

What Does NASA Say About PEMF Therapy?

When it comes to research studies, it does not get any better than NASA. Of more than 10,000 research papers and 2000 plus double blind studies on PEMF therapy; none was more thorough and conclusive as the 4 year NASA study lead by Dr. Thomas Goodwin, PhD, on the ability of PEMF to improve the growth and repair of tissues in mammals¹.

Without getting into technical details of the study, I will summarize and share the main benefits of PEMF therapy that the study conclusively demonstrated as well as the exact type of energy, frequency, intensity and waveform used.

The study was not limited to PEMF therapy, but also to various forms of energy medicine such as lasers, LEDs and static magnets. After finding PEMFs were the most effective in healing and regeneration, Dr. Goodwin and his team looked at many different parameters such as frequency, waveform, intensity, etc. What NASA found was that the best results and greatest efficacy came from Low Frequency, Low Intensity, and Rapidly varying PEMF signals. Basically frequencies and intensities that closely match what the earth gives us with a signal that produces maximum healing effects on the body!

Specifically, NASA found the best results with the PEMF parameters below:

1. Rapid time varying waveform: Specifically the squarewave (sawtooth also fits this criteria)
 1. Low Frequency: 10 Hz (close to the frequencies of earth)
 2. Low Intensity: ~10-200 milligauss (1 - 20 microtesla) which is even less than the strength of the earth's magnetic field (33 - 66 microtesla)

Additionally NASA found that slowly varying (millisecond pulse, sine wave), non-varying (static magnetic) and LASERS had little or no effect.

NASA discovered that the benefits of low frequency, low intensity, rapidly varying PEMF includes better healing and regeneration of damaged or disease tissue, greater cell longevity, accelerated cell growth, improved cellular voltage (mainly observed in nerve cells), upregulation of genes related to collagen production, cell restoration and growth.

NOTE: upregulation is a mechanism that increases the creation of certain gene products.

This study is a landmark in proving the efficacy of PEMF therapy on human cells for healing, growth and regeneration, specifically human nerve cells. These findings confirm that the human body needs frequencies and intensities close to what the earth provides, along with a rapidly varying waveform. Any doubters or naysayers on the efficacy of PEMF therapy are ignorant of over 10,000 studies including a multi-million dollar study by NASA.

Also of note is that Dr. Goodwin has a patent on a PEMF device that uses these parameters. Also NASA's prototype developed at the Johnson Space center uses the low frequency, low intensity rapidly varying waveform.

Excerpt from: PEMF—The Fifth Element of Health by Bryant A. Meyers