

2019 Buyers guide to Pulsed Magnetic Therapy

The 19 Questions You Must Ask Before You Buy Any PEMF Device



2019 Pulsed Magnetic Therapy (PEMF) Buyers Guide Reveals...

"The 19 Questions You Must Ask Before You Buy Any PEMF Device"



You Don't Have to Spend \$500,000
to Find The Best PEMF Machine-Use
My Research Inside And Save Thousands

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“The 19 Questions You Must Ask Before You Buy Any PEMF Device”

In November, 2011 the Dr. Oz Show aired a special broadcast on the pain-relieving effects of Pulsed Electromagnetic Field (PEMF) Therapy devices. Dr. Oz and his panel of experts appearing on his show claimed that numerous individuals might get relief from chronic pain without pills or surgery with the daily use of a PEMF therapy (along with many other benefits). Many thanks to Dr. Oz, for with this great exposure and sharing of knowledge, thousands of Americans now know of this amazing technology.

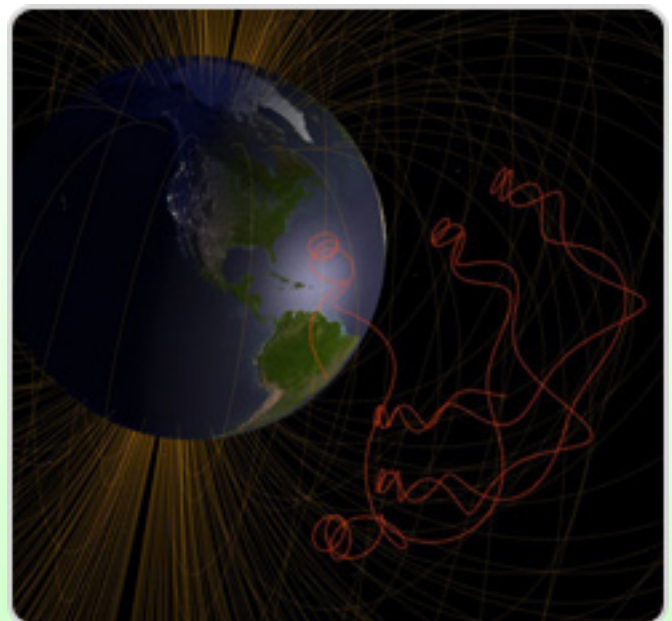
In this buyers guide, I want to share with you 19 critically important questions you need to ask before buying ANY PEMF therapy device.

Question #1: Does the device produce earth-based frequencies?

Make sure to use only PEMF machines that have frequencies that are closely aligned to nature. Ideally this is roughly 0-30 Hz. Nature produces frequencies mainly in this range due to what is called

the Schumann Resonance (7.83 Hz is the 1st harmonic).

Additionally Electroencephalogram EEG studies prove that the brain wave patterns are roughly in this range from Delta to High Beta (0-30 Hz). Even more evidence is Supplied by Adey and Bawin who discovered that the biological window of frequencies the cells absorb is again roughly 0-30 Hz.



Question #2: Does it include a built-in Biorhythm Clock?

Look for a Device with an Organ Clock or at least a machine that adjusts the frequencies to different times of the day. Circadian rhythm or biorhythm studies have proven that our brains, bodies and even the planetary frequencies change at different times of the day. There are both internal (thalamus) and external (environment) biological clocks that have a profound impact on our wake/sleep cycles and energy/tiredness cycles that occur throughout the day and night.



A simplified explanation is that typically we operate at higher or more energized frequencies in the day (Beta/High Beta Brain Wave) while we are working and active and in the evening and nighttime our brain and nervous system operates at lower frequencies (alpha/relaxation, theta and delta/deep sleep).

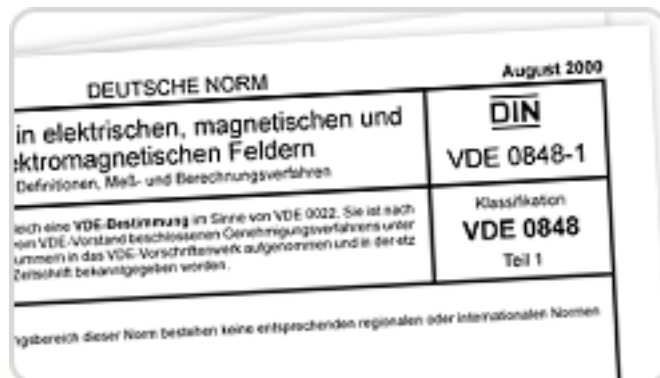
For example, you don't want to be put to sleep in the morning or energized before bedtime. What you need is energizing frequencies early in the day and relaxing ones at night. Most machines DON'T offer this option, so ask. Circadian rhythms in the human body are a well researched phenomenon so having a biorhythm clock keeps the body

"tuned" to the cycles of the body is beneficial.

Question #3: Is it Strong Enough, Yet Safe?

The Device Should be strong enough to handle problem areas yet safe enough to be in compliance with U.S and DIN safety standards. The DIN 0848 safety standard says the intensity should never exceed 400uT or 4 Gauss.

But even better recommendations (because frequency is also taken into effect) are given by the INTERNATIONAL COMMISSION ON NON-IONIZING RADIATION PROTECTION (ICNIRP). The ICNIRP is a world-wide authority on safety related to electromagnetic energy. The EU and FDA both rely on their findings. According to the ICNIRP, the limiting values for safety of time varying PEMF are dependent on both the frequency (usually measured in Hz) and the flux density (or Intensity - measured in microtesla).



The higher the applied frequency the lower the limit value for intensity that is safe. This means, if you apply a very low frequency (like the earth frequency range 1-25 Hz) you are allowed to apply higher intensities.

Critical Point:

- ▶ The limited value according to the ICNIRP for low frequency, time varying PEMF in the range from 0 till 25 HZ is 5000 microTesla
- ▶ If the Frequency is OVER 25 Hz, the limit value for safety is ONLY 5 micro Tesla!
- ▶ It means, that the ICNIRP assumes, that time varying PEMF over 25 HZ with a higher intensity than 5 micro Tesla can create damage

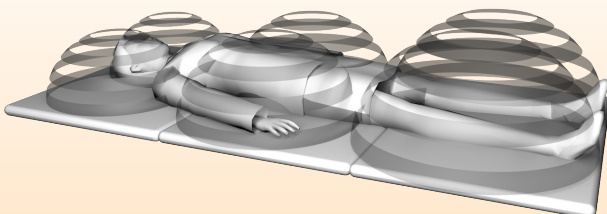
(Note: the Earth's NATURAL magnetic field is roughly 30-70 microtesla and the Natural frequencies are roughly 0-25 Hz).

Some devices on the market have intensities that are way too high. And most PEMF devices use frequencies that are WAY above 25 Hz. Don't be fooled by companies that tell you that you need a stronger intensity to get results. The key is frequency resonance, not intensity. So look for a device that uses frequencies and intensities close to what the earth provides. The iMRS is the ONLY whole body mat PEMF device that meets these requirements (because it uses frequencies and intensities that are in alignment with the earth).

Question #4: **Is there a Sensitive Setting for Sensitive Individuals?**

It is critical to use only machines with low intensities between 0 and 70 uT (Micro tesla). This is what the Earth provides us and it is what is natural (Earth is Approximately 30-70 uT).

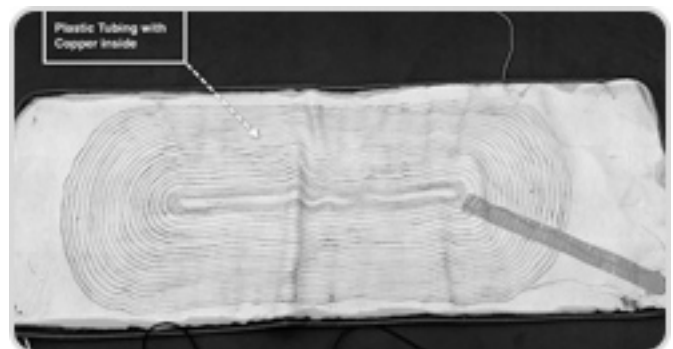
So, you know the old saying, sometimes "Less is More". In Fact, when it comes to PEMF Therapy less can sometimes be essential and more can be harmful. And there is plenty of research to suggest that the lesser field strengths (in the earth's natural range) actually work better in clinical studies. IMPORTANT: If you are chemically sensitive, you will want to find a mat with a picotesla setting (very weak magnetic field).



Question #5: **Is the Intensity Graduated from Head to Feet?**

Make sure to get a full body mat with pairs con-

ducting coils for upper, middle and lower body with a decreasing magnetic flux from head towards the feet. What this means is that you want ideally 3 pairs of coils, for the head/neck, hips/torso and legs/feet and one coil for each side of the body. AND, The coils toward the upper body should have a lower intensity (lower intensity = lower magnetic flux = smaller number of turns in coil) and the coils toward the feet should have a greater intensity (magnetic flux). This is very important because the legs and feet can handle a much higher intensity than the head and neck (which are the most sensitive area). When walking on the earth the feet naturally experience a slightly higher intensity especially when in contact with the ground. But even more important for people that are chemically sensitive or electrosensitive is that the head and neck/thyroid can be easily overstimulated and irritated.



WARNING: Avoid the new wire mesh mats (on Bemer 3000, Medithera and QRS Quantron). These mesh mats CLAIM to offer a more uniform field (and they do) but at the expense of giving both the feet and head the same intensity. This means you are LIMITED by the intensity the head can handle.

Question #6: **Does the Machine Actually Have PURE Pulsating Magnetic Fields?**

Another important point from Physics 101 is that a pure magnetic field using an electrical current can only be created from a circular current loop. Several devices on the market use a wire criss-cross mesh with oval current loops surrounded by plastic tubing (see above image). Not only is this the wrong geometry to create a pure pulsating magnetic field, it also has spacing between consecu-

tive turns which allows the magnetic field lines to be further distorted. Circular loops with multiple turns need to be tightly wound with no spacing to yield the cleanest and purest pulsating magnetic field possible (example below of pure copper, tightly wound circular coils).



The criss-cross wire mesh mats do not have current loops and will NOT create a pure magnetic field. Also, it is pertinent to note that the NASA design for stem cell growth uses pure copper circular coils that are tightly wound, as does the NASA prototype for a PEMF installed spacesuit (Inside of iMRS full body mat pictured below with ideal pure copper coil and graduated intensity configurations).

Question #7: Does the Mat Use a Sawtooth Wave?

You want to find a pulsed magnetic field device that uses a sawtooth waveform. The sawtooth waveform provides the maximum impulse or action potential across the cell membrane which will boost the voltage of the cell.

A sawtooth waveform has the unique ability to deliver bunches of frequencies simultaneously. As we have seen, you'll want to make sure the range delivered is 0-30Hz. By using a full spectrum of frequencies you'll insure that all the varying tissues and cells get just the frequency they need.



The sawtooth waveform was first introduced in 1974 by Bassett. Dr Bassett observed that a rapid

rise and fall time induces the maximum current in a treated tissue as with the sawtooth. In his research it was the piezoelectric current induced which accelerated bone healing. As a result of Bassett's work, this waveform has been FDA approved in the USA for the treatment of non-union fractures and to aid in spinal fusion operations.

Question #8: Do the Applicators Use the NASA Proven Square-Wave?

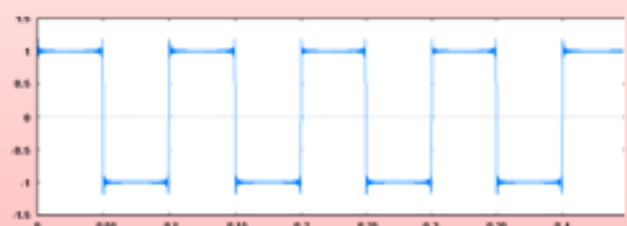
Make Sure the Local Applicators use a SQUARE WAVE. Why? Because the square wave is the most effective for breaking up cycles of pain AND also the square wave works best when it comes to healing and regeneration. This information comes DIRECTLY from the NASA study done on PEMF using a square wave.

The 4 year NASA study is perhaps the most intensive and thorough investigation ever done in pulsed magnetic therapy. It was a multi-million dollar study conducted by Dr. Goodwin with the goal to find the most effective type of electrotherapy for healing and regeneration.

The conclusion was that a pulsating magnetic field with a frequency of 10 Hz, very low intensity and a square waveform was most effective for pain relief, healing and regeneration. Only two devices on the market offer this.

This NASA study CLEARLY proved the square wave pulsed magnetic signal was BY FAR the most powerful for pain, healing and regeneration.

"We have clearly demonstrated the bioelectric/biochemical potentiation of nerve stimulation and restoration in humans as a documented reality".



"The most effective electromagnetic field for repair of trauma was square wave with a rapid rate of change (dB/dt) which saw cell growth increased up to 4.0 times."

They further noted that "slowly varying (millisecond pulse, sine wave) or non varying DC (CW lasers, magnets) had little to no effect."

Final Recommendation: "One may use square wave EM fields with rapid rate of change for":

- ▶ Repairing traumatized tissues
- ▶ Moderating some neurodegenerative diseases
- ▶ Developing tissues for transplantation

*the first study to clarify technologies and efficacy parameters for tissue growth and restoration

Nasa's Conclusions

Pemf Provides:

- ▶ greater cell viability
- ▶ accelerated cell growth
- ▶ better organized cell morphology
- ▶ upregulation of genes related to collagen production
- ▶ upregulation of genes related to cell restoration and growth
- ▶ bioelectric potentiation of nerve stimulation and restoration
- ▶ high-speed square wave increased cell growth four-times faster.

Question #9: Does the Unit Switch Polarity?

Make sure the device switches polarity every few minutes. This is important because the body will acclimate or habituate to a PEMF signal that is

overly simplistic (like static magnets or a simple sine wave PEMF waveform). What this means is that you get diminishing benefits over time because the body "get's used to" a constant signal. The more complexity and variation in the PEMF signal, the better, providing the intensities and frequencies are in alignment with the earth.



Polarity in a PEMF device is a little different than North and South polarity in a static magnet, so it's important to clarify this. Because PEMF devices have no magnets, they use (ideally) pure copper current loops to generate pulsed magnetic fields. By Ampere's law in physics, a current in a circular loop creates a pure magnetic field. But PEMF devices deliver currents that have a frequency and variation, so switching polarity simply means the current in the loop switches direction (from clockwise to counter-clockwise or the reverse). This gives added variation to the signal so the body does not become dependent on the same waveform.

Other ways to increase variation are to use layers of frequencies, different frequencies for different times of the day, a biofeedback device that will continuously vary the session, etc. I know this is a little technical, but its critical for the long term effectiveness of PEMF therapy so you don't get diminishing benefits over time. The iMRS PEMF system has the most variation (including polarity reversal) of any PEMF system on the market which means you will always benefit from using it long

Question #10: Is There an Optional Light and Sound Machine?

A light and sound relaxation system is the ultimate healing "spa" for your brain. Light and sound systems use both audio and visual beats and pulses

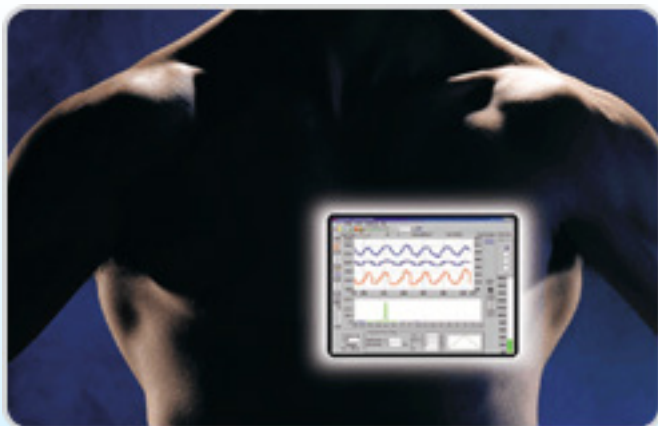
that synchronize and entrain both hemispheres of the brain for greater relaxation, creativity and healing.



This is a nice option especially when the light and sound device plugs into the actual PEFM device and uses the same frequencies that are in the PEFM mat (energizing frequencies in the morning and relaxing and sleep-time frequencies at night).

Question #11: Does the Unit have a Biofeedback Feature?

Biofeedback is the process of becoming aware of various physiological functions using instruments that provide information on the activity of those same systems, with a goal of being able to manipulate them at will. Processes that can be controlled include brainwaves, muscle tone, skin conductance, heart rate and pain perception.



One of the easiest and most effective forms of biofeedback is Heart Rate Variability (HRV) which can be easily and accurately measured through the pulse (finger or ear sensors).

The beauty of using biofeedback to adjust intensities in a PEFM device is that it allows the user to relax and the system will automatically adjust the settings which the body needs for that given time and day.

Only two devices we have seen have a true biofeedback feature. Some claim biofeedback, but if there is no actual sensor hooked up to measure cardiac or brain wave patterns, it is impossible to have biofeedback.

Question #12: Is the Unit Digital and Easy to Upgrade?



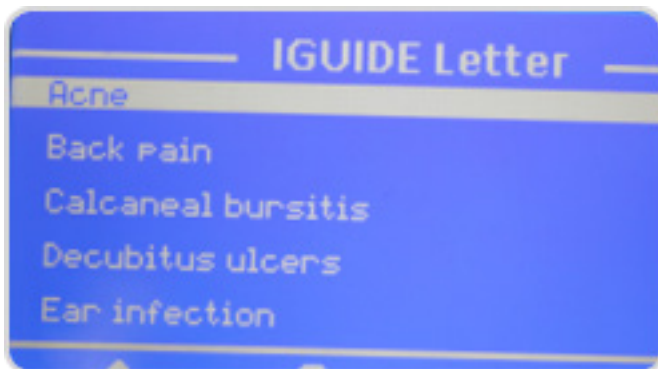
Only a couple PEFM devices on the market are digital and programmable, and only one has a SD card capability to add new software programs and allow upgrades to be implemented easily. The digital and programmability (with SD card) also allows many other features such as:

- ▶ Secure digital and SD card upgrades are connected to the serial number of the unit.
- ▶ The Biorhythm/Organ Clock can be automatically set by internal clock, (but can be overridden if necessary)
- ▶ Ability for setting multiple multiple languages
All the applicators can be plugged into any slot in the back; and the machine intelligently recognized which one is plugged in
- ▶ Allows for a more accurate "self-check" so that if there is any malfunction, the display can alert you what the problem is
- ▶ Allows for a database of protocols like the iGuide available on the iMRS unit (see question 13).

Many PEFM systems on the market are still solid state and have no ability to be upgraded or changed UNLESS a whole new unit is made. This means everything is hard-wired and there is not ability to upgrade or add new software which is 1990's technology.

Question #13:**Does it come with a database of Protocols?**

If you are a health care provider, it is advantageous to have protocols for different health conditions available at your fingertips. Only one device on the market offers this feature for licensed health care practitioners.

**Question #14:****It is FDA Registered?**

FDA Registered

There are only a couple PEMF therapy devices for home use that are registered with the FDA which means they are FDA listed, FDA compliant and have met a stringent set of criteria necessary to be a medical device. If a pulsed magnetic therapy device is FDA registered, you can be assured it is manufactured with the highest quality electronic standards and meets all safety requirements.

Doing some research on the FDA website, you can find a couple companies that claim to be FDA registered or compliant, while in truth they are actually NOT permitted to import their products to the USA as a medical device. They get around this by improperly labeling the device as something unrelated to health and wellness. The MRS 2000/iMRS are one of only two PEMF full body mat devices available in the U.S. that have legitimate FDA registration (as of November 1st, 2013). So do your research.

Question #15:**Why you need a Reputable, Progressive and Well Established PEMF Company?**

Perhaps the most important consideration in investing in a PEMF device is looking for an established company with a long track record, constant innovation and a good reputation. Make sure the unit you buy is with a company that is always improving to make their product better. Unfortunately there are a lot of units on the market that have not changed since their inception or changed very little. Many others quickly come on the PEMF scene and quickly proceed to go out of business. The best companies stick around are ALWAYS researching and working on ways to improve their technology.

**Question #16:****Is the Unit a Good Value (not the cheapest, but best value/dollar)**

Price is always a big issue, but don't confuse price with cost. If a device is priced at say \$4000 and really, really works to the extent that it helps prevent a \$4000 surgery, how much does the unit really COST? Not to mention the pain relief and added benefits that can come with a good PEMF device. Don't settle for a cheap machine that will yield little or no results, because they actually could end up "COSTING" you more.



Question #17: **Does it Come Standard with At Least a 3 Year Warranty?**

Make sure the unit has a good warranty. I recommend finding a PEMF machine with at least a 3-year warranty. These devices are a little pricey and very sensitive, so you want to make sure you are covered. And this also requires the confidence of an established company that has been around for a decade or longer, because if you buy a unit and the company goes out of business, so too does the warranty and support.

Question #18: **Is the Mat Comfortable to use?**

Look for a nice padded mat that is comfortable even on a hard surface. Also the applicators should be convenient and easy to apply.



It is an added bonus if the mat and applicators are easy to clean.

Question #19: **Is the Device Easy to Use?**



Look for a device that is easy to use and operate. Some pulsed electromagnetic therapy devices require a lot of training to use which can become an obstacle to getting fast and consistent results.

Also, to reiterate, make sure to get a PEMF device with a biofeedback system; because a biofeedback system like the iMRS iMORE biofeedback, will automatically adjust the intensity to exactly what the body needs in any given moment. This is like

putting the PEMF mat on autopilot so you can just lie down and relax and not have to worry about what settings to use (the biofeedback system adjusts this automatically).

The Question You Forgot To Ask: **What Kind of Training and Support Do You Include?**

This question is not numbered because it is perhaps the most important. Most of the devices on the market will offer some sort of benefit with the right training and support.



When you buy a PEMF device, you want to make SURE you have expert support available because everyone is unique and has a certain body type and every illness is different and requires a different protocol.

So please listen to this tip above all else: Find a company, distributor or product that offers EXPERT training and support by someone who has at least a couple years experience working with a wide range of body types and disease conditions.



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