouth, throat, vagina and rectum may also be affected. Another symptom is a mild fever which rises and falls according to the intensity of the eruption. Adults usually have a higher fever, a more severe eruption, headaches and muscle aches and they need longer to recover. All the symptoms last between 10 and 14 days. A soothing cream with relieve the itching. A warm bath (not hot) keeps the skin clean and thus reduces the risk of infection. In addition, the virus is destroyed in water. If the itching is very severe, it is advisable to keep the fingernails short and to sleep in clothing at night to reduce the risk scratching.

Effect of magnetic field therapy on infectious diseases in childhood and youth:

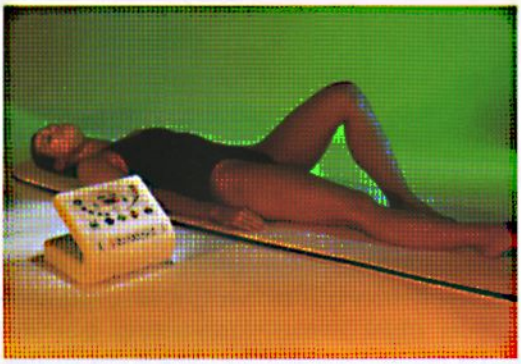
stimulating the immune system, relieving itching, relieving pain, reducing inflammation, soothing

Proper use of MRS for infectious diseases in childhood and youth

- Whole-body mat: 3 times a day for 8 minutes each time: 50 % level in the morning, 25 % level at noon, 10 % level in the evening

Scientific Studies:

see other infectious diseases



Whole-body treatment for chickenpox

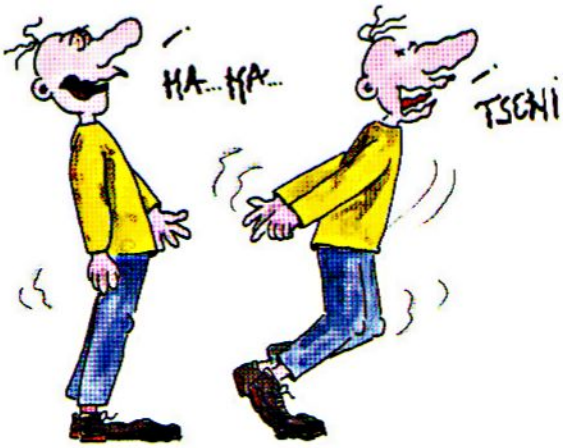
Patient reports on the effects of MRS in infectious diseases in childhood and youth

1. Thanks to the company Vita-Life

- *Patient C.T., female, 17 years old; diagnosis: mononucleosis, fever, swollen lymph nodes, enlarged spleen and liver, pharyngitis. After erroneous administration of antibiotic by the physician, allergy with a skin rash over her entire body, severe itching. Results of MRS therapy: after 3 days, the itching and rash have disappeared, general improvement and rapid recovery*

Appraisal of MFT: 70 % good to very good results

ALLERGIES



8. Allergies and other diseases of the immune system

The immune system has the important function of protecting the body from exogenous (outside) attack and defending it. The skin and mucus membranes for the first barrier at the body orifices to stop disease-carrying germs. The lymphatic system which consists of a network of vessels and lymph nodes, carries some of the lymph fluid back into the blood stream and unwanted organisms are captured in the lymph nodes and destroyed by the white blood cells, so-called lymphocytes. The lymphocytes form antibodies (special proteins) which the body produces as needed to render disease-carrying germs harmless. The surface of a disease-carrying germ is covered by features typical of the species, so-called antigens. Antibodies fit precisely with this antigen. Thus, this gives the sign to the body's phagocytes to destroy the pathogens. Since antibodies are produced in the lymph glands, these glands become enlarged in an infection and are sensitive to pressure.

We speak of an immune reaction when the body produces antibodies and white blood cells because of invading microorganisms or those administered through a vaccination. Once the antibodies have been produced, the pathogen cannot attack the body any longer. This is the reason why we very rarely get a disease a second time. Our immune system is influenced to a great extent by our general physical and emotional condition. We know that stress has enormous effects and often forms the basis for a disease. If the immune system reacts too intensely to harmless stimuli, we call that an allergy. If it runs "amok" it is directed against indigenous (the body's own) organs and we call it an autoimmune disease.

8.1. AIDS

In AIDS the body's natural defense system is weakened by a virus infection attacking the immune cells and it can no longer defend itself against the simplest disease-carrying germs. Patients with this condition are completely to exposed to infectious diseases. AIDS is caused by HIV (human immunodeficiency virus). The risk groups include drug abusers, people who must rely on blood transfusions, male homosexuals, although the disease today affects both sexes and is by no means limited to these risk groups. Low fever, swollen lymph glands, weight loss, signs of fatigue, night sweats, long-lasting diarrhea and a general malaise are symptoms of this disease. Almost one third of AIDS patient de-

velop a rare form of cancer called Kaposi's sarcoma which causes dark spots on the skin. The susceptibility to pneumonia is also dangerous. The main problem with this disease is the inability of the body to fight off infections. AIDS patients have a reduced number of lymphocytes, i.e., those specialized white blood cells that combat infectious diseases caused by tuberculosis, fungi or viruses. Two types of lymphocytes are involved in fighting off infections: T cells and B cells. T cells fight the pathogens directly, while B cells form antibodies. In AIDS the so-called T helper cells play a crucial role.

Supportive treatment of AIDS includes the use of antibiotics, surgery, chemotherapy and medications that should strengthening the body's immune system. Prevention is always the best protection. For drug abusers it is important to always use clean needles. Condoms help limit the spread of AIDS.

Effect of magnetic field therapy on AIDS:

stimulating the immune system, reducing inflammation, supporting, strengthening mainly the nonspecific immune system (protection against viruses)

Whole-body treatment for AIDS

Proper use of MRS for AIDS

- Whole-body mat: 3-4 times a day for 8 minutes each time: 100 % level in the morning (gradually increasing from 10 %), 50 % level at noon, 25 % level in the afternoon, 10 % level in the evening
- Forms of therapy supportive of MFT: general immunostimulating measures, herbal remedies (St. John's wort, astragalus root, licorice root), selenium, zinc, alpha liponic acid
- Special instructions on use: variations in success of treatment are possible
- Notes on the initial reaction: none

Scientific studies on the treatment of AIDS with MFT

- C. Wallach: "Electromagnetic Therapy - A New Medical Discipline," California Institutional Review Board, Canoga Park, California, 1998. - This article reviews the areas of use for MFT documented by various studies; in addition to the traditional indications involving the motor system, mainly new possibilities such as supportive treatment in the area of immunology and AIDS are discussed.
- M.R. Cho et al.: "Regulation of Electric Field-Induced Macrophage Migration By Extracellular Matrix," Harvard Medical School and Brigham & Women's Hospital, Boston. University of Chicago School of Medicine, Chicago. 1998. - This study has shown that phagocytes are stimulated by pulsating electromagnetic fields to much greater activity than was the case in the control group without MFT.
- I. Rodin et al.: "Use of Low-Intensity Eddy Magnetic Field in the Treatment of Patients with Skin Lymphomas", Voen Med Zh, 317(12), 1996, pp. 32-34.
- A. Cossarizza et al.: "Effects of PEMF on the Proliferation of Lymphocytes from AIDS-Patients, HIV Sero-Positive Subjects, and Seronegative Drug Users," Department of Disease, University of Modena, Italy, J. Bioelectrics (USA) 1989. - The effect of PEMF on the replication of mitogen-stimulated lymphocytes in AIDS patients and a controlled group was investigated. It was found that cell division remained unchanged in the group of healthy subjects. In the AIDS patient group, an increase in active T lymphocytes was observed.
- Additional studies: see "Infectious diseases"

Patient reports on the treatment of AIDS with MRS

1. Thanks to the company Vita-Life

• *Patient K.M., male, 54 years old; diagnosis: "I was diagnosed with AIDS nine years ago. Three years ago, I was often quite sick and had to be in the hospital for several times a year for treatment of my pneumonia. Although my blood results were not entirely bad, the number of T helper cells was greatly reduced." Results of MRS therapy: "For two years I have been using the MRS system and my current blood tests in February 1999 showed a balanced relationship of T helper cells. Regardless of the blood findings, I can report that I have so far been able to remain without a vaccination this winter, without medication and I have not had a cold; furthermore, I feel completely fit."*

8.2. Allergies

An allergy is understood to be an unusual reaction of sensitivity of the immune system to a certain substance from the environment. If this essentially harmless foreign substance enters the body, antibodies are formed, resulting in an intense inappropriate reaction to this substance. Antibodies stimulate specialized cells to secrete the hormone histamine, a substance that dilates the vessels. Consequently, the muscle contract, and a type of urticaria (itching) develops. An allergic reaction can disappear at any time and can recur again at any age. Therefore, there is no allergic reaction on initial contact because the body must first produce antibodies. The second contact with the specific substance then triggers the allergy. Allergies are often inherited. People who have a tendency to develop allergies are called atopic. An allergy may be so mild that it is hardly perceived or so severe that it endangers the life of the person affected with it. The usual symptoms include itching, watery eyes, a runny nose, itching or inflamed skin, a swollen mouth or throat. Sometimes there are headaches, a feeling of stuffiness in the nasal sinuses (sinus stuffiness), a reduced perception of taste or smells or breathing problems. If the reaction is extremely strong, we speak of an allergic shock. This is characterized by respiratory difficulty (caused by a swollen throat, trachea or constriction of the bronchial tubes), itching skin, urticaria with blood vessel collapse and nausea, diarrhea and cramps. An allergy can be caused by inhalation, contact, ingestion or injection.

In the first type (inhalation) the allergen is inhaled. It may be dust, pollen, feathers or animal dander. In hayfever, which is usually seasonal, the allergen, usually pollen irritates the mucous membranes and causes itching nose, eyes or gums, sneezing, headaches and weeping eyes.

In a contact allergy, reactions are caused by coming contact with the allergen. These may be substances such as poison ivy, cosmetics, cleaning agents, jewelry, medication or dyes. The skin becomes inflamed, burns and itches at the spots that have come in contact with the allergen.

Allergens are ingested by drinking or eating. A food allergy often occurs in children, e.g., an allergy to milk, eggs, certain types of fish, peanuts, chocolate, strawberries and citrus fruit. Symptoms include intestinal cramping, nausea, vomiting and diarrhea. In addition, there may also be urticaria, a skin rash, headaches, nasal congestion, which may be become as serious as a life-threatening anaphylactic shock.

Injection allergens are substances that irritate the skin from insect bites (bees) or injected drugs. Shortness of breath, a rapid heartbeat, coughing, wheezing or confusion are the usual symptoms. The bites swell, become sensitive or numb and in certain cases an allergic shock may develop. The substances causing the allergy can be detected in a variety of ways: skin tests (small quantities of the presumed allergens are applied to small scratches in the skin) and allergy tests (the allergen is injected) help to discover the precise substance. As soon as the allergen has been identified, half of the battle is won because allergens can often be avoided. Natural fibers can be replaced by synthetic substances, air filters can be installed to protect against hayfever and anyone who is allergic to insect bites can wear protective clothing or insect repellent. If

the allergen cannot be avoided, there are two treatment options: medication (such as cortisone preparations and antihistamines) or hyposensitization, a procedure whereby the allergen in extremely small quantities is administered to accustom the body to higher doses of the allergen over a period of time. Babies with a hereditary predisposition should be nursed with breast milk for as long as possible to prevent an allergy to cow's milk.

Effect of magnetic field therapy on allergies:

calming effect on the autonomic nervous system and thus indirectly on the immune system. Resonance effects are responsible for the success of the treatment

Proper use of MRS for allergies

• Whole-body mat: 3-4 times a day for 16 minutes each time: 100 % level in the morning (gradually increasing from 10 %), 50 % level at noon, 25 % level in the afternoon, 10 % level in the evening

Whole-body treatment for allergies

• Forms of therapy supportive of MFT: bioresonance, homeopathy, kinesiology, NLP, TCM, urine therapy, Bach's flower remedies, essential fatty acids, evening prim rose oil, nigella oil, flaxseed oil, borage oil), vitamin C.

• Special instructions on use: the more acidic the acid-base balance, the worse the body's reactivity.

• Notes on the initial reaction: the skin reactions may be exacerbated in approximately 10 % of the cases. Adjust the dose!

Scientific studies on the treatment of allergies with MFT

• V. I. Kovalchuk, et al., "Use of Extremely Low Frequency Magnetic Fields in Clinical Practice," Fizicheskaia Meditzina, 4(1-2), 1994, p. 87.- In this study, the anti-inflammatory effects of MFT are emphasized in particular in addition to the pain-relieving effect.

Physician reports on the treatment of allergies with MF

1. Dr. Hilde Mily, M.D., Dermatologist, Munich

• *Patient H.A., female, 49 years old; diagnosis: welts on the skin over the entire body, swelling of the joints. Results of MRS therapy: first week: endless welts, at the end of the first week: slight reduction in new welts. After the tenth day, the welts became less each day.*

• *Patient G.F., female, 36 years old; diagnosis: for 11 years allergic rhinitis, hayfever, asthma attacks, sleep disorders, thyroid dysfunctions and extreme soft tissue rheumatism. The patient was no longer able to handler her everyday life. Results of MRS therapy: after three weeks of treatment, the patient is completely free of symptoms. She has been able to stop taking various medications and is enjoying good overall health.*

Patient reports on the treatment of allergies with MRS

1. Thanks to Mrs. Susanne Büttner

• *Patient S.B., female, 36 years old; diagnosis: "I had a pollen allergy to grasses and rye for 13 years, causing me problems each year from about May to August: extreme itching of my eyes, nose and gums as well as a runny nose all day, stopped up at night, so that I could breath only through my mouth. Despite desensitization, homeopathic preparations and bioresonance therapy, the symptoms became worse each year. In addition, I had had hypotension since puberty. I had headaches about once a month connected with my menstrual cycle, which was irregular." Results of MRS therapy: "The headaches disappeared each time almost spontaneously. The allergy symptoms occurred only very weekly on two days this year. I have*

continued to use the mat regularly and I have also been taking vitamin C. Then I had no further signs of allergy. At the present time, I do not have any pain."

• *Patient P.F., male, 41 years old; diagnosis: contact allergy to latex, especially rubber gloves: itching blisters would develop in the area of the hands after even brief contact. Results of MRS therapy: "After a single treatment with the MRS 2000, I experienced a definite reduction in sensitivity to latex: only a few blisters developed and itching was very minor. After two additional treatments, the symptoms disappeared completely. After approximately 1 week without treatment, they returned, but the allergy could be kept under control with just a single treatment per week.*

2. Thanks to Mr. Siegfried Müller

• *Patient R.M., female, 9 years old; diagnosis: at the age of one year, she developed a neurodermatitis which was exacerbated by incorrect treatment (cortisone). At the age of six she also developed asthma attacks, allergies to animal hair and pollen; hayfever and constant scratching. Results of MRS therapy: sleeping calmly, breathing more easily - no wheezing even with a cold, no itching and no more redness. The allergy to animal hair, especially horse hair and cat hair, has disappeared.*

3. Thanks to Beatrice Studer

• *Patient, female, 36 years old; diagnosis: severe allergy to dust since 1986. "I could breathe somewhat normally only when constantly taking medication. It was always worse in the winter than in the summer. I was constantly borderline manic-depressive and I had no energy." Results of MRS therapy: "I no longer have colds and I am free of medications, I am balanced, I have more endurance and more energy."*

4. Thanks to Max Keiser and Mrs. Verena Singer

• *Patient B., female, 70 years old; diagnosis: allergy, hayfever, eczema. "My condition was hopeless, I could hardly walk anymore, I had no strength and I was afraid I would soon have to use a wheelchair to get around. Several forms of therapy had been completely unsuccessful." Results of MRS therapy: "After about four months, my health had been restored to such an extent that my quality of life was as good as that of about 10 years ago. The eczema disappeared and the hayfever is no longer causing me problems."*

• *Patient D., female; diagnosis: bronchial asthma and severe hayfever: taking vasodilating medication and seasonally antihistamine, eyedrops and nose drops, aerosol spray and cortisone. Results of MRS therapy: "Improvement after two treatments, I was able to stop the medication after six treatments. I am now free of symptoms."*

• *Patient W.H., male, 36 years old; diagnosis: hayfever (allergies to hazel nuts, birch, beech, alder): intense reactions such as sneezing, red weepy painful eyes and difficulty in breathing for about 10 years. Treatment with mucolytic preparations, medications and aerosol spray. Results of MRS therapy: "My allergy disappeared slowly after about four weeks. I am again able to breath well and I feel freer in my chest than for a long time. After six weeks, a test also convinced me: I rolled obout in hay for 1 hour without having any negative reaction at all."*

5. Thanks to Mrs. Giovanna Fakin

• *Patient G.F., female; diagnosis: recurring hayfever, asthma attacks, hyperthyroidism, sleep disorders, extreme soft tissue rheumatism, especially intense asthma attacks at night, severe iron deficiency constantly for 11 years. Results of MRS therapy: "After three weeks of treatments, I no longer have any symptoms. I have been able to stop taking the various medications. I would classify my overall physical condition as very good."*

• *Patient M.T., female; diagnosis: "For 40 years I have been suffering from hayfever. The period from March through October was the worst. I had to take a lot of medications, most recently more than 20 pills a day and also an asthma spray. I often had a severe shortness of breath and circulation disorders. I had no feeling in my heels for more than half a year." Results of MRS therapy: "After three weeks of use, my condition improved immensely. I no longer had any shortness of breath, and I can now breath deeply, which I could never do in the past. I am completely free of symptoms and am no longer taking any medication for hayfever. After two weeks of treatments, the feeling in my heels re-*

turned and after one month the symptoms had disappeared completely."

- *Patient I.M., female, 53 years old; diagnosis: allergy for 30 years, especially on the hands; inflammation of the Achilles tendon on both sides. Results of MRS therapy: "After two months of treatment, I no longer had any allergy and the inflammation of the Achilles tendon had disappeared, likewise my shoulder and neck problems."*
- *Patient M.M., female, 37 years old; diagnosis: "I had a type of skin allergy on both hands for about 10 years." Results of MRS therapy: "The condition of my hands has improved considerably."*
- *Patient K.K., male, 27 years old; diagnosis: chronic colds the whole year since 1991 (pharmaceutical products did not help) and extreme fatigue late in the afternoon, especially in the late evening (burning eyes, heavy eyelids and difficulty in concentrating). Results of MRS therapy: after four weeks, definite improvement in nasal condition, no more fatigue, no more difficulty in concentrating. "After the sixth week, the chronic sniffling was eliminated and now I have no more symptoms. There have not been any negative effects."*

Appraisal of MFT: **70-80 % good to very good results**

8.3. Autoimmune diseases

In autoimmune diseases, a derailed immune system attacks its own body tissue and destroys it. The causes of this faulty reaction of the immune system are still unclear; a virus may be the causative factor. Self-destruction of tissue may involve various organs: the thyroid gland (Hashimoto's disease), the stomach (pernicious anemia), the muscles (myositis), the skin (scleroderma, lupus erythematosus, pemphigus), the eyes (Sjögren's syndrome) or the pancreas (diabetes). Autoimmune diseases are highly complex and are therefore also very difficult to manage.

Magnetic field therapy can relieve the pain and can reduce the aggressiveness of the immune cells through the autonomic nervous system.

Effect and proper use of the MRS:

see "Allergy"

8.4. Mycotic infections (yeasts and fungi)

Yeasts and fungi constitute one third of the plant world. Most of them are the lower fungi, which play an important role in the biological cycle of the earth inasmuch as they decompose dead plants and animals. Fungi are also used for chemical synthesis of many drugs such as antibiotics (penicillin). Beer drinkers and cooks (bakers) should be familiar with yeast, and yeast cultures are also used in cheese and yogurt. However, many fungi (molds) are toxic. Alfatoxin is a toxic substance which is formed by mold which can even cause cancer.

Fungi are becoming increasingly important as disease-carrying pathogens. Fungi affect the skin, the mucous membrane and internal organs, especially in patients with a weakened immune system, and they can lead to life-threatening diseases. Moisture is required for fungus growth (sweat in the folds of the skin, the spaces between the toes, the armpits and in the genital region), but circulation problems, obesity, excessive intake of sugar, diabetes and drugs and medicines that weaken the natural defense also encourage these infections. There are sources of infection everywhere. The yeast of the genus candida is especially harmful. It is manifested by white specks on the inside of the cheeks or elsewhere in the oral mucosa. Candida can be life-threatening when it spreads to the internal organs. In principle, there is no harmless yeast infection. Any yeast infection should be treated intensely to prevent it from reaching internal organs. Primarily the culture medium must be withdrawn from yeast. If this does not happen, even treatment with the best medication will not help. A diet avoiding sugar in particular is essential.

Effect of magnetic field therapy on yeast diseases:

reducing inflammation

Proper use of MRS for yeast diseases

• Whole-body mat: 2-3 times a day for 8 minutes each time: 50 % level in the morning, 25 % level at noon, 10 % level in the evening

• Special instructions on use: clinical objections from previous years have mostly been proven incorrect. The widespread opinion that a yeast infection in the intestines is pathological and is therefore a contra-indication for MFT is not correct. 50-60 % of all people have candida cultures in the intestine without becoming sick from it. The anti-inflammatory effect of the magnetic field on yeast infections has been researched extensively in the meantime. Thus, detection of candida in the intestine or on the skin does not constitute a contra-indication for MFT. However, MFT should not be used on yeast infections on the internal organs until after the condition has been controlled through medication.

Whole-body treatment for mycotic infections

• Forms of therapy supportive of MFT: a low-sugar diet, ayurvedic medicine, bioresonance, saline therapy, TCM, herbal remedies (grapefruit seed extract, lapachol, orange root, echinacea, garlic, bearberry, nigella oil)

• Notes on the initial reaction: none

Scientific studies on the treatment of yeast infections with MFT

• Y. Mizushima et al.: "Effects of Magnetic Fields on Inflammation," Department of Medicine and Physical Therapy, Faculty of Medicine, University of Tokyo. JAMA, Vol. 248, no. 5, p. 921. - This study has shown that electromagnetic fields are capable of influencing inflammations and counteracting them. This was also found with concomitant yeast infections (candida).

Patient reports on treatment of yeast infections with MRS

1. Thanks to the company Vita-Life

• *Mrs. I.T.E., 59 years old; diagnosis: "I am a diabetic and I have been suffering from chronic yeast infections in the intestine and on my toenails for 10 years." Results of MRS therapy: "After 14 months I am yeast-free and I no longer have any symptoms. In addition, I have been following a proper diet."*

UROLOGY

Kidneys

9. Diseases of the urinary tract and the male reproductive system

9.1.Diseases of the bladder and the efferent urinary tract

9.1.1. Problems in urination and residual urine

Residual urine is the urine that remains in the bladder after urination. In women, the most common cause of obstruction of the urine flow is surgery involving the reproductive system, and in a man it is benign enlargement of the prostate. A problem in urination may also be due to neurogenic causes. Because of the high risk of infection, one complication that is feared is reflux of urine into the urethra.

9.1.2. Urethritis (infection of the urethra)

Various pathogens or a pre-existing bladder infection may cause an infection of the urethra and under some circumstances excessive consumption of cold beer may also cause it. There is discharge from the urethra containing mucus which must be tested for pathogens to rule out gonorrhea in cases of doubt. A urine test with bacterial diagnostics is always necessary for a definite diagnosis. Treatment of urethritis depends on the pathogen and is performed by a specialist.

9.1.3. Incontinence

Incontinence is understood to be the inability to voluntarily retain urine in the bladder. A permanent need to urinate and an odor problem have considerable effects on the personal quality of life, psychological attitude and social environment: these patients often withdraw completely from social contact.

Various forms of incontinence are differentiated. Urge incontinence affects mainly the elderly. There is a sudden urge to urination which cannot be suppressed (ranging from a few drops to complete emptying of the bladder). This is treated with antibiotics, spasmolytics, toilet training, disposable diapers and urinals. In stress incontinence, small quantities of urine are released when there is an increase in abdominal pressure (laughing, sneezing, lifting heavy loads). Treatment consists of exercises to strengthen the pelvic floor, a pessary, disposable diapers or surgery. Overflow incontinence affects mostly men, and a few drops of urine are released (night drips). Functional incontinence occurs in those who are either physically or mentally handicapped, with the bladder being emptied in inappropriate situations. Toilet training may help. Here again, disposable diapers and

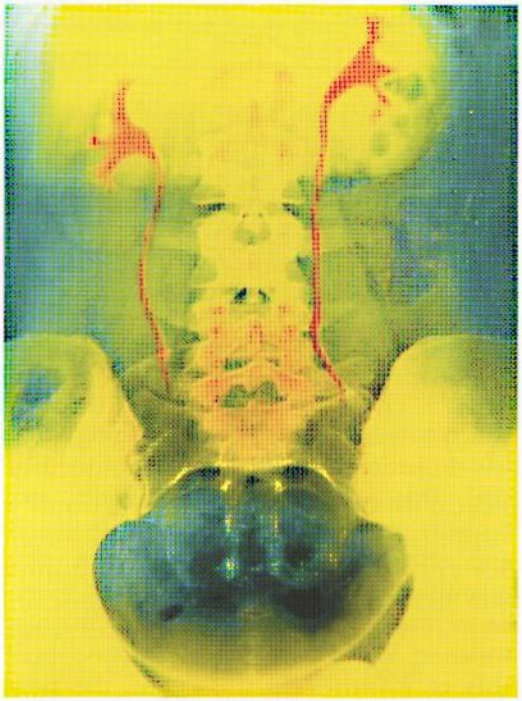
urinals are used. In paraplegia, neuropathy (diabetic) or head injuries, involuntary urination may occur at brief intervals; this is called neurogenic incontinence.

9.1.4. Irritable bladder

Irritable bladder is in the range of functional disorders caused by an imbalance in the area of the autonomic nervous system. This is characterized by a frequent need to urinate and small quantities of urine in urination. Reducing stress if the best treatment.

Effect of magnetic field therapy on disorders of the urinary tract:

balancing, regulating through the autonomic nervous (especially in irritable bladder), promoting circulation, strengthening the immune system, relieving cramps in abdominal colic



X-ray of the urinary tract

Proper use of MRS for disturbances of the urinary tract

- Whole-body mat: 3 times a day for 8 minutes each time: 100 % level in the morning, 25 % level at noon, 10 % level in the evening
- Pad: twice a day for 16 minutes each time: 150 % level (gradually increasing the dose), 8 minutes each time over the pubic area and the sacrum

Local treatment for disturbances of the urinary tract

- Forms of therapy supportive of MFT: solidago, acupuncture, homeopathic remedies, TCM, herbal remedies (bearberry, field horsetail, damiana, gutu kola, mullein, orange root, cranberry concentrate, white willow bark, juniper berries, parsley, St. John's wort; especially in incontinence: bearberry, damiana)
- Special instructions on use: Drink lots of fluids (at least 3 liters of water per day)!
- Notes on the initial reaction: none

Scientific studies on the treatment of disorders of the urinary tract with MFT

- M. K. Sheriff, et al., "Neuromodulation of Detrusor Hyperreflexia Functional Magnetic Stimulation of the Sacral Roots," British Journal of Urology, 78(1), July 1996, pp. 39-46. - In this very good study, the effects of stimulation with magnetic fields in treatment of spinal cord injuries and the consequences of urination problems were investigated on seven men. The results show that MFT is an effective noninvasive method of treatment.
- V. A. Lebedev, "Treatment of Neurogenic Dysfunction of the Bladder and Enuresis in Children," Vorp Kurortol Fizioter Lech Fiz Kult

(4), 1995, pp. 25-26. - This investigation has shown a positive effect on MFT on urination problems and bedwetting in children.

Physician reports on the treatment of disorders of the urinary tract with MF

1. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0043/01/40 666 00

• *Patient S.C., female, 45 years old; diagnosis: kidney stones and colic. Results of MRS therapy: no more pain after the third treatment, two calcium stones passed after the fourth treatment.*

Patient reports on the treatment on disorders of the urinary tract with MRS

1. Thanks to Mrs. Beate Martina

• *Patient G.M., male, 85 years old; diagnosis: diabetes mellitus, prostrate problem, urge to urinated: going to the bathroom 7 times a night, digestive problems, resulting bowel problems. Inflammation of the bladder, prostate surgery in 1997 resulted in problems in urination. Results of MRS therapy: significant improvement in circulation after two weeks, the patient sleeps better, his digestion has improved and now he must go to the toilet only three times a night. Stable blood sugar levels at five months and the patient now no longer has to get up at night and wound healing has improved enormously.*

• *Patient H.S., female, 86 years old; diagnosis: incontinence, severe retention of water, pain in the arms, legs and shoulders (inability to move), psoriasis, diabetes mellitus, high blood pressure, no feeling in the big toes, coughing attacks. Results of MRS therapy: the incontinence has been virtually eliminated and there has been an improvement in symptoms in all other areas.*

2. Thanks to Mrs. Gertrude Schweighart

• *Patient S.G., male, 36 years old; diagnosis: multiple sclerosis of the lower extremities (severely restricted movement); the patient was confined to a wheelchair in phases. Incontinence, constant need to sleep, mentally inactive. Results of MRS therapy: "After one week I felt much worse. Two weeks later there was an improvement in my general condition. Now after five months of treatment, I am already able to walk for short distances without any assistance (when my condition is good). I feel much more active mentally and my need for sleep has been reduced to a normal extent of 8 to 10 hours. My incontinence has improved somewhat."*

3. Thanks to Mr. Siegfried Muhry

• *Patient E.G., female, 40 years old; diagnosis: "I could not hold my urine after my pregnancy (according to my gynecologist, this could last for up to a year). I have had sleep problems for many years." Results of MRS therapy: "I began the treatment two weeks after childbirth. I noticed an improvement from the beginning and after about 3 1/2 months, my bladder problem was gone. My sleeping problems have been eliminated 100 %."*

Local treatment of the urinary tract with a pad

• *Patient L.O., male, 52 years old; diagnosis: brain tumor, incontinence (requiring the highest level of nursing care), equilibrium disorders, extremely severe depression, epileptic attacks, inability to concentrate, inability to find words, stiffness in the legs, pressure and pain in the head, no more control over his body. Results of MRS therapy: in the first four weeks, there was an exacerbation in many area but then a steady improvement in all the areas listed above, and a reduction in medication used. MRI in January 1997: the tumor had not grown anymore.*

Appraisal of MFT: **70-75 % good to very good results**

9.2. Impotency

Impotency is understood to be an erectile dysfunction which may be caused by internistic (such as diabetes), a testosterone deficiency or by medication, alcohol or nicotine. The cause may also be psychosomatic.

Effect of magnetic field therapy on impotence:

autonomic, promoting circulation

Proper use of MRS for impotence

- Whole-body mat: twice a day for 8 minutes each time: 100 % level in the morning, 25 % level in the evening
- Pad: twice a day for 16 minutes each time: 150 % level, 8 minutes each time in the low back area and the pubic area
- Duration of treatment: sometimes preliminary treatment results are not apparent until after six months of intensive therapy.
- Notes on the initial reaction: none
- Forms of therapy supportive of MFT: herbal remedies (damiana)

Scientific studies on the treatment of impotency with MFT

- F. Petrossi, "The Local Vacuum Magnetotherapy of Patients with Impotence," Internet: Medline hyperlink
- I.V. Karpukhin & V.A. Bogomol'nii: "Local Vacuum Magnetotherapy of Impotency Patients," Vopr Kurortol Lech Fiz Kult (2), 1996, pp. 38-40. - This study investigates the effect of a combination of MFT and vacuum therapy in treatment of impotency. With concomitant use of both forms of therapy, an improvement in the erectile dysfunction was observed in more than 80 % of the patients, and only 17 % reported no change. In the control group which received vacuum therapy alone, only slightly more than 50 % experienced an improvement.
- I.I. Gorpinchenko: "The Use of Magnetic Devices in Treating Sexual Disorders in Men," Lik Sprava (3-4), March-April 1995, pp. 95-97. - This double-blind placebo-controlled study has shown that MFT has positive effects on blood flow in the penis in erectile sexual dysfunction. 38 % of the patients were cured of their impotency and a definite improvement was observed in 42 %.

Physician reports on the treatment of impotency with MF

1. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0043/01/40 666 00

- *Patient, male, L.M., 59 years old; diagnosis: erectile dysfunction problems for eight years, impotence for three years. Results of MRS therapy: preliminary results apparent after six months; after nine months, the patient was again fully potent and making full use of his recovery (according to this wife).*

Patient reports on the treatment of impotency with MRS

1. Thanks to the company Vita-Life

- *Patient S.M., male, 56 years old; diagnosis: "I have a very stressful occupation and because of my erectile dysfunction I have had practically no sex life for four years." Results of MRS therapy: "My manhood was restored after four months and I am now enjoying a happy and fulfilled partnership (better than ever)."*

Appraisal of MFT: **success depends on the cause**

9.3. Incontinence:

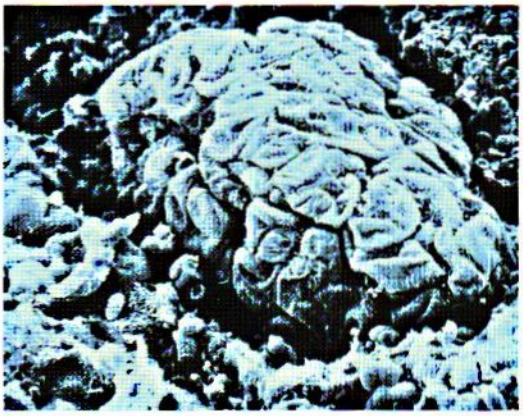
see "Diseases of the bladder and the efferent urinary tract"

9.4. Kidney diseases - stones

The renal or kidney system is the body's filtering station. The kidneys purify all the blood which flows through the kidneys every 5-7 minutes (that is 1,500 liters a day!). They remove waste products from the blood that are formed by the utilization processes involved in the metabolism.

Approximately 2 million kidney bodies (glomeruli) which are located in the renal cor-

tex are responsible for this important job of washing the blood. The glomeruli, the filters of the kidneys, are tiny vascular clusters, each having an afferent and an efferent blood vessel. Like a fine-pored sieve, they remove water, sugar and salts and other minerals from the blood and later return them to the bloodstream. The filtrate formed by the renal corpuscles is the so-called primary urine which constitutes up to 180 liters per day. It is concentrated further in the collecting tubes, so that ultimately only 1-2 liters of urine are eliminated each day.



Kidney

Kidney stone diseases affect 1-3 % of the population. A stone is formed when salts are precipitated from the urine and form concretions. A high consumption of protein, too little physical exercise and weight gain cause kidney stones to form. The stones are composed of some uric acid, cistene, protein, oxalate, phosphorus and calcium. Not all stones cause problems and many kidney stones go undetected. Although minor concretions are eliminated with the urine, others remain in the renal pelvis and fill up the cavity like coral without the person being aware of anything. Renal colic is caused when a stone slips into the ureter and becomes stuck there. An attempt to force the stone out causes cramping with severe pain from the area of the kidneys into the abdomen, but it may also radiate into the thighs. The pain is often accompanied by nausea, vomiting and even fever. Nevertheless, renal colic is never life-threatening.

During an attack of colic, ordinary pain pills do not help. In order to rule out the risk of hydronephrosis (retention of urine), the stone must leave the urinary system. Approximately 2/3 of all stones leave the ureter spontaneously. To wash out the ureter regularly, a lot of fluid should be drunk; a great deal of fluid dilutes the urine, so that salts cannot be precipitated as easily. Physical activity also assures a good flow of urine. In the case of calcium stones, a diet avoiding milk and milk products is recommended. In the case of phosphate stones, the urine must be acidified, e.g., with expectorant mixture, although this can only prevent existing stones from becoming larger and new stones from forming. Lithotrypsy with extracorporeal shockwaves, where the stone is destroyed from ultrasonic waves from the outside, has been successful.

Effect of magnetic field therapy on kidney diseases:

relieving cramping, facilitating discharge of the stone, promoting circulation, strengthening the immune system, promoting the solubility product for calcium in the blood and urine (= fewer stones), relieving pain

Proper use of MRS for kidney diseases

- Whole-body mat: 3 times a day for 8 minutes each time: 100 % level in the morning, 25 % level at noon, 10 % level in the evening

Basic treatment for kidney diseases

- Pad: twice a day for 16 minutes each time: 150 % level (gradually increasing the dose) on the sides (kidneys)
- Forms of therapy supportive of MFT: acupuncture, homeopathy, TCM, herbal reme-

dies (mullein, juniper berries, cranberry concentrate, field horsetail, chickweed, astragalus root, parsley; diuretics: dandelion, stinging nettle, mullein)

- Special instructions on use: Drink lots of fluids!

- Notes on the initial reaction: none

Scientific studies on the treatment of kidney diseases with MFT

- V. Y. Kiyatkin: "Pulsed Magnetic Field in Therapy of Patients with Secondary Chronic Pyelonephritis," Second World Congress for Electricity and Magnetism in Biology and Medicine, 1997, Bologna, Italy. - This article reports positive results in the treatment of secondary chronic pyelonephritis (inflammation of the renal pelvis) with MFT. Numerous double-blind controlled studies which are cited in this article are used as the basis for this conclusion.

- A.A. Li, et al., "The Use of an Impulse Magnetic Field in the Combined Therapy of Patients with Stone Fragments in the Upper Urinary Tract," Vopr Kurortol Fizioter Lech Fiz Kult (3), 1994. - This study investigates MFT as a supportive treatment measure in kidney stones. The results show a definitely positive effect of the magnetic field. Passing of stones or fragments was found to be much less complicated and associated with less pain.

- V.E. Rodoman et al.: "The Effect of Magnetic and Laser Therapy in the Course of an Experimental Inflammatory Process in the Kidneys", Urol Nefrol (Mosk) (2), March-April 1993, pp. 17-20. - Successful use of MFT in inflammatory diseases of the kidneys was expressed especially in an uncomplicated course of the primary illness.

Patient reports on the treatment of kidney diseases with MRS

1. Thanks to Mr. Max Keiser and Mrs. Verena Singer

- *Patient A.M., male, born 1946; diagnosis: hospitalization because a stroke on January 21, 1996. Renal failure due to excessive medication. Patient on dialysis starting in March 1997, this failed and the patient had peritonitis three times within one year. Results of MRS therapy: improvement in general condition. The patient has more strength, can now urinate normally. Weight loss: 8-10 kg to normal weight. His blood pressure has normalized. The patient can now walk without a support corset, using only a cane, can walk 2 km up and down hills although that was previously impossible. He now drinks much more fluids (3 liters a day). Fluid intake required by the hospital: 7 dL per day. He eats all kinds of fruit.*

2. Thanks to Mr. Dieter Frey

- *Patient H.R., male, 50 years old; diagnosis: Bekhterev's disease, renal cysts. Results of MRS therapy: "At first the pain became worse after starting treatments (several times a day), then a few weeks later, I had a slight improvement, which continued progressively. After a longer period of treatment, I was able to move better. Now I rarely need pain pills. The cysts in my kidneys have become smaller and some have disappeared."*

Appraisal of MFT: **70-75 % good to very good results**

9.5. Prostatic hypertrophy

One out of two to three men more than 60 years of age suffers from an enlarged prostate. The prostate encompasses the ureter at the outlet of the bladder like a collar, and when enlarged, it constricts the clearance in the ureter more and more. It is no longer possible to completely empty the bladder and urination becomes progressively more difficult and painful for the patient. The main risk is infection of the bladder due to the residual urine. If the enlargement has advanced too far, surgery must be performed. In the initial stage, natural means can greatly relieve symptoms. Pumpkin seeds, an extract of saw palmetto and beta-sitosterol or an extract of an African root tuber may help. It is important to avoid any overcooling and cold feet.

Effect of magnetic field therapy on prostatic hypertrophy:

relieving pain, reducing swelling, reducing inflammation, strengthening the immune sys-

tem, relieving cramping (better emptying of the bladder)

Proper use of MRS for prostatic hypertrophy

• Whole-body mat: twice day for 8 minutes each time: 100 % level in the morning, 25 % level in the evening

Basic treatment of the prostrate

• Pad: twice a day for 16 minutes each time: 150 % level, on the pubic bone

• Forms of therapy supportive of MFT: zinc, herbal remedies (saw palmetto, pumpkin seeds)

• Special instructions on use: MFT cannot directly affect a tumor in the prostate, even if it is benign.

• Notes on the initial reaction: none

Scientific studies on the treatment of diseases of the prostate with MFT

• S. P. Seregin & A.V. Panov: "The Correction of Prostatic Hemodynamics in Chronic Prostatitis," Vopr Kurortol Fizioter Lech Fiz Kult (2), March-April 1997, pp. 20-21. - This study shows the positive influence of good circulation in the prostate on chronic prostatitis and confirms good success in supportive treatment of this disease.

Patient reports on the treatment of diseases of the prostate with MRS

1. Thanks to the Mr. Reinhad Schlag

• *Patient B., male, 64 years old; diagnosis: primary arthrosis, enlarged prostate. Results of MRS therapy: a definite improvement in all areas was apparent after just three treatments. Mr. B. told me that the pain in his back and shoulder area had also disappeared, and furthermore, he had absolutely no prostate problems any longer.*

• *Patient R., male, 71 years old; diagnosis: arthrosis, prostate problems. Results of MRS therapy: after three treatments all his symptoms improved. After two weeks of treatments, Mr. R. is completely free of symptoms. He can now walk without pain, and his shoulder and back pain have disappeared. He sleeps very well and no longer has any prostate problems. The feeling of numbness in his arms has disappeared completely.*

• *Patient G.K., male, 70 years old; diagnosis: enlarged prostate. Results of MRS therapy: relief in urination and his general well-being has improved.*

Appraisal of MFT: 75 % good to very good results

9.6. Irritable bladder:

see "Diseases of the bladder and the efferent urinary tract"

NEUROLOGY

Nerve cell on vacation

10. Diseases of the nervous system

10.1. Senile memory loss

The aging process naturally also involves a reduction in a person's mental capacities. Short-term memory develops gaps and one only remembers the remote past truly well. Consistent mental activity is especially important in order to be able to perform high-performance mental activity with advanced age. Only if the mind is active, do the billions of nerve cells in the brain constantly receive new stimuli and impulses. There are many possibilities for training the brain, for example, memorizing poems or telephone numbers, solving crossword puzzles, practicing multiplication tables, learning a foreign language and many others. Despite all the training, however, the brain losses approximately 2 % of its mass every 10 years after the age of 50. The less active a person is mentally, the more dendrites, which are the branches in the nerve cells begin to regress and senile memory loss begins to take its course.

Effect and proper use of MRS: studies and physician and patient reports:

see "Alzheimer's"

10.2. Alzheimer's

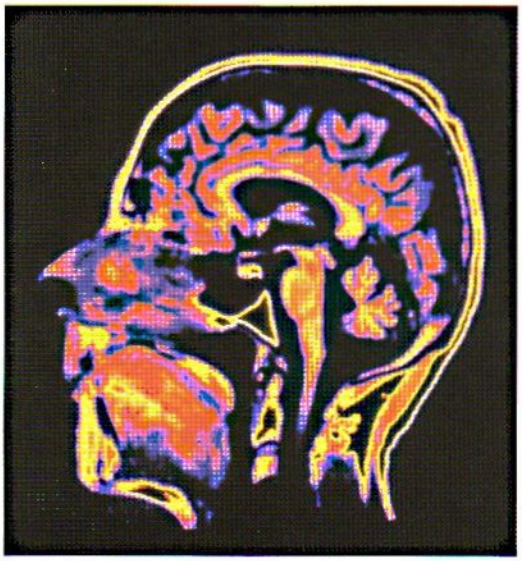
Pathological memory loss (senile dementia) is a loss of mental and cognitive abilities due to disease. Alzheimer's disease and arteriosclerotic blood vessel diseases are the most common manifestations.

Alzheimer's usually affects people after the age of 50. This disease is characterized by a progressive destruction of nerve cells that cannot be stopped. Under a microscope, the damaged nerve cells in the brain can be seen to have deposits of an abnormal protein (beta-amyloid), which has destroyed the healthy nerves. In approximately half of the cases of this diseases, the gene apolipoprotein E4 (Apo E4) is present.

The symptoms of alzheimer's disease increase slowly so that there is no noticeable sudden change in social behavior of the patient. These patients often repeat themselves when speaking because they forget they have already mentioned what was just said. The further the disease progresses, the greater is the memory loss. These patients have difficulty orienting themselves in time and place and ultimately they have trouble remembering to wash themselves, to dress themselves and to eat.

Typically, Alzheimer's patients attempt to hide their loss of memory, and they usually suc-

ceed in this very well. There is no disease insight; Alzheimer's brings severe social stress, especially in the area of the immediate family. It is not unusual for these patients to fail to recognize their own family members, to argue with them for no reason, suddenly run away and not be able to find their way home, become agitated and completely lost because of their mental inadequacies and uncertainty. Caring for an alzheimer's patient requires a great deal of patience and love.



Brain with shrinkage

Effect of magnetic field therapy on Alzheimer's disease and senile memory loss:

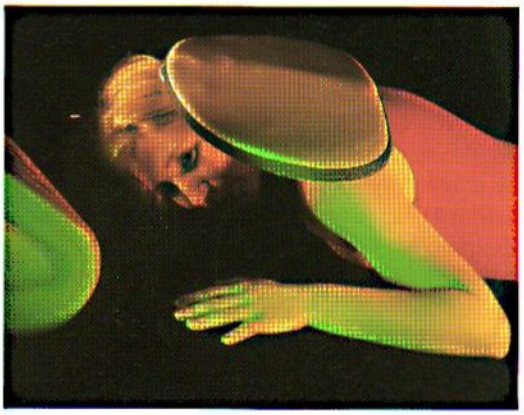
since Alzheimer's involves the death of large number of nerve cells in the brain, one cannot expect magnetic field therapy to be able to stop this process. Although MFT cannot reanimate dead nerve cells, it can nevertheless retard the process because the better utilization of oxygen, even for the nerve cells in the brain, restores the functioning of cells with restricted function. This explains the short term improvement when using MFT on Alzheimer's patients. In the long term, MFT has a calming effect.

Proper use of MRS for Alzheimer's disease and senile memory loss

- Whole-body mat: 3 times a day for 8 minutes each time: 100 % level in the morning, 50 % level at noon, 10 % level in the evening

Pad: once a day for 8 minutes: 100 % level (gradually increasing the dose), in the neck area

- Forms of therapy supportive of MFT: herbal remedies (gingko biloba, gutu kola, suma-brazilian ginseng)
- Special instructions on use: Agitated patients may have difficulty lying on the mat. In this case, wait until the patient is fully willing to cooperate.
- Notes on the initial reaction: none



Local treatment for Alzheimer's disease

Scientific studies on the treatment of Alzheimer's disease with MFT

- R. Sandyk: "Alzheimer's Disease: Improvement of Visual Memory and Visuoconstructive Performance by Treatment with Picotesla Range Magnetic Fields," International Journal of Neuroscience, 76(3-4), June 1994, pp. 185ff. - In this article the author describes two Alzheimer's patients who showed a definite improvement after treatment with MFT, especially in the area of visual memory but also in their drawing abilities. There were also improvements in other cognitive functions, including the ability of these patients to orient themselves in space, their mental/emotional condition, ability to make social contact and short-term memory.
- R. Sandyk et al.: "Age-Related Disruption of Circadian Rhythms: Possible Relationship to Memory Impairment and Implications for

Therapy with Magnetic Fields," International Journal of Neuroscience, 59(4), August 1991, pp. 259-262. - The daily rhythm, the so-called biological clock or circadian rhythm seems to be causally related to memory loss in the elderly and possibly also to Alzheimer's disease. This article argues that magnetic fields can probably improve memory performance in elderly patients by resetting the biological clock.

Physician reports on the treatment of Alzheimer's disease with MF

1. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0043/01/40 666 00

• *Patient G.B., male, 68 years old; diagnosis: diagnosed with Alzheimer's three years ago, rapid memory loss especially in the short-term memory and in orientation in time and space. This patient is unable to go through daily life on his own. Various drugs have been attempted, without success. Results of MRS therapy: after six months, his wife has reported that her husband has improved alertness and more active participation in the social life of the family. A slight improvement in spatial orientation ability is noteworthy and now the patient can go to the bathroom by himself. The many mental state tests showed an increase from 14 points to 16 points upon recovery.*

NEUROLOGY

Patient reports on the treatment of Alzheimer's disease with MRS

1. Thanks to the company Vita-Life

• *Mrs. M.S., 49 years old; diagnosis: "Since menopause, I have been suffering from difficulty in concentrating and I can no longer remember the names of people to whom I have just been introduced, although I am still employed as a teacher and I am constantly involved in mental training by reading books." Results of MRS therapy: "I have been using the magnetic field mat for 1 1/2 years and I experienced a definite improvement after just a few weeks, so that today I can say that my concentration is again as good as before and my short-term memory and my attention have improved significantly again without the use of drugs and without side effects."*

10.3. Amyotrophic lateral sclerosis (ALS)

Amyotrophic lateral sclerosis is a very serious disease of the central nervous system involving a continuous destruction of motor nerve cells in the area of the spinal cord, resulting in an interruption in the flow of information from the brain to the muscles. Over a period of time, the muscles can no longer be stimulated. The cause of this disease is unclear. It usually occurs between the ages of 40 and 65 in the form of asymmetrical paralysis of the muscles. One risk is possible involvement of the respiratory muscles. Unfortunately, this disease is very rapidly progressive and does not have a good prognosis.

Effect of magnetic field therapy on amyotrophic lateral sclerosis:

the mechanism of action has not yet been fully elucidated here. Perhaps the stimulating effect on the motor nerve cells and the pain-relieving effect play a role.

Proper use of MRS for amyotrophic lateral sclerosis

• Whole-body mat: 3 times a day for 16 minutes each time: 150 % level in the morning (gradually increasing from 10 %), 10 % level at noon, sensitive level in the evening

Whole-body treatment for ALS

• Forms of therapy supportive of MFT: vitamins and minerals (vitamin B complex, calcium)

• Notes on the initial reaction: none

Scientific studies on the treatment of amyotrophic lateral sclerosis with MFT

• R. Bellosei, Berget: "Pulsed Magnetic Fields, a Glimmer of Hope for Patients Suffering from Amyotrophic Lateral Sclerosis," Second World Congress for Electricity and Magnetism in Biology and Medicine, June 8-13, 1997, Bologna, Italy. - This investigation reports on three patients with amyotrophic lateral sclerosis who had a positive experience in treatment with magnetic fields. Definite clinical and subjective improvements were observed in these patients.

Patient reports on the treatment of amyotrophic lateral sclerosis with MRS

1. Thanks to the Mrs. Ute Gschneider

• *Patient E.G., male, 59 years old; diagnosis: amyotrophic lateral sclerosis. Beginning 5 years ago, severe pain in the hip and knee on the right. The patient was not able to walk without assistance, had numb feet, difficulty in breathing and swallowing, air problems, the muscles were shrunk on both sides, lymph node swelling in the neck. Results of MRS therapy: the patient was pain-free after the first treatment on the knee and hip, and after a few days experienced an improvement in breathing and swallowing, circulation in his feet has improved and he can now feel his toes again, can walk without a cane and has regained his joy of life. The lymph nodes are hardly palpable. Pain pills no longer needed.*

10.4. Epilepsy

Epilepsy is a disease of seizures where sudden unexpected neutron [sic; neuron] discharges in the brain result in the characteristic convulsions. The causes of epilepsy are often unknown, especially when the seizures occur before the age of 20. From a statistically standpoint, one person out of 200 suffers from epilepsy, and 70 % of them have their first attack before the age of 20. The intensity and frequency of epileptic seizures may be reduced with age. At least 5 % of all people have at least an occasional attack in their life. In children less than 5 years of age, fever may trigger a brief attack, but this is not true epilepsy.

There is symptomatic epilepsy in conjunction with brain damage, tumors, blood clots, abscesses, vascular deformities (aneurysms), inflammations of the cerebral tissue, metabolic diseases, strokes or alcohol abuse. In certain people, an attack may be triggered by sleep disorders, excessive alcohol consumption, emotional stress, flickering light (such as video games, sunlight filtered through trees) and fever. Generalized attacks, a so-called grand mal seizure, often begin with a cry (initial cry), a fall, usually towards the rear with the eyes remaining open. This is followed by a phase lasting about 30 seconds while the legs are extended and the arm are bent convulsively. The respiratory muscles may also cramp, resulting in a severe shortness of breath. This "tonic phase" is followed by the "clonic phase" which may last for up to 5 minutes. In this stage, the seizure is manifested in rhythmic switching of the arms and legs (under some circumstances, the patient may bit his/her own tongue), and foam comes out of the mouth and urine may be released uncontrollably. This so-called terminal stroke is the typical muscle soreness characteristic of the end phase of the seizure and amnesia, in other words, the epileptic patient cannot remember the seizure.

An electroencephalogram which measures the electric currents in the brain is used to diagnose epilepsy. The prognosis is actually relatively good because 50-80 % of all patients with grand mal seizures become seizure-free in the first year of treatment with good drug management. However, it is important for the patient to take all medication consistently. Favorable life circumstances, adequate sleep, stress management, a healthy diet and reducing alcohol consumption can help to prevent an attack.

Effect of magnetic field therapy on epilepsy:

MFT may influence the stimulus threshold in the brain, thus causing an altered profile of epilepsy. MFT may be used in epilepsy only under the supervision of a train physician!

Proper use of MRS for epilepsy

• Whole-body mat: twice day for 8 minutes each time: 50 % level in the morning, 10 % level in the evening

Basic treatment for epilepsy

• Pad: twice a day for 16 minutes each time: 100-200 % level, in the head area (extremely important to increase the dose gradually!).

• Special instructions on use: we would like to point out that epilepsy is listed as a contraindication by many manufacturers of MFT equipment. Therefore, medical advise should be obtained in any case when attempting to use MFT. The studies listed below can help a physician to make a decision.

• Duration of treatment: the success of the treatment should be manifested within the first six months of treatment

• Notes on the initial reaction: in 20 % of the cases, the patient will experience an unpleasant feeling. Attacks may even be provoked in 0.5 %. It is absolutely essential that the dose be increased gradually!

Scientific studies on the treatment of epilepsy with MFT

• M.A. McLean et al.: "Therapeutic Efficacy of a Static Magnetic Device in Three Animal Seizure Models: Summary of Experience," Second World Congress for Electricity and Magnetism in Biology and Medicine, 8-13 June 1997, Bologna, Italy. - This articles cites a study showing that MFT can significantly retard experimentally induced epileptic seizures in mice.

• R. Sandyk, P.A. Anninos: "Attenuation of Epilepsy with Application of External Magnetic Fields: a Case Report," International Journal of Neuroscience, 66(1-2), September 1992, pp. 75-85. - This article reports on a patient with extremely severe epilepsy and very severe behavior disorders. The attacks could not be brought under control even with medication. This patient experienced a definite improvement in his condition through the use of MFT.

• S. Pavlakis: "Epilepsy 'cure'," Department of Neurology, Cornell University Medical College, New York, Science 246/4932 (874) 1989. - This study describes treatment of various forms of epilepsy with the help of electromagnetic fields.

• G. D. Antimonii et al.: "Action of a Modulated Electromagnetic Field on Experimentally Induced Epileptiform Brain Ectivity in Rats," Bull Exp Biol Med. - In this article, the epileptic potentials before and after MFT were measured on rats. In 41 % of the cases, MFT completely stopped epileptic activity; in 23 % of the cases, MFT decreased it; in 25 % epileptic activity remained in its original form, and in 10 % it increased slightly.

Physician reports on the treatment of epilepsy with MF

1. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0043/01/40 666 00

• *Patient A.K., female, 34 years old; diagnosis: epilepsy since childhood, with medication reduced to one attack per month (absence). Results of MRS therapy: after six months of treatment, the patient reports that she has not had a single attack since starting the treatments.*

Patient reports on the treatment of epilepsy with MRS

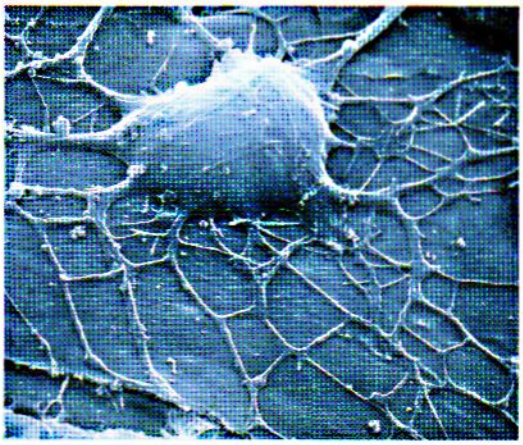
1. Thanks to the company Vita-Life

• *Patient L.O., male, 52 years old; diagnosis: epileptic seizures with a brain tumor, equilibrium disorders, extremely severe depression, inability to concentrate, inability to find words, stiffness in the legs, pressure and pain in the head, no control over the body, incontinence (highest level of nursing care required). Results of MRS therapy: exacerbation in many areas in*

the first four weeks, but then a steady improvement in all the areas mentioned above. No more epileptic seizures, medication reduced. MRI in January of 1997: the tumor has not grown anymore.

10.5. Paralysis

Paralysis is understood to refer to a reduction (paresis) or failure (paralysis) of the motor functions due to a disturbance in the area of the muscles and nerves.



Nerve cell

Central paralysis is when entire muscle groups are affected. This form of paralysis is characterized by an increased tension in the muscles, which is known as spastic paralysis. The causes include inadequate circulation in the area of the cerebrum, cerebral hemorrhage or a brain tumor. Peripheral paralysis is caused by disturbance in the peripheral muscle innervation. Causes include neuropathies (diseases of individual nerves), root compression (e.g., due to intervertebral disks) or systemic diseases (such as amyotrophic lateral sclerosis). This condition is characterized by a reduction in muscle tension, disappearance of reflexes and atrophy of the muscles, in other words, the extent of the muscles is reduced and they become progressively weaker. The myopathic type of paralysis is found in inflammatory diseases of the muscles such as so-called polymyocitis, but also in conjunction with metabolic diseases such as hyperthyroidism or so-called cushings syndrome where too much cortisone is secreted. This paralysis can be caused by drugs, disturbances in potassium balance, cold or excessive stress. In myasthenia the paralysis is manifested by premature fatigue ability of muscles, usually on the small gripping muscles, e.g., the muscles that raise the eyelids, the muscles of the eye and the neck. The cause of myasthenia gravis is a disturbance in transmitting messenger substance at the transition between the nerve and muscle. This paralysis affects mostly the extremities, bilaterally and uniformly, with a great reduction in the tension of the muscles. The form of psychosomatic may occur as a concomitant manifestation of hysteria.

Effect of magnetic field therapy on paralysis:

it causes stimulation of the nerve cells like an electric current pulse and contributes toward faster and improved regeneration of the nerves. It prevents anterograde degeneration and stimulates the nerve growth factor (NGF), as documented by a recent study.

Proper use of MRS for paralysis

- Whole-body mat: 2-4 times a day for 8 minutes each time: 150 % level in the morning (gradually increasing from 10 %), 100 % level at noon, 50 % level in the afternoon, 10 % level in the evening
- Pad: twice a day for 16-24 minutes each time: 150-200 % level, at the site of injury

Forms of therapy supportive of MFT: vitamin B complex

- Special instructions on use: the sooner the treatment is begun, the better the prospects for success
- Notes on the initial reaction: in approximately 1-3 % of the cases, there may be a pain stimulus which lasts for a few days to weeks (increase the dose gradually!)

Scientific studies on the treatment of paralysis with MFT

- F. M. Longo et al.: "Electromagnetic Fields Influence NGF Activity and Levels Following

Sciatic Nerve Transection," Journal of Neuroscience Research, 55, pp. 230-237, 1999. - This study shows that nerve growth factor (NGF) is stimulated under the influence of MFT, resulting in nerve growth.

- B. Greenbaum et al.: "Effects of Pulsed Magnetic Fields on Neurite Outgrowth From Chick Embryo Dorsal Root Ganglia," Biomedical Research Institute, University of Wisconsin at Parkside, Bioelectromagnetics. 1996, 17(4): 293:302. - This study shows that nerve growth in chick embryos can be stimulated greatly if pulsating electromagnetic fields act on the chicks.

- B. F. Sisken et al.: "Acute Treatment with Pulsed Electromagnetic Fields and its Effect on Fast Axonal Transport in Normal and Regenerating Nerve," Center for Biomedical Engineering, University of Kentucky. J Neuroscience Res. 42/5, 1995. - This study investigates how low-frequency electromagnetic fields can stimulate the growth and regeneration of peripheral nerves after a serious injury. It was found in experiments on rats that regeneration was faster after severing the sciatic nerve, but the reason for this was not accelerated axonal transport.

- J. Walker et al.: "Enhancement of Functional Recovery Following a Crush Lesion to the Rat Sciatic Nerve by Exposure to Pulsed Electromagnetic Fields," Division of Orthopedic Surgery, University of Kentucky College of Medicine, Shriners Hospitals for Crippled Children, Lexington. Exp Neurol, 1994 February, 125(2): 302:5. - This study showed that pulsating electromagnetic fields are capable of improving regeneration of the nerve axon by 22 %. This study confirms that MFT is an appropriate method for functional recovery after a nerve injury.

- M. Kanje et al.: "Pretreatment of Rats with Pulsed Electromagnetic Fields Enhances Regeneration of the Sciatic Nerve," Department of Animal Physiology, University of Lund. Bioelectromagnetics, 1993. - In this study, regeneration of an injured sciatic nerve was investigated in rats under the influence of electromagnetic fields. Regeneration of axons of the sciatic nerve was evaluated with various tests. It was found that nerve cells are regenerated much more rapidly and much better under pulsating electromagnetic fields.

- R. A. Zienowicz et al.: "A Multivariate Approach to the Treatment of Peripheral Nerve Transection Injury: the role of electromagnetic field therapy," University of Massachusetts Medical School, Berkshire Medical Center, Pittsfield, Plast Reconstr Surg 1991 January, 87(1): 122-9. - In this study, various combinations with MFT were investigated. The results were so impressive that the author concluded that MFT should be included in the fixed treatment programs after nerve injuries and surgery.

Physician reports on the treatment of paralysis with MF

1. Dr. Sepp Fegerl, M.D., General Practitioner, Salzburg

- *Patient G,E., male, 66 years old; diagnosis: spastic hemiparalysis due to a birth trauma, exacerbated by stress, therefore disabled since 1994. Results of MRS therapy: his energy has improved greatly, and his mobility and spastic symptoms have also improved.*

2. Dr. Reinhard Ascher, M.D., General Practitioner, Kundl

- *Patient A.A., male, 48 years old; diagnosis: head injury in 1995 with hemiparesis on the right, motor weakness and organic brain syndrome. Results of MRS therapy: subjective improvement in mobility due to MFT. Objectively, there has not been any definite restoration of motor function due to the slow progress in general improvement. The patient's psychological situation (perception, vitality) has improved.*

3. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0043/01/40 666 00

- *Patient R.M., 22 years old; diagnosis: The patient fell from the third floor on September 29, 1997, suffering severe injuries with the diagnoses hematopneumothorax, fractured and luxated thoracic vertebrae 7 and 8 and paraplegia of the extremities, fractured thoracic vertebral arch 5 and 6, fractured left scapula and left mandible, hospitalized in the Meidling Hospital. Surgical stabilization with the Isola System.*

Postoperative stay at IBST; renewed surgery on the spine was necessary because of instability; the osteosynthesis material was changed. After the clinical parameters improved, the patient was transferred to the normal ward and physical therapy was started. The patient first received individual physical therapy and exercise as well as massage and was gradually mobilized to a wheelchair. A limiting component was always the persistence of the pain over the middle thoracic vertebrae, which was treated by infusions as well as medication. Results of MRS therapy: The TENS device and the magnetic field mat relieved her symptoms.

Patient reports on the treatment of paralysis with MRS

1. Thanks to Mr. Harald Pretschuh

• *Patient R., male, 8 years old; diagnosis: Premature delivery, spastic bilateral paralysis for seven years, movement therapy once or twice a week - slight improvement. The young patient had been sleeping with night braces for six years. In 1995, his feet were in positioning casts for two weeks. Stretching exercises at home with duplicated equipment. Results of MRS therapy: Since June of 1996, he has been using only the MRS. In the first two weeks, his symptoms worsened slightly, then they improved. An examination in December of 1996 showed a definite improvement in the positioning of the foot. Since January 1997, the patient has been doing stretching exercises while receiving the MFT treatments. His condition has improved further.*

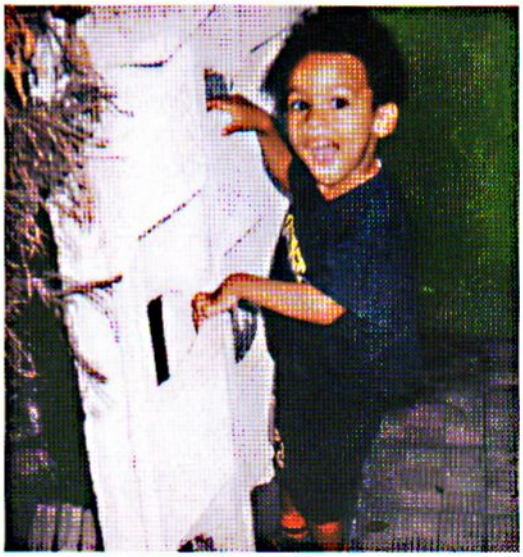
2. Thanks to Mr. Dieter Frey

• *Patient D.B., male, 56 years old; diagnosis: Condition after spinal poliomyelitis with paralysis of both lower extremities. Result: His feet are always cold, he has no feeling, right thigh with arterial occlusion. Diabetes mellitus for six years with fatigue, feeling poorly, diabetes-related polyneuropathy. His right big toe already has a dark brown discoloration. Results of MRS therapy: "I felt warmth in my legs at the time of the first treatment. Now I have warm feet all the time. I no longer feel any fatigue, and I'm very active, but my legs cannot keep up, but that will surely get better with increasing movement. Sometimes I have backaches, but they disappear suddenly after several treatments with the pad. My toe is already better."*

• *Patient N.F., male, 49 years old; diagnosis: Prolapsed disk with slight paralysis of the feet. Results of MRS therapy: After two weeks of treatments, he no longer had sleeping problems. The paralysis of his left foot has disappeared and the sciatic pain is felt much less often. The pain in the area of the disks, lumbar spine and shoulders also occurs less frequently. The medication was stopped after one month of MFT.*

3. Thanks to Mrs. Helga Detlefsen

• *Patient O., male, 3 1/2 years old; diagnosis: This small patient was so severely injured by an electric shock suffered by his mother in the eighth month of pregnancy that the child was paralyzed on the left side. Physicians did not hold out any prospects for a change for the rest of his life. "In Costa Rica, some healers were able to get his leg moving again. He held his arm bent up against his body, always making a fist. The therapists in the special kindergarten were hardly able to effect any change." Results of MRS therapy: "The first day of treatment, the boy's mother lay on the mat and he lay down*



O., 3½ years old

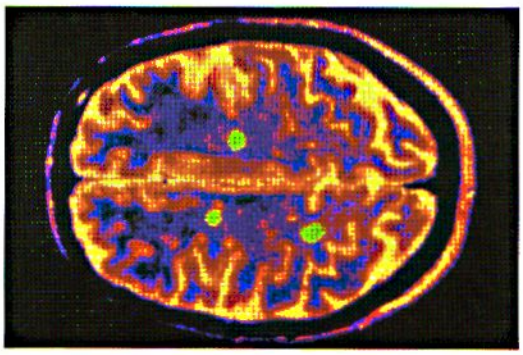
on top of her. After about two minutes, he began to giggle and move about on his mother as if someone were tickling him. When asked why he was doing that, he answered that it tickled a

lot here and there but really everywhere. We performed this type of treatment for two days, and then the tickling was slightly reduced. Later, he would lie down on the mat and enjoyed it a lot. When I asked him whether it tickled, he said yes and pointed to the top of his head, but said that it tickled most 'here at the side and inside' (pointing to his head). I did a lot of hand exercises with him. Each day he got a little bit better. Now he is running with a wheelbarrow, but after four times his weak arm gave out. He can hold himself alone with both hands on a wall projection without his body collapsing immediately."

Appraisal of MFT: **70-75 % good to very good results when used early**

10.6. Multiple sclerosis (MS)

Multiple sclerosis is a chronic disease of the central nervous system, resulting in plaques forming in the white matter (nerve sheaths) which lead to scars (sclerosis) in the remaining course. The disease begins between the ages of 20 and 40, striking women about twice as often as men. The prevalence, i.e., the incidence of the disease, is about 50 to 60 cases per 100,000 people, with many more cases of MS occurring in the northern latitudes than near the equator. Approximately 80 % of these cases proceed in attacks, only 20 % being chronically progressive, i.e., constantly increasing. The causes of multiple sclerosis are still unknown.



Cerebral lesion due to multiple sclerosis

In the initial phase, there are only local signs, such as an inflammation of the optic nerve with a loss of vision which becomes better again, specific perception disorders or weak legs. Complications that develop in the course of the disease include paralysis (spastic), sensory dissociation, loss of function involving the optic nerve, equilibrium disorders, eye muscle problems, bladder and intestinal emptying problems and especially psychological symptoms. Five years after the onset of the disease, 70 % of these patients are still able to work despite physical impairments, and 20 years after the onset, 35 % of the patients are able to work.

Effect of magnetic field therapy on multiple sclerosis:

supportive, reducing inflammation, regenerating nerves, reducing swelling, important for rehabilitation and treatment in the disease-free interval.

Proper use of MRS for multiple sclerosis

- Whole-body mat: 3 times a day for 8 to 16 minutes each time: 100 % level in the morning (gradually increasing from 10 %), 25 % level at noon, 10 % level in the evening

Basic treatment for MS

- Spastic symptoms: additional use of the pad: twice a day for 16 to 24 minutes each time: 100 % level, locally
- Forms of therapy supportive of MFT: movement therapy and physical therapy, herbal remedies (evening primrose oil), pancreatin
- Special instructions on use: MS patients are usually very sensible and well-informed. Since they know about their disease, false or exaggerated hopes should not be awakened in them, but instead the realistic possibilities of

this supportive treatment measure should be presented to them.

• Notes on the initial reaction: Some discomfort occurs in 3-4 % of the cases, but it disappears after a couple of weeks. When used properly, MFT cannot bring on an attack of MS.

Scientific studies on the treatment of multiple sclerosis with MFT

• Sieron et al.: "The Variable Magnetic Fields in the Complex Treatment of Neurological Diseases," European Bioelectromagnetics Association, 3rd International Congress, 29 February - 3 March 1996, Nancy, France. - The results of this double-blind, placebo-controlled study show that treatment with electromagnetic fields has positive clinical effects on patients with multiple sclerosis.

• R. Sandyk: "Treatment with Electromagnetic Field Alters the Clinical Course of Chronic Progressive Multiple Sclerosis - a Case Report," International Journal of Neurosci, 88(1-2), November 1996. In this article, the author reports on the case of a 36-year-old man with serious partial paralysis and coordination problems with progressive multiple sclerosis. MFT treatments over a period of one year brought a number of improvements involving mainly the areas of balance, intestinal and bladder control, sleep, vision and emotional attitude. There was no progression of the symptoms of multiple sclerosis.

• R. Sandyk: "Rapid Normalization of Visual Evoked Potentials, Picotesla Range Magnetic Fields in Chronic Progressive Multiple Sclerosis," International Journal of Neurosci, 77(3-4), August 1994. - This article reports on the case of a 55-year-old woman with chronic progressive multiple sclerosis. Treatment with MFT led to a rapid improvement in various areas, such as sleep, bladder function, movement, speech and emotional condition.

• In additional publications between 1994 and 1997, R. Sandyk reported on the treatment of various syndromes in conjunction with multiple sclerosis. For example, the speech and language disorders, reading problems, chronic ataxia (movement disorders), the acute parkinsonism syndrome, trembling, word flow, visual memory, disturbances in sensitivity and motor action as well as the relationship to menstruation in women have been documented in case reports published in the well-known journal International Journal of Neurosci. In all these reports, using low-frequency, pulsating magnetic fields with extremely low intensities (picotesla range) led to definite improvements.

• E. Mix et al.: "Effect of Pulsating Electromagnetic Field Therapy on Cell Volume and Phagocytosis Activity in Multiple Sclerosis and Migraine," Neurology Department, University of Rostock, Psychiatr Neurol Med Psychol (Leipzig) 1990 August. - This study investigates the effect of pulsating electromagnetic fields on the activity of macrophages in ten patients with multiple sclerosis.

• A. Guseo: "Double-blind treatments with pulsating electromagnetic field in multiple sclerosis," Hungarian Symposium on Magnetotherapy, 2nd Symposium, 16-17 May 1987, Szekesfehervar, Hungary. - The results of this double-blind, placebo-controlled study show that pulsating electromagnetic fields represent a positive form of treatment for reducing spastic symptoms and incontinence in conjunction with multiple sclerosis when used for daily treatments for fifteen days. (We want to thank Professor Guseo for submitting his data for this publication.)

Physician reports on the treatment of multiple sclerosis with MFT

1. Dr. Sepp Fegerl, M.D., general practitioner, Salzburg

• *Patient R.I., female, 62 years old; diagnosis: multiple sclerosis since 1954. Her hands and feet had always been cold, but became warm with this treatment. The treatments were administered for eight weeks and the patient felt good. It had a positive influence on circulation and her mobility seems to be better.*

Patient reports on the treatment of multiple sclerosis with MRS

1. Thanks to the company Vita-Life

• *Patient S.G., male, 36 years old; diagnosis: MS, her lower extremities are severely impaired - "I was confined to a wheelchair for periods of*

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time." Urinary incontinence, constant need to sleep - "I was no longer active at all mentally." Results of MRS therapy: "I felt much worse after one week. Two weeks later, my general condition improved. Now, after five months of treatments, I am already able (when feeling good) to walk for short distances without assistance. I feel much more alert mentally and my need for sleep has been reduced to a normal extent of 8-10 hours."

2. Thanks to Mr. Reinhard Schlag

• *Patient L., female, 42 years old; diagnosis: MS since the age of 20, with a gradual onset. Symptoms: attacks weakness, of slight dizziness, visual problems, depression. These problems increased constantly over a period of years, manifesting in constipation, pain in the hands and legs, sudden loss of hearing, odor irritation, severe depression and even thoughts of suicide. The first diagnosis was made in 1993 on the basis of MRI; a lesion was detected. Traditional medical treatment methods had proven just as ineffective as cortisone treatments. The result: a radical depletion of the patient's immune system. Results of MRS therapy: Considerable improvement in sense of smell and taste after four weeks, improved vision in her left eye, considerable increase in action radius, less depression, better circulation. Elimination now less problematical, some strengthening of the gingiva and less hair loss. Side effects: brief mild attacks of dizziness, burning skin, occasional agitation.*

3. Thanks to Mr. Walter Bieberbaumer

• *Patient H.A., 62 years old; diagnosis: MS diagnosed ten years ago. Condition: moderate to poor, 5 % worse each year, wheelchair, numbness, weakness of legs, lack of energy. Results of MRS therapy: "In the first two weeks, I could tell something was happening in my body, I felt more agile. In the fourth week, I felt more joy in life and had greater mobility on awakening. In the 19th week, I was already walking with a cane and my head was full of ideas and activities. My body is still lagging behind. In one word: a lot of activity and joy in living." Impression of her husband: "My wife has had a 10-15 % improvement in mobility."*

4. Thanks to the company Medline

• *Patient P., male; diagnosis: "I have multiple sclerosis." Results of MRS therapy: "I have hardly any sensitivity to weather any more, and I have headaches only rarely. My previous backaches, restricted vision and pain in walking have improved significantly. Now I can even take long walks again without any problems."*

Appraisal of MFT: **70-75 % good to very good results**

10.7. Nerve damage

10.7.1. Inflamed nerves

Serious nerve inflammations are known as neuritis, and mild forms as neuralgia. A nerve inflammation may develop in the course of such infectious diseases as typhus, malaria, dysentery, tuberculosis, syphilis, etc. Pinching of the nerve roots, such as that which occurs with a prolapsed disk, can cause a nerve to become inflamed. Alcohol and other toxins (mercury, lead, arsenic) are additional harmful influences; likewise, a vitamin B deficiency). Inflamed nerves are characterized by pain, usually occurring in attacks, in the area of the peripheral nerve affected, disturbances in perception, restricted movement and deficiency symptoms with retrogression of the muscles. Symptoms may occur throughout the body, following the path of the nerve. If the inflammation affects different nerve stems, we speak of polyneuritis, which may be associated with a numb feeling, disturbances in perception, tingling, leg cramps and disappearance of reflexes.

Radiation, baths, pain-relieving medication, rubs and vitamin B preparations are some of the most common therapeutic measures. In chronic cases, movement exercises and massage are used. Heat has a pain-relieving effect, and therefore hot baths, sweating cures, sauna or hot bags of hay are used.

10.7.2. Neuralgia

Neuralgia is a disease of certain sensory nerves. Between pain-free periods, the pain varies in intensity. The pain is almost always acute. Neuralgia occurs most commonly in middle-aged people, children are almost never affected. The best known neuralgia is the

trigeminal nerve in the face, which also affects the forehead, the eyes and the lacrimal glands in addition to the typical pain in the upper and lower jaws. Any touch may lead to sudden intolerable pain.

Nervous people who have already had some other neurological diseases or whose family has a history of neurological diseases are especially susceptible to neuralgia. Mental overexertion, emotional agitation, exhaustion and an excessive lifestyle promote the development of neuralgias. If a person is susceptible, the disease may be triggered by temperature fluctuations, colds, winds, wet climate and drafts. In these cases, we speak of rheumatic neuralgias. Mechanical effects, pinched nerves, inflammatory processes, febrile diseases and poisoning (mainly nicotine, alcohol, mercury, arsenic and lead) can initiate the disease. The treatment depends on the primary illness. Thorough regulation of the metabolism, a readjustment of the entire body and an elimination of all toxins - at least during the treatment - are appropriate in any case.

Effect of magnetic field therapy on nerve damage:

relieving pain, stopping cramping, preventing destruction of nerve cells, promoting the growth of nerve cells after injuries (NGF)

Proper use of MRS for nerve damage

- Whole-body mat: 3 times a day for 8 minutes each time: 25 % level in the morning, 10 % level at noon, sensitive level in the evening
- Pad: twice a day for 8 minutes each time: 50 % level, local use
- Probe: twice a day for 8 minutes each time: 100 % level, locally, work without applying pressure when treating neuralgia in the area of the face!
- Special instructions on use: In neuralgias, do not use the applicator (especially the probe) on any pressure point.
- Forms of therapy supportive of MFT: acupuncture, kinesiology, saline therapy, neural therapy, TCM, TENS, B vitamin therapy
- Notes on the initial reaction: There may be a brief intensification of pain in 3-5 % of the cases when used improperly.

Scientific studies on the treatment of nerve damage with MFT

- F. M. Longo et al.: "Electromagnetic Fields Influence NGF Activity and Levels Following Sciatic Nerve Transection," Journal of Neuroscience Research, 55, pp. 230-237, 1999. - This study shows that nerve growth factor (NGF) is stimulated by MFT, resulting in nerve growth.
- O. Vassilenko, N.F. Vassilenko: "Use of Extremely High Frequency Electromagnetic Radiation for Treating Peripheral Neuritis," Second World Congress for Electricity and Magnetism in Biology and Medicine, 8-13 June 1997, Bologna, Italy. - In this study, patients suffering from peripheral neuritis received electromagnetic therapy (acupuncture points). In 87 % of the cases, this treatment yielded a complete recovery of the patients.
- H. Ito, C.A. Bassett: "Effect of Weak, Pulsing Electromagnetic Fields on Neural Regeneration in the Rat," Clin Orthop (181), December 1983, pp. 283-290. This controlled study demonstrates that the rate and extent of regeneration of the peripheral nerves is greatly improved by using pulsating electromagnetic fields.
- Additional studies: see "Paralysis"

Physician reports on the treatment of nerve damage with MFT

1. Dr. Ursula Miggitsch, M.D., general practitioner, Graz

- *Patient C.A., male, 66 years old; diagnosis: Neuralgia, sleep disorders, upper abdominal complaints, spinal pain. Results of MRS therapy: His sleep disorders have improved greatly and he no longer needs any medication. The abdominal symptoms have improved, the spinal symptoms have disappeared entirely and the neuralgia is better.*

2. Dr. Alfred Lohnr, M.D., general practitioner, St. Peter

- *Patient A.K., male; diagnosis: Spondyloge-*

nous neuralgia of the spinal column, especially the thoracic and lumbar spine. Results of MRS therapy: There was a significant improvement in symptoms during the observation period.

3. Dr. Klaus Ortner, dentist, Deutschlandsberg

• *Patient K.R., male; diagnosis: Severe pain in the right half of the face, treatment of his teeth was impossible because of neuralgia. Results of MRS therapy: The patient feels better.*

4. Dr. Kurt Pintner, M.D., Graz

• *Patient, female, H.I., 53 years old. Diagnosis: Radiculalgia [pain at the root of the nerve] in the area of the lower lumbar spine, the patient also described paresthesias in the area of L5/S1. Results of MRS therapy: After her initial scepticism, she experienced a definite reduction in pain symptoms.*

Patient reports on the treatment of nerve damage with MRS

1. Thanks to Mr. Max Keiser and Mrs. Verena Singer

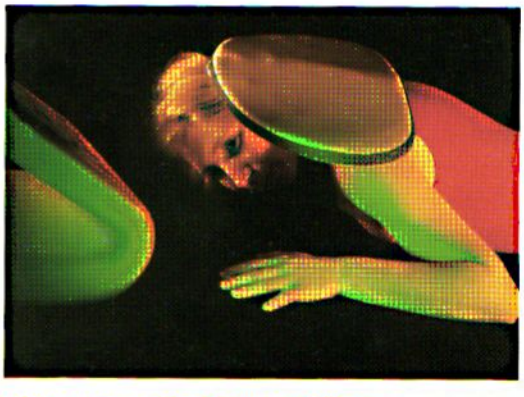
• *Patient B., female, 70 years old; diagnosis: Allergy, hayfever, eczema, open wounds on fingertips, nerve inflammation in left leg, neuralgia, headaches, neck problems. "The patient's condition before the treatment was hopeless, she could hardly walk any more, she had no strength and she was afraid she would be confined to a wheelchair in the near future. Many treatments had remained completely unsuccessful." Results of MRS therapy: "The pain in her left leg became worse at first, but after the fifth night, she had only dull pain. After about four months, her health had been restored to the extent that her quality of life was just as good as it had been about ten years previously. The neuralgia lasted only three days, and that was without medication (previously three weeks with heavy medication)."*

Appraisal of MFT: 90 % good to very good results

10.8. Parkinson's disease

Parkinson's disease involves disturbances in the voluntary and involuntary movement processes because of a deficiency in dopamine, a brain messenger substance. This disease most commonly affects those between the ages of 70 and 80, but it can also strike much younger people. The incidence is 0.2 %.

The so-called parkinsonism triad refers to the three characteristic symptoms of the disease: rigor (muscle stiffness), tremor (fine trembling) and akinesia (inability to move). Akinesia is characterized by difficulty in starting complex movements. For example, the patient cannot move forward when the light turns green, walks with very small steps and falls frequently because he cannot execute balancing movements rapidly. His arms do not move naturally, his speech becomes monotonous, his face loses expression and his writing becomes small and jerky (micrographia). Rigor refers to the increasing resistance to passive movements, e.g., arm movements made by another person (gearwheel phenomenon). Tremor refers to a movement disorder which almost always begins on one side - a fine trembling like a rapid coin counting movement is typical of this symptom. Difficulty in swallowing and bladder problems may be associated with the disease. Psychological factors such as depression often play a role.



Local treatment for Parkinson's disease

The life expectancy of patients with Parkinson's disease is hardly reduced in comparison with that of the average population. The symptoms usually progress slowly, but the quality of life may be greatly impaired.

Effect of magnetic field therapy on Parkinson's disease:

Due to the hyperpolarization effect, the magnetic field causes the stimulus threshold at the motor end plate to be raised, thus having a positive effect on the rigor and akinesia symptoms, because the muscle tone is reduced. The calming effect can reduce and improve the movement block and especially the trembling.

Proper use of MRS for Parkinson's disease

- Whole-body mat: 3 times a day for 8 minutes each time: 100 % level in the morning, 50 % level at noon, 10 % level in the evening
- Pad: once a day for 8 minutes: 100 % level (increasing gradually), in the area of the neck
- Notes on the initial reaction: In 1-3 % of the cases, the trembling may be exacerbated briefly, but this is reduced after a couple of weeks (increase the dose gradually!).

Scientific studies on the treatment of Parkinson's disease with MFT

- Bardasano et al.: "Extracranial Device for Noninvasive Neurological Treatments with Pulsating ELF Magnetic Fields," Second World Congress for Electricity and Magnetism in Biology and Medicine, 1997, Bologna, Italy. - The results of this study show that use of electromagnetic fields in the picotesla range yielded a definite clinical improvement in patients suffering from Parkinson's disease or multiple sclerosis.
- R. Sandyk: "Brief Communication: Electromagnetic Fields Improve Visuospatial Performance and Reverse Agraphia in a Parkinsonian patient," International Journal of Neurosci, 87(3-4), Nov. 1996. - In this case a 73-year-old man with Parkinson's disease was treated successfully with pulsating electromagnetic fields in the picotesla range because of his tremor (trembling) and other parkinsonian symptoms.
- M.S. George et al.: "Transcranial Magnetic Stimulation: A Neuropsychiatric Tool for the 21st Century," Journal of Neuropsychiatry Clin Neurosci, 8(4), Fall 1996, pp. 373-382. - This study shows that transcranial magnetic stimulation leads to definite improvements in symptoms of parkinsonian patients, especially depression.
- R. Sandyk: "Parkinsonian Micrographia Reversed by Treatment with Weak Electromagnetic Fields," International Journal of Neurosci, 81(1-2), March 1995, pp. 83-93. - This article reports on two parkinsonian patients who experienced a definite improvement in their symptoms in the area of movement after using extremely low-frequency and low-intensity electromagnetic fields.
- R. Sandyk: "Weak Magnetic Fields in the Treatment of Parkinson's Disease with the 'On-Off Phenomenon'," International Journal of Neurosci, 66(1-2), September 1992, pp. 97-106. - This article reports on the case of an 87-year-old man who suffered from Parkinson's disease and also had the so-called "on-off phenomenon." Use of MFT brought a definite relief from symptoms.

Physician reports on the treatment of Parkinson's disease with MFT

1. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0043/1/40 666 00

- *Patient, male, 56 years old; diagnosis: Parkinson's disease diagnosed four years ago. Relatively good management with L-dopa, but increasing symptoms with tremor (trembling) recently. Results of MRS therapy: The motor symptoms have disappeared again temporarily.*

Patient reports on the treatment of Parkinson's disease with MRS

1. Thanks to the company Vita-Life

- *Patient, male, 64 years old, diagnosis: "My husband has been suffering from Parkinson's disease for six years; it has been constantly progressive despite all the medicines, and he can hardly walk any more. Recently the extreme trembling of his hands, which our doctor described as a coin counting trembling, has increased. For two years, my husband has been increasingly depressed." Results of MRS therapy: "After three quarters of a year, many things have changed for the better. For example, my*

husband can go to the bathroom by himself, and his trembling has been reduced so that he can even feed himself and drink again on his own. The depression has also disappeared, and we hope it will stay this way, although we know that MFT cannot work miracles."

Appraisal of MFT: **60-70 % good to very good results**

10.9. Polyneuropathy

Polyneuropathy is understood to be a disease resulting in impairment of multiple nerves in its course. The most common cause of this functional disorder of the nerves is the blood sugar disease diabetes mellitus, alcoholism, toxic exposure to solvents, malnutrition and thyroid diseases. A loss of touch perception on the extremities, usually symmetrical, is typical. Pain and paralysis are often additional complications.

Effect and proper use of MRS:
see "Paralysis"

Scientific studies on the treatment of polyneuropathy with MFT

- A.G. Shiman et al.: "Use of Combined Methods of Magnetoelectrotherapy in the Treatment for Polyneuropathies," Vopr Kurortol Fizioter Lech Fiz Kult (5), 1993, pp. 38-41.- The results of this study show that MFT has a positive effect in almost 93 % of the cases with polyneuropathy complaints.
- Additional studies: see "Paralysis" and other topics in this chapter

Physician reports on the treatment of polyneuropathy with MFT

1. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0043/1/40 666 00

- *Patient, male, 56 years old; diagnosis: This patient has suffered from type 1 diabetes mellitus since childhood. For seven years, he has had an incipient polyneuropathy as a complication. Results of MRS therapy: "The treatment led to a definite improvement so he can again perceive touch on the sole of his foot and on his instep."*

Patient reports on the treatment of polyneuropathy with MRS

1. Thanks to the company Vita-Life

- *Patient D.B., male, 56 years old. Diagnosis: Alcoholic polyneuropathy, cold feet all the time, loss of feeling. Results of MRS therapy: Warmth, no fatigue, a great deal of activity the first time he used the mat. "I can move my legs better and better and I can again feel a touch on the soles of my feet; my sense of balance has also improved."*
- *Patient, male, 25 years old; diagnosis: "For two years I have been suffering from polyneuropathy. Sometimes I have little or no feeling in my hands and feet. My sense of feeling in my toes is much less than in my knees. Fortunately, my abdomen and back and my face have not shown any symptoms." Results of MRS therapy: "After four months of treatments, I can conclude that I am feeling more in my extremities and I am again capable of walking on my own."*

Appraisal of MFT: **70 % good to very good results**

10.10. Restless leg syndrome

More than 15 % of the population suffers from so-called restless leg syndrome, which is manifested by tickling, burning, tingling and pain in the leg muscles. These symptoms usually occur at night. There is no generally valid treatment, but an attempt can be made to achieve an improvement with hot or cold wraps on the legs and with calf stretching exercises and massage. Factors that exacerbate the symptoms such as stress, coffee, exertion and heavy meals before going to bed should be avoided. A regular relaxation program or yoga may help. As a last measure, a doctor may prescribe medication.

Effect of magnetic field therapy on restless leg syndrome:

calming, reducing cramping

Proper use of MRS for restless leg syndrome

- Whole-body mat: 4 times a day for 16 minutes each time: 25 % level in the morning, 10 % level at noon, 10 % level in the afternoon, sensitive level in the evening
- Notes on the initial reaction: none

Scientific studies on the treatment of restless leg syndrome

See other diseases and illnesses in the chapter "Psychological diseases"

Whole-body treatment for restless leg syndrome

Physician reports on the treatment of restless leg syndrome with MFT

1. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0043/1/40 666 00

- *Patient, 1 year old; diagnosis: Restless legs. Results of MRS therapy: Definite improvement after six months.*

Patient reports on the treatment of restless leg syndrome with MRS

1. Thanks to the company Vita-Life

- *Mr. K.L., 64 years old; diagnosis: "I have suffered from restless leg syndrome and I cannot keep them still for one moment." Results of MRS therapy: "Since I have been getting treatments with MRS, I have been able to keep the nervous twitching of my muscles under control."*

Appraisal of MFT: 70 % good to very good results

10.11. Spinal cord injuries

The most common spinal cord injury is a transverse lesion of the spinal cord with paraplegia, where a nerve path between the brain and the periphery is interrupted, usually due to an accident or another abrupt event. The symptoms include mild to severe failures in the area of the musculature, sensitivity and the autonomic nerves supplying the internal organs and the blood vessels. Since the nerve cells can no longer divide, treatment is aimed primarily at maintaining and improving function and at limiting possible spastic effects.

Effect of magnetic field therapy on spinal cord injury:

regenerating nerve cells, reducing spastic symptoms; see also "Paralysis"

Proper use of MRS for spinal cord injuries:

see "Paralysis"

Scientific studies on the treatment of spinal cord injuries with MFT

- M.K. Sheriff et al.: "Neuromodulation of Detrusor Hyperreflexia Functional Magnetic Stimulation of the Sacral Roots," British Journal of Urology, 78(1), July 1996, pp. 39-46. - This study describes the improvement in seven male patients with urination problems after spinal cord injuries.
- E.V. Tkach et al.: "Characteristics of the Effect of a Constant Electromagnetic Field on Reparative Processes in Spinal Cord Injuries," Zh Nevropatol Psikhiatr, 89(5), 1989, pp. 41-44. - The results of this study show that magnetic fields are capable of significantly improving healing and the improvement tendency after spinal cord injuries.

Patient reports on the treatment of spinal cord injuries with MRS

1. Thanks to the company Vita-Life

- *Mrs. S.S., 27 years old. Diagnosis: "After a serious motorcycle accident, I had a crushed vertebra and my spinal cord was injured: completely severed." Results of MRS therapy: "Since using MFT, I can feel my limbs somewhat and I*

can relay movement pulses from my brain to my legs. The spastic symptoms that had previously caused me many problems have stopped with the treatments and the effect lasts for several hours."

Appraisal of MFT: **20-30 % good to very good results**

10.12. Dizziness – Meniere's disease

Dizziness is a very common complaint heard in a general medical practice. Approximately 45 % of patients more than 70 years of age suffer from so-called age-related dizziness, which can develop in conjunction with vascular diseases or low blood pressure. Neurological diseases such as a stroke, a brain tumor (cerebellopontine angle syndrome), multiple sclerosis, disorders involving the eyes (such as a refraction error or eyeglass error) and disorders involving the eye muscles can cause attacks of dizziness. 30 % of all dizziness attacks are psychological in origin, overlapping with functional blood pressure disorders. Diseases of the inner ear can also lead to attacks of dizziness.

A distinction is made between systematic and unsystematic dizziness. Systematic dizziness involves a directional component. The cause is often a disturbance in the labyrinthine system in the inner ear. This form is manifested as dizziness on turning with a tendency to fall to one side. Unsystematic dizziness has no directional component. Uncertainty, confusion, seeing spots and a giddy, stumbling feeling are the typical signs. The causes include arrhythmias, cardiac insufficiency as well as blood loss after serious accidents and metabolic disorders. Infectious diseases, such as simple influenza, scarlet fever and rubella can cause dizziness. The disturbances may be in the inner ear, e.g., in Meniere's disease: recurrent attacks of dizziness, lasting for several hours, accompanied by ringing in the ears and a hypersensitivity to noise. Vomiting and a directional falling tendency are other symptoms. Labyrinthine deafness occurs only in attacks.

Effect of magnetic field therapy on dizziness:

Various points have been discussed for the effect of MFT: improved microcirculation in the ear, direct effects on the inner ear

Proper use of MRS for dizziness

- Whole-body mat: twice a day for 8 minutes each time: 100 % level in the morning (gradually increasing from 10 %), 10 % level in the evening
- Pad: once or twice a day for 8 minutes each time: 50–100 % level (gradually increasing) in neck area

Local treatment for dizziness with a pad

Local treatment for dizziness with a probe

- Probe: once or twice a day for 8 minutes each time: 200 % level (gradually increasing from 25 %), placing the probe "at the gate of the ear" (fold of skin at the front edge of the ear)

• Forms of therapy supportive of MFT: herbal remedies (gingko biloba)

• Special instructions on use: Drink lots of fluids! Assume a comfortable position where you do not experience any dizziness. After lying down, allow a few minutes to elapse before beginning with the treatment.

• Notes on the initial reaction: In 10 % of the cases, a slight dizziness may occur at the beginning. Solution: Adjust the dosage, drink more fluids.

Scientific studies on the treatment of dizziness with MFT

• S.G. Ivnaov: "The Comparative Efficacy of Nondrug and Drug Methods of Treating Hypertension," Ter Arkh, 1993. - This double-blind, placebo-controlled study reports on successful treatment of dizziness caused mainly by hypertension.

Physician reports on the treatment of dizziness with MFT

1. Dr. Werner Raufelder, M.D., general practitioner, social medicine, balneologist, Bad Endorf

• *Patient G.B., male, 59 years old; diagnosis: Dizziness, cervical syndrome. Results of MRS therapy: After the first session, he reported that his sleep had improved; after the seventh session, the cervical spine and the dizziness improved, with slight to moderate remaining complaints, improved mobility. The follow-up examination shows that he remains free of symptoms.*

2. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0043/1/40 666 00

• *Patient E.B., female, 70 years old; diagnosis: Dizziness, cervical syndrome after an automobile accident. Results of MRS therapy: After the fifth treatment, the paresthesias (disturbances in sense perceptions) improved greatly, the patient feels more energetic and vital, the pain has improved greatly and she no longer has any dizziness.*

Patient reports on the treatment of dizziness with MRS

1. Thanks to Mrs. Ursula Lange

• *Patient, female, 59 years old; diagnosis: Recurring dizziness lasting for weeks at a time with phases of nausea. Cervical spine: 2nd vertebra shifted inward - adjusted three times by a chiropractor. She can raise her head or look upward only by guiding it with her hand. She has worn a neck brace for many years, always for 3-4 weeks at a time. Radiating pain: left shoulder, arm, hand, wrist. Results of MRS therapy: Patient free of symptoms after one week.*

• *Patient B.A., female, 44 years old; diagnosis: Dizziness, pain in the area of the entire spinal cord. Results of MRS therapy: Free of symptoms in the area of the lumbar spine, no more paresthesia, great improvement in general well-being. Headaches and dizziness only occasionally and to a slight extent.*

2. Thanks to the company Vita-Life

• *Patient C.G., male, 40 years old; diagnosis: Severe pain in the cervical region, accompanied by attacks of dizziness. Results of MRS therapy: After three days, the pain gradually subsided; after three more days, the pain and the dizziness attacks disappeared entirely.*

• *Patient R.V., female, 37 years old; diagnosis: Dizziness. Results of MRS therapy: Considerable improvement in muscle pain and joint pain, her dizziness has disappeared completely.*

Appraisal of MFT: 60 % good to very good results

10.13. Disturbances in sensibility

Disturbances in sensibility involve changes in perception of sensory stimuli of superficial or depth sensitivity. The result of disturbances in perception can be a reduced sense of touch or tingling with burning and pain. The causes of such disorders include toxic exposure, metabolic disorders, inflammations, trauma, tumors or inadequate oxygen supply.

Effect of magnetic field therapy on disturbances in sensibility:

stimulating the nerve cells

Proper use of MRS:

see "Paralysis"

• Notes on the initial reaction: An initial tingling and pulling sensation occurs in 3-5 % of the cases.

Scientific studies on the treatment of disturbances in sensibility with MFT

• C.A. Bassett: "Beneficial Effects of Electro-Magnetic Fields," Journal of Cell Biochem, 51(4), April 1993. - In this article, Bassett describes the clinical benefits of MFT in various diseases and emphasizes the positive effect on nerve regeneration in particular.

• H. Ito, C.A. Bassett: "Effect of Weak, Pulsing Electromagnetic Fields on Neural Regeneration in the Rat," Clin Orthop (181), December 1983, pp. 283-290. - This controlled study reports on the use of pulsating electromagnetic fields in the treatment of peripheral nerve injuries and shows that MFT has proven to be a suitable means of supportive therapy.

• Additional studies: see other diseases

NEUROLOGY

Physician reports on the treatment of disturbances in sensibility with MFT

1. Dr. Sigrun Schaller, M.D., general practitioner, naturopathic physician, Zell am See

• *Patient, male, Z.H., 45 years old. Diagnosis: In June 1997 recent complaints in the area of the lumbar spine, especially paresthesias in the area of the outside of the right calf extending to the outer edge of the foot. Clinical hypesthesia in the area of the right peroneal nerve. Results of MRS therapy: Immediately after the first treatment, improvement in hypesthesia, which was persistent. At the end of the treatment, only the mobility of the lumbar spine was somewhat impaired; no more dysesthesia was perceptible, his general condition was better.*

• *Patient, female, K.C., 35 years old. Diagnosis: Severe symptoms in the area of the right wrist with paresthesias. Results of MRS therapy: Combined with manual massage and stretching exercises. Rapid improvement in paresthesias, good mobility of the fingers after 7-8 treatments. With each additional week of treatment, her mobility increases (the patient no longer needs pain medication). At follow-ups, the surgeon was amazed at her above-average rapid recovery.*

Patient reports on the treatment of disturbances in sensibility with MRS

1. Thanks to the company Vita-Life

• *Patient W.H., female, 66 years old; diagnosis: Severe pain in the hips with ischialgia and numbness extending into her right leg, visits to her doctor with ten analgesic injections failed to bring her any relief. Mrs. W was able to climb the stairs for her first treatment only with intense pain. Results of MRS therapy: After the first treatment, she experienced a definite improvement. The patient was not feeling any tingling in her fingers for the first time in many years. The situation has now lasted for five months."*

2. Thanks to Mrs. Beate Martina

• *Patient T.H., male, 71 years old; diagnosis: No feeling in his fingertips, no feeling in his legs, the patient can hardly walk. Results of MRS therapy: After the first treatment with the pad, it is already easier for him to walk, feeling has returned to his fingertips, his legs are warm and circulation is good.*

3. Thanks to Mrs. Verena Zwahlen

• *Patient L.G., female, 55 years old; diagnosis: Automobile accident on Sept. 6, 1998: Comminuted fracture of the humerus with torn tendons. Surgery: No feeling in her thumb and index finger. After eleven weeks, the patient still could not lift her arm. Results of MRS therapy: After the first treatment, Mrs. G. Felt a pleasant feeling of warmth throughout her entire body. On the second day, she was able to raise her right hand with her arm bent up to her head. She feels much better in general and is happy to have had such good results after such a short time.*

4. Thanks to Mrs. Ursula Lange

• *Patient M.D., male, 35 years old; diagnosis: No feeling in the foot area for several years because of diabetes. Physicians did not rule out the possibility of amputation of the foot. Results of MRS therapy: Remarkably rapid increase in sensation in the sole of the foot after just one week.*

Appraisal of MFT: **60-70 % good to very good results with fresh injuries**

10.14. Vegetative dystonias

Vegetative dystonia is an equilibrium disorder of the autonomic nervous system. Depending on the cause and the individual reactivity of the body, another syndrome may develop. Causes include allergic irritation states of the body due to focal infections, sequelae and concomitant effects of diseases of the internal organs, the spinal column and the spinal cord, poisoning due to consumption of substances such as nicotine, coffee, alcohol, abuse of heavy medication, chronic carbon dioxide poisoning, lead poisoning, disturbances in the thyroid gland or adrenals, environmental pollution due to living conditions or the job site, poor nutrition, vitamin and mineral deficiency, an excessive lifestyle and overexertion with psychological stress.

The patient usually complains of internal agitation, reduced physical and mental performance, premature fatigue due to sleep disorders, headaches, a feeling of pressure in the region of the heart, attacks of weakness or even fainting, a tendency to sweating, hot flashes or a cold feeling, disturbances in perception, dry mouth, loss of appetite, a feeling of fullness, dizziness, increased irritability, hypersensitivity to coffee or alcohol, respiratory difficulty or even asthmatic complaints, menstrual disorders in women and erectile dysfunction in men. Often red spots appear with even the slightest agitation. The limbs are cold, sometimes with a blue discoloration. There is itching of the skin, trembling of the hands, fluttering of the eyelids, increased tendon reflexes, gastrointestinal disorders or gallbladder susceptibility. Some or all of these symptoms may appear. Calming of the patient's situation may be achieved through psychotherapy. Patients affected with this condition should attempt to lead a regulated life. Spending time outdoors is very important, as is a diet high in vitamins and minerals (sea salt). Liquor, coffee and nicotine should be avoided in any case.

Effect of magnetic field therapy on vegetative dystonias:

calming through the autonomic nervous system, promoting circulation, strengthening the immune system

Proper use of MRS for vegetative dystonias

- Whole-body mat: 3 times a day for 16 minutes each time: 10 % level in the morning, 10 % level at noon, 10 % level in the evening

Whole-body treatment for vegetative dystonias

- Forms of therapy supportive of MFT: relaxation training
- Notes on the initial reaction: In individual cases, some discomfort may be observed during the treatment.

Scientific studies on the treatment of vegetative dystonias with MFT

- Smirnova et al.: "The Possible Role of the Hypothalamus in the Pathogenesis of Vegetative Disturbances During a Brief Exposure to the Constant Magnetic Field," Patologiceskaja Fiziologija i Eksperimental Naja Terapija, 23-7, 1978

Physician reports on the treatment of vegetative dystonia with MFT

1. Dr. Gustav Skreiner, M.D., general practitioner, 8010 Graz

- *Patient, female; diagnosis: Vegetative dystonia, chronic joint complaints due to wear, sciatica, rheumatic symptoms, migraines, chronic pain states, depression, circulation disorders, condition following a stroke, hypertension, exhaustion, muscle tension. Results of MRS thera-*

py: Good results have been achieved so far in the above-mentioned areas.

Patient reports on the treatment of vegetative dystonias with MRS

1. Thanks to the company Vita-Life

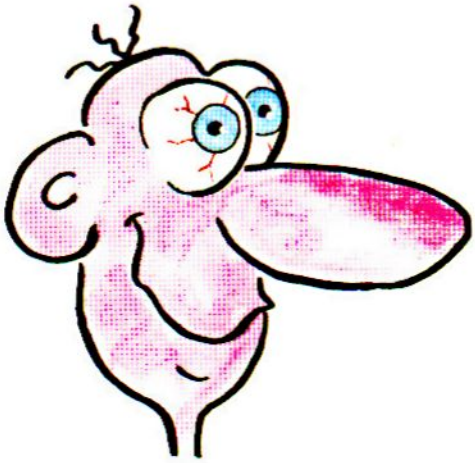
• *Patient M.K., male, 43 years old; diagnosis: Dysregulation of the thyroid with a tendency to hyperthyroidism, sleep disorders, general vegetative exhaustion states. Results of MRS therapy: 1st week: The patient was falling asleep better immediately, no longer feels so "drained" after one week, has the feeling of being calmer. 2nd week: Mr. M. Falls asleep well, is calmer in the vegetative system and shows less aggression, feels stronger. 3rd week: The patient is falling asleep very well, is more balanced in his vegetative system and feels more fit and less driven.*

2. Thanks to the company Medline

• *Patient H.F., female, diagnosis: Disorders in the autonomic nervous system, nervous heart symptoms and, since the birth of her son, constant back pain. Results of MRS therapy: "I had very good results after eight months. After a few weeks, my back pain had improved considerably, my autonomic nervous system had stabilized to the extent that my related heart symptoms disappeared."*

Appraisal of MFT: **70-75 % good to very good results**

OPHTHAMOLOGY



11. Diseases of the eyes

The eye is the organ of sight. The eyeball is embedded in a layer of fat and is protected from external invading bodies by eyelashes, eyelids and eyebrows. Tears keep the conjunctiva moist and clean the eye. Light passes through the eye through the three outer layers of the eyeball: the cornea, a transparent cover over the light-receiving structures, the sclera, the white of the eye, and the iris (colored) which surrounds the pupil in the middle. The pupil changes size depending on light intensity; the darker the light, the larger the pupil. Behind the iris is the lens, which is held in place by elastic muscles. Between the sclera and the iris is a space filled with a fluid called the aqueous humor. This fluid allows beams of light to penetrate more easily. The vitreous humor behind the lens is surrounded by the retina. This is the location of the nerve endings that convert the focused light into electric pulses which are sent via the optic nerve to the brain, where they are finally interpreted as an image.

11.1. Astigmatism

An astigmatism comes about due to an incorrect curvature of the eye (sclera), resulting in a lack of focus, i.e., some rays of light do not strike the lens. Most people with an astigmatism can see things directly in front of their eyes quite well but they have difficulty seeing things at a distance. A distinction is made between horizontal and vertical astigmatism. In vertical astigmatism, vision up and down is faulty, and in horizontal astigmatism, the right and left portions of the image cannot be seen exactly. Astigmatism may also be diagonal. This defect can be corrected by eyeglasses or by contact lenses. The susceptibility to this condition is usually hereditary; only a small portion is due to a disease or injury. An astigmatism should be corrected as soon as possible.

11.2. Conjunctivitis

The conjunctiva covers the exposed surface of the eye. Most infections are caused by disease-carrying pathogens such as bacteria, viruses and fungi. Chemicals, dust, wind, smoke, foreign bodies that irritate the conjunctiva and chlorinated water in swimming pools can cause conjunctivitis. People who suffer from allergies or work with chemicals or other irritating substances are more susceptible. Redness, itching, burning or sensitivity to light are typical symptoms of conjunctivitis. They may last a couple of days or up to two weeks. Normally, they do not cause any permanent damage. The treatment will depend on the causes and symptoms. If environmen-

tal conditions are the causative factor, they must be altered. Physicians will prescribe antibiotic eye drops for severe cases of bacterial conjunctivitis. If viruses are the pathogens, no further treatment is required. Allergies are treated with histamine-blocking eye drops. Scabs or matter in the eyes should be washed out with warm water. Infectious conjunctivitis is contagious. Hand towels that come in contact with the eyes should therefore be washed at very high temperatures. Contact lens wearers must be extremely careful with regard to hygiene, especially with cosmetics.

11.3. Stye

A stye is an inflamed or infected swelling of a sebaceous gland, often as a result of an infection or a weakness of the immune system. The disease is usually caused by staphylococci (species of bacteria). An external stye occurs on the outer edge of the eyelid, an internal stye on the inner edge of the eyelid. It feels like a foreign body in the eye. This is followed by a heavy flow of tears, redness, swelling and sensitivity on or around the affected area. Small yellow elevated spots filled with pus develop, and after they have gone down they heal. As soon as the pressure disappears, the pain subsides. Styes heal without treatment. Hot compresses - three to four times a day - help relieve the symptoms. With internal styes, surgical opening may sometimes be necessary. Because of the risk of infection of other sebaceous glands, you should never attempt to open a stye yourself.

11.4. Cataract

A cataract is a clouding of the lens. Patients with this condition see as if through a waterfall (the word cataract comes from the Greek word for waterfall). The precise cause is not known. Diabetes, glaucoma, retinal detachment, damage to the lens, long-term drug abuse and high doses of radioactivity can lead to cataracts. The main symptom is blurred vision, which may also occur in just one eye. Successful treatment includes removing the clouded lens. Then special glasses or contact lenses must be worn. Many physicians insert an intraocular lens (IOL). Since the artificial lens assumes the same position as the natural, it is much more accurate than eyeglasses or contact lenses. 95 % of these surgeries proceed without complications.

11.5. Glaucoma

Glaucoma is a pathological condition of the eye that develops due to excessive pressure in the eyeball. The pressure occurs due to the fact that the aqueous humor cannot flow out normally and thus the fluid balance in the eye changes. With the increase in pressure in the eye, the nerve endings are damaged. In chronic glaucoma, the pressure increases steadily and the normal fluid drainage is retarded but not completely destroyed as in acute glaucoma, where the pressure increases suddenly. Glaucoma occurs mainly in people more than 40 years old. Statistics indicate that people whose parents had glaucoma are more likely to develop it themselves. Eye infections, surgery, medication, drugs and cataracts can cause this disease.

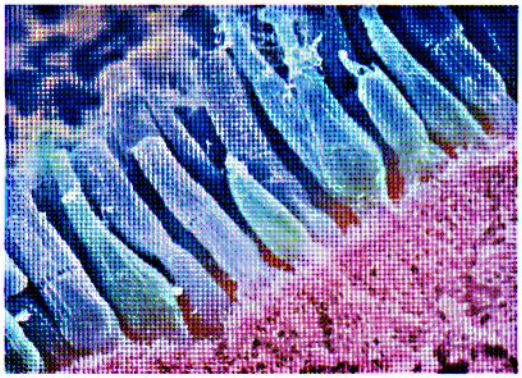
The chronic condition does not have any serious symptoms. Sometimes the field of vision is restricted. There are problems in switching from light to dark and vice versa. A typical symptom of glaucoma is seeing a light far away when looking at a white circle in the darkness. Acute glaucoma brings sudden, severe pain, redness and blurred vision. This form is rare, but it requires immediate medical assistance to prevent possible blindness. Since there are no warning signals, it is important especially for people over forty to get regular eye examinations, especially if there is a history of the disease in the family. After the physician has placed drops of a fluid in the eye, he uses a pressure measurement device to measure the optical pressure. In addition, he also uses a special instrument to check the place where the iris and the sclera meet. He therefore can detect congestion in the fluid system and damage to the optic nerve. In addition, the field of vision is also tested.

The sooner treatment is begun, the more successful it will be. Acute glaucoma often requires surgery to lower intraocular pressure. In chronic glaucoma, medication is very helpful; only 5 % of the cases require surgery.

Medication can reduce the production of aqueous humor. Laser therapy is the most modern surgical technique. Regular checkups are the best prevention.

11.6. Retinal detachment (degenerative diseases of the retina)

Possible causes of retinal detachment include accidents, tumors, infections or diabetes. It is characterized by blurred vision with shadows and flashes. Laser therapy is used to treat this condition.



Retina

11.7. Weak vision

Weak vision is most commonly manifested by short-sightedness or far-sightedness. In the normal eye, the parallel incident rays of light are combined on the retina (focal point in the yellow spot). In short-sightedness (myopia) the focal point is too far forward; in far-sightedness it is too far to the rear. People who are short-sighted (one in five people are short-sighted) can see objects close up very well, but objects at a distance appear blurred. The disease usually begins after the age of twelve. This defect occurs due to the eyeball being too long. Normally light passes through the sclera to strike the iris, which bundles the rays and passes them on to the retina. In short-sightedness, the retina is relatively too far to the rear and the bundled beam does not strike it. In curvature myopia, the light enters through a normal path, because the surface has an excessive curvature. Refraction myopia develops due to incorrect refraction properties of the lens and the cornea. Progressive myopia develops due to an elongated eyeball. Despite the laser technology, surgery is performed only in serious cases, because the long-term effects on the eye are not known. Myopia usually does not occur after the age of 30. These defects are corrected by eyeglasses with dispersing or concave lenses (short-sightedness) and condensing or convex lenses (far-sightedness) or contact lenses. The causes may be changes in the vitreous body or disturbances in the area of the lenses or the cornea. With advancing age, the lens core becomes more rigid and the lens loses elasticity and can no longer focus well. As a result, far-sightedness develops (presbyopia). Problems of far- and short-sightedness occur with different curvatures of the cornea surface and are corrected by cylindrical lenses. Short-sightedness or far-sightedness may be simulated by paralysis or cramping of the accommodation muscle. Food poisoning can lead to dilation of the pupils; nicotine and drug abuse can lead to constriction of pupils. Strabism or a cast to the inside, the outside or both sides may occur due to a disease of the ocular muscle. The sooner medical treatment is received, the better is the possibility of correction (eyeglasses or surgery).

Effect of magnetic field therapy on diseases of the eyes:

promoting circulation, relaxing the eye muscles, improving the outflow of aqueous humor under favorable conditions, reducing inflammation, promoting the immune system

Proper use of MRS for eye diseases

- Pad or probe (at the temples): twice a day for 16 minutes each time: 150-200 % level (increasing the dose gradually)
- Pad: optionally 8 minutes in the area of the neck (50 % level)
- Forms of therapy supportive of MFT: eye exercises, acupuncture, homeopathic remedies, NLP, vitamins and trace elements (vitamin A, zinc), herbal remedies (eyebright, grape seed extract, gingko biloba), alpha-

lipoic acid (cataract); in retinopathy: shark cartilage extract

• Special instructions on use: Do not use MFT on the eyes after 5 p.m.

• Notes on the initial reaction: In 5 % of the cases, sleep disorders occur, especially when treatment is performed after 5 p.m.

Local treatment for eye diseases

Scientific studies on the treatment of diseases of the eyes with MFT

• Bisvas Shutanto Kumar: "Possibilities of Magnetotherapy in Stabilization of Visual Function in Patients with Glaucoma," Journal Article 1996. - In this study, 31 patients with open-angle glaucoma and compensated intraocular pressure were examined in conjunction with MFT. The patients were checked before the treatments and again five months after the treatments. Seeing contrasts in particular showed a definite improvement in almost 90 % of the patients. The field of vision deficiency was much lower among the patients who received MFT than in the control group.

• Bisvas et al.: "Possibilities of Magnetotherapy in Stabilization of Visual Function in Patients with Glaucoma," Vestn Oftalmol, 112(1), January-March 1996. pp. 6-8. - In this study, patients with open-angle glaucoma were examined in conjunction with MFT. An improvement in vision was documented in 29 of 30 eyes.

• J. Jerabek: "Pulsed Magnetotherapy in Czechoslovakia - A Review," Rev Environ Health, 10(2), April - June 1994, pp. 127-134. - This article describes clinical use of MFT in Czechoslovakia. Among other things, a positive effect on degenerative diseases of the retina was found.

• T.U. Gorgiladze, B.M. Kogan: "A New Method of Treatment of a Dry Kerato-Conjunctivitis in Sjögren's Syndrome," Oftalmol Zh (1), 1996, pp. 38-40. - This study reports on the success of treatment with pulsating magnetic fields in dry conjunctivitis as part of the autoimmune disease Sjögren's syndrome.

• V.A. Machekhin et al.: "A New Method for Treating Chronic Blepharitis Using Magnetic Compounds and Alternating Magnetic Field," Vestn Oftalmol, 109(4), July-September 1993, pp. 16-18. - The results of this study show that the use of pulsating magnetic fields in combination with iron powder can significantly improve the condition of patients with blepharitis.

• Tsisel-skii-IuV: "The Effect of a Pulsed Electromagnetic Field on Ocular Hydrodynamics in Open-Angle Glaucoma," Oftalmol Zh 1990 (2). - This study also investigates the influence of pulsating electromagnetic fields on the hydrodynamic situation in patients with open-angle glaucoma. 150 patients were examined, and it was found that magnetic fields are capable of improving the drainage of aqueous humor and reducing Becker's coefficient. In 25 % of the cases, fluid drainage was even normalized. These authors recommend this method as additional therapy in this disease.

• L.V. Zobina et al.: "Effectiveness of Magnetotherapy in Optic Nerve Atrophy. A Preliminary Study," Vestn Oftmalmo 106(5), September - October 1990, pp. 54-57. - This study investigated the effect of MFT in patients with atrophy of the optic nerve. It was found that the vision of these patients could be improved by about 50 %, and that circulation in the eye in the area of the optic nerves was also increased.

Physician reports on the treatment of diseases of the eyes with MFT

1. Health Center of Wolfgang Kropshofer, Doctor of Chiropractics, 1080 Vienna, Alserstr. 43/8 a, tel. 0043/1/40 373 80

• *Patient A. H., female, 62 years old; diagnosis: Weak vision, dizziness, tinnitus for 30 years. Results of MRS therapy: The patient feels extremely fatigued, her dizziness is better and her tinnitus disappeared. The vision defect has improved.*

2. Dr. Walter R. Maus, M.D.

• *Patient, male; diagnosis: "When reading with normal glasses, a weak vision would develop after a certain amount of time, so I would have to change to reading glasses." Results of MRS therapy: "The period of time until I have to switch to reading glasses is now longer. Previously I was able to read the newspaper only with reading glasses. Now I can read it with regular glasses for a while. Conclusion: My eyes have gotten better."*

Patient reports on the treatment of eye diseases with MRS

1. Thanks to the company Vita-Life

• *Patient B.H., male, 44 years old; diagnosis: Chronic conjunctivitis (Staphylococcus aureus), severe generalized neurodermatitis, constant severe sleep disorders for three years, heavy sweating day and night. Results of MRS therapy: Improvement in the conjunctivitis after about two to three weeks, then an improvement in the skin: it became lighter and finer and was no longer so swollen. The sleep disorders have improved and the sweating has been reduced somewhat. After one month, there was a continuous improvement in the condition of his skin.*

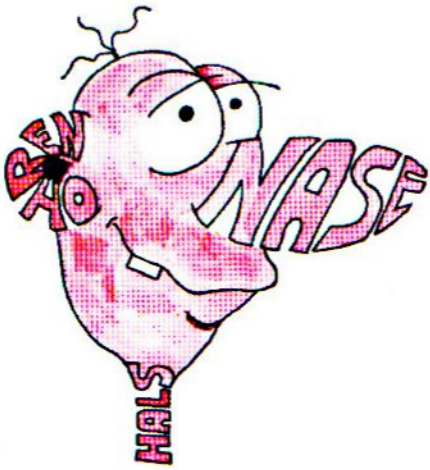
• *Patient J.A., male, 24 years old; diagnosis: Headaches, burning eyes, fatigue, loss of appetite. Results of MRS therapy: Improvement in almost all areas; appetite stimulated, gastric complaints have disappeared; fatigue has improved and the headaches and burning eyes are better.*

• *Patient O.J., male, 49 years old; diagnosis: shaky visual image, pulsating, beginning slowly, then becoming faster and faster, lasting 5 - 15 seconds; occurring twice a minute when condition is poor. Occurring at first occasionally about four years ago, then becoming worse. According to a hospital examination, everything is OK. Results of MRS therapy: "My condition began to improve immediately. My trembling vision now occurs only rarely, sometimes I am completely free of symptoms for several days. An exacerbation will occur again after heavy physical labor, but after two days of treatments it will improve again. I am not as nervous as before and I am able to handle my work load better."*

• *Patient, male, 49 years old; diagnosis: Infections in the body, eye, upper and lower jaws, bladder, testes, kidneys recurring regularly, so far undiagnosed, associated with a high fever. Constant reduction in vision and irritation, redness and suppuration of the eyes. Several hospitalizations. Sudden loss of almost all teeth (healthy teeth). Results of MRS therapy: No more infections. Eyes OK, can see clearly again.*

• *Patient G.A., male, 75 years old; diagnosis: Diabetes mellitus, cataracts in both eyes, poor circulation, difficulty in falling asleep. Significant improvement in circulation after two weeks, he sleeps better, has improved digestion. After five months: blood sugar levels stable, wound healing enormously improved. He no longer requires surgery on his eyes because the cataracts have disappeared. The motor system is pain-free.*

Appraisal of MFT: **30-50 % good to very good results, depending on the disease**



12. Diseases of the ear, nose and throat

The organ of hearing consists of the outer ear, the middle ear and the inner ear. The ear muscle receives sound, relays it into the auditory canal and through the ear drum into the middle ear, where the sound waves induce vibration in the three smallest bones of the body (hammer, incus and stirrup bone). The vibration propagates through the cochlear fluid into the inner ear, where the sound waves are converted into nerve pulses. The pulses are then relayed by the auditory nerve to the brain. The eustachian tubes in the middle ear connect the ear to the nasopharyngeal space. This permits an adjustment of the pressure in the ear to the environment, but in this way disease-carrying pathogens can also enter and cause an infection in the ear. The so-called labyrinth in the inner ear provides information about the body's position. The organ of balance registers movements of the head and relays this information to the brain.

The nose serves the function of breathing and the sense of smell. Sensory nerve cells in the nose register odors and relay these messages via the olfactory nerves to the brain. When an odor is perceived, the sense of taste is refined. Our sense of odor is more developed than our sense of taste, so the sense of taste is also impaired when we have a cold (food becomes tasteless). As the respiratory organ, the nose moistens the inhaled air and removes foreign substances from it. The small glands on the inner membrane secrete mucus, which protects the walls of the nose and throat from injury. This mucus also captures bacteria, dust and other particles which enter the nose. Antibodies in the mucus attack disease-causing bacteria and dirt particles are transported with the help of the fine hairs to the entrance of the throat, where they are swallowed and destroyed in the stomach. Mucus-producing glands are located in the air-filled paranasal sinuses. There are four types of paranasal sinuses: the frontal sinus, the sphenoid sinus, the ethmoid sinus and the maxillary sinus. They serve as resonating bodies for the voice and also reduce the weight of the skull.

The pharynx or throat connects the back of the mouth and the nose to the stomach through the esophagus and connects the mouth and nose to the lungs through the trachea. The pharynx contains two sets of tonsils. As an important part of the immune system, they help prevent diseases by destroying the invading bacteria.

The close connection of the ear, nose and throat explains why an infection in one of these areas often spreads to another.

12.1. Colds

A cold is often confused with actual influenza. Sniffling, coughing and hoarseness are often referred to by doctors as a flu-like infection, which leads to misunderstandings. Influenza and a flu-like infection have only two things in common: their symptoms are similar and both are caused by pathogens from the virus family. On the average, an adult will get a cold two to four times a year, children six to eight times. Thus, children are more susceptible, because they have not developed as many antibodies. In winter the risk of infection is greater because viruses can reproduce more quickly in closed rooms.

There are at least 350 types of viruses that can cause a flu-like infection. The viruses are transmitted by droplet or air-borne infection when talking, sneezing or kissing. The incubation time is between 48 and 72 hours. It is important to grant the body time to rest and recover. If the body has not fully recovered from the disease, a secondary infection may also occur (e.g., a middle ear infection, sinusitis, bronchitis or pneumonia). Normally, a cold does not last more than ten days. About the duration of a cold, we say: it takes three days to get here, it stays for three days and it takes three days to leave.

Hardly any medicine can effectively influence the natural duration of a cold; at best, it can diminish the symptoms. In principle, treatment with medication is not even necessary for a cold. With natural healing, one is also spared the risk of side effects. Very large amounts of vitamin C have a positive influence on the symptoms. The old household remedies such as sauna or contrast baths help with the nasal symptoms. For coughs: drink lots of fluids, preferably tea (such as eucalyptus tea).

Effect of and application of MFT on colds: see "Influenza" in the chapter "Infectious diseases"

Forms of therapy supportive of MFT: vitamins and trace elements (vitamin A, vitamin C, zinc), herbal remedies (echinacea, astragalus root, pollen, suma-brazilian ginseng, ginger, garlic)

Scientific studies on the treatment of colds with MFT

- M. R. Scarfi et al.: "Exposure to 100 Hz Pulsed Magnetic Fields Increases Micronucleus Frequency and Cell Proliferation in Human Lymphocytes," Bioelectrochem.-Bioenerg. 43/1 (77-81) 1997. - The experimental research on which this article is based shows the increased lymphocyte activity in fighting off infections and also proves at the same time that there is no genetic damage.

- M.B. Mirtskhulava et al.: "The Action of an Alternating Magnetic Field on the Antiviral Protection of Cells," Vopr-Kurortol-Fizioter-Lech-Fiz-Kult. 1991 September-October (5): 3-5. - This study investigates and documents the virus-protective effect of the magnetic field.

- Additional studies: see "Influenza" and other "Infectious diseases"

Physician reports on the treatment of colds with MFT

1. Erika Illy, natural physician, psychologist, health advisor, Switzerland

- *Patient, female, 70 years old; diagnosis: Constantly sick and sickly for ten years, fatigued, susceptibility to infections, diabetes, no more joy in life, feeling lonely, great pain. Results of MRS therapy: After just a few days, the patient already felt much better. After two weeks, she was very encouraged; her dentist had praised the quality of her gums, and she is now traveling again and feeling good.*

Patient reports on the treatment of colds with MRS

1. Thanks to Mrs Verena Singer

- *Patient E.D., male, 72 years old; diagnosis: Bronchial asthma, colds, circulation problems, varicose veins, shoulder pain, hip problems. Results of MRS therapy: His poor circulation has improved, his shoulder pain occurs only rarely, the hip pain has improved, the colds (sniffles, sinusitis) have disappeared. He was able to stop taking various medications and his lung activity has improved.*

Appraisal of MFT: **90-100 % good to very good results**

12.2. Sudden hearing loss

Sudden hearing loss is a massive loss of hearing ability that usually occurs suddenly and for an unknown reason. Sometimes an explosion or other external causes may cause sudden hearing loss.

Effect and proper use of MRS:

see "Tinnitus"

Scientific studies on the treatment of acute sudden hearing loss with MFT

- Zaslavskii et al.: "Clinical Experience with the Use of Electromagnetic Fields for Treatment of Hypoacusis and Otalgia in Children," Med Tekh (2), 1995, pp. 40-41. - These studies show the therapeutic benefit of MFt in children with acute sudden hearing loss.

Patient reports on the treatment of acute sudden hearing loss with MRS

1. Thanks to Mrs. Manuela Hörner

- *Patient, female, 36 years old; diagnosis: "Ten years ago, I had tinnitus and sudden hearing loss. For half a year, I received infusions and took medications. A couple of weeks ago, the symptoms began again: ringing in my ears, a loud squeaking sound and reduced hearing on one side." Results of MRS therapy: "After the first day, I could not notice any change, but after the second day, the squeaking sound was no longer as loud and intense. On the fourth day, the squeaking sound was gone and my hearing was equally good on both sides."*

Appraisal of MFT: **50 % good to very good results**

12.3. Laryngitis

Laryngitis is an inflammation of the mucous membranes of the larynx in the lower part of the throat. It leads to hoarseness and even an occasional loss of the voice. Laryngitis is caused by a bacterial or viral infection (cold, influenza), irritation of the mucosa of the larynx (e.g., from smoking) or overstressing the voice. Chronic or constant laryngitis is caused by smoking, air pollution, dust or smoke, but it may also develop because of tonsillitis, tuberculosis, the early stages of cancer or paralysis of the vocal cords. Since laryngitis is often a secondary disease, a physician should always be consulted. Hoarseness, a dry, scratchy throat, loss of the voice, coughing attacks and pain when speaking are typical symptoms of this disease. Speaking should be avoided for a short period of time. The pain can be treated with throat sprays, vapor inhalation or mild analgesics.

Local treatment for laryngitis

Effect of magnetic field therapy on laryngitis:

reducing inflammation, strengthening the immune system, promoting expectoration, accelerating recovery, supportive

Proper use of MRS for laryngitis:

- Whole-body mat: twice a day for 8 minutes each time: 50 % level in the morning, 10 % level in the evening
- Pad or probe: twice a day for 16 minutes each time: 100 % level in the area of the neck
- Forms of therapy supportive of MFT: inhalation, echinacea, gargling with sage tea
- Special instructions for use: Drink lots of fluids!
- Notes on the initial reaction: none

Scientific studies on the treatment of laryngitis with MFT

- D. I. Tarasov et al.: "Effectiveness of Local Magnetic Field of the Acoustic Frequency in the Treatment of Patients with Acute Inflammatory Diseases of Larynx," Vestn Otorionolaringol, (6), Nov-Dec 1995. 11ff. - The results of this study prove that MFT is an effective treatment for acute inflammations of the larynx.

- L. D. Dorogaia, G.R. Uchaikin: "Use of Microwave Resonance Therapy in Complex Treatment of Laryngotracheitis in Children," Pediatria (1), 1995, pp. 55-57. - In this study, children with laryngitis and tracheitis were additionally treated with MFT. It was found that the duration of the disease was greatly shortened.

Physician reports on the treatment of laryngitis with MFT

1. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0043/1/40 666 00

- *Patient L.L., male, 56 years old; diagnosis: Heavy smoker, chronic laryngitis with partial paralysis of the vocal cords. Results of MRS therapy: Improvement in overall situation after six months. His voice is as good as before.*

Patient reports on the treatment of laryngitis with MRS

1. Thanks to the company Vita-Life

- *M. I., 44 years old; diagnosis: "I have been suffering from chronic laryngitis, my voice is weak and always sounds hoarse." Results of MRS therapy: "At first, I had to cough up brownish yellow mucus all the time, but then after 3-4 weeks, I had the feeling for the first time in a long while that my voice was getting better. Today, I feel good and can speak again without hoarseness."*

Appraisal of MFT: **60 % good to very good results**

12.4. Nosebleed

Nosebleeds are caused by a ruptured blood vessel on the inner membrane of the nose. Medical treatment is rarely necessary. In individual cases, a nosebleed is a sign of a serious illness. Injury to the nose, inhaling dry air for a long period of time, repeated blowing of the nose or cleaning the nose, tumors, high blood pressure or other blood diseases can cause nosebleeds. If a nosebleed last for a longer period of time or if it occurs regularly, you should consult a physician. Possible remedies: sitting up or leaning forward, holding the nose shut for five minutes, applying cold packs to the bridge of the nose (about 15 minutes). If a nosebleed is caused by dry air, a humidifier is helpful. If bleeding occurs due to blowing the nose, you should always hold one side of the nose closed and blow only through the other. If an infectious disease is the cause, a decongestant will help. If diabetes, hypertension, heart disease or a thyroid condition is the cause of the nosebleed, it is important to treat the primary condition.

Effect of magnetic field therapy on nosebleeds:

The mechanism of action has not yet been elucidated, but the harmonizing effect on the autonomic nervous system may play a crucial role.

Proper use of MRS:

- Pad or probe: 3 times a day for 8 minutes each time: 100 % level, with the head tilted back, placing the probe at the side of the nose at the base
- Special instructions on use: MFT is not a suitable method of treatment for acute, intense nosebleeds. It has a regulating effect on chronic nosebleeds.
- Notes on the initial reaction: none

Patient reports on the treatment of nosebleeds with MRS

1. Thanks to Mr. Felix Sachs

- *Patient, male, 54 years old; diagnosis: "A very rare nosebleed in childhood developed into*

a chronic complaint after the age of about 20; practically no day went by without two to three nosebleeds on the right and left. I had tried practically everything to make them go away: various nose creams, homeopathic remedies, electric coagulation of the weak blood vessels on the inside wall of the nose - nothing helped." Arrhythmias, pain in his side when running. Results of MRS therapy: "After treatments for half a year, the nosebleeds improved, at first only on the right, but in the meantime the left side is also beginning to improve. If I use the MRS before running (2.3 km in 16-17 minutes on a track with an inclination), I do not get a pain in my side." - Elimination of an aperiodic, medically unremarkable (no findings in the EKG) and undiagnosed arrhythmia.

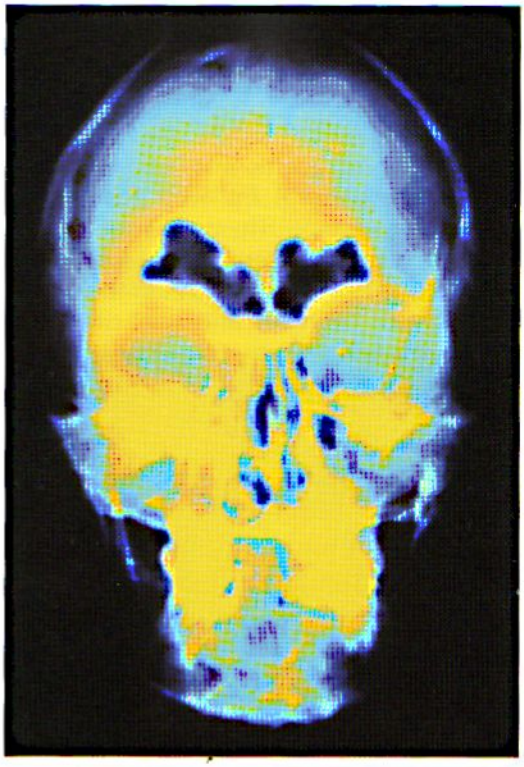
Appraisal of MFT: **70 % good to very good results in chronic nosebleeds**

12.5. Inflammation of paranasal sinuses – sinusitis

In acute sinusitis, one or more paranasal sinuses usually has a bacterial infection. Adults are affected more often than children, smokers more often than nonsmokers.

The paranasal sinuses are air-filled cavities connected to the nose. Their inside walls are lined with mucous membranes. There are four pairs of paranasal sinuses: the frontal sinus, the sphenoid sinus, the ethmoid sinus and the maxillary sinus. They are cleaned by mucus which is removed through the nose. If the paranasal sinuses are congested for a period of time, as in a cold, the mucus cannot be removed. The result: microorganisms can reproduce rapidly and an infection is imminent.

In a chronic inflammation, one or more sinuses become filled with a fluid which cannot flow out properly. This may persist for months or even years. The normal drainage of mucus can be prevented by colds, influenza, various vaccinations, an abnormality in the shape of the facial bones, allergies or abscesses in the teeth. Long-lasting sinusitis can lead to serious diseases (spreading to the brain or bones). Sinusitis is characterized by sensitivity and pain over the inflamed sinus cavity. Concomitant symptoms include headaches, low-grade fever, chills, nasal congestion and a purulent discharge from the nose.



Sinusitis

A doctor will normally identify the disease on the basis of a description of symptoms and the sensitive spot over the affected sinus. An x-ray will confirm the diagnosis. The sinus cavity is drained and the bacteria causing the infection are controlled with medication (antibiotics). Decongestants, hot compresses and dry heat support healing. In severe cases, pain pills may be prescribed. Sometimes abnormal bones must be repaired or a nasal polyp or infected tissue must be removed surgically.

Effect of magnetic field therapy on sinusitis:

reducing inflammation, reducing swelling, strengthening the cells against viruses, activating the immune system, promoting circulation and cleaning the nose

Proper use of MRS for sinusitis

• Whole-body mat: twice a day for 8 minutes each time: 50 % level in the morning, 10 % level in the evening

• Pad or probe: two or three times a day for 8 to 16 minutes each time: 100-150 % level, probe placed to the right and left of the nose or at the base of the nose for sinus infections

Local treatment for sinusitis with a pad

• Forms of therapy supportive of MFT: immunostimulating substances and decongestant substances, inhalation

• Notes on the initial reaction: Sometimes the nose begins to run heavily as an initial reaction. This is part of the cleansing and healing process.

Scientific studies on the treatment of sinusitis with MFT

• M.P. Nikolaev et al.: "The Clinico-Immunological Assessment of the Efficacy of Magnetic-Laser Therapy in Patients with Chronic Maxillary Sinusitis," Vestn Otorinolargingol (2), March-April 1994, pp. 27-31. - This study shows that the use of magnetic fields in the area of the paranasal sinuses on both sides leads to a definite relief from chronic sinusitis.

• J. Jerabek: "Pulsed Magnetotherapy in Czechoslovakia - A Review," Rev Environ Health, 10(2), April-June 1994, pp. 127-134. - In this article, the author gives a review of the possible applications of MFT, derived from experience from the last ten years in the clinics of Czechoslovakia, and sinusitis is listed among the best treatment results.

Local treatment for sinusitis with a probe

Physician reports on the treatment of sinusitis with MFT

1. Dr. Maximilian Tanil, M.D., general practitioner, Graz

• *Patient K.F., male, 49 years old; diagnosis: This patient has been suffering from chronic recurrent sinusitis for about 15 years, i.e., recurring inflammations in the area of the paranasal sinuses - frequent use of antibiotics. Such episodes occurred 3-4 times a year. Attempted treatment by alternative methods, in particular homeopathic measures, yielded only brief relief. The patient continued to suffer from inflammations of the upper respiratory tract and had headaches almost every day with pressure in the area of the forehead. Results of MRS therapy: After two months of treatment, the patient is having fewer headaches and no longer feels pressure in the area of the forehead. So far, he has not had any more sinusitis.*

• *Patient U.P., male, 7 years old; diagnosis: Onset of sinusitis. Results of MRS therapy: The incipient pain disappeared after two days, presumably the inflammation also disappeared.*

Patient reports on the treatment of sinusitis with MRS

1. Thanks to the company Vita-Life

• *Patient R.S., male, 43 years old; diagnosis: sinusitis, ischialgia, insomnia. Results of MRS therapy: "The pain became more tolerable; af-*

ter two weeks, my insomnia improved and my sinuses cleared up."

- *Patient M.P., male, 83 years old; diagnosis: Weakened immune system, sleep disorders, chronic sinusitis, cysts in the jaw, ringing in the left ear and no sense of smell for 33 years; bronchial asthma until two years ago. Results of MRS therapy: No more sinusitis, definite improvement in overall health, sleeping better, walking without limping and without using a cane, general mobility improved.*

2. Thanks to Mr. Georg Koller

- *Patient H.R., male, 40 years old; diagnosis: Sinusitis. Results of MRS therapy: "I have now had two winters without any flu-like infection and without any sinus problems."*

3. Thanks to Mr. Gerald Pfann

- *Patient J.K., male, 71 years old; diagnosis: Inflammation of the sinus. Results of MRS therapy: Free of symptoms after ten days.*

Appraisal of MFT: **70-75 % good to very good results**

12.6. Earache

The ear can become inflamed in the inner part, the middle part or the outer part. The most common inflammation involves the middle ear. This affects mainly children. Children who develop a middle ear infection in the first year of life are more susceptible to chronic conditions later. Inner ear infections can have serious consequences, but they are not common and they usually develop out of a middle ear infection (otitis media). Outer ear infections are inflammations of the skin on the visible external ear and the external auditory canal. They are usually harmless and can be treated by hygiene measures or with antibiotics.

A middle ear infection is caused by viruses or bacteria which enter the ear through the nose or throat, resulting in severe earaches, possibly fever (up to 40.5 °C in children, up to 39 °C in adults), loss of hearing, fatigue, nausea, vomiting and a sore throat. If the eardrum is ruptured due to pressure in the ear, blood or pus may run out of the ear. The pain then usually disappears within a few hours or days. Although a middle ear infection heals relatively rapidly, complications such as temporary or permanent loss of hearing or even meningitis cannot be ruled out. A middle ear infection can be controlled well with an antibiotic, often in the form of penicillin. If the eardrum causes pain, the outer ear must be kept clean to prevent spreading of the infection.

Effect of magnetic field therapy on earaches:

reducing inflammation, relieving pain, promoting circulation, strengthening the immune system

Proper use of MRS for earaches

- Whole-body mat: one or two times a day for 8 minutes each time: 50 % level in the morning, 10 % level in the evening
- Pad or probe (behind and in front of the ear): twice a day for 16 minutes each time: 100-150 % level
- Forms of therapy supportive of MFT: wraps with onions
- Special instructions on use: MFT is not a treatment for an acute inflammation.
- Notes on the initial reaction: There may be a brief increase in pain in 1-3 % of the cases.

Local treatment for earaches

Scientific studies on the treatment of earaches with MFT

- V. V. Sunstov: "Treatment of Acute Diffuse Otitis Externa by Low-Frequency Magnetic

Fields," Vestn Otorinolaringol, 6, 1991, pp. 35-38. - This study shows the possibilities of pulsating magnetic fields in combined treatment with conventional therapy measures in inflammations of the external auditory canal. The group receiving supportive MFT recovered much faster.

Patient reports on the treatment of tinnitus with MRS

1. Thanks to the company Vita-Life

• *Patient V.S., female, 50 years old; diagnosis: Stubborn, chronic middle ear infection with constant use of antibiotics for five years, the last time in the summer of 1996. Results of MRS therapy: "I have not had any symptoms in my ears since then, I have not needed any medication and I can hear well again."*

Appraisal of MFT: 70 % good to very good results

12.7. Tinnitus

The cause of tinnitus is not yet known; circulation problems might play a role. Typically it is characterized by an annoying ringing in the ears, which may occur constantly, periodically or spontaneously even in the quietest environment. Although tinnitus is not a dangerous condition, it can enormously impair the quality of life of those affected by it. There is no treatment directed against tinnitus that can provide long-lasting success.

Effect of magnetic field therapy on tinnitus:

supportive, promoting circulation, relaxing muscles, stimulating the nerve cells in the inner ear, acting on the autonomic nervous system

Proper use of MRS for tinnitus

• Whole-body mat: twice a day for 8 minutes each time: 50 % level in the morning, 10 % level in the evening

• Pad at the neck: once a day for 8 minutes: 50 % level

• Probe (at the "gate of the ear," i.e., at the fold of skin at the point of attachment of the external ear): 2-3 times a day for 16 minutes each time: 150 % level (gradually increasing from 10 %)

• Notes on the initial reaction: In 1-3 % of the cases, the tinnitus may be intensified for a few days. Increase the dose gradually!

Basic treatment for tinnitus

Scientific studies on the treatment of tinnitus with MFT

see chapter "Diseases of the nervous system"

Physician reports on the treatment of tinnitus with MFT

1. Dr. Spitler-Seifert, M.D.

• *Patient R., male, 54 years old; diagnosis: Severe gnathalgia [pain in the jaw] and also severe tinnitus for five years. Results of MRS therapy: After the MF treatment, the patient was almost pain-free. The tinnitus had disappeared and his general well-being was very good.*

2. Health Center of Wolfgang Kropshofer, Doctor of Chiropractics, 1180 Vienna, Alserstrasse 43/8b

• *Patient A.H., female, 64 years old; diagnosis: Tinnitus for 30 years. Results of MRS therapy: After a few treatments, the patient has almost no tinnitus symptoms. After two months of intensive therapy, she is free of tinnitus.*

3. Thomas Drach, non-medical practitioner

• *Patient, male; diagnosis: tinnitus. Results of MRS therapy: After the second treatment, his tinnitus disappeared for a short time. The therapy is still underway.*

Patient reports on the treatment of tinnitus with MRS

1. Thanks to Mr. Silvester Neidhardt

• *Mr. A.D., 57 years old; diagnosis: Difficulty in sleeping through the night, tinnitus, agitation, nervousness. Results of MRS therapy: "After 4-5 weeks, I was able to sleep through the night again for the first time; I felt more balanced, and there was much less ringing in my ears. I returned the device after three months, because I did not attribute my improvement to the MFT. Shortly thereafter, the original symptoms returned. MRS again brought me relief."*

• *Patient N.K., male, 33 years old; diagnosis: Tinnitus with cerebral microcirculation problems. Results of MRS therapy: 1st week: Improved muscle tension, and the patient felt fresher and no longer had any tinnitus.*

• *Patient M.P., female, 53 years old; diagnosis: Ringing in the left ear and no sense of smell for 33 years. Results of MRS therapy: The tinnitus disappeared after nine weeks and has not yet recurred (14 months later).*

• *Patient R.C., female, 34 years old; diagnosis: "My tinnitus began eight years ago: ringing in my ears and a loud squeaking sound accompanied me through the day, especially annoying at work." Results of MRS therapy: "The squeaking sound is no longer so intense and loud, and the ringing in my ears disappeared completely after two weeks."*

2. Thanks to Mr. Reinhard Schlag

• *Patient K., female; diagnosis: Tinnitus for several years. Severe constant ringing in her ears made it difficult for the patient. Sleep disorders caused her problems. Results of MRS therapy: After two weeks, there was a definite improvement in the tinnitus (noises no longer constantly a problem, nor was the intensity as severe as before) and her sleep disorders have disappeared.*

3. Thanks to Mrs. Doris Paunger

• *Patient R.H., male, 75 years old; diagnosis: Tinnitus and severe wear phenomena in the shoulder and knee areas. Results of MRS therapy: Significant improvement in symptoms in the shoulder and knee areas after just 14 days of treatment, and the tinnitus has improved. Her general well-being is very good.*

4. Thanks to Mrs. Karin Grünhagen

• *Patient M.E., female, 19 years old; diagnosis: Tinnitus for three years. Results of MRS therapy: After one year of treatment, she had a 50 % improvement. She is sleeping better, happier and more receptive. In addition, she is taking food supplements. She sees the situation positively herself: "Soon it will go away completely."*

Appraisal of MFT: **30-40 % good to very good results**

DENTISTRY

13. Diseases of the teeth and jaw

13.1. Periodontitis – recession of inflamed gums

Periodontitis is understood to be a progressive, inflammatory receding of the gums (gingiva) and the bones around the teeth. It is assumed that periodontitis begins with an accumulation of bacteria and food residues between the teeth and gums. The bacteria produce toxins which are responsible for causing swelling of the tissue, which then bleeds and recedes. The outbreak of inflammation is followed by the development of pus in gingival pockets which occur when the gums recede from the bone and teeth. Consequently, the fibers are weakened and the bone holding the teeth is destroyed. If the condition progresses, the teeth will become loose and fall out. The inflamed tissue becomes red, swells slightly, becomes sensitive to pressure and begins to bleed readily. As soon as pus collects around the teeth, it is a signal that periodontitis is progressing. If not removed, severe pain and swelling develop. Careful dental and oral hygiene can help reduce gingiva problems and prevent the periodontitis from worsening. In the ideal case, the mouth should be cleaned after each meal. Dentists recommend using a soft toothbrush and flossing and rinsing to clean the spaces between the teeth. In advanced cases, the dentist will empty out the pockets of infection and prescribe antiseptic preparations to kill the bacteria.

Effect of magnetic field therapy on dental and maxillary medicine:

relieving pain, promoting circulation, relaxing (masticatory [chewing] muscles), reducing swelling, strengthening the gingiva and the suspension of the teeth, preventing degradation of the jawbone, more rapid closure of the gingival pockets, more rapid wound closure before and after a dental extraction, in nonspecific toothache and jaw ache, in chronic sinusitis, idiopathic trigeminal neuralgias, for treatment of focal infections in the upper and lower jaw and recently, on the basis of recent study findings, also as a supportive therapy in treatment of periodontitis (gum recession). The rate of infection can be kept low. MFT provides rapid assistance in capsulitis on the jaw, in particular with compression as well. For calming the patient before a procedure - not as much anesthetic is needed because of the reduced anxiety.

Proper use of MRS for dental and maxillary medicine

- Pad: 3-4 times a day for 8 to 16 minutes each time: 100-200 % level
- Probe: 3-5 times a day for 16 minutes each time: sensitive up to 25 % level, placing the probe at the jaw joints and on the outside of the gingiva, moving it with a circular motion over the entire area of the jaw or the focus of infection

Local treatment of the jaw joint with a probe

- Forms of therapy supportive of MFT: kinesiology, herbal remedies (grape seed extract)
- Special instructions on use: Trigeminal neuralgia may be confused with a toothache, but the patient with a trigeminal neuralgia cannot tolerate touch. Caution, keep it at a distance!
- Notes on the initial reaction: none

Scientific studies on the treatment of dental and maxillary diseases with MFT

Extensive studies with MRS are currently underway in collaboration with Dr. Meierhöfer in Roth (Germany) in the field of mandibular blockade. Dr. Meierhöfer presented his preliminary findings at the International Congress for Energy Medicine in Seefeld in Tirol in 1998.

- D. Zaffe et al.: "PEMFs Improve Bone Adaptation in Orthodontically Treated Rabbits," Second World Congress for Electricity and Magnetism in Biology and Medicine, 8-13 June 1997, Bologna, Italy. This study shows that MFT is capable of therapeutically influencing bone formation in orthodontic problems.
- M.A. Darendeliler et al.: "Light Maxillary Expansion Forces with the Magnetic Expansion Device. A Preliminary Investigation," European Journal of Orthod, 16(6), December 1994, pp. 479-490. - This study, published in one of the most renowned medical journals, shows the possibilities of MFT in orthodontic regulatory measures.
- A.A. Kunin et al.: "Magnetolaser Therapy in Complex Treatment of Periodontal Diseases," Fiz Med, 4 (1-2), 1994, pp. 103-104.- This study shows the possible uses of MFT in diseases of the gingiva. S
- F.G. Sander, A. Wichelhaus, "Can Magnets or Additional Intermaxillary Forces Improve the Mode of Action of Jumping-the-bite Plates?," Fortschr Kieferorthop, 55(6), December 1994, pp. 279-289.
- V.E. Kriokshina et al.: "Use of Micromagnets in Stomatology," Magnitolgiia (1), 1991, pp. 17-20. - This placebo-controlled study investigates the effect of weak magnetic fields in treatment of periodontal disease, especially inflammations of the gingiva. The patients are treated for four weeks. The results indicate that the course is uncomplicated, in particular there was less pain in the group treated with MFT in comparison with the control group.
- T. Satake et al.: "Effect of Pulsed Electromagnetic Fields (PEMF) on Human Periodontal Ligament in Vitro. Alterations of Intracellular Ca2+," Department of Oral Biochemistry, Kantawa Dental College, Kanagawa Shigaku 1990 March 24(4): 735-742. - This study shows a scientifically well-founded basis for use of MFT in dentistry. Mechanical forces of tooth movements, the biological response of the periodontal tissue and the forces acting on it plays a crucial role. It has been observed that pulsating electromagnetic fields can increase the calcium concentration in the periodontal connective tissue cells resembling osteoblasts.
- L.C. Thodes, "The Adjunctive Utilization of Diapulse Therapy (Pulsed High Peak Power Electromagnetic Energy) in Accelerating Tissue Healing in Oral Surgery," Q National Dental Association, 40(1), pp. 4-11. - This controlled study shows the effects of supportive electromagnetic treatment after orofacial

surgery. The study results have proven that the treatment helps achieve a more rapid healing in patients treated with magnetic fields therapy.

• Chr. Hermann, "The Influence of the Electromagnetic Field on Orthodontic Treatment." Deutsche Zeitschrift für Biologische Zahn-Medizin [German Journal for Biological Dentistry]. - The use of pulsating magnetic fields orthodontics opens up new possibilities in therapy through the influence on the metabolic dynamics. Measurement documentation submitted.

Physician reports on the treatment of dental and maxillary diseases with MFT

1. Dr. Rudolf Meierhöfer, dentist in Roth

• *Patient, male, 12 years old; diagnosis: Fall from a bicycle after a collision with an automobile, hitting his chin. Retrusion of the heads of the joints, into the bilaminar zone with a hematoma. He could only open his mouth 30 mm, the movement of opening his jaw was very painful; likewise, palpation of the jaw from laterally and dorsally was also very painful. The lateral pterygoid muscles are especially sensitive to pressure. Results of MRS therapy: After the first treatment, there was a slight reduction in pain and he could open his mouth 33 mm. The next day: mouth opening 31 mm before magnetic field therapy, 36 mm after, definitely reduced pain perception. On the third day: 35 mm mouth opening before MRS, 40 mm after, only slight remaining pain. On the fourth day: mouth opening already 43 mm without any pain and no restricted movement.*

2. Dr. Wolfgang G. Weise, M.D., private medical practice, acupuncture, auriculotherapy, Stoissberg

• *Patient B.W., female, 42 years old; diagnosis: Long years of seasonal rhinoconjunctivitis with an amalgam burden. As a secondary finding to disturbances in the motor system. Results of MRS therapy: After ten days of MRS treatment, a controlled removal of mercury was performed. After treatment, she had hardly any remaining symptoms in her knee joint. She could also handle long walks in the mountains with no problem. Her allergic diathesis has improved.*

3. Dr. Klaus Ortner, dentist, Deutschlandsberg

• *Patient O.P., male; diagnosis: Pain after a dental extraction. Results of MRS therapy: Free of symptoms after four days.*

• *Patient H.F., male; diagnosis: Post-extraction pain after surgical removal of the 8th tooth, severe pain. Results of MRS therapy: Improvement.*

4. Dr. Michael Hirtz, M.D., Pürrlingen

• *"I have used MFT in chronic and refractory cases out of interest in trying new things. So far, I have used MFT for treating post-extraction pain and patients after surgical procedures. In the case of post-extraction pain, my subjective perception is that the painful and delayed healing was definitely improved. Likewise, I have observed a much better healing course and less development of edema postoperatively, e.g., after extraction of a wisdom tooth."*

5. Dr. Gernot Riedl, M.D., specialist in dentistry and orthodontics, Graz

• *"An excellent area for use of magnetic field therapy in a dental practice is to use it before and after a surgical procedure. Less anesthetic is needed and there is less pain during and after the procedure. Additional successful applications include treatment of mandibular complaints, pockets of infection and pulpitis symptoms. In addition, postoperative complications may be reduced significantly."*

6. Joint dental practice of Dr. Jacqueline Nitz and Dr. Erasmus Nitz, Wallersdorf

• *Patient, female, 44 years old; diagnosis: Chronic inflammation, apex on tooth 35. Finding: Tooth 35 shows an apical lightening in the x-ray, with a hard bulge the size of a cherry pit vestibularly; no pus drained out on incision. Treatment: Preparation of the root canal on tooth 35, hot contrast rinsing and packing of medication and provisional closure; in addition, an antibiotic that could enter the bone had to be administered. Results of MRS therapy: Complete freedom from pain and a definite decline in swelling. Then the tooth could be closed tightly with a root packing and a final filling.*

7. Dr. Ulrich Klaubert, M.D., otolaryngologist, Lübeck

• *Patient U.K., male; diagnosis: Pain in chewing or tapping against the crowned tooth. The dentist assumes irritation of the root and advises re-*

section of the tip of the root. Results of MRS therapy: "The symptoms have been eliminated almost completely. In the morning I still feel a slight transient sensitivity. The treatment is being continued, there will be no surgery."

8. Dr. Spitler-Seifert, M.D.

• *Patient R.A., male, 54 years old; diagnosis: Severe gnathalgia [pain in the jaw] for five years. Results of MRS therapy: The patient was almost pain free after MFT.*

9. Thomas Drach, non-medical practitioner, Bermatingen-Ahausen

• *Patient, male; diagnosis: Several weeks of pain after a filling and in the entire upper jaw. Results of MRS therapy: The pain of the filling subsided after two treatments; the pain in the upper jaw subsided after three treatments.*

Patient reports on the treatment of dental and maxillary diseases with MRS

1. Thanks to the company Vita-Life

• *Patient, male, 49 years old; diagnosis: Chronic inflammation of gingiva. Results of MRS therapy: He has not had any more inflammation.*

• *Patient M.P., female, 43 years old; diagnosis: Cysts in the jaw. Results of MRS therapy: The cysts are no longer visible in the x-ray and they have completely healed. No additional medication.*

• *Patient M.K., female; diagnosis: Oral surgery on the gingival pocket was planned. Results of MRS therapy: After one month of treatment, the condition had disappeared completely and surgery was no longer necessary.*

• *Patient I.T., female, 50 years old; diagnosis: Massive periodontitis with loosening of the teeth in the entire jaw. Results of MRS therapy: "After four months with three daily treatments, my gums stopped bleeding, my teeth began to sit securely and my gums began to regenerate."*

2. Thanks to Mrs. Heidemarie Schäfer

• *Patient S.S., female, 17 years old; diagnosis: The patient had jaw surgery and one tooth was extracted. Thereafter, she had severe pain and a very large swelling on the right side of her jaw. Results of MRS therapy: To our surprise, the swelling subsided entirely and did not return. The pain also became somewhat milder. The orthodontist was amazed at the rapid healing.*

Appraisal of MFT: **70-80 % good to very good results, especially in a mandibular blockade and periodontal disease**

PSYCHOLOGY

14. Psychological diseases

Effect and proper use of MRS, studies, physician reports and patient reports:

see end of chapter

14.1. Anxiety and panic attacks

Anxiety helps to perform jobs better and faster. However, exaggerated or unfounded anxiety or a permanent state of anxiety can make a person's life very difficult. One out of ten people will experience a pathological anxiety state or a phobia at sometime in his life. Events from the past which we cannot even remember can cause anxiety unconsciously. The reason for anxiety is often obvious - a difficult test, a conflict with a boss, problems in the family. Normally, anxiety subsides after the conflict is resolved. If the anxiety persists, e.g., after a life-threatening situation (an automobile accident, fire, a violent attack), we speak of post-traumatic stress syndrome (PTSS). Panic attacks are sudden attacks of anxiety which may last for up to an hour without any obvious cause.

Psychological therapy is helpful in dealing with anxiety or panic attacks. Tranquilizers are the most effective drugs, but they should be taken only for a short period of time because they cause dependency after two weeks of use and also have side effects. Learning relaxation exercises or stress reduction is a great help. Treatment includes cognitive behavior therapy with a specialist.

14.2. Bed-wetting (enuresis)

Bed-wetting is the term used to refer to a child (rarely an adult) losing his/her ability to control urination. Involuntary urination usually occurs at night, but it may also happen during the day. The disease occurs especially in nervous, labile children. Enuresis is due to an abnormal nervous reaction; it is not an organic illness. Severe damage to the brain or spinal cord, interfering with control of bladder function, must therefore be ruled out. Controlled urination is achieved through training, and this is how this problem should be corrected. In treatment, the child should be supervised the entire day. With great patience, the reflex can be restored. It is important to be sure that the bladder is always emptied at certain times, including at night. In severe cases, only a psychotherapist can help.

14.3. Burn-out syndrome

see "Stress"

14.4. Depression

Depression is understood to be to an affective disorder lasting more than two weeks or recurring regularly within a short period of time. From a biochemical standpoint, there is a reduction in the messenger substances that permit communication activity between the brain cells. The group of monoamines is especially important, including noradrenaline, serotonin and dopamine. Women become depressed more often than men. This is related to the sex hormones in women, and it explains why some women suffer from depression after childbirth or before their menstrual period. The causes of depression are not known, but hereditary factors, stress in everyday life, occupational life and private life, frequent failures, death (of a loved one) or a certain lack of connection play a role. Depression may also be associated with a physical illness. Virus infections such as influenza, mononucleosis or chronic fatigue are often associated with depression. Various drugs, such as beta-blockers, as well as alcohol and life-threatening diseases may also be causative factors. The number of depressed people is constantly increasing. One in ten people will develop a depressive psychosis during his life, 10 % of these being manic-depressive. In many patients, depression is masked by physical complaints. These patients complain of pain in all possible organs, but no pathological changes can be found.

The WHO (World Health Organization) has compiled a list of questions to help detect depression. The most important questions are: Have you lost the ability to take joy in something? Do you have difficulty making decisions? Have you lost interest in your environment? Have you been brooding more recently? Do you consider life to be meaningless? Do you feel tired and unenthusiastic? Do you have sleep disorders? Anyone who answers YES to most of these questions is at risk of depression and should consult a specialist immediately.

Signs of depression include general dejection, lack of drive in the morning and sleeping poorly. Thoughts of suicide are not uncommon. If the depression lasts longer, it often becomes torture because the depression makes a person unable to act, there is a feeling of burn-out, as if one is literally at the end. Depression is an actual disease and may cause physical complaints because the endogenous messenger substances in the brain, especially in the pituitary and the hypothalamus, are not functioning properly.

At first, depression is often underestimated or is not recognized as a real disease. Personal involvement is most important. In many cases, a neurologist must be consulted to initiate psychotherapy. Behavior therapy teaches the patient to avoid negative thoughts. Seasonal depression is treated very successfully with light therapy in combination with natural remedies such as extracts of balm mint or St. John's wort. In serious cases, antidepressants must be relied on temporarily. Movement exercises stimulate certain chemicals in the brain and thus relieve depression. The success is usually not apparent until after lengthy treatment. Many of the medicines used for depression have unpleasant side effects. These medications are not a cure, but they only attempt to make the symptoms more tolerable. So-called serotonin uptake inhibitors are a new generation of antidepressants. They definitely have fewer side effects, so there is hardly any risk if taken under strict medical supervision.

Magnetic field therapy can be very helpful in depression. It supplies a person with energy, imparts physical well-being, increases activity and helps to relax. Low-frequency and low-amplitude magnetic field therapy has proven especially helpful in depression. There are signs physicians can greatly reduce the dose of medication in endogenous depression. Magnetic field therapy has an especially positive effect on mild to moderately severe depression, especially if it is reactive, i.e., as a result of an illness (infection, post-partum, diabetes, menopause, hypo- or hyperthyroidism), medication (reserpine, beta-blockers, sleeping pills and antidepressants themselves) or food allergies, intestinal disorders,

amalgam fillings, vitamin and trace element deficiencies.

14.5. Concentration disorders

Concentration disorders occur mostly in children, the elderly and those under occupational or private stress. They are characterized by an increased distractability and lower attention. A concentration weakness may also be associated with post-traumatic syndrome due to injury or degenerative processes.

14.6. Hyperactive children

Hyperactive children are very agitated, have an increased sensitivity to pain, disturbed sleep and they frighten easily. They are easily fatigued, lack concentration and are scattered. They often have a loss of appetite, vomiting, diarrhea as well as abdominal complaints and headaches without any disease in the respective organ. These disorders are found especially in children who have a labile nervous system and in (only) children who are around adults and older children too much. The typical hyperactive child is self-involved, often spoiled and considers his small self to be the most important thing in the world; they are selfish and hypersensitive. There is often a lack of a harmonious family and a patient and understanding education. In addition, there is the influence of the environment: radio and television, hustle and bustle - constant stimuli to which the child is exposed. The small size of many homes, stress at school and overfilled classrooms cause a nervous predisposition to be overemphasized. Mental conflicts, broken homes may be other causes. An improvement can be achieved by altering the life circumstances: getting a lot of exercise outdoors in the sun and air, following a healthy diet, having playmates of the same age. Treatment with medication is not advisable. In high-grade nervous disorders, a psychotherapist may help.

14.7. Neurosis

Neurosis is understood to be a psychological disease not based on an organ illness. There are fluid transitions between neurotic features of healthy and neurotic disorders with a pathological value. The most common forms of neurosis include anxiety, compulsion, organ neurosis (see "Cardiac neurosis"), hysteria.

14.8. Sleep disorders

Depending on age and predisposition, people need four to ten hours of sleep a day. A distinction is made between sleep phases of different lengths and depths. In the evening hours, the pineal glad begins to secrete the hormone melatonin, which inhibits the metabolism and encourages sleep.

Difficulty in falling asleep and sleeping through the night for a long period of time are harmful to health. The causes may be physical (e.g, pain) or psychological (e.g., stress, depression). With advancing age, people need less sleep than in their younger years. It is, however, often difficult for elderly people to fall asleep in the evening, followed by a restless sleep and problems falling back to sleep after waking up in the morning hours, as a result of which, they get up early. More than half of all people 60 years old suffer from subjective sleep disorders. This is often due to going to bed too early, napping during the day or too little physical and mental activity. One reason for sleep disorders in the elderly could be the reduced production of melatonin. Among people 65 years old, 60 % complain of difficulty falling asleep, 95 % complain that they wake up too early. Anyone who claims not to have slept all night has slept, although perhaps for only a short period of time and without having noticed it. The duration of sleep is influenced by hereditary factors and age. REM sleep (processing the day's events) is especially important and must not be cut short. Sleeping pills reduce REM sleep and therefore prevent a restful sleep. They are usually taken in high doses - to be sure - and can lead to dependence. Sleep disorders are often the first signs of depression. External influences such as light, noise and room temperature, a mattress that is too hard or too soft, a snoring bed partner, agitation during the day, bad eating habits, overloading the bladder due to too much liquid in the evening or medications can cause sleep disor-

ders. Snoring is often the cause of a sleep disorder, even for the snorer himself. Causes of snoring may include head colds, obesity, a frenulum that is too long or enlarged lymph glands. Despite great fatigue, sleeping pills should not be taken immediately. Reading, taking baldrian, balm mint, St. John's wort, autogenous training, progressive muscle relaxation according to Jacobson, meditation, acupuncture (ear!), a relaxing bath or magnetic field therapy may offer natural assistance. A walk before going to bed, a glass of milk or chamomile tea, even alcohol in very small amounts may induce sleep. It is important to discover the cause of the sleep disorder. It may be helpful to keep a diary of sleeping habits (when, how long, how deep).

Magnetic field therapy can be especially rapid and effective in sleep disorders. Even short therapy can yield success if used daily. The effect is based on harmonizing the autonomic nervous system along with the circulation-promoting and deep relaxing effects. Studies from the United States have proven an influence of the pituitary in stimulating melatonin production. It is advisable to work with a low frequency and a low intensity and not perform the treatments immediately before going to bed in the case of difficulty in sleeping through the night, but instead to do the treatment two to three hours before going to bed at a slightly higher intensity. A combination of magnetic field therapy with St. John's wort (in high concentrations) and/or baldrian has proven advantageous.

14.9. Stress, burn-out syndrome

14.9.1. Stress

The stress reaction is an important protective measure for humans. It protects us from harmful influences, prepares the body for fight or flight. The pituitary secretes a hormone, the messenger substance ACTH, into the bloodstream. In the kidneys, this substance stimulates the adrenal cortex to secrete the hormone cortisol into the blood. Cortisol is important for the metabolism in the human body, mobilizing energy reserves, increasing the blood sugar level, degrading proteins and enabling the body to burn fatty acids from the fat tissue. Perception of environmental stimuli is increased; we see, hear and taste better and perceive touch more intensely. Adrenaline and noradrenaline are secreted from the adrenal cortex in the same way. The body is prepared for alarm readiness, the heart rate increases, the pulse becomes faster, the blood vessels beneath the skin contract. The hormone renin secreted by the kidneys causes angiotensinogen in the blood to be converted to angiotensin which causes the vasoconstriction. This increases the circulation to the muscles and increases the blood pressure. The bronchial tubes dilate in order to be able to take up enough oxygen and breathing becomes deeper. The digestive processes are stopped to allow the energy to be used elsewhere if necessary.

A basic dose of stress has a very positive effect on the body, but as soon as it becomes permanent stress, the body lacks the time to relax and recover. The blood pressure may be permanently elevated, the coronary vessels may become diseased, finally leading to a myocardial infarction. The stress hormone cortisol weakens the immune system and increases the susceptibility for infectious diseases. Disturbances in sex function (loss of libido) or in the digestive tract (gastritis, colitis, enteritis, ulcers and the like) are often the result of long-term stress. The risk of developing a tumor also increases drastically. However, the most obvious effect is on the person's psychological condition: the change in hormone balance and in transmitter substances in the brain can lead to aggression, depression or other disorders. Stress in children in particular is often manifested as asthma.

The causes of stress are most commonly found in the occupational life or in the family, or in the case of children, there may be a certain pressure due to expectations on the part of the parents. Stress is also caused by external stimuli such as noise, hectic activity, traffic, television, radio, etc. Therefore, it is very important to reduce anger and annoyance - one of the possible stressors - or to vent it, because high blood pressure damages the heart and the cardiovascular system in the long run. In addition, it greatly impairs well-

being. We must learn to deal with stress situations. Pushing oneself too much and an accumulation of problems cause damage to the body. It is important to observe pauses, to eat regularly and follow a healthy diet, engage in physical activity, learn relaxation techniques, grant oneself a certain amount of leisure, regard the future as an opportunity and not as a threat, accept help and avoid illegal drugs and alcohol.

Magnetic field therapy used for stress has a very relaxing effect through the autonomic nervous system.

14.9.2. Burn-out syndrome

The most common cause of the so-called burn-out syndrome is overwork of a mental and physical nature. In long-term stress, the body secretes less sex hormone, melatonin (the sleep hormone) becomes less effective and the hormones cortisol and adrenaline are released to the bloodstream in increased amounts. In the long run, this leads to serious effects on our health and often to severe depression with a great feeling of emptiness. Managers and physicians are especially at risk, because persistent stress results in depletion of the body's energy reserves and complete psychological exhaustion is imminent. One feels chronically exhausted and fatigued and finds neither rest nor sleep. These people get angry easily, feel internally empty and burned out. Everyday life becomes empty and boring, work becomes routine and private life is stressful. The secretion of gastrin is stimulated and gastric acid is produced in increased amounts, which erodes the mucous membranes of the stomach and duodenum and promotes the development of ulcers. Those affected do not feel sick. They fill their emptiness with psychopharmaceuticals or other drugs. The result is often addiction with psychological and physical dependency. Alcohol and cigarette consumption are mild forms. To counteract burn-out syndrome, it is important to try to change one's lifestyle and eliminate the causes of stress.

Burn-out syndrome is on the increase. In Germany alone, more than 1.5 million people suffer from this chronic fatigue state. When used promptly, magnetic field therapy can be of significant help.

Effect of magnetic field therapy on psychological diseases:

MFT acts through the autonomic nervous system and can thus create the prerequisite for a mental equilibrium. It cannot eliminate the causes of psychological diseases nor should it be regarded as a cure for mental disorders. MFT can produce a sense of well-being, at least from a physical standpoint, and thus can create better access for dealing with a problem. Perhaps there are also direct influences of magnetic field therapy (very high intensities) on certain disturbed structures in the brain. The best effect achieved by magnetic field therapy is no doubt on sleep disorders. Three quarters of all patients with sleeping problems react positively to MFT. People often enjoy the sleep-promoting effect. The response is more rapid in patients who have trouble sleeping through the night than in those with difficulty falling asleep.

Proper use of MRS for psychological disorders

- Whole-body mat: 4 times a day for 8 minutes each time: 50 % level in the morning, 25 % level at noon, 10 % level in the afternoon, sensitive level in the evening

Whole-body treatment for psychological disorders

- Forms of therapy that support MFT: homeopathy, kinesiology, NLP, TENS, biofeedback, qi gong, ayurvedic medicine, Bach flower remedies, Kneipp cure, cognitive therapy, TCM, therapeutic touch, phytotherapy (St. John's wort, baldrian root, lady's mantle, passion flower, hops, molasses, pollen)
- Special instructions on use: MFT should be used in conjunction with psychotherapy.

• Duration of therapy: The therapy usually takes longer in patients with emotional problems and is closely related to the person's personal and social development.

• Instructions on the initial reaction: In rare cases, depressive patients may experience an exacerbation of pre-existing sleep problems at the start of treatment (increase the dose gradually!).

Scientific studies of the treatment of psychological diseases with MFT

• Dr. Christian Thuile, M.D., Dr. Scherer Christoph, M.D., Center for Energy Medicine in Vienna: "Influence of Magnetic Resonance Systems on Autonomic, Stress-Related Parameters," ENERMED 1998, 2nd International Congress for Energy Medicine, Seefeld in Tirol. - In this series of investigations, the influence of the MRS 2000 + MED system on some important clinical parameters was evaluated. The results show a definite reduction in the measurable stress-related parameters of the human body. Significant findings: a reduction in systolic blood pressure and skin conductance and an increase in temperature with a relatively constant pulse and respiration.

• L.S. Baker-Price: "Weak but Complex Pulsed Magnetic Field Application: A Noninvasive Treatment for Depression Following Traumatic Brain Injury," Laurentian University, Behavioral Neuroscience Program, 1997. - Depression occurring after a head injury is often resistant to therapy and fails to respond to antidepressant medication. In this study, 16 depressed patients after head injuries were treated with MFT, specifically with a weak field. The results show that treatment with magnetic fields in depression can be an alternative to unsuccessful treatment with medication.

• C. Haag et al.: "Transcranial Magnetic Stimulation. A Diagnostic Means from Neurology as Therapy in Psychiatry," Nervenarzt, 68(3) March 1997, pp. 274-278. - This scientific article describes the use of transcranial magnetic stimulation in depressed patients and shows the antidepressive effect of magnetic fields acting at deep levels of the bran.

• M.R. Kirkcaldie et al.: "Transcranial Magnetic Stimulation as Therapy for Depression and Other Disorders," Aust N Z J Psychiatry, 31(2) April 1997, pp. 264-272. - This scientific article investigates the use of MFT in researching depression. The results show that high-frequency transcranial magnetic stimulation is an effective treatment for depressive patients with a low incidence of side effects.

• B.V. Morozov et al.: "Treatment of Neurotic Depression with the Help of Extremely High Frequency Electromagnetic Radiation," Zh Nevropatol Psikhiatr Im S S Korsakova, 96(6), 1996, pp. 28-31. - This study investigates the effect of MFT as an additional supportive form of therapy in patients suffering from depression. In 50 % of the mild to moderately mild cases of depression, a complete cure was achieved; at least a slight improvement in depression was achieved in another 40 %.

• Graham et al.: "Nocturnal Melatonin Levels in Human Volunteers Exposed to Intermittent 60 Hz magnetic field," Bioelectromagnetics, 17(4), 1996, pp 263-274.

• Rogers et al.: "Brief Communication: Rapid Onset/Offset, Variably Scheduled 60 Hz Electric and Magnetic Field Exposure Reduces Nocturnal Serum Melatonin Concentration in Nonhuman Primates," Bioelectromagnetics, Suppl. 3, 1995, pp. 119-122.

• Lee et al.: "Melatonin and Puberty in Female Lambs Exposed to EMF: A Replicate Study," Bioelectromagnetics, 16(2), 1995, pp. 119-123.

• V.A. Lebedev: "Treatment of Neurogenic Dysfunction of the Bladder and Enuresis in Children with a SKENAR Apparatus," Vopr Kurortol Fizioter Lech Fiz Kult (4), 1995, pp. 25-26. - In this article, we find evidence of successful treatment of children who are bed wetters with MFT.

• L. Higgs et al.: "Subjective and Objective Relaxation Effects of Low Energy Emission Therapy," The New York Hospital, Cornell Medical Center, STRESS-MED. 10/1 (5-13), 1994. - This study shows impressively the effectiveness of MFT in treatment of stress-related diseases. Findings include a drop in systolic blood pressure, a feeling of warmth and muscle relaxation. These results suggest that low-energy magnetic fields are a new therapeutic option in the large field of stress reduction.

• T. Zyss: "Deep Magnetic Brain Stimulation - the End of Psychiatric Electroshock Therapy?" Medical Hypotheses, 43(2), 1994, pp. 69-74. - In this article, the theoretical basis of electromagnetic stimulation in psychiatric therapy is discussed. The author sees the advantage of MFT as being its better effect on deep areas of the brain, in the lack of pain associated with the treatment itself and the lack of side effects.

• C. Guilleminault, B. Pasche: "Clinical Effects of Low Energy Emission Therapy," Bioelectromagnetics Society, 15th Annual Meeting, June 13-17, 1993, Los Angeles, CA, p. 84. - This scientific report shows that low-frequency forms of energy are an effective form of treatment for chronic insomnia and can presumably also be helpful in generalized anxiety states.

• R. Hajdukovic et al.: "Effects of Low Energy Emission Therapy on Sleep Structure," First World Congress for Electricity and Magnetism in Biology and Medicine, June 14-19, 1992, Lake Buena Vista, FL, p. 92. - The results of this double-blind, placebo-controlled study indicate that low-energy magnetic fields can have an extremely positive effect on the sleep habits of patients with sleep disorders.

• M. Erman et al.: "Low-Energy Emission Therapy Treatment for Insomnia," Bioelectromagnetics Society, 13th Annual Meeting, 23-27 June 1991, Salt Lake City, p. 69. - This double-blind, placebo-controlled study shows a significant increase in total sleep time in chronic sleep disorders with a definite difference in comparison with the placebo group.

• Lercher et al.: "Proof that ELF Ca2+ cyClotron Resonance Suppresses Synthesis of Pineal Melatonin in Vitro," Neuroscience Letters, 124, 1991, pp. 213-215.

• M.E. O'Connor et al.: "The Magnetic Field Treatment of Depression and Anxiety Associated with Substance Abuse Withdrawal," The University of Tulsa, USA. - In this article, thirteen studies are analyzed statistically. The authors emphasize the provability of the effect of the magnetic field (transcranial electromagnetic stimulation) in treatment of anxiety states and depression. Treatment of anxiety states in particular yielded definite positive results in comparison with the placebo group in both groups, namely in the patient group and in the group of medical advisers.

• Grunner: "Differential Effects of Electromagnetic Fields in the Therapy of Neurosis and Depressions," Activ ner. super., Praha

• Z. Jerabek: "Pulsed Magnetotherapy in Czechoslovakia: A Review," First World Congress for Electricity and Magnetism in Biology and Medicine, 14-19 June 1992, Lake Buena Vista, FL, p. 81. - This article presents a review of the use of pulsating magnetic fields and mentions a number of possible applications, including successful treatment of bed-wetting in children.

Physician reports on the treatment of psychological disorders with MF

1. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0043/1/40 666 00

• *Patient C.B., female, 65 years old; diagnosis: poor general condition: cachectic, lack of energy after/due to depression, no change in condition despite antidepressants, also marked polyarthrosis. Results of MRS therapy: After three months of MFT and a marked initial reaction at first, this patient is free of pain today and sleeps as well as in her younger years.*

• *Patient B.B., female, 48 years old; diagnosis: stress, tension, chronic fatigue, hypotension. Results of MRS therapy: A definite improvement was achieved after the second treatment. The patient was sleeping well and was again feeling fresh and energetic.*

• *Patient, female, 19 years old; diagnosis: This patient had a great feeling of insufficiency, crying and complaining of fatigue and she had a certain ambivalence toward her own infant. The patient was accompanied by her psychotherapist and had a relative resistance to therapy. Results of MRS therapy: After four weeks of additional therapy with MFT, the patient is again more active and is bonding with her child.*

• *Patient H.B., female, 58 years old; diagnosis: severe chronic sleep disorders for many years. The patient was constantly taking strong medication. Results of MRS therapy: The patient fell asleep during the first treatment. After lengthy*

therapy, she is now feeling free of symptoms and has been able to get by without any medication for the first time in 16 years.

2. Dr. Werner Raufelder, M.D., general medicine, social medicine, spa doctor, Bad Endorf

• *Patient G.B., male, 56 years old; diagnosis: sleep disorders, cervical syndrome, etc. Results of MRS therapy: After the first session, his sleep was improved; after the seventh session, the cervical spine improved. A follow-up examination showed this patient to be almost free of symptoms.*

3. Dr. Ursula Miggitsch, M.D. general practitioner, Graz

• *Patient A.G., male, 38 years old; diagnosis: difficulty falling asleep and sleeping through the night, training-related knee pain with even a slight load. Results of MRS therapy: Definite improvement in sleeping habits, increased vitality and creative power. Pain in the knee area subsided significantly only through occasional local use of the pad.*

• *Patient C.J., male, 66 years old; diagnosis: sleep disorders, upper abdominal symptoms, spinal pain. Results of MRS therapy: The sleep disorders improved significantly and the patient no longer needed any medication. Upper abdominal discomfort relieved, spinal complaints disappeared entirely and neuralgia improved.*

• *Patient, female, 11 years old; diagnosis: neurodermatitis combined with nervousness and sleep disorders. Results of MRS therapy: The itching stopped after just ten days of treatment, and after another 14 days the disease symptoms subsided, the skin efflorescences (redness) disappeared completely and the sleep disorders had disappeared completely; the girl seemed like a new person.*

4. Dr. Helmut Ornig, M.D., Surgery Department of the Elizabeth Hospital, Graz

• *Patient M.O., male, 30 years old; diagnosis: transverse lesion of the spinal cord with paralysis after a sports injury, tetraplegia, constant sleep disorders, occasional cramps, residual urine up to 200 mL, repeated urinary tract infections, decubital ulcer, loss of drive. Results of MRS therapy: no more sleep disorders, good fitness, decubital ulcer completely healed, no more residual urine, no urinary tract infection. The patient feels good and energetic.*

5. Dr. Harald Eckardt, M.D., Dr. Gero Krause, M.D., Dr. Holger Lorenz, M.D., Dr. Josef Kapellmann, M.D., orthopedic surgeon, Rosenheim

• *Patient K., female; diagnosis: sleep disorders, chronic lumbar syndrome. Results of MRS therapy: Mrs. K. reported being free of pain after only half of the treatments. Her sleep disorders have now disappeared.*

6. Dr. Ulrich Klaubert, M.D., ear-nose-throat specialist, Lübeck

• *Diagnosis: difficulty in falling asleep and sleeping through the night: patient would wake up frequently during the night and would have difficulty falling back to sleep. Results of MRS therapy: now falls asleep much better, wakes up less often at night, falls back to sleep rapidly.*

7. Dr. Andrea Leute, M.D. Überlingen

• *Patient, female, 38 years old; diagnosis: because of her occupational employment in the field service with very little physical activity and a lot of driving on the road, she sometimes had difficulty falling asleep at night during phases of great occupational stress. Results of MRS therapy: decline in intermittent sleep disorders by approx. 30 %.*

8. Dr. Othmar Rainer, M.D., general practitioner, Graz

• *Patient, female: 68 years old; diagnosis: sleep disorders since the start of the menopause despite physical fatigue. This patient has been taking sleeping pills of the benzodiazepine group for several decades. Results of MRS therapy: She feels much more refreshed during the day (in her words: "like a new person") and rarely needs sleeping pills.*

9. Dr. Gustav Skreiner, M.D., medical adviser, general practitioner, Graz

• *Patient, male; diagnosis: depression, chronic joint complaints, sciatica, rheumatic complaints, autonomic dystonia, condition after a stroke, hypertension, exhaustion complaints, muscle tension. Results of MRS therapy: Good results have been achieved so far.*

Patient reports on the use of MRS for psychological disorders:

1. Thanks to the company Vita-Life

• *Patient B.O., male, 60 years old; diagnosis: sleep disorders, occupational problems, frequent*

headaches, backaches, agitation, labile moods, existential anxiety. Results of MRS therapy: "I was sleeping better after the very first treatment and my hands were almost pain-free. Since then, I have been sleeping through the night consistently (6 hours), and I have been calmer and more relaxed. After three weeks, I was no longer experiencing anxiety despite problems. My concentration improved and I no longer had to search for words. After 4 1/2 weeks, I had hardly any problem getting up in the morning. After the fifth week, I felt some pain where I had previously had pain, but otherwise I have felt good, although my occupational problems have increased."

2. Thanks to Mrs. Magrit Stettler

- *Patient R.N., female, 4 years old; diagnosis: regular bed wetting. Results of MRS therapy: Complete improvement after three weeks. This young patient would lie down on the mat on her own.*

- *Patient C.V., female, 89 years old; diagnosis: forgetfulness, fatigue, apathy, little energy. The patient always wants to go home, but she goes out without a coat and shoes even when it is cold outside. Results of MRS therapy: Mrs. C. is much more active, can carry on a conversation again, talks about her life, laughs and enjoys life. She stays home, has become calm and is again taking long walks.*

3. Thanks to Mr. Dietmar Hauser, certified engineer

- *Patient Z.P., male, 51 years old; diagnosis: hypertension, constant headaches for five years, difficulty falling asleep, depression, diabetic blood sugar (280), snoring, heartburn for many years. Results of MRS therapy: His headaches, sleep disorders and depression have disappeared with the use of prepared herbs. Blood pressure normalized with concomitant reduction in medication, headaches disappeared. This patient no longer has any sleep disorders or depression and has been able to stop taking medication. Blood sugar normalized (95) after an initial exacerbation. Blood pressure normal after two months.*

- *Patient L.O., male, 52 years old; diagnosis: brain tumor: equilibrium disorders, severe depression, epileptic seizures, difficulty in concentrating, difficulty in finding the correct word, highest nursing classification. Results of MRS therapy: After an initial exacerbation, the patient showed an improvement in all areas after four weeks and was able to reduce his use of medication. MRI: The tumor has not grown any more. His sleep disorders and difficulty in concentrating have been eliminated and he no longer has any difficulty in finding the correct word.*

4. Thanks to Mr. Reinhard Schlag

- *Patient, 12 years old; diagnosis: hyperactivity. Results of MRS therapy: After the treatment, the patient experienced mild headaches and became very fatigued. He returned late that afternoon and his mother reported to me that her son had slept deeply for about five hours and was then much calmer and was not so nervous.*

- *Patient M.H., female 36 years old; diagnosis: "For five years, I have been experiencing a tightness around my heart with the least exertion and a fear of death. All clinical studies have shown no findings of disease, so my doctor sent me to a psychotherapist. With his help, I have been able to relieve my neurosis about my heart." Results of MRS therapy: "Since I have been using MFT, I am feeling very good again, and my heart symptoms have disappeared."*

5. Thanks to Mrs. Ursula Lange

- *Patient R.H., female 63 years old; diagnosis: difficulty in falling asleep and sleeping through the night. Results of MRS therapy: "I have experienced positive changes in all my sleep habits very rapidly, and it is now much easier to fall asleep and sleep through the night. When I wake up, I fall back to sleep quickly. I now sleep seven to eight hours, whereas in the past I would sometimes sleep only three hours or not at all."*

6. Thanks to Mr. Rudolf Frauenberger

- *Patient H.B., 67 years old; diagnosis: sleep disorders. Results of MRS therapy: "I fall asleep much more easily and I feel much better."*

7. Thanks to Mr. Siegfried Muhry

- *Patient E.G., female 40 years old; diagnosis: "After being pregnant, I was unable to hold my urine and I had been having sleeping problems for several years." Results of MRS therapy: "I began the treatments two weeks after giving birth. From the beginning, I noticed an improvement, and after about 3 1/2 months, my bladder*

problems were eliminated. My sleeping problems have improved 100 %."

8. Thanks to the company Medline

• *Patient K.J., female, 73 years old; diagnosis: pain and stiffness in the joints. Results of MRS therapy: "After a few months, I can say that despite my age of 73, each day has become a day worth living. I have almost completely stopped taking sleeping pills (which I had taken since a myocardial infarction)."*

9. Thanks to Mrs. Beate Martina

• *Patient M.P., female, 83 years old; diagnosis: Sleep disorders, mild depression, pain. Results of MRS therapy: Her sleep disorders and depression were eliminated within a very short period of time.*

• *Patient B.H., female, 44 years old; diagnosis: Severe sleep disorders, intense outbreaks of perspiration day and night. Results of MRS therapy: After about two to three weeks, her sleep disorders improved and she was perspiring much less.*

10. Thanks to Mrs. Dagmar Weissenbacher

• *Patient L.H. P., male, 55 years old; diagnosis: Severe sleep disorders, agitation. Results of MRS therapy: "After about three weeks, I have slept through the night again and I have more appetite than before. I feel much fresher and recovered, with greater endurance."*

11. Thanks to Mrs. Gabriele Friedrich

• *Patient E.B., male, 29 years old; diagnosis: Nervous agitation, sleep disorders, circulatory disorders, high blood pressure, headaches, tension. Results of MRS therapy: "The first time I used it, I felt a pleasant warm feeling and I was relaxed. My headaches disappeared. I feel more balanced and calmer. My sleep disorders, circulatory problems and high blood pressure have normalized. The tension in the neck and shoulder area disappeared and my joint pain also disappeared."*

12. Thanks to Mrs. Franziska Engeli

• *Patient T.S., male, 69 years old; diagnosis: Severe exhaustion with even slight physical exertion. Fatigue and all the symptoms of depression, sweating on awakening in the morning and during breakfast. Results of MRS therapy: An improvement in overall condition in the 1st through 7th weeks; exhaustion, fatigue and heavy perspiration have stopped completely.*

• *Patient A.K., male; diagnosis: Snoring. Results of MRS therapy: His loud snoring has changed to mild snoring or deep breathing.*

• *Patient H., male, 60 years old; diagnosis: agitation, nervousness. Results of MRS therapy: pleasant relaxation.*

Appraisal of MRS: **70 % good to very good results in sleep disorders, 50 % good to very good results with other psychological disorders.**

15. Diseases of the skin

Effect of MFT on skin diseases:

soothing, balancing effect through the autonomic nervous system, promoting circulation, preventing inflammation, relieving pain and itching, stimulating the connective tissue cells to rapid wound healing, strengthening the immune system and balancing it through the autonomic nervous system.

Proper use of MRS for skin diseases

- Whole-body mat: 3-4 times daily for 16 minutes each time: 50 % level in the morning (increasing gradually from 10 %), 25 % level at noon, 10 % level in the afternoon, sensitive level in the evening
- Pad or probe: 2-3 times a day for 24 minutes each time: 100 % level (gradually increasing the dose) at the local problem zones

The pad and the probe are not obligatory, and use of these applicators should be coordinated in time with the use of the mat.

- Forms of therapy supportive of MFT: urine therapy, homeopathy, TCM, aroma therapy, bioresonance, NLP, ayurvedic medicine, saline therapy, vitamins and trace elements (vitamin E, zinc), herbal therapy (evening primrose oil, borage oil, aloe vera, smilax, gotu kola, nigella oil, astragalus root), shark cartilage extract
- Notes on the initial reaction: In rare cases, there may be brief increased redness or itching. Increase dose gradually!
- Special notes on use: Drink lots of fluids! Check pH of urine.

Studies, physician reports and patient reports:

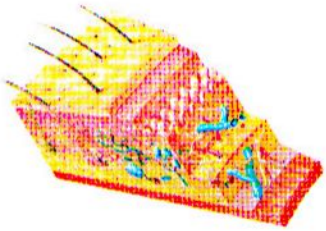
see individual diseases

Basic treatment for skin diseases

15.1. Acne

More than 70 % of young people suffer from acne during puberty. Normal acne occurs when a hair follicle becomes clogged due to excessive production of sebum. Since skin bacteria can reproduce especially well in a plug of sebum in a pore, they quickly cause an inflammation, appearing as a red elevated area on the skin with a central yellow pustule.

There are approximately 600 sebaceous glands in one square centimeter of skin on the face, neck and back. If the inflamed plug of sebum comes in contact with air, it becomes black, while the whitish ones remain beneath the surface of the skin. Sebum glands do not produce the same amount of sebum in all people. During puberty, there is increased production of sebum due to increased production of sex hormones in the body. Acne is caused by hormones and birth control pills which contain progesterone also cause acne. Many women's faces break out with pimples in the days before their menstrual period because of the hormone changes. Contrary to popular opinion, fatty foods, chocolate and sweets do not have anything directly to do with acne. A role might be played by an unhealthy diet, excessive stress and a poorly functioning digestive system (liver, spleen, intestine) which does not eliminate toxins from the body by the normal route, but instead secretes them through the skin.



Skin

Acne rosacea is a skin condition caused by ruptured blood vessels. Red cheeks, a red nose, occasional swelling and pimples are typical features. In severe cases, the nose may become enlarged and deformed. In most cases, this form of the disease occurs after the age of 30, mainly in women and people who blush easily. The actual cause is still unknown, but it is known that sunlight, alcohol, caffeine and cheese can trigger this form of acne.

This mild form of acne can be treated with a cream or lotion to remove the oil and open the pores. Benzoyl peroxide, antibiotics and vitamin A derivatives are the medications used most commonly. Antibiotics should be taken over a long term, with the dose being reduced gradually at the end to prevent another flare up of the acne. Estrogen in pill form is often prescribed for women to establish a hormonal balance.

Effects and correct use: see beginning of this chapter.

Scientific studies on the treatment of acne with MFT

- R.A. Drolet: "Thumart Therapy: A Non-Invasive Cell Regeneration Ion and Anti-Inflammatory Therapy Using Electromagnetic Fields," Bioelectromagnetics Society, 4th Annual Meeting, Los Angeles. - This article emphasizes the positive effects of magnetic fields, in particular the anti-inflammatory, cell-regenerating, sedative and pain-relieving effects.
- Additional studies: see other diseases in this chapter.

Physician reports on the treatment of acne with MF

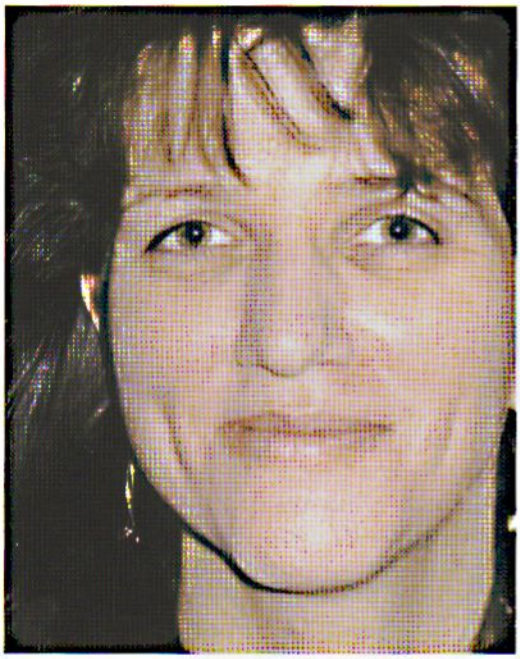
1. Dr. Lutz Ammerer, M.D.

- *Patient, female, 48 years old; diagnosis: After removal of a tumor, a dark red, cosmetically unattractive scar keloids developed with pain on pressure despite the use of various "scar creams." Results of MRS therapy: The scar became soft and was no longer tender or red after ten treatments with concomitant intracutaneous injections of "Traumeel".*

Patient reports on the treatment of acne with MRS

1. Thanks to Mr. Gerhard Kniepeiss

- *Patient S.R., female, 36 years old; diagnosis: "For 15 years I had severe acne on my face. Sometimes the symptoms were so bad that I had to take strong cortisone preparations. The condition would improve somewhat after taking cortisone, but the acne would return. Results of MRS therapy: "My condition actually worsened in the first weeks of treatment. Concomitant use of Alga-Vital und lapachol at first made it worse: my face actually hurt and itched a lot. The first improvement occurred after four weeks, and then after four months, my acne symptoms disappeared except for some redness, and after six months even the redness disappeared and now I can laugh again."*



Acne before and after MFT

• *Patient D.M., male, 51 years old; diagnosis: acne pustules on the face since the age of 46 despite taking birth control pills (reason: estrogen deficiency). Results of MRS therapy: After one year, 100 % pain free and fully employed again. Perceptible improvement in energy balance, concentration and attention. Acne pustules on the face disappeared after the eighth week and face still remains clear today.*

Appraisal of MFT: **65 % good to very good results**

15.2. Decubital ulcer, ulcers on the hands and gangrene

A decubital ulcer developes due to local pressure damage to the tissue as a result of lying for a long time (patient immobilized), with the destruction of the tissue or cells being caused by the weight of the patient's body. The tissue over bony projections such as the heels, ankles, thigh, sacrum, elbow and shoulder blade are especially at risk. Risk factors include immobility, e.g., after paralysis, dementia, motor and sensory failure after a stroke, circulation disorders, e.g., in diabetes and arteriosclerosis, edema with defective vein valves and obesity. The most important treatment here is nursing care, constantly relieving the pressure on the patient (turning them every two to three hours and ensuring a balanced intake of nutrients). If a pressure sore has already developed, an attempt must be made to treat the wound as well as possible to allow it to close. MFT is a valuable support here.

Gangrene is understood to be the spontaneous destruction of tissue and skin, usually as a result of inadequate circulation. Gangrene occurs mainly in the extremities, especially as a consequence of peripheral occlusive arterial diseases, diabetes mellitus and frostbite or with a variety of different infections. Amputation is often the best treatment option.

Scientific studies on the treatment of skin ulcers with MFT

• C.A. Salzberg et al.: "The Effects of Non-Thermal Pulsed Electromagnetic Energy on Wound Healing of Pressure Ulcers in Spinal Cord-Injured Patients: A Randomized, Double-Blind Study," Wounds: A Compendium of Clinical Research and Practice, 7(1), 1995, pp. 11-16. - This double-blind, placebo-controlled study documents the fact that the

treatment with non-thermal pulsating electromagnetic fields accelerates wound healing, especially in spinal cord injuries. The patients were suffering from level 2 and 3 pressure sores on the skin. The patient was obviously successful after 12 weeks: almost all patients showed a definite improvement, and in most cases the wound had closed completely.

- R.V. Galimzianov: "Laser and Electromagnetolaser Therapy for Trophic Ulcers of the Lower Extremities in Chronic Venous Insufficiency," Vestn Khir Im I I Grek, 152(5-6), 1994, pp. 70-72. - The results of this study show that daily use of electromagnetic fields together with the laser shortens healing time for ulcers on the lower extremities to 18 days. By comparison, healing time in the control group was 26 days.

- S. Comorosan et al.: "The Effect of Diapulse Therapy on the Healing of Decubitus Ulcer," Romanian Journal of Physiol., 30(1-2), 1993, pp. 41-45. - This scientific study shows the results of treatment with magnetic field therapy in bedridden patients with decubital ulcers and similar skin ulcers.

- A.V. Alekseenko et al.: "Use of Magnetic Therapy Combined with Galvanization and Tissue Electrophoresis in the Treatment of Trophic Ulcers," Klein Khir (7-8), 1993, pp. 31-34. - MFT was investigated on 86 patients with skin ulcers. On the basis of the study results, the author recommends the use of MFT for skin ulcers on the lower extremities.

- M.J. Stiller et al.: "A Portable Pulsed Electromagnetic Field Device to Enhance Healing of Recalcitrant Venous Ulcers: A Double-Blind, Placebo-Controlled Clinical Trial," British Journal of Dermatology, 127(2), 1992, pp. 146-154. - This double-blind, placebo-controlled study reports on the results of treatment with pulsating electromagnetic fields in treatment of leg ulcers of venous origin.

Physician reports on the treatment of skin ulcers with MF

1. Dr. Helmut Ornig, M.D., Surgical Department of the Elizabeth Hospital of Graz

• *Patient M.O., 30 years old; diagnosis: Transverse lesion of the spinal cord with paraplegia after a sports injury, tetraplegia, decubital ulcer, constant sleep disorders, occasional cramps, residual urine up to 200 mL, recurrent urinary tract infections, loss of drive. Results of MRS therapy: No more sleep disorders, good fitness, decubital ulcer completely healed, hardly any more cramps, no residual urine and no more urinary tract infections. The patient feels good and energetic.*

2. Dr. Ursula Miggitsch, M.D., general practitioner, Graz

• *Patient C.J., male, 66 years old; diagnosis: Gangrene of the toe, sleep disorders. Results of MRS therapy: The sleep disorders have improved significantly and the patient is no longer taking any medication. The gangrene wound on the toe is showing definite signs of improvement.*

3. Practical team Dr. Johnston, M.D., Borken

• *Patient, female, 60 years old; diagnosis: The patient has a long medical history: venous insufficiency and 4th degree varicose veins, a recurrent ulcer on the lower leg, surgery for varices in May 1998. An incipient fibrous crural ulcer was confirmed. Results of MRS therapy: Patient free of symptoms after four treatments, swelling visibly subsiding. Ulcer developing granulation without a coating.*

Patient reports on the treatment of skin ulcers with MRS:

1. Thanks to Mrs. Maria Pfeifer

• *Patient M.D., male, 35 years old; diagnosis: Primary illness diabetes and the resulting poor wound healing. Due to his occupation, the wound could not heal undisturbed and the inflammation could not subside. Loss of feeling in the area of the soles of the feet for many years. Amputation of his foot in the future was being considered by his doctor. Results of MRS therapy: "After just one week of treatment, the feeling returned to the soles of my feet for the first time in four years. Each treatment is accompanied by a tingling in the feet. Wound closure is also progressing slowly. In the meantime, my headaches and sleep disorders which I have had for many years have also disappeared. My blood sugar levels have improved and the improved circulation in the soles of my feet has persisted, with the wound beginning to close and the inflammation subsiding. Meanwhile, the wounds have closed and I can again put weight on my foot."*

Left: before MRS therapy; right: after MRS therapy

Above: before MRS therapy; below: after MRS therapy

• *Patient, male, H.D., 78 years old. Diagnosis: Open leg ulcers for several years. Results of MRS therapy: the ulcers on his calves closed after six weeks and the color of his calves also improved.*

2. Thanks to Mr. Dipl. Ing. Dietmar Hauser

• *Patient, male; diagnosis: diabetes, circulation disorders, ulcers on both legs, signs of inflammation on the right foot, sleep disorders. Results of MRS therapy: "After one week of treatment, I began to have feeling in both soles of my feet (tingling) for the first time in four years. My headache improved. The wound began to close slowly. After three months of treatments, my diabetes test values also improved. Circulation in my feet improved, healing of the ulcers progressed smoothly and the inflammation disappeared. My sleep improved and the rheumatism in my shoulder disappeared."*

3. Thanks to Mrs. Ursula Lange

• *Patient M.D, male, 35 years old; diagnosis: "Because of diabetes, the ulcer wounds would not heal and the inflammation would not go down, especially on the right foot. In addition, he had lost feeling in his feet many years previously. Physicians had not ruled out the possibility of amputation of the foot." Results of MRS therapy: In combination with laser therapy, the wounds on the right and left feet closed. There was a remarkably rapid increase in feeling in the area of the sole after just one week. The inflammation disappeared. Immobilization of the foot (recommended by the physician) was impossible because of his hard work as a businessman. The top side of the foot has also healed.*

• *Patient M.M., female, 78 years old; diagnosis: Chapped skin on the tips of the fingers, age-related impairment in the motor system. Results of MRS therapy: The tension was quickly relieved, mobility improved. No more cracks on the fingertips. The age-related impairments have been improved, resulting in a better quality of life.*

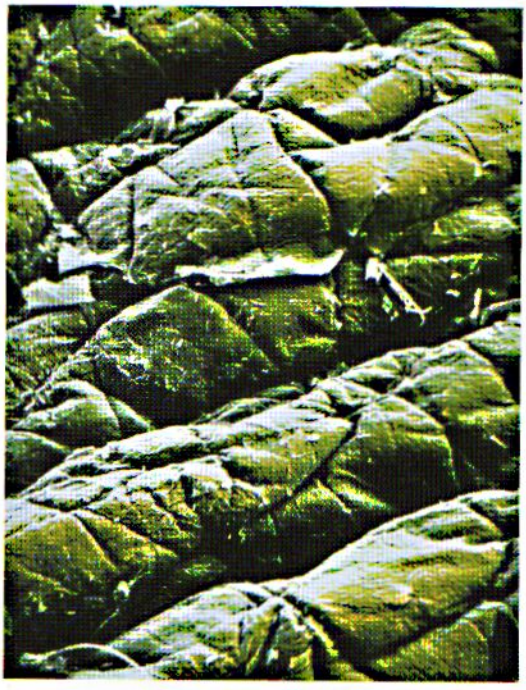
• *Patient B.H., female, 28 years old; diagnosis: Fatigue and depression due to irregular work hours, problematical varicose veins, especially esthetically, painful legs, dryness of all the skin on her body. Results of MRS therapy: "I was restored to a normal day-and-night rhythm and I was no longer so tired. The feeling of heaviness and the tension were reduced. My dry skin improved."*

Appraisal of MFT: **70-75 % good to very good results**

15.3. Eczema

The term eczema includes various skin conditions. Eczema usually occurs on hands, ears, feet and legs, but it may affect any part of the skin. Typical symptoms include itching and flaking spots and blisters. The tissue hormone

histamine is released when eczema develops, causing dilation of blood vessels and the release of more white blood cells (lymphocytes) into the corresponding region. As a result of the efflux of fluid, the skin swells, becomes red and begins to itch.



Skin surface under the electron microscope

Contact eczema, which occurs on coming in contact with certain substances (such as chemicals, suntan lotion, shampoos, cosmetics, latex, nickel, chromium, adhesive bandages, plants, wool), is often caused by constant washing and drying and by cold and dry conditions. Ammonia dermatitis is classified as a contact eczema and it is often caused by wet diapers and irritation due to urine or feces. In this case, the skin should come in contact only with cotton. Skin-on-skin eczema occurs especially in overweight people. This contact eczema occurs due to rubbing of the skin together with perspiration. Atopic eczema occurs very often in children, 50 % of whom also have asthma. These types of eczema may be caused by different triggering factors: house dust, tree pollen or grass pollen, fungus spores, animal hair and dander, feathers, detergent powder, softeners, perfumed skin cream, shampoos and suntan lotion, chemicals, food additives, various foods (cow's milk, eggs, nuts, shellfish, rice), etc. In seborrheic eczema, scabs of thick brownish yellow, fatty flakes or scabby red spots develop on the skin, behind the ear, in the eyebrows or in folds of skin. This type of eczema, which also occurs in babies, normally heals spontaneously by the age of two. Varicose eczema occurs when varicose veins do not bring enough oxygen and nutrients to the affected area. It is important to eliminate the causes of the respective eczema before treatment. This is not always easy with atopic eczema, however. Medication applied to the skin helps only relieve the symptoms but does not cure the eczema.

Scientific studies on the treatment of eczema with MFT:

see other diseases in this chapter

Physician reports on the treatment of eczema with MF

1. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., 1080 Vienna, Breitenfeldergasse 10, tel. 0043/1/40 666 00

• *Patient I.S., male, 40 years old; diagnosis: Thyroid dysregulation, occupationally induced contact eczema, pruritus, rash. Results of MRS therapy: After six weeks, there was a slight improvement in the symptoms of contact eczema. The patient falls asleep very well and is more balanced autonomically. The rash has faded somewhat and the pruritis occurs only in the evening. The rash was cured after three months.*

Patient reports on the treatment of eczema with MRS

1. Thanks to Mr. Max Keiser und Mrs. Verena Singer

• *Patient, female B., 70 years old. Diagnosis: allergies, hay fever, eczema. Many forms of therapy had been absolutely unsuccessful. Results of MRS therapy: The eczema improved.*

2. Thanks to Mr. Werner Mayrhuber

• *Patient G.E., female; diagnosis: eczema. Results of MRS therapy: "Eczema on the hands, which never disappeared despite repeated at-*

tempts at treatment, flared up massively and then subsided again. I am aware that some moore of these sometimes painful and unpleasant initial exacerbations will occur, but now that I know this is what I have to go through to rid my body of these old problems, it is also much easier to tolerate them."

15.4. Furuncle

A furuncle is a purulent inflammation of a hair follicle which spreads to the surrounding area and can form an abscess. If this develops at the same time in several sebaceous glands, lesions the size of the palm of the hand develop; these are called carbuncles. A furuncle is harmless at first. Due to the inflammation, a reddish circle develops with pulling pain and then a nodule develops. The deeper tissue is also affected by the inflammation. After three to four days, pus begins to flow out of the furuncle and the pain and inflammation subside. Finally, the plug formed from the destroyed tissue is ejected. Furuncles occur especially in the area of the neck and are especially unpleasant in the buttocks and on the lips. Repeated development of new furuncles is called furunculosis. Diabetics and obese patients are especially at risk. The pus-forming bacteria (staphylococci) play only a triggering role; the primary cause is a metabolic disorder. Therefore, a prerequisite for having no more furuncles is to correct the metabolic dysfunction. Existing furuncles must be disinfected thoroughly to prevent them from spreading. Antibiotics are often used. In carbuncles which fuse, surgical incision and subsequent drainage of the pus are necessary. With regard to dietary measures, it is important to have a high-fiber diet.

Scientific studies on the treatment of furuncles with MFT

- Y.L. Arzumanov: "An Overview of the Third Workshop 'Use of Millimeter Waves in Medicine'," Millimetrovie Volni v Biologii i Medicine (3), 1994, pp. 104-7. - This summary of various studies shows that low-frequency and low-energy MFT is very suitable for treatment of chronic furunculosis.

Physician reports on the treatment of furuncles with MFT

1. Dr. Kowalewsky, M.D., Berlin

- *Patient, male, 31 years old, cyclist; diagnosis: chronic sitting problems (folliculitis no abscesses) for five years, poor wound healing and numerous wound infections. Surgical removal of an egg-sized abscess under general anesthesia, then open treatment with Braunol ointment dressings. Results of MRS therapy: After two weeks, complete wound closure, leaving a scar 2 cm long and 0.5 cm wide. Soft and painless connective tissue below the scar. The patient was able to resume cycling training four weeks after the surgery. Evaluation: Unusually rapid wound healing.*

Patient reports on the treatment of furuncles with MRS

1. Thanks to the company Vita-Life

- *Patient B.P., male, 55 years old; diagnosis: Severe skin problems affecting his face - redness, impurities, sensitive skin; severe hair loss after the treatment but no improvement in his skin. Results of MRS therapy: "After about three weeks, I can sleep through the night well, and my skin problems have visibly improved (friends have been asking about the treatments). I feel much fresher, recovered able to endure much more."*

Appraisal of MFT: **75 % good to very good results**

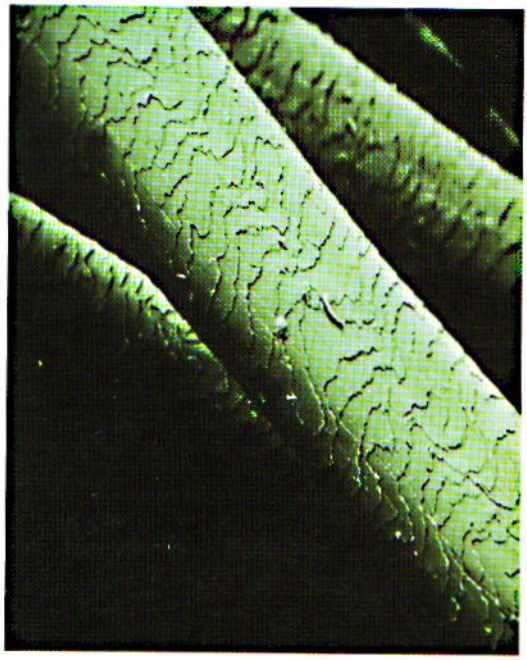
15.5. Alopecia (hair loss)

There are various forms of alopecia or hair loss - circumscribed areas or baldness over a large area. The causes are usually unknown.

Scientific studies on the treatment of alopecia with MFT

- W. S. Maddin et al.: "The Biological Effects of a Pulsed Electrostatic with Specific Reference to Hair: Electrotrichogenesis," International Journal of Dermatology, 29(6), 1990, pp. 446-50. - This double-blind, placebo-controlled study investigated men with alopecia to determine the effect of MFT. After 36

weeks of treatment, it was found that the hair loss was stopped and new hair growth was promoted.



Hair

Physician reports on the treatment of alopecia with MF

1. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0043/40 666 00

• *Patient, female, 35 years old; diagnosis: Butterfly rash on her face for the last eleven years, hair loss, frequent infections - had tried everything to treat it for years. Results of MRS therapy: After 15 weeks, the redness was greatly reduced, her general condition improved significantly and the hair loss was stopped.*

Patient reports on the treatment of alopecia with MRS

1. Thanks to Mr. Max Keiser und Mrs. Verena Singer

• *Patient R., female, 97 years old; diagnosis: alopecia, age-related susceptibility. Results of MRS therapy: The hair loss was stopped, and the susceptibility had improved greatly.*

• *Patient T.S., male, 84 years old; diagnosis: arthrosis, angina pectoris, circulation disorders, alopecia. Results of MRS therapy: Great improvement in mobility, the constricted feeling due to angina pectoris and circulation disorders. "I have more energy and enthusiasm. The hair loss has been stopped and I now have a denser hair structure and also stronger fingernails."*

• *Patient B.A., male, 44 years old; diagnosis: Pain, depression, dizziness, hair loss on both legs. Results of MRS therapy: Free of symptoms in the area of the lumbar spine, headaches and dizziness now occur only occasionally and to a slight extent. Hair on both legs has grown back in completely.*

Appraisal of MFT: **40-50 % good to very good results, depending on cause**

15.6. Gangrene

see chapter "Decubital ulcers" und "Skin ulcers"

15.7. Lupus erythematosus

This relatively common skin disease is a so-called collagenosis and affects mainly younger women, but the cause is unknown. The clinical picture is very complex and may be associated with fever, weakness and weight loss. In 90 % of the cases, it is accompanied by inflamed joints, in 75 % of the cases there are skin symptoms with the typical butterfly pattern of facial redness on the cheeks. In addition, renal changes and disorders in the area of the cardiovascular system and the nerves may also occur.

Scientific studies on the treatment of lupus erythematosus with MFT

• I.V. Khamaganova et al.: "The Use of a Pulsed Magnetic Field in the Treatment of Lupus Erythematosus," Ter Arkh, 67(10), 1995, pp. 84-87. - This report summarizes the results on treatment of patients with lupus erythematosus with magnetic fields. The results show that this treatment is beneficial due to its anti-inflammatory, pain-relieving and im-

munostimulating effects and the positive influence on microcirculation.

• V.D. Siorov, S.B. Pershin: "Immunomodulation Effect of Microwaves and Ultrahigh Frequency Electric Fields in Patients with Systemic Lupus Erythematosus," Bioelectrochem Bioenerg, 20, 1993, pp. 327-30. - This double-blind, placebo-controlled study investigated the effects of high-frequency magnetic fields in the treatment of patients with systemic lupus erythematosus. 26 patients were treated with MFT, 11 patients served as the control group. In 66 % of the patients treated with MFT, there was an improvement or a complete cure of muscle pain, painful contractions and joint pain.

Physician reports on the treatment of lupus erythematosus with MRS

1. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0043/40 666 00

• *Patient, female, 35 years old; diagnosis: Butterfly erythema on the face for eleven years; hair loss, frequent infections - had tried everything for many years. Results of MRS therapy: After 15 weeks, the redness was greatly reduced, her general condition had improved greatly and the hair loss was stopped.*

Patient reports on the treatment of lupus erythematosus with MRS

1. Thanks to the company Vita-Life

• *Patient M.M., female, 36 years old; diagnosis: "I have been suffering from lupus for ten years. My skin has been aged greatly by the disease and by cortisone; it is very thin and cracks easily. The redness on my face and the problems with my kidneys are the worst effects." Results of MRS therapy: "I have been receiving MFT treatments consistently for one year. My skin began to improve significantly after an initial reaction, especially on my face. Today my skin is smooth, almost like a baby's. My kidney values have also become somewhat better."*

Appraisal of MFT: 60-70 % good to very good results

15.8. Neurodermatitis

Neurodermatitis is also known as atopic dermatitis. It is a chronic recurrent inflammatory skin disease occurring in 3-4 % of the population. There is still no known cause of neurodermatitis. The disease usually begins in the first two years of life, especially after the age of three months. In general, this condition improves during puberty. Actual skin changes occur primarily due to scratching, because this condition involves a very severe itching. Acute psychological stressors often trigger an attack. In children, mainly the inside of the elbow and the hollow of the knee are affected; in adults, it usually affects the face, neck, upper torso and the backs of the hands.

Various forms of treatment have been used for neurodermatitis: UV radiation, treatment with oil baths and emulsions that are not too greasy, an individually adjusted diet, a lot of sun (high mountains). Use of magnetic field therapy is accompanied by amazing success. Although the neurodermatitis does not heal, the symptoms can be relieved (fewer efflorescences on the skin and longer intervals until a new efflorescence develops).

Scientific studies on the treatment of neurodermatitis with MFT

• V.P. Adaskevich: "Effectiveness of the Use of Millimeter-Range Electromagnetic Radiation in Complex Treatment of Atopic Dermatitis Patients," Millimetrovie Volni v Biologii I Medicine (3), 1994, pp. 78-81. - This study investigates the effects of MFT in combination with conventional treatment methods on patients with neurodermatitis. The results show that MFT was tolerated very well by all patients and an improvement in redness could be seen after 7-8 treatments. In 78 % of the patients treated with the combination therapy, there was a persistent improvement in the disease. Only 23 % of those treated had a relapse after two years of treatment, whereas 54 % of those in the control group had a relapse.

Physician reports on the treatment of neurodermatitis with MF

1. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0043/1/40 666 00

• *Patient, female, 2 months old; diagnosis: neurodermatitis. Results of MRS therapy: The mother would lie down on the mat with her baby. There was a definite improvement in the infant's condition, itching was greatly reduced and consequently there were no more scratch wounds.*

• *Patient, female, 11 years old; diagnosis: Neurodermatitis combined with nervousness and sleep disorders. Previous treatment: cortisone and diet for many years. Results of MRS therapy: After only ten days of treatment, the itching stopped; after 14 more days, the symptoms were definitely subsiding, the skin efflorescences (redness) had disappeared completely and the child acts like she has been reborn.*

Patient reports on the treatment of neurodermatitis with MRS

1. Thanks to the company Vita-Life

• *Patient B.H., female 44 years old; diagnosis: Severe generalized neurodermatitis. Results of MRS therapy: After three weeks, her skin became lighter and finer and was not as swollen. However, she did experience a lot of itching.*

• *Patient T.F., female, 11 years old; diagnosis: Neurodermatitis since birth. Cortisone treatment led to dissatisfaction, nervousness and sleep disorders. Results of MRS therapy: After ten days of treatments, the itching has stopped. After 14 more days, the condition was under control. The patient is energetic, happy and much more satisfied with herself and her environment.*

Appraisal of MFT: **60-70 % good to very good results**

15.9. Psoriasis

Psoriasis is a form of squamous dermatosis. It is the most common skin disease of all. Approximately 2-3 % of the population suffer from it, but it is assumed that there are many undetected cases in addition to this figure. It is characterized by reddish brown areas of skin, covered with silvery flakes. Psoriasis is not contagious, but it is hereditary. If both parents have psoriasis, the child has a 50 % probability of having it as well. Psoriasis is a defect of the skin where the cells of the skin or flakes are formed too quickly. It takes them only five to six days to move from the bottom layer of skin to the skin surface. On the skin surface, they combine with cells that have already died, causing the typical redness. The cause is unknown. Perhaps stress and a disturbance in the immune system have an influence because a simple sore throat, occupational stress, wounds, hormone changes due to oral contraceptives, a pregnancy, menopause, alcohol, drugs or sunlight can trigger psoriasis. The characteristic skin lesions, reddish spots with white flakes the size of a coin are usually found on the elbows and on the extensor surface of the knee. These skin manifestations may be accompanied by an unpleasant itching. The disease itself is not threatening, but these patients suffer from social pressure: curious questions, disgust, etc. The disease proceeds in attacks, often flaring up again after many months. Medication cannot cure this disease. The traditional medical treatment is limited purely to the symptoms. Ultraviolet radiation (PUVA), the UVA radiation of the sun, especially around the Dead Sea (396 meters below sea level) can relieve symptoms. It is known that the disease is exacerbated by emotional influences, but it may also be improved. Treatment with fumaric acid, a substance used in conjunction with a special diet, is a recently developed form of therapy. Considerable success has been achieved with it. In severe cases, cytostatics and cortisone must be used. Sarsparilla root is used as a supportive herbal and homeopathic remedy.

Magnetic field therapy yields very good results in the treatment of psoriasis, especially in the months of April and May. It is long-term therapy.

Scientific studies on the treatment of psoriasis with MFT

• Y.L. Arzumano: "An Overview of the Third Workshop 'Use of Millimeter Waves in Medi-

cine,'" Millimetrovie Volni v Biologii I Medicine (3), 1994, pp. 104-107. - This review article emphasizes the excellent effect of MFT on psoriasis.

• R. Castelpietra et al.: "Initial Experiences in the Treatment of Psoriasis with Pulsating Magnetic Fields," Ospedale die Bambini [Children's Hospital] V. Buzzi, Milan. Minerva Med. - The ability to achieve therapeutic success with pulsating magnetic fields in psoriasis was investigated on 110 patients. The best results were achieved in the area of the head and hair (100 % good results), in the typical locations/joints: 73.7 % in men and 75 % in women. The best results were achieved by people in the 2nd, 5th and 6th decades of life. The prospects for success were better, the longer the disease had been in existence in a given patient. These results showed the best results when treatment was performed in the period of March/April. No side effects were reported.

Physician reports on the treatment of psoriasis with MF

1. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, tel. 0043/1/40 666 00

• *Patient, female 36 years old; diagnosis: Severe psoriasis vulgaris for 24 years. After several years of taking medication, the patient is refusing to take any more medication because of side effects. Light therapy is the only treatment that has brought her any relief. Results of MRS therapy: After six months of intensive therapy, there has been a slight tendency toward an improvement; after eight months, the skin symptoms have largely disappeared. The patient has made it through the first winter in 24 years virtually free of symptoms.*

• *Patient M.O., 28 years old; diagnosis: psoriasis vulgaris. Findings: plaques approx. three hand widths in size on the forearms and shins, also affecting both hands. Severe desquamation, redness, some weeping cracks in the skin. Results of MRS therapy: definite improvement in desquamation, no more rhagades (cracks and fissures in the skin), incipient central fading of the erythema.*

Patient reports on the treatment of psoriasis with MRS

1. Thanks to the company Vita-Life

• *Patient E.K, female, 26 years old; diagnosis: Attacks of psoriasis vulgaris on the head and upper body area for 18 years. Treatment with corticosteroids, salicylic oil cures and PUVA brought only brief relief. Results of MRS therapy: After six weeks of treatments, there was a definite improvement in skin condition, and after three months, the patient has become completely free of symptoms.*

Appraisal of MFT: **60-70 % good to very good results**

15.10. Sweating, heavy (hyperhydrosis)

Perspiration normally serves as a thermal regulation function of the body. There may be excessive sweating during menopause, in diseases of the hormone system (e.g., overactive thyroid) and in neurological disorders (e.g., damage to the sympathetic nerve). This condition may be generalized, i.e., affecting the entire body, or it may be limited only to the armpits, the hands or feet.

Patient reports on the treatment of heavy sweating

1. Thanks to the company Vita-Life

• *Patient T.S., female, 66 years old; diagnosis: Severe fatigue with even slight physical exertion, dejection, all the symptoms of depression. Cold sweats in the morning when waking up and while eating breakfast. Results of MRS therapy: In the 1st through 7th weeks: Improvement in overall condition (with respect to fatigue and dejection). Cold sweats have stopped completely.*

• *Patient B. I., female, 37 years old; diagnosis: very severe digestive problems, menstrual complaints, circulation disorders, sleeping problems with very heavy sweating. Results of MRS therapy: No more digestive problems since the first treatment, circulation disorders improved, sleeping problems disappeared and there was no more heavy sweating.*

Appraisal of MFT: **50-60 % good to very good results**

15.11. Burns, sunburn

Three stages of burns are distinguished. A first-degree burn is characterized by a painful redness of the skin because of an inflammation with edema but without any blisters (like a mild sunburn). This burn heals without leaving a scar. A second-degree burn involves blisters due to separation of the top layers of epithelium, which are filled with protein-rich exudates and are very painful. Depending on the depth of these blisters, slight scarring can be expected, but these burns usually heal without complications. In a third-degree burn there is complete destruction of the skin (it is "baked" or even charred) extending into the subcutaneous tissue. All the appendages of the skin (brows, nails, etc.) and the sensory nerve ends are destroyed. Healing always involves scarring. First- and second-degree burns are seen most often in the boundary areas. Whether or not there are complications will depend on the depth of the burn, its extent and the patient's age. The loss of fluids/electrolytes and proteins with large-area burns is dangerous. It causes the blood to become extremely thick, with the risk of reduced perfusion in the capillary flow regions of various organs (organ shock). The kidneys are usually affected first. The energy loss may cause additional damage to the body and lead to generalized shock or kidney failure. The organ damage is exacerbated by burn toxins. The stress often leads to stomach ulcers and a bleeding tendency. Infections can develop into a life-threatening septic condition. The physical deterioration and toxicity associated with this in the patient is known as burn disease (occurring with burns over more than approximately 20 % of the body surface). Late complications include severe scarring. Keloids and contraction of the joints also occur. First aid in burns should always include rinsing with cold water (for at least 10-15 minutes), cleaning out dirt, generous replacement of fluids (immediately!) And taking the patient to the hospital.

A sunburn is a first-degree burn. A person's sensitivity to UV-B depends on the amount of protective melanin pigment in the skin. A sunburn is painful, the skin becomes red and may develop blisters. Creams and lotions help to sooth the skin. Accompanying symptoms may include dizziness, headache, nausea and a loss of fluid from the body. Until the sunburn has healed, the person with the burn should stay in the shade. The greatest risk associated with a sunburn is skin cancer, the prevalence of which has increased dramatically in recent years. It is assumed that serious sunburns change the structure of the skin and cause cancer to develop, but often not until many years later. Therefore, it is important to protect children in particular from sunburns.

Scientific studies on the treatment of burns and sunburns with MFT

- R.A. Drolet: "Rhumart Therapy: A Noninvasive Cell Regeneration Ion and Anti-Inflammatory Therapy Using LF-EM Fields," Bioelectromagnetics Society, 4th Annual Meeting. - This report describes a variety of applications of MFT listed according to the corresponding international studies. The pain-relieving effects, the improved circulation in the skin, the improved wound healing and the soothing effect are especially important.

Patient reports on the treatment of burns and sunburns with MRS

- *Patient, female, 20 years old; diagnosis: Painful burn due to touching a hot plate in a microwave oven. Results of MRS therapy: "I was pain-free after eight minutes."*

Appraisal of MFT: **75 % good to very good results**

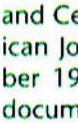
15.12. Wound healing

With any wound, the body attempts to close the resulting opening as rapidly as possible this is done through contraction of blood vessels in the immediate vicinity to minimize blood loss. In coagulation of blood, disk-shaped platelets accumulate on the connective tissue fibers of the wound edges, where they form a clot which closes the wound within three minutes. Blood platelets trigger a number of reactions. The most important

substance activated by platelets is fibrin, a protein substance in the blood which forms a fiber network around the clot and stabilizes it. Then the connective tissue cells (fibroblasts) can grow into this final thrombus and close the wound. Then the so-called granulation tissue develops beneath the wound. This tissue is rich in blood vessels but does not contain any nerves. The surrounding tissue replaces the granulation tissue over a period of time and thus closes the skin wound. The last scab is shed when healing is complete, leaving a scar with larger wounds.

Scientific studies on the treatment of wound healing with MFT

- S. Moallemi et al.: "The Effects of Continuous Short Wave Frequency of Electromagnetic Fields on Tissue Healing," Department of Biophysics/Bioengineering, Department of Pathology, Department EM Lab., Iran University of Medical Science, Teheran. 1998. - This double-blind study has shown some major differences in wound healing between the group treated with a magnetic field and the group not treated with magnetic field. The magnetic field group had a 26 % stronger tissue structure in comparison with the control group.
- M.S. Scardino et al.: "Evaluation of Treatment with a Pulsed Electromagnetic Field on Wound Healing - Clinico-Pathologic Variables and Central Nervous System in Dogs," American Journal of Veterinary Research, September 1998. - This recent study on dogs has documented the increased epithelialization of wounds under treatment with pulsating electromagnetic fields.
- Additional studies: see other diseases in this chapter.



Physician reports on the treatment of wound healing with MF

1. Dr. Ulla Sebastian, M.D., Kamen

• *Patient J.S., male, 85 years old; diagnosis: Capillary occlusion in the left foot, phlebemphraxis (a clot in the vein) in the left leg, open wounds on the big toe. The nail had to be removed because of infection. When this patient began using MRS, the wounds were six weeks old and were healing very slowly. Results of MRS therapy: After the first treatment, his nail bed wounds began to bleed. Then two wounds at the tip of the toe closed within one week. After another week, the nail bed wounds formed scabs, after three weeks the toe had good circulation and the wounds had almost healed. He can now put weight on his leg again in walking.*

Patient reports on the treatment of wound healing with MRS

1. Thanks to Mrs. Christina Mühlegger

• *Patient C.M., female; diagnosis: ugly scar since a surgery. Results of MRS therapy: The scar became very small and light.*

• *Patient M.K., male, 48 years old; diagnosis: "After tearing a tendon when playing sports, I required surgery and suturing. Unfortunately, an extremely large, ugly, red scar formed. It has remained unchanged for 15 years; it is an esthetic problem, but it also causes me pain when under stress." Results of MRS therapy: "After eight months of intense therapy, my scar is much lighter, it is no longer elevated and it appears only like a suntan."*

2. Thanks to the company Vita-Life

• *Patient E.S., male, 69 years old; diagnosis: "In July 1997 I fell on a cattle guard while walking and injured my knee. The wound was 13 cm long, 3 cm wide and went down to the bone. I received immediate care in the hospital and the*

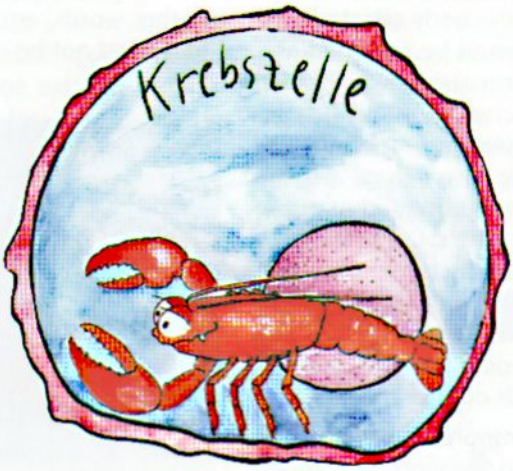
Knee: Middle of September

Knee: Beginning of October

Knee: Middle of October

stitches were removed after a week. Unfortunately, the wound opened again, but even though it was stitched up a second time, the stitches did not hold. Since the wound did not show any progress in healing, the doctors at my hospital were considering a skin graft to close the wound. One month after the accident and a couple of weeks before the planned surgery, I began the MRS therapy at a time when the wound was still showing no progress in healing." Results of MRS therapy: "Five days later, my doctor at the hospital told me when changing the dressing that he could see the first signs of granulation of the wound. Two weeks later, the wound had already healed along the 3 cm length. After about seven weeks, the wound was completely closed and I was finally spared the need for surgery."

Appraisal of MFT: more than 80 % good to very good results

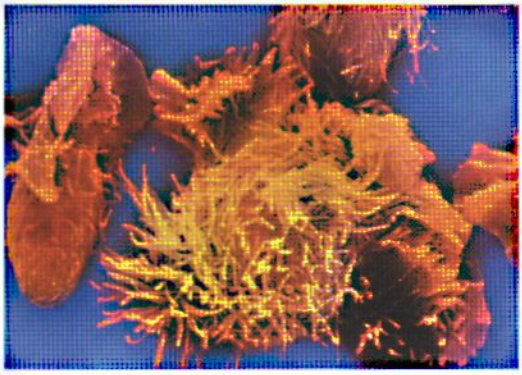


Cancer cell

16. Tumor diseases

16.1. Cancer

One out of three people will develop cancer, and one out of four will die of it. Although cancer has been in existence for centuries, more people are developing it today than before. We have identified more than 200 kinds of cancer, all of which develop by a similar pattern.



Cancer cells

Cancer develops when cell growth gets out of control. This happens when the cells are affected by carcinogens (cancer-causing substances) or when there is a sudden change in the hereditary material, so that the DNA no longer contains the necessary information for controlling cell growth. Normally any change in a cell is recognized immediately and eliminated. This selection fails to occur with the cancer cell, and uncontrolled growth of low quality cells begins. Cancer cells reproduce every 24 hours. Thus, after three weeks, there are 1 million new cancer cells which can enter healthy tissue. Tumor cells may be benign or malignant. Although benign cells reproduce, they cannot enter healthy tissue and destroy it or form metastases in the body. Malignant cells, however, are capable of penetrating into healthy tissue and spreading through the bloodstream or the lymphatic system into other organs of the body, where they multiply. Metastases (one or more) may develop in areas of the body a great distance from the parent tumor. If a tumor begins to grow in a vital organ (lung, liver), it hinders the function of that organ, which can lead to life-threatening complications.

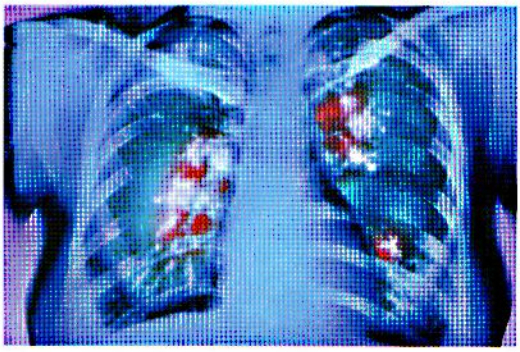
More than 70 % of cancers occur in people more than 60 years of age, but people of any age group may be affected. Leukemia, for example, occurs more often in children, testicular cancer occurs in men most commonly between the ages of 19 and 44. Cancer is hereditary to a certain extent, but it may also be caused by substances that promote cancer growth. Ninety percent of all types of cancer

involve an interaction of environment and genes. The type and seriousness of cancer depend on the organs of the body affected. The following symptoms should be regarded as a warning sign: rapid unintentional weight loss, severe recurring headaches, constant hoarseness, sore throat and swelling, constant abdominal pain or gastric discomfort, a tissue thickening anywhere in the body, changes in the intestinal or bladder area, unusual bleeding or changes, blood in the urine or mucus, a wound, scratch or ulcer that does not heal, a mole that changes in color or size or bleeds and itches, vaginal bleeding after sexual intercourse, between periods or after menopause.

An early diagnosis is important because the chances of success in healing are much greater in the early stage. There is no standard treatment in traditional medicine, but there are some more or less successful therapeutic approaches such as surgery, radiation, chemotherapy and biological therapy as well as a combination of the above-mentioned options. Surgery helps in 40 % of the malignant tumors. If an organ is affected , a radical operation is performed, i.e. the surrounding lymphatic tissue is also removed. This reduces the risk of further propagation. Radiotherapy or chemotherapy is often used before surgery to shrink the tumor and destroy cancer cells. The treatment is normally administered in several stages. In chemotherapy, cytostatic (cell destroying) medications are used; these drugs attack all rapidly dividing cells in the body and therefore they also lead to unpleasant side effects. Up to 60 % of the cancer cases could be prevented by changes in lifestyle such as stopping smoking or changes in diet. It is estimated that smoking is responsible for one in three deaths due to cancer. An estimated 35-30 % of cancer cases could be prevented by changes in diet. Skin cancer occurs much more commonly than should be necessary. This risk can be reduced drastically by avoiding direct sunlight.

16.2. Tumor

Any growth with a local increase in tissue volume, i.e., any tissue swelling is referred to as a tumor. This is often erroneously understood to refer to cancer itself, but even an unusual swelling is referred to in medicine as a tumor, in other words, a tumor may indicate cancer but it need not be cancer.



Lung tumor

Effect of magnetic field therapy on tumor diseases:

Magnetic field therapy can be used for supportive (palliative) therapy (e.g., reducing swelling or relieving pain) in tumors of a lower intensity. MFT can be used with no problems in cancer patients according to international guidelines, because the magnetic fields used in the medical area are low-energy and low-frequency energy fields (according to the American National Cancer Institute). Some studies have shown that the dose of chemotherapy drugs can be greatly reduced in breast cancer. According to other studies, the magnetic field is used most successfully in treatment of bone tumors (osteosarcomas), leukemia, brain tumors and lymphomas. It is noteworthy that the magnetic field probably cannot have a direct effect on cancer, but it strengthens mainly the immune system so the body can strengthen its defense against the invading cancer cell. MFT can be used as a supportive measure before and after operations.

Proper use of MRS for tumor diseases

• Whole-body mat: 3-4 times a day for 8 minutes each time: 50 % level in the morning, 25 % level at noon, 10 % level in the afternoon, sensitive level in the evening.

• Forms of therapy supportive of MFT: thymus extracts, cognitive therapy, vitamins and trace elements (vitamin B12, folic acid, manganese), essential fatty acids (salmon oil, flaxseed oil), shark cartilage extract, organic germanium; antioxidants for cell protection (including coenzyme Q10, vitamin C, vitamin E, zinc, selenium, alpha-lipoic acid, grape seed extract).

Whole-body treatment for tumor diseases

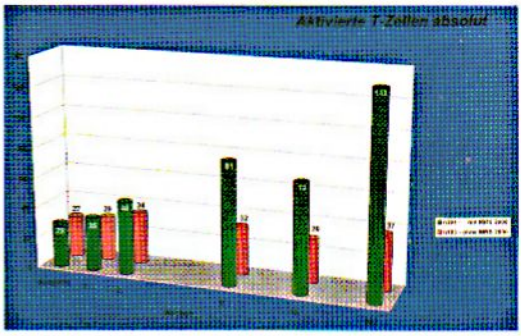
• Special instructions on use: Cancer can be conquered only from the inside out. MFT does not work miracles, but it can be of assistance.

• Duration of treatment: the best results are achieved after 4-5 months.

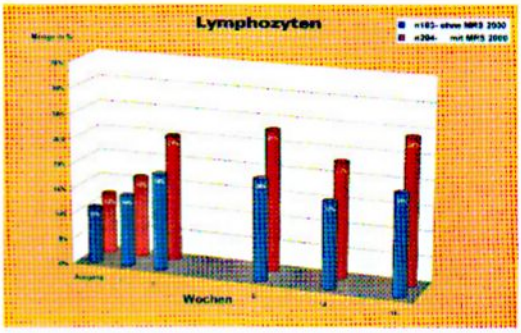
• Notes on the initial reaction: none

Scientific studies on the treatment of tumor diseases with MFT

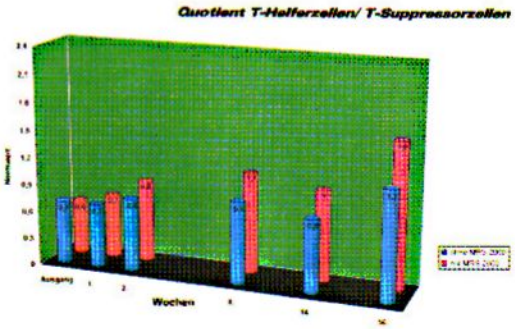
• Frank Daudert, physician in Bad Aibling at Rosenheim, divided more than 300 patients with epithelial tumors into two groups and treated one of the two groups additionally with the MRS-2000 plus med device. The treatment was otherwise identical for both groups (vitamin and mineral infusions, immune stimulation, oxygen flooding therapy, etc.). People with the following criteria were used for this study: advanced cancer, people who had exhausted the usual resources of traditional medicine and people with greatly reduced immune competent cells (less than 50 %). The treatment was administered over a period of two weeks with a repetition after three months. The test results on the blood specimens, which were analyzed by an independent clinical laboratory, yielded comparable values between the two groups. As confirmed by the following graphs, it was found that the buildup of the immune system could be significantly accelerated with the help of magnetic field therapy. This study was presented to the public in September of 1998 at the Second International Congress for Energy Medicine in Seefeld in Tirol. The following graphs emphasize once again the most important results and comparable values between the two groups.



Activated T cells: Green: MRS-group; red: controlling group



Lymphocytes: blue: without MRS; red: with MRS



Helper T cells / Suppressor T cells: blue: without MRS; red: with MRS (Study: F. Daudert)

• Y. Liang: "Enhanced Potency of Daunorubicin Against Multidrug Resistant Subline KB-ChR-8-5-11 by a Pulsed Magnetic Field," Department of Radiology, Research and Nuclear Medicine, Medical College of Georgia, Augusta 30912, USA, Anticancer-Res, 1997 May-June, Vol.: 17(3C), pp. 2083-8. - This study investigates the efficacy of a cancer-fighting chemotherapeutic agent in combination with pulsating electromagnetic fields. It was found that especially against tumor cells that had become resistant to chemotherapy, under MFT they would no longer produce the substance at their surface that guaranteed protection of the cancer cells against the medication. Thus, MFT definitely potentiates and improves the effect of chemotherapy.

• C.K. Chou et al.: "Development of Electrochemical Treatment at the City of Hope," Second World Congress for Electricity and Magnetism in Biology and Medicine, 8-13 June 1997, Bologna, Italy. - This investigation yielded positive information with regard to the use of MFT on tumor patients.

• R.R. Raylman et al.: "Exposure to Strong Static Magnetic Field Slows the Growth of Human Cancer Cells in Vitro," Bioelectromagnetics, 17(5), 1996, pp. 358-63. - The results of this study show that treatment with magnetic fields is capable of preventing the growth of three different tumor cell lines in vitro.

• I. Rodin et al.: "Use of Low-Intensity Eddy Magnetic Field in the Treatment of Patients with Skin Lymphomas," Voen Med Zh, 317(12), 1996, pp. 32-34.

• V.A. Lebennikov et al.: "First Experience in Using a Whole-Body Magnetic Field Exposure in Treating Cancer Patients," Vopr Onkol, 41(2), 1995, pp. 140-141. - This study investigates the effects of MFT on patients with various tumor diseases. The treatment was combined with various other traditional cancer treatment methods. The findings show positive results for MFT in general, specifically improvements in immune status and postoperative recovery phase.

• V. Smirnova: "Anti-Tumorigenic Action of the Magnetic Field," Vrach, 2, 1994, pp. 25-26. - The results of this Russian study showed that in a whole-body treatment with MFT combined with other conventional therapies, positive results can be achieved in a number of different types of cancer.

• N.B. Bakhmutskii et al.: "The Assessment of the Efficacy of the Effect of a Rotational Magnetic Field on the Course of the Tumor Process in Patients with Generalized Breast Cancer," Sov Med (7), 1991, pp. 25-27. - This study investigated the effects of a pulsating magnetic field on a group of 51 breast cancer patients. The results showed a significant positive reaction in 27 patients.

• D.V. Miasoedov, et al., "Experience with the Use of Microwave Resonance Therapy as a Modifying Factor in Oncological Therapy," Abstracts of the First All-Union Symposium with International Participation, 10-13 May, 1989, Kiev, Ukraine, pp. 313-315. - These results show that MFT before surgery reduces the tendency of a tumor to metastasize. In addition it was found that the risk in the surgical procedure was reduced to 87 %. When used postoperatively, MFT still brought a definite improvement in 68 %.

Physician reports on the treatment of tumor diseases with MF

1. Frank Daudert, physician in Rosenheim

• *Patient, female, 7 years old; diagnosis: Wilms tumor, high intensity chemotherapy and radiation had already been administered unsuccessfully. Metastases had already been detected in the spinal canal and surgery had been performed. The girl was suffering from intense pain, and cried almost the entire day despite morphine injections. Her parents were in despair. Results of MRS therapy: after using the MFT, the patient was able to stop morphine immediately. Her pain was drastically reduced.*

• *Patient, male, 53 years old; diagnosis: This patient developed a renal cell carcinoma in August 1995 and a 10 cm tumor was removed surgically. In August 1996 bone metastases were found in the pelvic area and radiation therapy was administered. In November '96 multiple lung metastases were detected, the patient's general condition exacerbated dramatically, the patient could hardly eat, lost 8 kg in a few weeks, suffered from permanent nausea and was only able to lie in bed. Results of MRS*

therapy: To the amazement of everyone, this patient recovered rapidly, was able to eat again, gained 5 kg and rode a motorcycle for 80 (!!) kilometers with his wife on the weekend. He was otherwise free of symptoms.

2. Dr. Wolfgang G. Weise, M.D., private medical practice, acupuncture, auriculotherapy, Stoissberg

• *Patient B.W., female, 42 years old; diagnosis: Since 1990 recurrent doughy swelling in the area of the left knee, no indication of an intra articular effusion. Especially complaints after exertion and when the joint was bent. Other parameters within the normal range. In June 1992, a tumor was removed by arthroscopy. This yielded the histological diagnosis of an angiofibromyoma, excised in healthy tissue. The postoperative course was uncomplicated. The swelling was no longer observed in the remaining course. With exertion, such as hiking, running, increased pain occurred diffusely in the knee joint in the next years. Results of MRS therapy: after conclusion of the treatment, the patient had hardly any symptoms in the knee joint. She was able to go on long hikes in the mountains with no problem.*

3. Erika Illy, natural physician, psychologist, health counselor

• *Patient W.K., male; diagnosis: Bladder cancer was diagnosed in Mr. W.K. in February 1997: tumor removed twice within three months, chemotherapy but no radiation. In summer of 1997, a total lymphatic congestion developed, with his legs looking almost like those of an elephantiasis patient. He could move only with great pain throughout his entire body, could hardly walk at all, and was taking a lot of pain pills. Results of MRS therapy: it was several months before a definite improvement was observed. I recommended a lot of minerals and vitamins for him but he received mainly pain pills from his treating physician. In October he was feeling very good, with completely normal blood values; no signs of cancer, his facial coloring and skin were pink and fresh looking. Since September, he has no longer needed any pain pills. Mr. K. is excited about MFT and will also continue to use it regularly.*

4. Mr. Manfred O. Eder, M.D., Anger, Bavaria

• *Patient S.A., male, 50 years old; diagnosis: In July 1996, an epiglottal carcinoma was diagnosed on the right side of this patient with infiltration of the pharyngoepiglottic fold. Laser resection performed. In September 1996 a second carcinoma was found in the area of the base of the tongue on the right, necessitating another laser resection with neck dissection level II-III on the right and II on the left. Then radiation of the oropharynx and the adjacent cervical and distal cervical lymphatic drainage pathways and the supra clavicular region on both sides with concomitant chemotherapy was performed. Thereafter, in accordance with the given circumstances, the patient felt poorly with nausea and fatigue extending to exhaustion, and after the radiation he still had symptoms in the surgical area. Results of MRS therapy: Since February of 1997, the patient has been receiving at least one treatment three times a week. After the first two treatments, the patient no longer experienced any pain in the surgical area.*

5. Professor Dr. P Schwarzfischer, M.D., specialist in internal medicine and nuclear medicine, Bad Wiessee

• *Patient A.W., female, 48 years old; diagnosis: condition after surgery for an aneurism of the medial cerebral artery and a brain tumor (surgery four weeks ago). Results of MRS therapy: Mrs. W. reports on a tangible improvement in her general well being and a decline in pain in the lumbar spine.*

6. Dr. Christina Brown, M.D., Achern, Baden

• *Patient, female; diagnosis: Several hard nodules in both breasts for about 12 to 15 years. Results of MRS therapy: after the first treatment, a slight initial reaction occurred in the first week with an increase in pain. After the second week, she reported a full feeling in her breasts and less pain. After two and a half weeks, the patient is completely free of nodules.*

7. Dr. Gerhard Antensteiner, M.D., general practitioner, Kindberg

• *Patient, female, 43 years old; diagnosis: Breast cancer. Bilateral involvement with regional skin metastases and a malignant pleural effusion which had been resistant to treatment for six months, with constant extremely massive pain in the area of the chest. Results of MRS therapy: the pain subsided to such an extent that after the third day of a 10-day phase of treatment that the patient was able to stop the ongoing oral morphine treatment. After stop-*

ping the MRS therapy, the pain relieving effect persisted for about two weeks, then there was a gradual increase in pain again. After about four weeks of renewed therapy, the patient experienced the same pain relieving effect.

8. Zita M. Spieler, therapeutic practitioner, Munich

• *Patient R.T., female, 35 years old; diagnosis: In December 1998 a metastasis was detected in the left iliac crest. A primary tumor 3 cm large was found on the upper right pulmonary lobe. Since December 22, 1998 the patient has been receiving chemotherapy and treatments with the MRS 2000+ to strengthen the immune system. Results of MRS therapy: the patient has been able to stop pain pills for a few days. The varicose veins on her thighs disappeared. At the first follow-up examination in February 1999, it was found that both tumors had decreased in size by about one half. This has given the entire family new hope.*

Patient reports on the treatment of tumor diseases with MRS

1. Thanks to Mr. Hans Kunz

• *Patient I.W., female, 56 years old; diagnosis: "I had been suffering from a bone tumor since July 1997. Since August 1997, I have been treated with chemotherapy and I always had bad bloods tests." Results of MRS therapy: "Since the end of November '97, I have been doing somewhat better. My blood tests were better after about five weeks."*

2. Thanks to the company Medline

• *Patient D.D., female, 26 years old; diagnosis: Acute lymphoblastic leukemia with a serious infiltration in the spinal cord. The irrevocable verdict: "Two weeks to live, then you die." This patient who belonged to the "Jehovah's Witnesses" religion refused to allow the spinal cord surgery and transfusions. D.D. thereupon left the hospital at her own risk On June 13, she began MF therapy on recommendation of a friend. Results of MRS therapy: From June 12 to June 16, 1996, the patient's hemoglobin increased from 3.8 to 10, white blood cells increased from 600 to 5,600, and red blood cell count increased from 1,470,000 to 2,950,000. The number of blood platelets increased from 62,000 to 253,000. The blood tests have been repeated several times, and after the test a biopsy of the spinal cord confirmed definitively that no more tumor cells were present. Heinrich Wermescher, the responsible party at the center who was also concerned about this case reported: "When D.D. began to receive MF therapy, she was in a nonregenerable, life-threatening condition. She was unable to get out of bed and it was impossible for her to live her last days of life as she wonted. Following her surprising improvement, it was possible for her to stand up and to lead a normal existence, taking into account her personal wishes. When she had recovered completely, the physicians who had given her only two weeks to live convinced her to take a strong chemotherapy.*

3. Thanks to the company Vita-Life

• *Patient L.O., female, 52 years old; diagnosis: Brain tumor: equilibrium disorders, extremely severe depression, epileptic attacks, concentration problems, word finding problems, stiffness in the legs, pressure and pain in the head, no more control over his body, incontinence, (highest level of care required). Results of MRS therapy: exacerbation in the first four weeks, then a steady improvement in all the areas mentioned above, reducing the need for medication. MRI in January of 1997: The tumor had not grown anymore.*

• *Patient J.P., male, 74 years old; diagnosis: "An inoperable lung tumor was detected. I was sent home as incurable." Results of MRS therapy: after three days, I developed a strong will to live. In the meantime, the tumor has become encapsulated and is no longer aggressive."*

Appraisal of MFT: **good supportive measure**

GYNAECOLOGY

17. Gynecological diseases

17.1. Menstrual disorders and various other complaints

17.1.1. Amenorrhea (absence of menstruation)

The following are possible causes for menstruation failing to occur: hereditary or acquired deficiencies in the reproductive organs, adhesions in the uterus (the monthly menstrual blood cannot flow out of the uterus), a hereditary lack of a uterus or ovaries, malignant tumors with severe inflammations (diagnosis by a specialist and possible surgery), under-functioning of the sex glands in secretion of hormone, tuberculosis, disturbances in hematopoiesis (production of blood), anemia, the consequences of chemotherapy, emotional stress, changes in environment or pregnancy. Amenorrhea is treated with hormones under medical supervision. A strong high-vitamin diet, spending a lot of time in fresh air, movement, exercise, cold to lukewarm sitz baths or foot baths support this treatment.

17.1.2. Dysmenorrhea (menstrual pain)

A woman's monthly bleeding begins today on the average at an age of 12 1/2 (100 years ago, the average age was 16 1/2) and ends with menopause at the age of approximately 50. Menstrual periods occur at a rhythm of approximately 28 days (21-38) and last between three and seven days. Usually it takes a couple of years for the cycle and the duration of menstruation to become constant. The amount of blood lost is approximately 60 mL.

The most common causes of lower abdominal complaints include ovarian cysts, chronic adnexitis, ovarian tumors, menstrual pain (dysmenorrhea), an inflammation of the uterus or vagina and endometriosis. Only after an exact elucidation of the cause can the symptoms be treated. Ten to fifteen percent of women suffer from adnexitis, an inflammation of the fallopian tubes. This inflammation is usually ascending, i.e. it comes from the uterus, and it is caused by various pathogens. Adnexitis is very difficult to diagnose. Chronic pain is often accompanied by a foul smelling discharge and is strongest at the end of the period. Fever is rare. The result of common infections in the area of the fallopian tubes may be an unexpected ectopic pregnancy (pregnancy in the fallopian tubes) or infertility. Bed rest, sexual abstinence and removal of all foreign bodies from the area of the uterus and sufficient intake of fluids in addition to administration of the proper antibiotic are important.

Menstrual pains in women (chronic adnexitis, endometriosis and other complaints) re-

spond especially well to magnetic field therapy (success rate 90-95 %). Studies have confirmed these results. The inferior mesenteric ganglion could play an important role in the effect of magnetic field therapy in the minor pelvis. Through specific treatment, the inferior mesenteric ganglion (contains sympathetic fibers of L1-L4) and the parasympathetic part (the plexus hypogastricus) can be affected. The influence on the ganglia is mainly responsible for eliminating the symptoms in dysmenorrhea.

17.1.3. Endometritis

Endometritis usually occurs in women between the ages of 25 and 40, with cell clusters of the uterine mucosa infiltrating into the body (e.g. the abdominal cavity), where they are exposed to normal hormonal influences. Before menstruation they swell but they cannot bleed so they form cysts and swelling and cause severe pain. Endometriosis can cause severe pain during a period and also at the time of ovulation, during evacuation of the bowels or during sexual intercourse. As soon as endometriosis is suspected, one should consult a physician, because this condition always exacerbates over time. If the path from the ovaries to the uterus (fallopian tubes) is blocked, this can lead to infertility. This is the case in 30-40 % of the women affected and is unfortunately not detected until a pregnancy fails to occur. Endometriosis is diagnosed by laparoscopy, a tube with a small camera that is inserted through the navel. Once the diagnosis has been made, treatment with medication can be initiated or surgery can be performed. There is no possibility of preventing it, and only a pregnancy or a contraceptive pill can protect against it.

17.1.4. Hypermenorrhea (excessive menstrual bleeding)

Excessive bleeding often has serious causes and consequences. It can lead to massive blood loss. Those affected mostly appear pale thereafter and complain of severe exhaustion, fatigue, drowsiness, lack of strength and attacks of dizziness plus blood draining from the brain. Bed rest is often necessary but heat increases bleeding. This condition may last for up to ten days or more. If no inflammatory symptoms or blood congestion occur in the minor pelvis due to diseases of the heart, kidneys or lungs, this is usually due to faulty production of hormones. The uterus is too weak to contract adequately and slough off the mucous membrane that has become detached from it. A tilted uterus may play a role here. If the placenta is not removed carefully after childbirth, the residues will cause severe bleeding for a long period of time. The same thing is true of a miscarriage. You should immediately consult a gynecologist if you have persistent bleeding. Physical exertion, coffee, tea and alcohol should be avoided. Do not bathe and do not apply any hot wraps to the body. Cold wraps, ice packs, cold beverages and cold foot baths are recommended.

17.1.5. Irregular bleeding

If bleeding occurs irregularly, it may be due to various causes. A medical diagnosis is recommended in any case. It is fundamentally wrong to ignore irregular bleeding, because this may be a sign of various diseases in the lower abdomen (e.g. inflammations, tumors, polyps, improper attachment of a fertilized egg, secretory disorders).

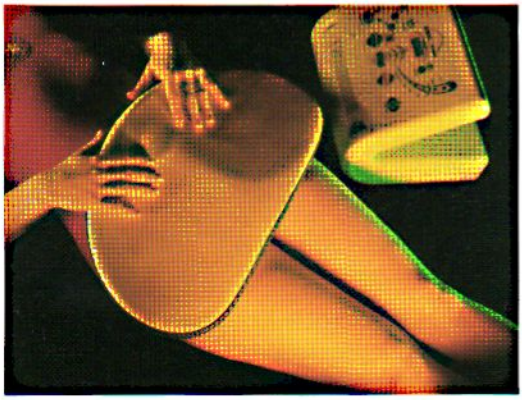
Effect of magnetic field therapy on menstrual disorders:

relieving cramping, relieving pain and having a calming effect through the autonomic nervous system.

Proper use of MRS for menstrual disorders

- Whole-body mat: 3 times a day for 16 minutes each time: 100 % level in the morning (gradually increasing from 25 %), 50 % level at noon, 10 % level in the evening.
- Pad: 1-2 times a day for 16 minutes each time: 100 % level: 8 minutes each in the lower back area and the pubic area.
- Forms of therapy supportive of MFT: herbs (evening primrose oil, baldrian, damiana, Chinese angelica, chamomile, black cohosh, lady's mantle tea, milfoil tea).

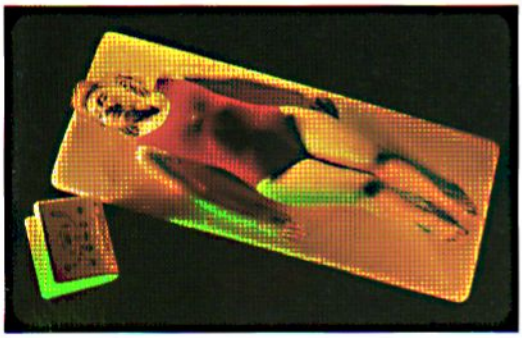
• Special instructions on use: Drink a lot of fluids! Keep knees bent.



Local treatment for menstrual disorders with a pad

• Duration of treatment: the treatment should begin one week before the expected start of menstruation and should be continued until one week after menstrual bleeding starts. MFT may also be used continuously.

• Notes on the initial reaction: in 1-2 % of women, the first menstruation may turn out to be heavier than usual - this reaction can be avoided for the most part by gradually increasing the dose.



Basic treatment for menstrual disorders with a mat

Scientific studies on the treatment of menstrual disorders with MFT

• Rückhäberle: "Use of MFT in Treatment-Resistant Patients with Chronic Recurrent Lower Abdominal Pain," University Gynecological Clinic Leipzig, 1996. - Seventy-three female patients with various gynecological conditions were examined, including functional dysmenorrhea and lower abdominal complaints of unclear etiology. In 85 % of the patients, the symptoms were improved or had disappeared completely after a few treatments.

• V.M. Strugatskii et al.: "A Permanent Magnetic Field in the Combined Treatment of Acute Endometritis After an Artificial Abortion," Vopr Kurortol Fizioter Lech Fiz Kult (6), Nov-Dec 1996, pp. 21-24. - The results of this study show significant positive effects in patients with acute endometritis with a constant MFT combined with other methods of treatment.

• W.A. Jorgensen et al.: "Electrochemical Therapy of Pelvic Pain: Effects of Pulsed Electromagnetic Fields (PEMF) on Tissue Trauma," European Journal of Surgery. Supplement (574) 1994, p. 83-86. - This study performed in one of the largest pain centers in the world, investigated the effect of electromagnetic fields on patients with pain in the gynecological area due to a wide variety of causes. Most of these women were suffering from dysmenorrhea, endometriosis, ovarian cysts, as well as infections of the lower urinary tract. Of these patients, 90 % experienced a dramatic improvement to complete freedom from pain, usually without additional medication.

• M. Damirov et al.: "Treatment of Patients with Endometriosis by Magnetic Infrared Laser," Vrach, 12, 1994, pp. 17-19. - This study shows that a combination of MFT with an infrared laser brings definite relief to patients with endometriosis combined with conventional medication therapy.

Physician reports on the treatment of menstrual disorders with MF

1. Dr. Gerhard Antensteiner, M.D., general practitioner, Kindberg

• *Patient, female, 41 years old; diagnosis: About 20 years ago, breast cancer surgery with subsequent chemotherapy and radiation, five years ago a recurrence in the second breast. After more radiation and chemotherapy, the menses stopped. Results of MRS therapy: after 1 1/2 months of treatment, the patient had spontaneous menses again for the first time. Accord-*

ing to the ob-gyn findings, conditions completely normal again with normal hormone values.

- *Patient, female; diagnosis: Severe dysmenorrhea and hypermenorrhea. Results of MRS therapy: There was a definite pain relieving and cramp relieving effect on her acute pain with dysmenorrhea.*

Patient reports on the treatment of menstrual disorders with MRS

1. Thanks to the company Vita-Life

- *Patient Z.M.S., female, 49 years old; Diagnosis: Menstrual complaints before the start of a period for 35 years: tension in the thighs, distended abdomen, diarrhea with the onset of bleeding, severe cramps; dark, lumpy, often heavy bleeding; irregular bleeding, often lasting up to a week. Results of MRS therapy: symptoms disappeared after one month, period now comes regularly, uniform menstrual flow, patient feels balanced and strong, can tolerate stress better.*

- *Patient G.H., female, 33 years old; diagnosis: Joint pain, menstrual pain, her feet fall asleep and she is sensitive to weather. Results of MRS therapy: all symptoms have disappeared.*

- *Patient G.H., female; diagnosis: Menstrual complaints one week before the start of a period. Backache combined with headache and tension in the lower abdomen or additional symptoms. Results of MRS therapy: "After use of this treatment for two weeks, I had hardly any symptoms in my legs. After another 14 days, a change in weather no longer caused me any problems. After two months, I had no more menstrual complaints. I now feel good all the way around. I no longer have any problem getting up in the morning."*

- *Patient P., female, 36 years old; diagnosis: "Since the age of eight I have been having migraine attacks. Headaches during or after my periods (I was often taking up to three pills a day)." Results of MRS therapy: "After three months of treatment, I only rarely have headaches with my period."*

2. Thanks to Mrs. Anneliese Kürzl

- *Patient L.M., female, 31 years old; diagnosis: Headaches 3-4 times a week, lack of energy, very severe menstrual complaints. Results of MRS therapy: exacerbation of symptoms in the first month. After two months of using the treatment, the patient is completely free of symptoms. "My quality of life has improved by 200 %."*

3. Thanks to Mrs. Franziska Engeli

- *Patient M.K., female, 39 years old; diagnosis: Very tired, no energy, listless, menstrual complaints, headaches. Results of MRS therapy: "I feel balanced, I have a lot of energy, my menstrual complaints are now good, my cycle has stabilized and I rarely have headaches. I can work with a great deal of energy."*

4. Thanks to Gabriele Kothmayer

- *Patient G.K., female, 38 years old; diagnosis: Irregular menstruation (despite hormone treatment), mostly at intervals between 22 and 24 days. Results of MRS therapy: the intervals normalized to 26 to 28 days.*

- *Patient G.S., female, 30 years old; diagnosis: during menstruation frequent backache in the lumbar area. Results of MRS therapy: "I feel much more energy and I no longer have a low point in the afternoon. In general I have a better deep sleep. My backache during menstruation has disappeared."*

- *Patient W.H., female, 43 years old; diagnosis: Heavy, painful period. Results of MRS therapy: headaches became worse and the exacerbation persisted but after two weeks the patient became pain-free within three days and now her periods are normal and without pain.*

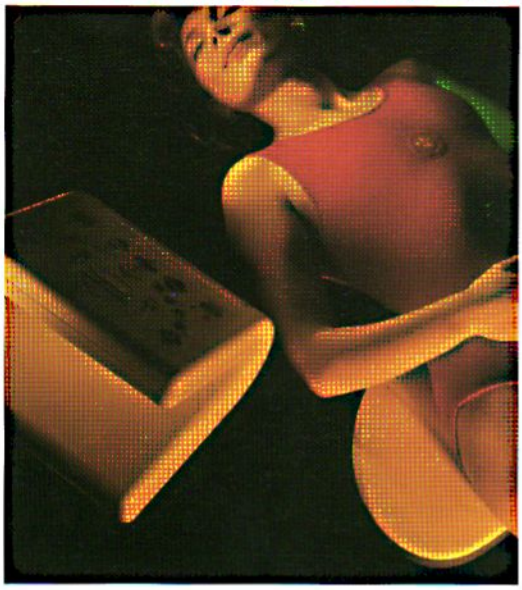
- *Patient B.H., female, 20 years old; diagnosis: tired and depressed, long and irregular menstrual cycle. Results of MRS therapy: "I returned to a normal day and night rhythm and was no longer so tired. My menstrual pain improved in the first month and my cycle is now more regular."*

Appraisal of MFT: **80-90 % good to very good results.**

17.2. Ovarian cysts and ovarian inflammations

Cysts are swellings filled with fluid in or on the ovaries (like those in other locations in the body). They are almost always benign and disappear without treatment. Cysts develop because of an abnormal growth of fluid-pro-

ducing tissue; the fluid has no possibility of drainage and therefore collects in the tissue. Ovarian cysts occur more frequently in smokers than in non-smokers. Cysts may cause a swollen lower abdomen, increased pressure on the bladder or intestine (needing to urinate more often), painful sexual intercourse and irregular periods, varying in intensity. If a cyst ruptures, it leads to severe lower abdominal pain, nausea and fever. Many cysts disappear spontaneously. Contraceptive pills improve the chance of healing. In many cases, surgical removal by means of a laparotomy (opening of the abdominal cavity) or laparoscopy (...) is necessary. If the ovarian cyst is malignant, the ovary and the fallopian tube must be removed. A polycystic ovary contains



Local treatment for ovarian inflammations and cysts

at least ten cysts beneath the surface, causing the ovary to be enlarged. Twenty percent of women are affected by this. Symptoms include irregular bleeding, either very light or none at all, infertility, miscarriages, hair growth in the face, on the chest, on the abdomen, the arms and legs, acne, weight gain, pelvic complaints and depression. Since hormones are responsible for these symptoms, a treatment aimed at balancing hormones is helpful. It is important to determine the most problematical symptom in order to be able to base the treatment on this symptom.

Effect of magnetic field therapy on ovarian inflammations and cysts:

strengthening the immune system, relieving pain, reducing inflammation, anticonvulsant and promoting circulation.

Proper use of MRS for ovarian inflammations and cysts:

- Whole-body mat: twice a day for 8 minutes each time: 100 % level in the morning (gradually increasing from 25 %), 10 % level in the evening
- Pad: twice a day for 24 minutes each time: 150 % level, in the lower back area
- Notes on the initial reaction: none

Scientific studies on the treatment of ovarian inflammations and cysts with MFT

- V.S. Yasnogordodsky et al.: "The Effect of Sinusoid Modulated Currents on Circulation in the Small Pelvic Organs in Patients with Chronic Salpingo-Oophoritis," Vop. Kuortol. Fizioterapii Lech Fiz. Kult. 6, p. 41f. - An influence of MFT on circulation in the pelvic organs was detected by the thermography method. It seems that PEMF can reduce vascular tonus of the arterioles and capillaries in the minor pelvis while at the same time normalizing venous tone, improving flow to the organs, which greatly reduces the consequences of the vascular disturbance.
- K. Dikova et al.: "Effect of Magnetic Pulses in Chronic Nonspecific Inflammatory Gynecologic Disease," Institute for Gynecology and Obstetrics, Sophia (Bulgaria) Akuserstvo i ginekologija. - In this use study, 40 women with purely inflammatory gynecological problems (except gonorrhea, tuberculosis and endometriosis) were treated in 15 applications. Fourteen of these women showed a total remission in symptoms, and 23 other patients showed a significant improvement.

Physician reports on the treatment of ovarian inflammations and cysts with MF

1. Thomas Drach, non-medical practitioner

• *Patient K.I., female, 35 years old; diagnosis: Cysts on the ovaries. Results of MRS therapy: "The cysts increased in size by 2 cm during treatment and I felt them even more. Meanwhile, however, they have disappeared completely. Another positive effect: I am full of energy, enjoy life and I am feeling nothing of the fatigue I had earlier in the year."*

2. Rudolf Foundation Hospital in Vienna

• *Patient, female, 20 years old; diagnosis: Recurrent (repeatedly recurring) adnexitis (inflammation of fallopian tube). Results of MRS therapy: a definite reduction in symptoms at the start of treatment, patient free of symptoms after five treatments.*

Patient reports on the treatment of ovarian inflammations and cysts with MRS

1. Thanks to Mrs. Gisela Arndt

• *Patient E.F., female, 26 years old; diagnosis: "After my first pregnancy, which unfortunately did not turn out positive, my gynecologist diagnosed closed fallopian tubes and wanted to perform surgery in August 1998. He consented to postpone this surgery and perform a trial with MRS." Results of MRS therapy: "I felt a pulling sensation in the area of my ovaries after the very first treatment. Now in January of 1999 I am pregnant in my sixth month."*

Appraisal of MFT: 75 % good to very good results with chronic events.

17.3. Endometriosis

see "Menstrual complaints"

17.4.Menopausal Symptoms

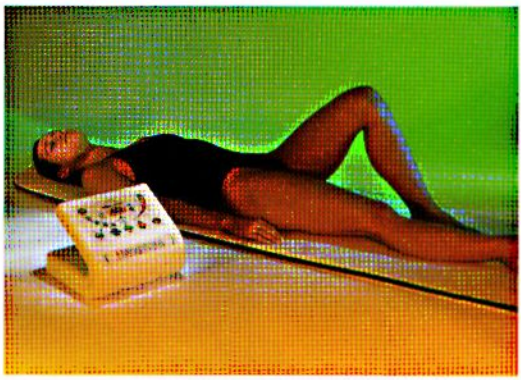
Menopause begins on the average at the age of 45. The monthly bleeding stops or becomes irregular, occurring at greater intervals. This natural process does not always take place without complaints. A healthy lifestyle with good nutrition makes it easier for the body to undergo this change. Physical elimination should be stimulated. A diet of fresh fruits and vegetables, whole grain bread and fermented milk products is helpful here. Meat and salt should be consumed only in moderation, and coffee, alcohol and nicotine should be omitted completely.

Effect of magnetic field therapy on menopausal symptoms:

relieving cramping, harmonizing, regulating the autonomic nervous system, calming, relaxing, relieving pain.

Proper use of MRS for menopausal symptoms:

• Whole-body mat: three times a day for 16 minutes each time: 25 % level in the morning 10 % level at noon, sensitive level in the evening



Whole-body treatment for menopausal complaints

• Forms of therapy supportive of MFT: acupuncture, NLP, phytotherapy, TCM, herbal therapy (Chinese angelica, black cohosh, lady's mantle, artichokes, flaxseed oil, evening primrose oil, alfalfa, damiana, panax ginseng, St. John's wort, saw palmetto)

• Duration of treatment: the treatment may require several months up to 1 1/2 years or even more. Initial therapeutic results are often manifested after 4-8 weeks.

• Notes on the initial reaction: in 2-3 % of the cases, an initial increase in hot flashes may be observed, but this subsides relatively quickly.

Scientific studies on the treatment of menopausal complaints with MFT:

see "Menstrual Complaints"

Physician reports on the treatment of menopausal complaints with MFT

1. Christine Wolff, non-medical practitioner, Überlingen

• *Patient E.A., female, 49 years old; diagnosis: Menopausal complaints, heart palpitations, outbreaks of heavy sweating, sleep disorders, etc. Results of MRS therapy: after two weeks of treatment, a definite improvement in symptoms was observed, and in particular the patient was able to sleep through the night again. Increasing improvement after the third and fourth weeks.*

2. Dr. Othmar Rainer, M.D., general practitioner, Graz

• *Patient, female, 68 years old; diagnosis: This patient has had a very difficult time falling asleep at night without medication despite physical fatigue since the start of menopause. Results of MRS therapy: the patient feels much fresher during the day, like a new person, and only rarely needs to take sleeping pills.*

Patient reports on the treatment of menopausal symptoms with MRS

1. Thanks to the company Vita-Life

• *Mrs. M.T., female, 54 years old; diagnosis: "I have been experiencing menopause for almost four years and suffering from extreme sweating and hot flashes. Since I did not want to take hormones, I used the MRS system." Results of MRS therapy: "After six weeks my hot flashes were better and the heavy sweating had completely stopped. After five months of MRS, I have felt fresh and full of enthusiasm. My menopause is no longer causing me any problems."*

• *Patient B.M., female, 42 years old; diagnosis: Menopause. Results of MRS therapy: the symptoms have improved significantly.*

Appraisal of MFT: **70-80 % good to very good results.**

17.5. Myoma

A myoma consists of bundles of muscle fibers and connecting tissue. They vary from the size of a pea up to that of a grapefruit. These are benign tumors. High doses of estrogen, which are produced during the reproductive years, may cause the growth of myomas. The causes are varied: obesity, taking contraceptive pills or hormone therapies. A myoma need not have any symptoms, even if the tumors become very large. Some women suffer from severe, long-lasting menstrual periods with blood clots in their menstrual blood. Heavy bleeding often leads to anemia which in turn leads to exhaustion, shortness of breath and depression. Severe cramping, incontinence, constipation, cysts and infertility may be concomitant symptoms of myomas. The treatment depends on the size and location of the tumors, the frequency of symptoms and whether the woman still wants to have children. If the myoma is not causing any problems, it may remain untreated. Surgery or hormone therapy are the most important treatment options.

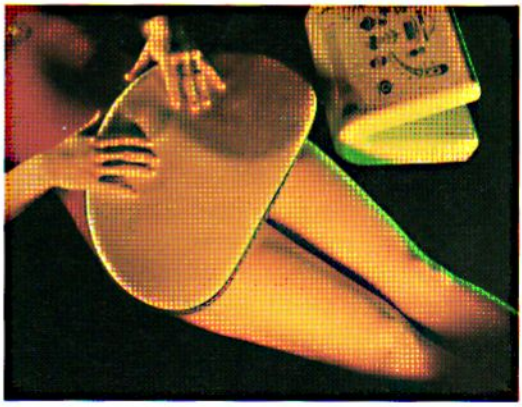
Effect of magnetic field therapy on myomas:

relieving pain, relaxing cramps, reducing swelling, balancing and strengthening the immune system

Proper use of MRS

• Whole-body mat: twice a day for 8 minutes each time: 100 % level in the morning (gradually increasing from 10 %), 10 % level in the evening

• Pad: twice a day for 24 minutes each time: 100 % level, in the pubic area



Local treatment for myomas with a pad

• Special instructions on use: keep knees bent! MFT cannot remove a myoma, but in

exceptional cases, shrinkage of myomas has been observed

- Notes on the initial reaction: none

Scientific studies:

see "Menstrual Complaints"

Patient reports on the treatment of fibrous tumor with MRS

1. Thanks to Mrs. Heidi Herrmann

- *Patient K.L., female, 50 years old; diagnosis: Myoma in the uterus (documentation by Dr. Eul, November 20, 1998). Results of MRS therapy: "I have needed less sleep since October 1, 1998 (after using the treatments for three weeks). I am more energetic and I feel full of 'power' despite hard emotional family stress. So far, I have used the MRS locally on my lower abdomen so that my myoma has shrunk. In the examination on January 20, 1998, nothing more of the myoma could be seen in the ultrasound."*

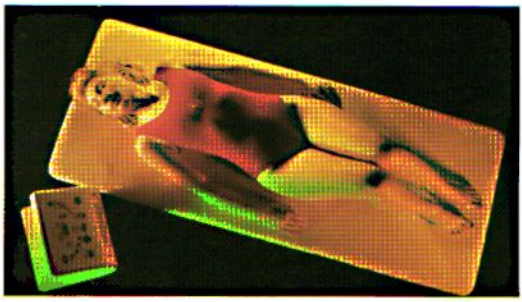
Appraisal of MFT: **having a supporting effect, relieving pain, reducing cramping.**

17.6. Premenstrual Syndrome (PMS)

More than two-thirds of all women suffer from so-called premenstrual syndrome before their monthly period. Although PMS can occur at any time between puberty and menopause, it affects mainly women more than 30 years of age. The reason is not clear, but it is assumed that it is caused by hormone fluctuations. The usual symptoms include dizziness, backache, headaches, flatulence, tender breasts and painful joints. Many women also suffer from psychological symptoms such as mood swings, depression or anxiety. In the premenstrual phase, women consume more blood sugar (normally, the blood sugar level will last for 5 hours after a meal - but before a woman's period, it lasts only 3 hours). Fatigue, inability to concentrate and cravings for sweets are the result. If the blood sugar level is low, the body releases the hormone adrenalin, which can cause aggression and anxiety. In 90 % of the cases, the symptoms are so mild that no treatment is necessary. Frequently, a change in the way of life and dietary habits (eating a lot of fruits and vegetables) will be sufficient. Smoking should also be stopped. Severe cases need medication (antidepressants).

Effect of magnetic field therapy on PMS:

relieving cramping, relieving pain, promoting circulation, regulating and balancing effect on the autonomic nervous system

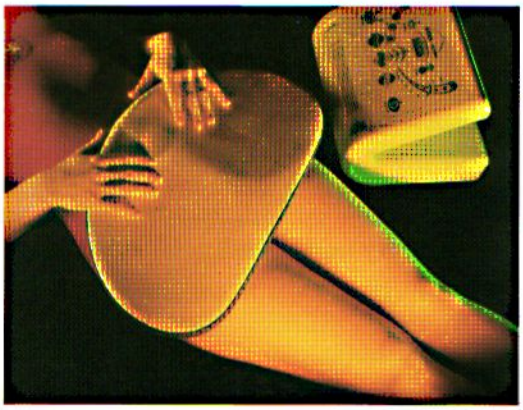


Basic treatment for PMS

Proper use of MRS:

- Whole-body mat: four times a day for 16 minutes each time: 25 % level in the morning 10 % level at noon, 10 % level in the afternoon, sensitive level in the evening

Pad: once a day for 8 minutes: 100 % level, in the lower back area



Local treatment for PMS

- Forms of therapy supportive of MFT: relaxation exercises, vitamins and trace elements

(vitamin B6, vitamin E, zinc), herbal remedies (evening primrose oil, Chinese angelica, St. John's wort, black cohosh)

- Special notes on use: Keep knees bent.
- Notes on the initial reaction: 5 % of the cases may experience a feeling of discomfort. This initial exacerbation reaction usually does not last more than 1-2 cycles.

Scientific studies on the treatment of PMS with MFT

- Rückhäberle: "Use of MFT in Therapy-Resistant Patients with Chronic Recurrent Lower Abdominal Pain," Leipzig University Gynecology Clinic, 1996. - Seventy-three female patients with various gynecological conditions including premenstrual syndrome were examined. In 85 % of these patients, the symptoms had improved or disappeared completely after a few treatments.
- Additional studies: see "Menstrual Complaints"

Patient reports on the treatment of PMS with MRS:

1. Thanks to the company Vita-Life

- *Patient B.B., female, 43 years old; diagnosis: Premenstrual syndrome (menstrual complaints). Results of MRS therapy: the patient no longer has menstrual complaints.*

Appraisal of MFT: **80-90 % good to very good results.**

Goiter

18. Metabolic diseases

18.1. Obesity (overweight)

Every healthy person has fat embedded in the tissue of certain locations in the body. If an excessive amount of fat collects, we speak of obesity or adiposity. High accumulations of fat are found mainly in the skin of the lower abdomen and in the intestines. At higher degrees of adiposity, the ratios of the various body parts to one another are altered to the extent that we can speak of a pathological condition. Obesity interferes with mobility and the activity of the heart and lungs. The muscles are greatly weakened. In general smaller and shorter people tend more to obesity.

Effect of magnetic field therapy on obesity:

stimulating metabolism, balancing, promoting circulation, possibly stimulating the degradation of fat.

Proper use of MRS for obesity

- Whole-body mat: 3-4 times a day for 8 minutes each time: 150 % level in the morning, 100 % level at noon, 50 % level in the afternoon, 10 % level in the evening
- Forms of therapy supportive of MFT: sports and movement, diet (not fasting), acupuncture, NLP, TENS, cognitive therapy, chitosan (fat blocker), blood fat regulating vitamins (vitamin C, vitamin B15, vitamin E), herbal remedies (evening primrose oil, flaxseed oil, alfalfa, garlic, grape seed extract)

Whole-body treatment for obesity

- Special instructions on use: drink lots of fluids!! MFT alone cannot eliminate obesity, but can merely support certain measures, especially a willingness to follow a diet.
- Notes on the initial reaction: none

Scientific studies on the treatment of obesity with MFT

At the present time, a study on more than 100 patients who are obese is underway at the Center for Energy Medicine in Vienna.

The exact composition of the fat is being determined by means of modern impedance measuring devices. All the patients are receiving a certain prescribed diet and in addition to MRS therapy they are taking chitosan, a substance that binds fat in the intestine. The measurements are performed each month. The preliminary results are very positive and indicate that MFT is capable of cranking up the metabolism.

• A. Bellossi et al.: "Effect of Pulsed Magnetic Fields on Cholesterol and Tryglyceride Levels in Rats Study of Field Intensity and Length of Exposure," Laboratory of Biophysics, School of Medicine, Rennes. Z Naturforsch C. 1996, July-August, 51(7-8), pp. 603-606. - This study shows that pulsating magnetic fields can lead to a reduction in cholesterol and triglyceride levels in the blood of rats.

H.G. Klingenberg et al.: "The Influence of Electromagnetic Fields on Oslability, Neutral Fat and Cholesterol Level," Zbl. Bakt. Hyg., I. Abt. Orig. B. 161, 146-52.

Patient reports on the treatment of obesity with MRS

1. Thanks to Mr. Ewald P. Müller

• *Patient M.F., female, 27 years old; diagnosis: Blood fats and protein very high; results of MRS therapy: the blood test showed very good values after two months.*

• *Patient G.K., male, 65 years old; diagnosis: Diabetes, multi-morbidity, cholesterol level 360. Results of MRS therapy: the patient's cholesterol dropped to 56 in seven weeks.*

• *Patient A.W., male, 58 years old; diagnosis: Occupational problems with cholesterol levels and obesity. Results of MRS therapy: "The cholesterol levels improved and I have lost weight."*

• *Patient H.L., male55, years old; diagnosis: Severe obesity despite several attempts at dieting. Results of MRS therapy: after about three weeks: sleeping well, losing weight (5 kg), the belly has disappeared despite having more appetite than before. "I have much greater endurance, I feel fresher and restored."*

• *Patient M.T., female; diagnosis: Obesity. Results of MRS therapy: "After 3 1/2 months, I have lost more than 8 kg."*

2. Thanks to the company Vita-Life

• *Patient K.G., female, 28 years old; diagnosis: Obesity. Results of MRS therapy: "I did a cleansing diet (F.X.-Mayr) during the treatment and I needed only three days to get used to it (previously it took about a week)."*

Appraisal of MFT: **has a supporting effect, stimulating the metabolism.**

18.2. Diabetes (blood sugar sickness)

When the blood sugar level increases, the pancreas produces insulin to convey the sugar in the blood into the cells for energy production. In this way, insulin lowers the blood sugar level. If too much insulin is produced or if the body cannot process the sugar, diabetes develops. The kidneys filter sugar out of the blood and deliver it to the urine. Diabetes can occur in juveniles (type I) or with advanced (type II). The latter affects 90 % of all diabetics. Type I is the insulin-dependent type. The cells in the pancreas which produce insulin become damaged and destroyed. Type II is called the insulin-independent type. In these patients, enough insulin is produced but the body fails to react to the hormone and thus sugar can no longer be degraded. The susceptibility to type II diabetes is hereditary and it usually occurs after the age of 40. In addition, a distinction is made between pregnancy diabetes, hormone diabetes and a so-called pathological glucose tolerance. Drugs may also be responsible for an elevated blood sugar level. Thirty to fifty percent of all diabetics have only minor symptoms. In the early phase the symptoms include fatigue, susceptibility to infections, thirst, frequent urination, itching and reduced energy. Type I also suffers from attacks of dizziness, confusion and slow healing of wounds. Despite constant hunger and eating, these people lose weight. Type II diabetics may have the same symptoms or none at all. This form is usually discovered accidentally in routine examinations. Pregnancy diabetes occurs mainly in the second half of pregnancy. Smoking more than five cigarettes a day before pregnancy increases the risk by almost 50 %. After

pregnancy, this form of diabetes will disappear again, but it is a sign of a later onset of diabetes in three-fourths of these cases. The babies also have an increased risk of developing diabetes.

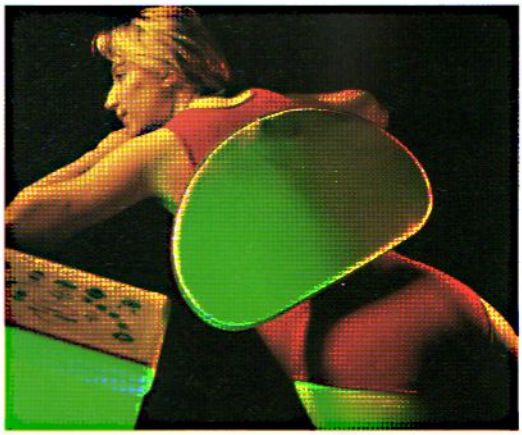
Blood sugar levels can be determined by blood tests and urinalyses. The blood is also tested for insulin. In diabetics, fat is used for energy production and the end product, ketone, is eliminated. Untreated diabetes with a high blood sugar level can cause damage to other organs. Diabetes is also responsible for the development of arteriosclerosis (and thus the risk of a myocardial infarction or a stroke), eye diseases (leading to blindness), impotency and especially serious nerve diseases (neuropathy). The basic form of therapy is a treatment regimen with insulin injections, diet or medication. Type I diabetics require insulin injections to avoid weakness, exhaustion and thirst. In acute situations, these people will fall into a diabetic coma which leads to loss of consciousness and is life-threatening. The Type II diabetic can usually be stabilized by a special diet and often doesn't require any additional medication. Sugar, refined foods, white flour, pasta and rice should be avoided. Instead, unrefined foods, brown flour, brown rice, fresh fruits and vegetables which cannot be digested so rapidly and thus do not drive up the blood sugar so rapidly are recommended. Obesity should be avoided.

Effect of magnetic field therapy on diabetes:

promoting circulation, stimulating wound healing, regenerating nerves, improving oxygen supply, calming, balancing, optimizing the effect of medication. The literature contains reports that magnetic field therapy can stimulate the remaining island cells in the pancreas and thus can cause improved secretion of insulin. Due to the circulation promoting effect, it represents a preventive measure for the late complications such as short-sightedness or infarctions. It is used as a supportive measure with hemodialysis.

Proper use of MRS for diabetes:

- Whole-body mat: 2-3 times a day for 8 minutes each time: 100 % level in the morning (increasing gradually from 25 %), 25 % level at noon, 10 % level in the evening
- Pad: twice a day for 16 minutes each time: 150 % level, in the area of the middle thoracic spine



Local treatment for diabetes with a pad

- Forms of therapy supportive of MFT: diet, vitamin B6, herbal remedies (spirulina, garlic); for retinopathy: grape seed extract, alpha-lipoic acid, shark cartilage extract; to promote circulation: gingko biloba.
- Special instructions on use: Drinks lots of fluids!
- Duration of treatment: It may take several months up to years. The patient usually notices the results of treatment by improved circulation and fewer complications of the diabetes.
- Notes on the initial reaction to be expected in treatment of diabetes with MFT: at the beginning of treatment there are minor fluctuations in blood sugar levels in 1-3 % of the cases, but they stabilize relatively quickly; occasionally the insulin dose must be adjusted (reduced).

Scientific studies on the treatment of diabetes with MFT

- Lau et al.: "Effect of Low Frequency Low Intensity Electromagnetic Field on Diabetic Neuropathy," Dept. of Microbiology, School of Medicine, Loma Linda University, USA. Scientific Report. - In the test drug group, 76 % of the patients achieved a definite reduction in symptoms, but this was only 17 % in the

control group. The pain subsided, as did the numbness, itching and tingling sensations.

- F. Petrossi: "The Effect of the Physical Factors of Treatment on Lipid Peroxidation in Surgical Infections in Patients with Diabetes Mellitus," Internet: Medline

- L.G. Vassilenko: "EHF electromagnetic Radiation in Treatment of Obliterating Diseases of Inferior Limb Vessels," Second World Congress for Electricity and Magnetism in Biology and Medicine, 8-13 June 1997, Bologna, Italy. - This study shows the advantage of MFT in treatment of diabetes patients with occlusive vascular complications in the extremities.

- I.B. Kirillovm et al.: "Magnetotherapy in the Comprehensive Treatment of Vascular Complications of Diabetes Mellitus," Klin Med, 74(5), 1996, pp. 39-41. - In this study 320 diabetics were treated with MFT, while 100 diabetics as a control group received only conservative therapy. These results show a positive effect, especially in the area of vascular complications, with 74 % of the patients with MFT achieving positive results but only 28 % in the comparative group achieving these results.

- M.I. Shved, A.P. Dudnik: "The Medical Effect of Magnetic-Laser Therapy in Patients with Diabetic Angiopathies of the Lower Extremities," Lik Sprava (10-12), October-December 1996, pp. 155-158. - This study investigates the effects of MFT on vascular complications of diabetes patients. The results show a definite reduction in complications in conjunction with diabetes.

- V.A. Lebedev: "Treatment of Neurogenic Dysfunction of the Bladder and Enuresis in Children," Vopr Kurortol Fizioter Lech Fiz Kult (4), 1995, pp. 25-26.

- R.A. Kuliev, R.F. Babaev: "A Magnetic Field in the Combined Treatment of Suppurative Wounds in Diabetes Mellitus," Vestn Khir Im I I Grek, 148(1), January 1992, pp. 33-36. - This study shows that MFT can significantly accelerate healing in 72 diabetics with purulent wound infections.

- P.O. Milch et al.: "Electromagnetic Stimulation of the Rat Pancreas and the Lowering of Serum Glucose Levels," Trans Am Soc Artif Intern Organs. - In this animal experiment, the blood sugar levels of diabetic rats receiving pulsating magnetic field treatments were definitely reduced in comparison with those of rats whose sugar was elevated and who were not exposed to MFT.

Physician reports on the treatment of diabetes with MRS

1. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, Tel. 0043/1/40 666 00

- *Patient R.B., female, 41 years old; diagnosis: Diabetes since the age of 13. Results of MRS therapy: patient has been able to reduce her insulin injections significantly (by 4 units) since the treatment. Measured values before the first treatment: 179 mg, after the first treatment: 176 mg. Immediately after the second treatment: 167 mg; somewhat later: 154 mg. After the third treatment: only 76 mg.*

2. Dr. W.R. Maus, M.D., natural healing methods, Überlingen

- *Patient; diagnosis: non-insulin-dependent diabetic. Results of MRS therapy: after four weeks, the patient no longer required medication.*

Patient reports on the treatment of diabetes with MFT

1. Thanks to the company Vita-Life

- *Patient J.S.; diagnosis: "I have suffered from diabetes mellitus since my youth. One of the main problems is poor wound healing. In 1998 I went for treatment each week to the Bruck State Hospital because of an open ulcer on my inner ankle; despite all the efforts of the physicians*

Before MRS therapy

3 months after start with MRS therapy

and nurses, my wound remained unchanged for four months and refused to close." Results of MRS therapy: due to the use of MRS in spring of 1998, the wound began to close and has remained closed and still remains closed.

- *Patient B., female; Diagnosis: elevated sugar levels and uric acid, circulation disorders. Results of MRS therapy: "In the meantime I no longer need medication to lower my blood sugar levels."*

2. Thanks to Mrs. Beate Martina

- *Patient G.M., male, 85 years old; diagnosis: Diabetes mellitus, cataracts in both eyes, poor circulation, difficulty in falling asleep. Results of MRS therapy: significant improvement in circulation after two weeks, the patient is sleeping better, his digestion has improved; after five months: stable sugar levels, wound healing enormously improved. His eyes no longer need surgery, because the cataracts have become smaller. The patient's motor system is pain-free and his hair has grown in darker, he has no more digestive problems. Mr. G. is now taking only one medication for diabetes.*

3. Thanks to Mrs. Dagmar Weissenbacher

- *Patient S.R., female, 48 years old; diagnosis: Diabetes mellitus, insulin-dependent since 1979. Results of MRS therapy: improvement in sugar levels after about three weeks, i.e. less basic insulin required. More rapid healing of the fracture of the neck of the femur, no more pain, patient was able to walk without crutches after two weeks.*

4. Thanks to Mrs. Verena Singer

- *Patient E.S., female, 71 years old; diagnosis: Diabetes, patient on dialysis (3 times a week at the hospital). Results of MRS therapy: "I had major problems with dialysis because my veins had closed with blood clots. After seven days of treatment with MFT, I felt that my circulation had improved greatly. After two months, my blood values were measured and showed a definite improvement. With regard to my diabetes, I now need only one injection in the morning - previously I had to have injections both mornings and evenings."*

5. Thanks to Mrs. Beatrice Studer

- *Patient, female, 59 years old; diagnosis: After the age of 50, the patient developed adult-onset diabetes and was stabilized on medication. Her diabetes values were very bad and she was soon to begin injections. Results of MRS therapy: today in January 1999, she can use her hands again for minor manipulations, she can put her thumb and index finger together and she has good circulation, can move all her fingers freely and lift her arm 100 % away from her body. There has been a massive improvement in her diabetic condition.*

See also patient reports by Mr. D.M. with illustrations in the section on "Diseases of the Skin" (Decubital ulcer)"

Appraisal of MFT: **70 % good to very good results**

18.3. Gout

Gout is one of the most common metabolic diseases. Two to five percent of the total population suffers from gout. Men are affected most commonly around the age of 40 and women around the age of 50. Ninety-five percent of the patients are men. The greatest risk factor is obesity. Gout is a typical disease of abundance; it hardly ever occurs in times of shortage. A hereditary predisposition is a prerequisite for this disease. However, the main causative factor is a lifestyle that is too rich. An old folk saying is that Vinum (wine) is the father of gout, Zena (dinner) is the mother of gout and Venus (love) is the midwife of gout. The disease is often triggered by psychological and physical stress or a simple change of weather. Excessive dieting (fasting) may also cause gout to flare up. The large toe joint is

affect the most commonly, therefore the ancient Grecian name "Podagra." The scenario for a gout attack may take place as follows: a well-loved man wakes up in the middle of the night after a banquet due to severe pain in his big toe. The toe is swollen thick and red and an infection is spreading. The next day, the pain usually subsides again. For the next few nights, the attack is repeated. The cause can be determined by a blood test: uric acid is greatly elevated - a prerequisite for gout.

Not everyone with elevated blood uric acid levels develops gout; only about 10 % do. If the body loses control of production and secretion of uric acid, the blood is flooded with this metabolic product until the solution becomes saturated and small crystals are formed. The uric acid crystals then settle primarily in the major joints (big toe, knee, but also the fingers, elbows, shoulders and hips) where they irritate the joint capsule and the surrounding structures and lead to pain because of the inflammation. When a person has had gout as a primary disease for a longer period of time, the uric acid crystals may also be deposited under the skin (for example, on the ears) where they form so-called gout nodules.

The lower extremities are affected ten times more commonly than the upper extremities. In the very rare but equally serious cases where organs are also affected, this can lead to organ failure (such as the kidney). Two forms of therapy are known: treatment in the painful acute attack and long term treatment for prevention of renewed attacks. The best known and oldest medication, which is still being used today, is colchicine, a toxic substance from meadow saffron. It can interrupt an attack immediately, but it also has side effects and risks such as diarrhea, vomiting and nausea. Weight loss is the simplest and most important measure which is also the lowest in risks. Ideally a normal weight is the goal (height in cm – 100 = ideal weight in kg). Additional recommendation: eat slowly, chew well, 5-6 small meals a day and follow a diet low in purines. Purines are chemical components of each cell nucleus from which the body forms uric acid. Therefore strong purine producing foods such as meat, especially the organ meats such as liver, heart and kidneys should be avoided, but canned sardines, anchovies, prepared sauces and soups should also be avoided. Gout attacks can be limited in frequency and sometimes prevented entirely by this measure alone, namely following a low-purine diet. A diet helps postpone the harmful late consequences of gout. This diet allows primarily milk products, cheese and yogurt, vegetables (except for legumes), potatoes, fruit and bread products. Another important measure is of course to drink lots of fluids (at least 1.5 - 2 liters of fluid a day). Alcohol has proven to be especially harmful to these patients because although it inhibits the secretion of uric acid on the one hand and on the other hand the yeast in beer for example is considered an especially strong source of uric acid. Drugs that accelerate elimination of uric acid through the kidneys such as benzbromarone and sulfine pyrazone can lead to serious consequences, especially in patients with restricted renal function. The drugs that inhibit uric acid production include mainly allopurinol. The problem with these medications is that they cause side effects such as skin rashes, itching and blood changes. The worst case is failure to treat, because it results in progressive loss of mobility of many joints.

Effect of magnetic field therapy on gout:

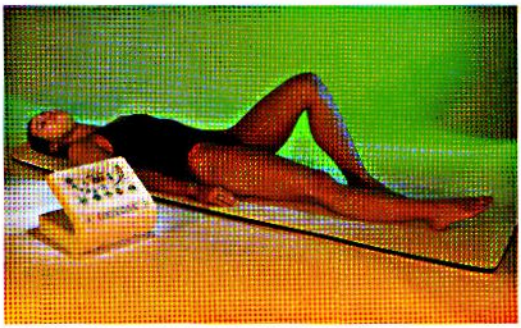
relieving pain, reducing swelling, relieving cramps, promoting the solubility of uric acid crystals in blood so that fewer crystals are formed and thus there is less stress on the joint.

Proper use of MRS for gout

- Whole-body mat: 3 times a day for 8 minutes each time: 100 % level in the morning, 100 % level at noon, 25 % level in the evening
- Pad: 2-3 times a day for 16-24 minutes each time: 150-200 % level, at the point of pain
- Forms of therapy supportive of MFT: diet, diuretic herbal remedies (dandelion, common nettle, field horsetail), for cartilage damage: glucosamine sulfate, shark cartilage extract.

• How long should the treatment be continued? Success of this therapy is usually apparent relatively rapidly. Nevertheless, treatment should also be continued as preventive measure in the period between gout attacks.

• Notes on the initial reaction to be expected in treating gout with MFT: none



Basic treatment for gout

Scientific studies on the treatment of gout with MFT

A study with MRS on gout patients is currently underway at a rheumatism center in Vienna.

• V.I. Kovalchuk et al.: "Use of Extremely Low Frequency Magnetic Fields in Clinical Practice," Fizicheskaia Meditzina, 4(1-2), 1994, p. 87.- This study investigated the effect of low-frequency magnetic fields on 650 patients who were suffering from metabolic diseases such as gout. Most of these patients experienced a significant improvement in symptoms.

Physician reports on the treatment of gout with MF

1. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, Tel. 0043/1/40 666 00

• *Patient, male, 56 years old. Diagnosis: Chronic gout, stabilized with medication. After a large family feast, he experienced intense pain in his left big toe in the joint at the base of the toe during the night. Results of MRS therapy: after three days, his pain was relieved, mobility was improved and the patient could get up again.*

Patient reports on the treatment of gout with MRS

1. Thanks to the company Vita-Life

• *Patient P.M., male, 70 years old; diagnosis: Gout. Results of MRS therapy: Circulation greatly improved after seven days, likewise the pain in the joints; no more gout tablets necessary.*

• *Patient T.S., male, 84 years old; diagnosis: Gout nodules on the hands and feet. Results of MRS therapy: no more gout attacks and no more pain in the hands and feet. A deformed finger on the left hand and a severe nodule on the right hand no longer caused him any pain. His circulation disorders improved and the patient has had more energy and enthusiasm for work.*

• *Patient H.J., male, 52 years old; diagnosis: Gout since 1972 (taking one tablet of purinol 300 mg daily), circulation disorders in both feet. Results of MRS therapy: No more gout tablets. With a renewed gout attack, the right ankle was pain-free after four days of treatments with the pad. The circulation disorders have improved greatly and his general condition is good.*

• *Patient R.J., male; diagnosis: Gout pain in the feet. Results of MRS therapy: The pain in both feet disappeared after 14 days.*

• *Patient H.W., male, 53 years old; diagnosis: Extreme pain, gout attacks in the right side of the body. Results of MRS therapy: Circulation in the feet optimal after the first treatment. Extreme relief in climbing stairs and subsidence of pain the very next day. Tablets for gout were stopped after 14 days. After four weeks, the patient is pain-free and experiencing physical well-being.*

Appraisal of MFT: **70-80 % good to very good results**

18.4. Diseases of the Thyroid

18.4.1. Hyperthyroidism – overfunctioning of the thyroid gland

Overfunctioning of the thyroid gland is due to the thyroid itself (Basedow's disease) and therefore is independent of other influences.

In rare cases, administration of iodine hormones is the cause of this condition. The disease is manifested initially in increasing nervousness, insomnia, and a type of psychological lability; these patients often lose weight despite a constant craving for food. It is characterized by an intolerance of heat, i.e., these patients avoid heat, frequently break out in sweating and have slight fever, sometimes also diarrhea as well as a faster heartbeat and pain.

Under some circumstances, magnetic field therapy may be contra-indicated in hyperthyroidism. Therefore it is important to consult a physician before treatment. In general, a patient with hyperthyroidism that has been managed with medication can be treated just like a healthy person. To this extent, MFT is not a contra-indication, although this group of patients has an increased incidence of initial overreactions such as nervousness!

18.4.2. Hypothyroidism – underfunctioning of the thyroid gland

Underfunctioning of the thyroid often has no discernable cause and it is very difficult to detect. It usually begins gradually, and is characterized by lack of energy, inability to concentrate and memory problems, sensitivity to cold, tingling in the fingers, hands and feet and muscle weakness although the muscles do not deteriorate. In some cases these patients experience constipation and the women may have menstrual disorders. Depression and loss of libido are other possible side effects. In any case, hypothyroidism can be treated with magnetic field therapy.

18.4.3. Goiter

Any enlargement of the thyroid gland, regardless of the cause, functional situation and whether or not it is benign, is known as goiter. In central European countries, approximately 15 % of the population is affected by this condition. The most common cause is an iodine deficiency. In rare cases, autoimmune diseases or tumors may be the cause of the enlarged gland.

Effect of magnetic field therapy on diseases of the thyroid:

calming, promoting circulation and having a balancing effect through the autonomic nervous system. If the thyroid is underfunctioning, it can be stimulated directly. Although overfunctioning of the thyroid gland is one of the contra-indications for MFT, it should be recalled that the treatment can have a balancing effect. An important prerequisite for this is a good stabilization of the overfunctioning with medication and close monitoring of blood values (regular blood tests).

Proper use of MRS for diseases of the thyroid:

- Whole-body mat: twice a day for 16 minutes each time: 25 % level in the morning, 10 % level in the evening
- Pad or probe (only for underfunctioning): twice a day for 8 minutes each time: 50 % level, in the neck area

Local treatment for diseases of the thyroid

- Special instructions on use: drink lots of fluids! In hyperthyroidism, the pad should not be used directly in the neck area.
- Notes on the initial reaction: in hyperthyroidism, fluctuations in hormone levels may occur in 3 % of the cases. Typical signs include sensitivity to heat, trembling when the arms are extended, accelerated heartbeat, digestive disorders.

Scientific studies on the treatment of thyroid diseases with MFT

- M. Endokrinum et al.: "Effects of Pulsed High-Frequency Electromagnetic Fields on the

Neuroendocrine System," Department of Psychiatry, University of Mainz, Neuroendocrinology 10; 67 (2): 139-44, 1998.

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- B.W. Wilson et al.: "Effects of Electric 60Hz Fields on the Melatonin Rhythm of the Pineal Gland: Onset and Recovery over Time," Bioelectromagnetics 7, 239-42.

Physician reports on the treatment of thyroid diseases with MF

1. Dr. Christoph Scherer, M.D., Dr. Christian Thuile, M.D., Center for Energy Medicine, 1080 Vienna, Breitenfeldergasse 10, Tel. 0043/1/40 666 00

- *Patient G.F., female, 36 years old; diagnosis: sleep disorders, thyroid dysfunctions. The patient could not deal with her normal daily life. Results of MRS therapy: after three weeks, the patient was completely free of symptoms and was able to stop taking various medications; she is now in a good general condition.*

2. Thomas Drach, non-medical practitioner, Bermatingen

- *Patient G.S., male, born 1968; diagnosis: Diabetes mellitus since the age of 10, poor wound healing with an open abscess. Results of MRS therapy: after just two treatments, a definite improvement in wound healing process was observed. The insulin doses were reduced by up to 20 % on many days.*

Patient reports on the treatment of thyroid diseases with MRS

1. Thanks to the company Vita-Life

- *Patient F.M., male, 27 years old; diagnosis: Hypothyroidism. Results of MRS therapy: very good values after two months, thyroid function normalized.*

- *Patient G.F., male; diagnosis: Hyperthyroidism, sleep disorders. Results of MRS therapy: "After using the pad for three weeks, I no longer have any symptoms. I have been able to stop the various medications. I would classify my overall physical condition as especially good."*

Appraisal of MFT: **65 % good results in hypothyroidism; hyperthyroidism only after stabilization on medication.**

ANIMALS

19. Magnetic field therapy on animals

The use of MFT in animals is just as extensive as in humans. The main applications are for disorders in the area of the motor system, circulation disorders, poor wound healing, pain and diseases attributed to the autonomic nervous system. The use recommendations for cats, dogs, horses, cows and sheep are mentioned briefly below.

For use of MRS on cats, dogs and other animals of this size, we recommend placing the whole-body mat on the floor for the animal and possibly performing the treatment together with the animal. Animals often feel exactly when the magnetic field is in operation. If it pleases them, they will lie down on the applicator (or the pad) themselves.

Use of MRS on cats: 50 % with the mat, up to 100 % with the pad for local symptoms, and the probe can be used up to the maximum intensity for arthrosis. The treatments should be given once or twice a day for 8 minutes each.

Use of MRS on dogs: in dogs the intensity level may be increased up to 100 % (depending on the size of the dog), but it seems useful to increase the dose gradually in treatment. For larger dogs, use of the magnetic field pad or probe is especially recommended for arthrosis or wound healing disorders. It is okay for the intensity level to be 100-150 % for 24 minutes. The treatments should be administered twice a day.

Use of MRS on horses: horses are considered the most sensitive animals for magnetic fields. MRS is ideally suited for treatment especially of the nervousness of racehorses. Joint complaints which often occur with horses can be treated very well with MFT. It has been reported that the performance of the horse can be increased in this way. The whole-body mat is placed like a saddle around the horse; the intensity should be 10-25 % twice a day for 8 minutes each time. For joint complaints, the local applicator may be used multiple times daily for 24 minutes each time at the 100 % level.

Use of MRS on cows and sheep: the highest levels can be used with these animals. Lactation of cows in particular shows an excellent response to MRS. In sheep as well as cows, the local applicator (pad) may be used with intensities of up to 200 % be-

cause they very rarely have an initial exacerbating reaction.

Use of MFT on animals is also found frequently under the various headings for the individual diseases.

Scientific studies on the treatment of animals

• We have approximately 450 scientific articles from veterinary medicine. Most of these articles were conducted following an animal experiment with MFT. Most of these articles were conducted following an animal experiment with MFT. Only if animal experiments show positive results are studies on humans allowed. For this reason alone, it can be seen how many studies there have been on the topic of magnetic field therapy in animals. It can also be concluded from this that most indications which apply to humans will also be valid for animals. Unfortunately, we do not have enough space here to go into this field in depth, and we must be satisfied with just a few use recommendations and some interesting studies. Currently studies are underway in the field of veterinary medicine, especially in the field of horse racing using the MRS plus med system.

• Endo-Naoto et al.: "The Effect of Pulsed Electromagnetic Fields on the Calcium Metabolism in Cultured Rabbit Chondrocytes," Department of Orthopaedic Surgery, Niigata University School of Medicine, Niigata, Japan, Acta Med. Biol. (Niigata), 46:1, 11-15, 1998. - This group of researchers had already proven in previous experiments that pulsating electromagnetic fields inhibit the response of chondrocytes and osteoblasts to parathyroid hormone (PTH) and thus prevent the calcium efflux, so this study shows that this effect can probably be attributed to stimulation of chondrocytes (GAG synthesis).

• M. F. Scardino et al.: "Evaluation of Treatment with a Pulsing Electromagnetic Field on Wound Healing, Clinico-Patholgic Variables and Central Nervous System in Dogs," American Journal of Veterinary Research, September 1998. - This study shows the positive effect of pulsating magnetic fields on wounds in dogs.

• O. Patino et al.: "Pulsed Electromagnetic Fields in Experimental Cutaneous Wound Healing in Rats," Journal of Burn Care Rehabil, 17(6 PT 1), 1996, pp. 528-31.

• A. Bellossi et al.: "Effect of Pulsed Magnetic Fields on Cholesterol and Tryglyceride Levels in Rats Study of Field Intensity and Length of Exposure" Laboratory of Biophysics, School of Medicine, Rennes. Z Naturforsch C. 1996, July-August, 51(7-8), pp. 603-606. - This study shows that pulsating magnetic fields can lead to a drop in cholesterol and triglycerides in the blood of rats.

• P.O. Milch et al.: "Electromagnetic Stimulation of the Rat Pancreas and the Lowering of Serum Glucose Levels," Trans Am Soc Artif Intern Organs. - In this animal experiment, the sugar level of diabetic rats was reduced significantly using pulsating magnetic fields in comparison with rats that were not treated with MFT.

Animal reports on the use of MRS

1. Thanks to Mrs. Gisela Arndt

• *Pepe, a Scottish setter, had been entrusted to me for care. While I went to the store, he remained with the domestic help of his owners. When I returned, he was acting wild and nothing would help. Only when I placed him on the MRS mat did he relax fully after two minutes.*

2. Thanks to Mr. Willibald Trippold

• *Great Dane, Lady, 9 years old. Diagnosis: Lady had joint symptoms due to her advanced age. After walking for even a short period of time (half an hour), her symptoms became severe. She limped slightly and was walking "stiffly." Results of MRS therapy: after 14 days the first success was apparent. Her walk became much more fluid and the limping disappeared. I have continued to treat her further. After two months of treatment, not only was her gait completely normal, but also her character had completely changed. She was again playful and full of energy. Her fur, which had already become slightly dull, began to be shiny again. Lady enjoyed the mat each time. We now take extensive hikes in the Alps (several hours at a time) and the dog no longer has any symptoms.*

3. Thanks to Mrs. Edith Reuteler

• *Derrick, a giant schnauzer male, 11 years old. Diagnosis: in three weeks he developed a tumor 4 x 3 x 3 cm in size beneath his tongue. The skin on his lower jaw was severely changed, swelling of the glands, gums very red and shrinking, his front teeth were loose and some had to be pulled. Biopsy findings: squamous epithelial cell carcinoma, malignant with a risk of metastasis and recurrence. Prognosis: unfavorable, inoperable. Lately, Derrick had become increasingly fatigued to apathetic and he could only eat soft, wet food, and even then could only eat slowly. What to do? Have him put to sleep? His eyes were still full of the will to live. To protect our faithful friend and companion in his last days or weeks, a friend recommended MFT to us. Results of MRS therapy: "After just three days, Derrick would lie down on the mat on his own; the system was not even turned on, and he would stand in front of me with a questioning look and then run back quickly to the mat and lie down on it in a relaxed manner. After just two weeks, Derrick was again much more vigorous and began to play again. Three months later, he was again able to eat bones. After six months, the proliferation had disappeared completely. After 10 months, a blood test showed no pathological findings.*

• *Münsterland-Swiss mixed breed hound, 10 months old, shoulder height 67 cm. Diagnosis: massive atrophy of the muscles at the right rear, limping severely. According to the person who brought him in, he suffered a fracture of the femur as a puppy but for lack of money they were not able to have it treated properly. Then Elliot was kept in a small cage (4 x 4 m) without any additional exercise. Results of MRS therapy: After just one week, the dog's mobility and gait improved. He began to play and run most of the day with 15 to 20 dogs in a large area 500 square meters in size. After three weeks, we had an X-ray prepared. Findings: the veterinarian at that time had removed the head of the femur. Continuation of therapy: after 4 months, Elliot found a new home with a sympathetic animal lover. We have continued the treatments consistently every day. At his new home, Elliot has achieved a uniform gait with full thrust, an increase in muscle mass, dynamic energy in play.*

• *Rhodesian ridgeback bitch, Aina, 32 kg, 8 years old. Diagnosis: Limping with small, delicate steps, cramped posture, tail pulled in, spondylosis, stenosis in the lumbosacral joint, impossible for her to climb stairs. Various injections did not yield an adequate improvement. Her veterinarian had proposed surgery - otherwise this dog which was otherwise so vital would have to be euthanized. Results of MRS therapy: after the second treatment, the cramps stopped and on the second day Aina went to the mat on her own and was also able to climb stairs more easily. She received a treatment once a day for 12 days. The dog was grateful; Aina began to play again and would again greet us with her tail wagging. Mrs. W. rejected continuation of the therapy for reasons of cost. Nevertheless, Aina has been doing extremely well without any recurrence.*

• *Terrier male, Henry, 16 years old. Diagnosis: he was brought to me after apoplexy (a cerebral stroke). Equilibrium disorders, holding his head at an angle, dragging his paws. Results of MRS therapy: After just a few days of treatment, his general condition improved. After three weeks, Henry was discharged to go home in a relatively good general condition and was able to enjoy ten more months of life.*

• *Mixed breed bitch, Lucy, 16 years old. Diagnosis: general age symptoms. She was brought to us for care for almost three weeks. Because of her age, I placed this dog on the mat three times a day. Results of MRS therapy: after the owner picked up the dog, she called us and asked what we had done to the dog. We were shocked at first, and asked, "Isn't everything okay?" Then the owner said that when Lucy came home, she had climbed the stairs on her own for the first time in ten months. She was much more energetic and more erect and ate much better.*

• *We used the MRS for after-treatment after surgery such as breast cancer surgery and sterilization on the stray dogs we had picked up with great satisfaction.*

4. Thanks to Ernst Hügli

• *Large bitch dog. Diagnosis: In January of 1998 extremely sick (nonspecific diagnosis: poisoning, distemper?), diarrhea, loss of appetite, signs of paralysis, nodules. The dog was sick for*

several weeks, then improved gradually. However she remained absolutely unable to urinate on her own (it had to be squeezed out daily). Results of MRS therapy: on the fifth day of treatment by MRS, the dog was able to urinate on her own for the first time. After 15 days, she succeeded on her own to some extent although irregularly. It is almost never necessary to squeeze out the urine anymore. The dog is more energetic, but she lies down calmly on the mat.

- *Dwarf goat, 1 1/2 years old. Diagnosis: eczema, hair loss, coat looking bad, low weight. Injections of vitamins and trace elements and minerals given by the veterinarian. High-fiber feed with vegetation and bark as an additive. Only a slight improvement. Results of MRS therapy: after two months, there were no more visible symptoms, but the hair was slightly thin. After about four months, the animal is still doing well.*

- *Mare, Contessa, 7 years old. Diagnosis: she has been paralyzed in the right front hip joint for about three months. Using this horse to pull a carriage was out of the question. Even the veterinarian was unable to help, because he could not determine what was wrong with the horse (despite extensive testing including X-rays). Results of MRS therapy: to my amazement, I found that the horse's condition always became worse immediately after a treatment. Mr. Maier reassured me, however, and said that this was simply an initial exacerbation reaction. And in fact, the next morning the animal's progress could not be overlooked. A significant improvement was observed after the 12th week of treatment. On the whole, we have done approximately 35 treatments by now. The horse can now work pulling the carriage without the use of pain pills.*

5. Thanks to Mr. Josef Hammer

- *Dog, Sysley, 15 months old. Diagnosis: surgery on the right knee joint, patella had no hold. The animal could not walk for a long period of time. Third-degree luxation of the patella medially. Indentation of the trochlea. Displacement of the tuberositas tibiae. Results of MRS therapy: Thanks to good surgery on the part of the veterinarian, Dr. Hemma Schilch, Pedit Gratkorn and MRS 2000: After ten days, the animal could walk 70 % on all four paws again. According to the X-ray: very good healing. Sisley can now run freely. In the meantime the screw has been removed.*

6. Thanks to Maria Pfeifer

- *A young leopard (Mag. Jakobs, Herbertstein Zoo), Aron. Diagnosis: Aron was very weak due to a long disease, could hardly walk at all and was not interested in standing up. He had major digestive problems alternating between diarrhea and constipation. Results of MRS therapy: motivating and activating. With each treatment he has become mentally stronger, stands up voluntarily and walks around. He goes to the mat voluntarily, lies down purring and waits until I turn it on.*

7. Thanks to Mrs. Verena Singer

- *Horse. Diagnosis: flexor tendon injury. Results of MRS therapy: after three months of use, the horse's condition became very stable and still has not changed. Before the accident, the horse stumbled frequently depending on the situation. Magnetic field therapy treatments were continued for six months. The horse is now 20 years old and is in movement daily. At the beginning, the treatment was not very simple, but after 2-3 days, the horse could sense an improvement and waited regularly for the treatment.*

- *Dog. Diagnosis: bladder infection, blood in urine. Results of MRS therapy: After seven days of treatments, an improvement was achieved and no more medication had to be used. Since then he has not had any problems. Previously he had a mild bladder infection each winter (does not eat snow).*

- *Cat. Diagnosis: She was shot in the head. For four days the cat did not come home. When she returned, the treatments were begun immediately. The left side of her head was swollen with an infected mass oozing out of the wound. It was very unpleasant. Results of MRS therapy: after one week, the cat was able to eat again, it took in fluids at the beginning but with great difficulty and associated with severe pain. After three weeks, further treatment was refused, the cat felt that she was doing well again. Normally an animal in this condition would have been put to sleep.*

8. Thanks to Mr. Frank Robert Belewsky

- *Horse, 6 years old. Diagnosis: severe chest injury, wound with severe purulence. Results of MRS therapy: After two weeks, the wound*

healed, and after four weeks it could hardly be seen at all and the animal was free of symptoms. After 1 1/2 months, the horse was able to resume riding work. After two months, nothing could be seen of the wound.

Appraisal of MFT: 70-80 % good to very good results in treatment of disorders involving the motor system.

NOTES

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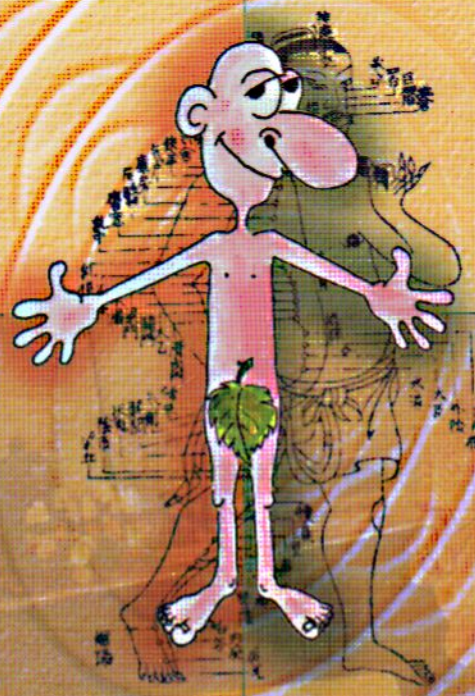
In this book, the author will give some insight into the fascinating world of energy. The future of medicine will take place in the fields of energy and information, and this future has already begun.

Dr. P. Klaus Connert
Adviser to the Austrian Board of Medicine
on alternative medicine

PRACTICE OF MAGNETIC FIELD THERAPY

Dr. Christian Thuile, M. D.



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