PEMF FOR MICROCIRCULATION & INCREASING BLOOD FLOW

CAN PEMFS HELP IMPROVE BLOOD FLOW AND CIRCULATION?

I have previously stated that almost all magnetic fields, static and PEMF, stimulate circulation. Within certain limits, almost any magnetic field intensity will increase circulation. Improvements in circulation are not the limited domain of any single magnetic therapy device. In fact, I came across a study done in Korea using a high intensity 2.5 Tesla coil. The coil was kept away from the body so that it would not touch the skin. The actual measured intensity at the skin was 7000 Gauss (0.7 T) PEMF at a pulse rate of 1 per second, applied for 10 minutes in healthy individuals, using their own limbs as controls. Thermography was used to detect the impact on circulation. Thermography is a standard scientific and clinical tool to assess circulation. When one part of the body is stimulated with PEMFs, other areas in the body also respond with improvements in circulation, although to a weaker extent.

The surface of the human body, that is, the temperature of the skin, reflects the temperature of the deeper tissues in the area of stimulation, so that the temperature of the skin and the blood flow are proportional to each other. There are a number of mechanisms that cause blood vessels to open to improve circulation. These include the movement of ions, production of nitric oxide, among others, the cause blood vessels to dilate, improving circulation. This includes all sizes of blood vessels. When blood vessels dilate there is increased blood flow with increased oxygenation of tissues. Increase circulation is considered one of the primary benefits of PEMFs in helping to heal the body, reduce swelling and increase nutrients and immune factors to tissues.

COMMON SYMPTOMS ASSOCIATED WITH POOR CIRCULATION

Once you better understand the process of PEMF therapy, what it targets, and the benefits that it can have for things like blood flow and circulation, the first thing to do is decide whether or not you may have an issue that needs addressing through treatment. Here are just some of the numerous symptoms of poor blood flow in the body:

TOTAL NUMBNESS AND LOSS OF SENSATION IN THE HANDS, FINGERS, FEET, AND TOES

This situation can occur at any time and can either be an indicator of nerve or tissue damage or, when left untreated can actually *lead* to nerve and tissue damage. This is a serious and dangerous symptom that should never be ignored.

EXTRA SENSITIVITY TO COLDER TEMPERATURES IN YOUR HANDS, FINGERS, LEGS AND FEET

This symptom may also appear without warning at any given time. It is especially telling in those who do not live in an area where the temperatures drop significantly enough to cause this problem on their own. This is often called Raynaud's phenomenon, or when more severe Raynaud's disease.

SEVERE OR CHRONIC FATIGUE IS AN ISSUE FOR PEOPLE WHO AREN'T MOVING AROUND AND BEING ACTIVE

It is very important to remember to stay active and to keep moving. Short, brisk walks, taking the stairs instead of the elevator, riding a bike around the corner instead of driving and many other simple activities can help, in addition to PEMF therapy.

DIZZY SPELLS AND/OR FREQUENT BOUTS OF VERTIGO

People tend to forget that poor circulation can also have a tremendous impact on neurological function. This can lead to brain fog or haze. In these cases, people often have difficulty remembering simple things and, in the more serious cases, trouble focusing and concentrating on even the most basic of tasks. Unusual headaches and increased memory loss may also develop when left unaddressed.

FLAKY AND DRY SKIN

Many people try to deal with this problem with skin moisturizers and hydrators. This may be an effective solution when it is caused by something other than poor circulation. However, an issue like this needs to be treated at its source, not by the symptom itself.

SWELLING IN ANY OF THE EXTREMITIES

Swelling is usually the result of some type of inflammation or blockage of veins in the legs (varicose veins) and is often painful. The discomfort can vary greatly depending on the severity of the swelling. The problem is generally a blockage of the flow of blood in the veins.

PAIN IN ANY OF THE EXTREMITIES

Blockages of the flow of blood in the arteries, is called ischemia. Over time, this problem can lead to significant and increasingly intense pain. It is called claudication.

A SIGNIFICANT AMOUNT OF HAIR LOSS

Many people dismiss hair loss as a hereditary trait or simply as the result of aging. While in most cases this may true, at times it can also be caused by poor blood flow. One of the indictors that your problem may be circulatory is that you experience rapid and sudden hair loss. It is common in the legs in those with chronic circulation problems.

SHORTNESS OF BREATH OR DIFFICULTY BREATHING

When your lungs do not receive the proper amount of oxygen, bouts with shortness of breath will become more and more common. It can escalate to the point of having significant difficulties breathing when ignored, especially with exertion,. This is a very serious problem and should be treated as such.

POTENTIAL ISSUES WITH YOUR HEART

Finally, one of the biggest medical concerns that result from low blood flow is cardiovascular problems. The continual lack of oxygen rich blood cells circulating throughout your body does damage over time. That can ultimately lead to more significant and long term issues with many organs in your body. These events, all combined, can lead to heart failure. This is definitely not something that you want to take lightly.

It is also important to note that any of these individual issues may be caused by a number of other factors. Presenting one or more of them does not necessarily mean that you have poor circulation. However, these are all valid medical concerns that should be immediately investigated regardless of their source. And, if it turns out that blood flow and its regulation are the primary cause, PEMFS may be able to help.

Some of these symptoms might apply to you but bear in mind you don't have to present any, multiple or all or of these symptoms to know your circulation isn't functioning properly. You know your body and how it works better than anyone else, including your doctor. When something is wrong you can feel it. It is important to trust your body when it is telling you that something isn't right, even if the symptoms aren't there to prove it.

SPECIFIC WAYS PEMFS INCREASE CIRCULATION

Now that you know more about what PEMFs are, what they may be able to treat, as well as the symptoms of low blood circulation, let's take a look at the precise ways this form of therapy actually improves circulation:

- Reduces Inflammation Which Restricts the Flow of Blood
- Provides Energy to the Cells and Keeps Red Blood Cells From Clumping Up Together
- Dilates the Capillaries for Improved Micro-Circulation

Thermography is often used to study circulation. The thermogram images below clearly demonstrate a significant difference in circulation between the unstimulated and stimulated parts of the body. In figure 4 only the sole of the right foot was stimulated. In figure 5 the palms, knees and soles of the feet were each stimulated separately. The images on the left are before stimulation and the images on the right are after stimulation.

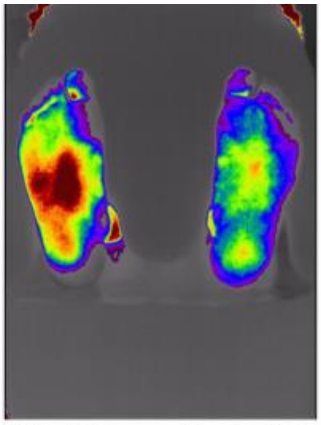
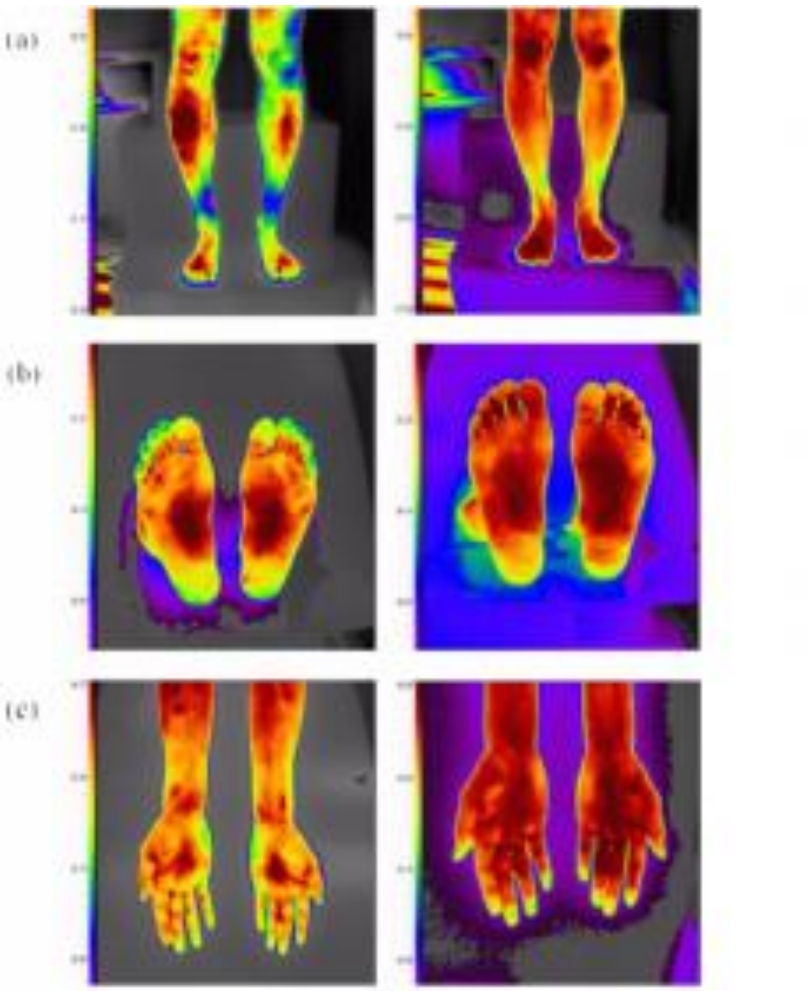


Fig. 4. (Color online) Thermogram of right and left plantar skin of male of 33-years-old. Pulsed magnetic field stimulus applied to only right plantar skin.



Study reviewed by Dr. William Pawluk, MD

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From: Effect of Pulse Magnetic Field Stimulus on Blood Flow using Digital Infrared Thermal Imaging. Lee Hyun Sook. J Korean Magnetics Society, October 2011, 21 (5), 180-184.