

GET GROUNDED

The Benefits of Maintaining a Connection to the Earth

A Special Report by Logan Christopher

www.LegendaryStrength.com

Introduction

Sometimes it's the simplest things that can make a big difference. In this report I'm going to be sharing one of those simple things. You'll see the research behind it and how you can apply it right away to increase your health and also your ability to perform in the gym, on the mat, or on the field.

This idea makes intuitive sense. Despite that, the vast majority of people haven't done it in a long time. In fact, they do things in order to specifically shield themselves from the beneficial aspects. After you finish this report, armed with this knowledge, this won't be you.

There has been a rise in all chronic diseases over the years despite rapid advancements in knowledge and medicine. What causes all this? While there are many causes, as science further advances we begin to see that many of these various elements have the same root causes.

One of these causes is having our bodies disconnected from the earth. That's right. Maintaining a connection to the earth is one of the best things you can do for your health. Not only that but as you shall come to see, it can play a significant role in your recovery and cardiovascular capabilities. These means improved performance.

The Research

This area has just begun to receive scientific attention. Several studies have already been conducted with many more to come in upcoming years. In this section we'll briefly explore those studies.

Instead of you having to wade through many pages of research, I've pulled out the bits that seem most applicable and noteworthy, including the setup and conclusions of each study.

Of course, I invite you to dive into the full research. You can read the complete research reports at: <http://earthinginstitute.net/index.php/research>

Or you can read the book 'Earthing: The most important health discovery ever?' available on Amazon.com and other book retailers for even more detailed research.

There is also a link to each study found within the summary below.

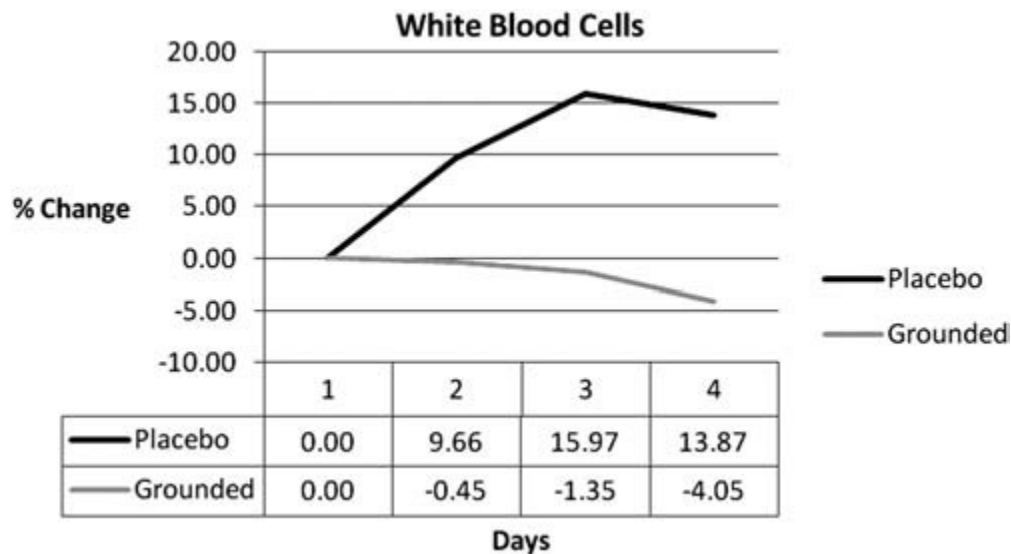
Also as this is research, there are many terms which you may be unfamiliar with. Don't worry if you don't know what every term means. You'll be able to grasp the conclusions of each study without knowing what bilirubin or a Pi=PCr ratio is. (I don't know, so don't ask.)

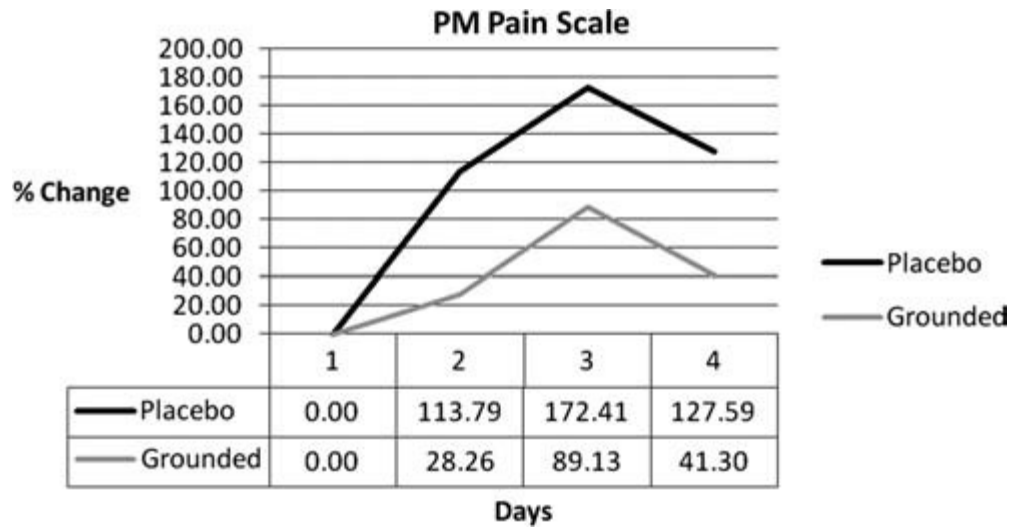
Pilot Study on the Effect of Grounding on Delayed-Onset Muscle Soreness

http://earthinginstitute.net/studies/earthing_delayed_muscle_2010.pdf

The purpose of this pilot study was to see whether there were markers that might differentiate between subjects who had undergone a bout of eccentric exercise resulting in delayed-onset muscle soreness (DOMS) and acute inflammation and were then “grounded” by sleeping on the patented sheets as opposed to those who had undergone the same process but slept on sham sheets and were not “grounded.” If markers were able to differentiate these groups, these markers could be studied in greater detail with a larger subject base in the future.

DOMS is a well-known result of excessive, unfamiliar, or intensive exercise movements. Muscle cell breakdown occurs along the Z-lines, which are the regions where tension developed within the muscle cell is conducted to the myofascial system, and by leakage across cell membranes. To date, there is no known treatment that reduces the time frame to recovery, but apparently massage and hydrotherapy and acupuncture can reduce pain. This condition presents in 24–48 hours after the exercise and its duration can last well over 96 hours. It produces acute inflammation in the muscle(s) affected.





Forty-eight (48) markers were measured. In 30 of these markers, a consistent pattern emerged; over the 3-day testing period, one or the other group was always above or below the other group. Of 144 data points, 52 (36.1%) showed differences of 10% or greater and 30 (20.8%) showed differences of 20% or greater. White blood cells, neutrophils, lymphocytes, bilirubin, creatine kinase, Pi=PCr ratios, GPC, PC and both a subjective and objective pain measurement had a strong, positive relationship with the grounded subjects. **Grounding appears to be the first intervention with the potential to reduce the time of recovery and improve muscle function from DOMS.**

The Biologic Effects of Grounding the Human Body During Sleep as Measured by Cortisol Levels and Subjective Reporting of Sleep, Pain, and Stress
http://earthinginstitute.net/studies/cortisol_study_2004.pdf

Objectives: Diurnal cortisol secretion levels were measured and circadian cortisol profiles were evaluated in a pilot study conducted to test the hypothesis that grounding the human body to earth during sleep will result in quantifiable changes in cortisol. It was also hypothesized that grounding the human body would result in changes in sleep, pain, and stress (anxiety, depression, irritability), as measured by subjective reporting.

Subjects and Interventions: Twelve (12) subjects with complaints of sleep dysfunction, pain, and stress were grounded to earth during sleep for 8 weeks in their own beds using a conductive mattress pad. Saliva tests were administered to establish pregrounding baseline cortisol levels. Levels were obtained at 4-hour intervals for a 24-hour period to determine the circadian cortisol profile. Cortisol testing was repeated at week 6. Subjective symptoms of sleep dysfunction, pain, and stress were reported daily throughout the 8-week test period.

Results: Measurable improvements in diurnal cortisol profiles were observed, with cortisol levels significantly reduced during night-time sleep. Subjects' 24-hour circadian cortisol profiles showed a trend toward normalization. Subjectively reported symptoms, including sleep dysfunction, pain, and stress, were reduced or eliminated in nearly all subjects.

At the end of the 8-week test period, 11 of 12 subjects reported that it took less time to fall asleep while grounded to earth. All 12 subjects reported waking fewer times during the night. The average number of times that subjects reported waking up during the night, pregrounding, was 2.5 times per night (group average), and this average dropped to 1.4 times per night or a 44% reduction. Nine (9) of the 12 subjects reported improvement in fatigue (more refreshed/less fatigued), 2 reported no change, and 1 reported feeling worse. Ten (10) of 12 subjects reported decreased pain with sleep, 1 reported no change, and 1 reported worsening of pain.

Of the 11 subjects who reported, pregrounding, that pain interfered with general activities, 7 reported improvement and 4 reported no change after sleeping grounded to earth. Nine (9) of 12 subjects reported improvement in daytime energy levels and 3 subjects reported no change. Nine (9) of 12 subjects reported reduction in emotional stress level. They were less bothered by problems such as anxiety, depression and irritability. Two (2) subjects reported no change and 1 reported worse stress levels.

Conclusions: Results indicate that grounding the human body to earth ("earthing") during sleep reduces night-time levels of cortisol and resynchronizes cortisol hormone secretion more in alignment with the natural 24-hour circadian rhythm profile. Changes were most apparent in females. Furthermore, subjective reporting indicates that grounding the human body to earth during sleep improves sleep, reduces pain and stress.

Grounding the Human Body to Earth
Reduces Chronic Inflammation and Related Chronic Pain

http://earthinginstitute.net/studies/earthing_chronic_inflammation_2003.pdf

The purpose of this paper is to present evidence that grounding the human body to earth reduces chronic inflammation and related chronic pain. More specifically, the evidence presented demonstrates that, when the body is electrically grounded to the earth, the direct current (DC) voltage of the earth creates, in effect, a natural electron shield (faraday cage) on the surface of the body. This natural shield then prevents environmental 50-60 Hz electric fields from creating electron disturbances in the body that elevate free radical levels and promote chronic inflammation and related chronic pain.

Chronic inflammation and free radicals

The normal inflammatory response is, in part, a burst of free radicals produced by the immune system in response to an injury. This natural production of free radicals occurs to prevent infection and to promote healing at a site of injury. In simple terms, a free radical is an electrically charged particle. This electrical charge occurs because the free radical is missing an electron. To become stabilized, a free radical must "steal" its missing electron from another molecule. When the electron is stolen from an invader (e.g., bacteria), the invader's molecular structure is damaged, which leads to its death (as intended by the immune system). When there are no invaders left to destroy and when there is a lack of electrons available from antioxidants to stabilize excess free radicals, free radicals then turn to the only other source from which they can steal electrons - healthy cells. The resulting damage to and death of healthy cells, from loss of electrons to free radicals, further signals the immune system for additional help. This sets up a continuous autoimmune response (creating more free radicals), which promotes chronic inflammation and tissue damage, commonly referred to as oxidative stress.

Chronic overproduction of free radicals by the immune system results in inflammatory-related disease such as arthritis, arteriosclerosis, heart attack, Type II diabetes, lupus, MS, asthma, inflammatory bowel disease, etc. A classic example of the damage caused by excess free radical production is the chronic swelling and joint degeneration of arthritis. A chronic inflammatory condition can only stop when the excess of electrically charged free radicals.

Free radical levels are increased by exposure to environmental electromagnetic fields

It is known that exposure to environmental 50-60 Hz electromagnetic fields increases concentrations of free radicals, lengthens their lifespan, and enhances the probability that they can do damage to the body.

The shielding effect of the earth's natural electric field

It is common knowledge (and demonstrable with a voltmeter) that physical contact with the earth maintains the human body at the natural electrical potential (voltage) of the earth. When the body is electrically coupled with the earth, the DC electrons of the earth and/or its related electric field, then residing on the surface of the body, absorb the

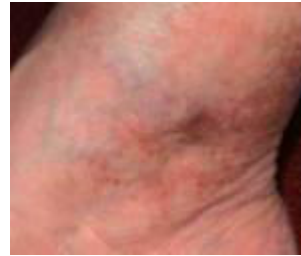
excitation effects of 50-60 Hz environmental electric fields. By transferring (offsetting) the attraction of an electric field from the body (which has a limited supply of electrons) to the earth (which has an infinite supply of electrons), excitation of the body's electrons is significantly reduced. When the body is shielded with the DC of the earth, the electrons of the body are then protected from being disturbed and held "hostage" as 50-60 Hz induced body voltage and away from their normal functions. Shielding, via grounding, allows the body to have all of its electrons available to carry on their normal functions in the body, which include the stabilization of excess free radicals.

Grounding the body to earth reduces chronic inflammation

To demonstrate the effects of restoring the natural direct current and electric field of the earth to the surface of the body, individuals with long-term chronic inflammation were grounded to earth.



Before: Arthritic Inflammation



After Grounding for 7 nights

Subject Before Grounding

- 1 3.940 V
- 2 1.470 V
- 3 2.700 V
- 4 1.200 V
- 5 2.700 V
- 6 1.670 V
- 7 5.950 V
- 8 3.940 V

After Grounding

- 0.003 V
- 0.001 V
- 0.004 V
- 0.002 V
- 0.005 V
- 0.005 V
- 0.008 V
- 0.008 V

Sampling of AC electric field induced voltage measured on subjects' bodies while lying in their own beds

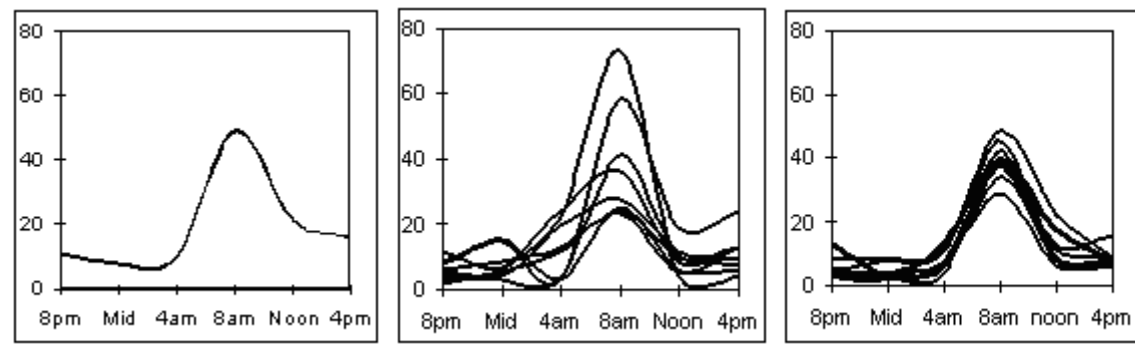


Fig. 1: Normal circadian cortisol profile

Fig. 2: Test subjects' circadian cortisol profiles pre-sleeping grounded

Fig. 3: Test subjects' circadian cortisol profiles sleeping grounded

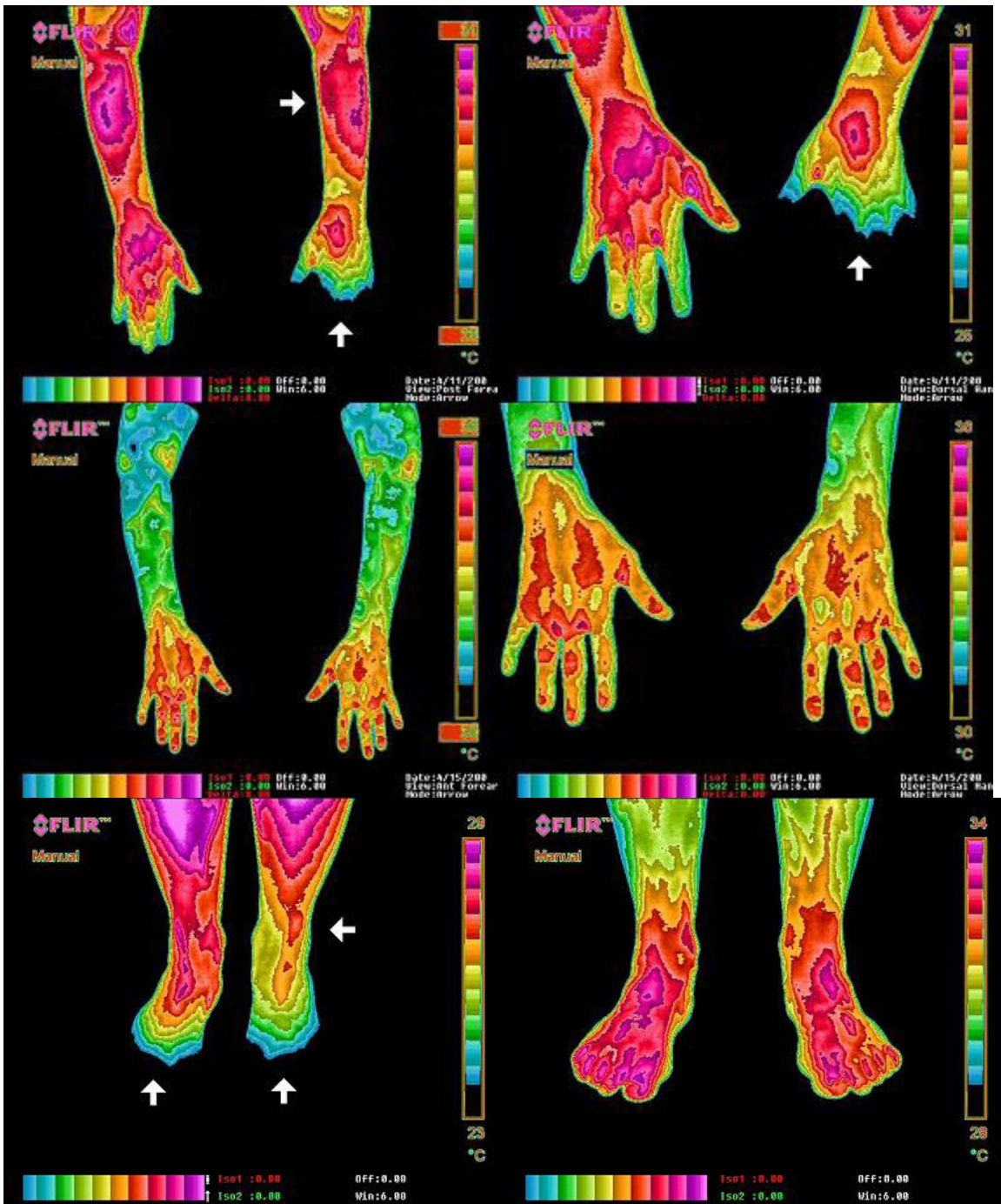
In unstressed individuals the normal 24-hour circadian cortisol secretion profile follows a predictable pattern, lowest at 12 midnight and highest at 8AM (see figure 1). Abnormal cortisol secretion during sleep is associated with sleep disorders and chronic inflammation, and can also contribute to abnormal glucose levels, decreased immune response, mood disturbances, gastrointestinal disorders, chronic pain, fatigue, decreased bone density, autoimmune disease, high blood pressure and heart disease.

Medical Thermography Case Studies

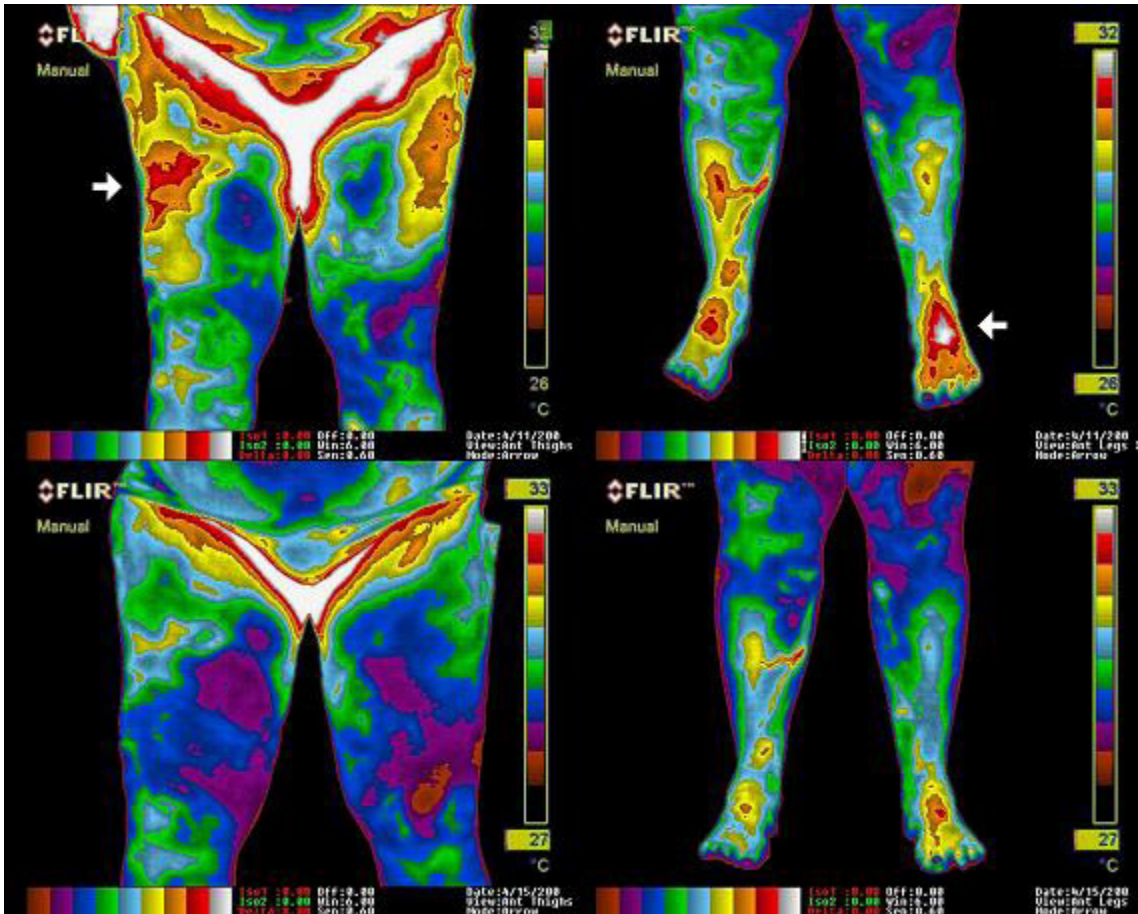
http://earthinginstitute.net/studies/thermographic_histories_2004.pdf

The case studies presented were performed out of an out-patient clinical treatment center in Redwood City, California. The subjects were randomly selected out of the treatment database as they presented for care. Each subject consented to inclusion in the study. Pain levels were assessed and followed using the standardized four point visual analogue pain scale. Thermal imaging of each subject was undertaken utilizing standardized pre-examination preparation protocols and strict image acquisition according to published guidelines. Some of the subjects were supplied with an *earthing* sleep system consisting of bedding containing conductive fibers, which was placed on top of the subject's mattress and thereafter connected to the earth via a conductive ground cord and an *earthed* ground rod. Other subjects were given clinical *earthing* treatments, which entailed the use of conductive electrode adhesive patches that were attached to the skin at specific points and thereafter coupled to the earth via a conductive ground wire that was connected to an earthed ground rod. All of the subjects were followed over time and their results recorded and summarized.

Use of high-resolution medical infrared imaging as an objective assessment of both inflammatory and neurophysiologic conditions demonstrated significant immediate changes in both acute and chronic inflammation related conditions.



The thermographic images above show the dramatic improvement in circulation and significant response to decreased pain after only 4 nights sleeping on the Electron Transfer Technology sleep system



The top row images are of the lower extremities taken as a baseline on 4-11-05 (prior to earthing). The arrows denote the most significant areas of inflammation, which correspond precisely with the subject's areas of complaint. The bottom row images were taken on 4-15-05 after 4 nights of sleeping on the earthing system. Note the significant reduction in inflammation and a return towards normal thermal symmetry.

Take Aways

As was stated earlier these are just preliminary studies with many more being conducted now and in the near future. But as you can see grounding has some amazing benefits not just for your average person but for athletes of all kinds as well.

- 1. Grounding reduces recovery time and limits muscle soreness.**
- 2. Grounding reduces night-time cortisol levels and resynchronizes it towards the natural rhythm (especially in females).**
- 3. Grounding improves sleep.**
- 4. Grounding shields the body from harmful electromagnetic effects which allows body to function normally in regards to electrons and free radicals.**
- 5. Grounding reduces chronic inflammation and pain.**
- 6. Grounding improves circulation.**

These are some of the big takeaways I got from the research (and there are probably a few I missed).

This means you'll be healthier overall. When you train you'll be able to recover better coming from many fronts. Better sleep obviously something everyone can use, especially if you're not getting enough. Better circulation allows the blood and nutrients it carries to get where they need to go. This is likely the cause of reduced inflammation and muscle soreness. Reducing cortisol (the stress hormone) has many effects as most people these days are in a chronically stressed state. Less stress is caused on the body due to the shielding effect that grounding gives you against harmful EMF's.

How to Apply This

The obvious thing to do is go outside, barefoot and stand on the ground. Although there are some immediate effects, for best results you want to be grounded for at least 30 minutes. And of course, the more time you can be grounded the better. However don't expect to feel an immediate difference. The effects may be subtle but can have long or even short-term benefits.

The problem with this is, most of us don't have the time to go and sit outside. Maybe if you workout outside you can start to do it barefoot now. That's what I do. (And no, Vibram's don't count. While they may help your feet get in proper realignment, they are missing a vital piece, in that they still insulate you from the earth.)

So what do you do? As you may have gathered from reading the studies, there are ways to keep yourself grounded, even as you sleep in your own bed. These grounding products use the grounding plug available in almost all homes to connect to the earth.

In fact, I'm grounded right now as I'm writing this to you. I have a connected and conductive pad at my feet so I can be grounded, and receive all the tremendous benefits, even while I'm working in my office.

There are several different products available to ground you in the comfort of your own home. You can find these at:

<http://stores.earthing.com/>

I receive no payment or commission for recommending these products. It's just that now that I have been using them for a few months I know I can't go back. Well worth the money as its an investment you can reap the benefits of over the long haul.

Conclusion

Thanks for reading this far into the report. The fact that you did so and didn't just leave it collecting digital dust on your hard drive means you're in the top 5%.

I hope the research presented in this short report has opened your eyes to new ways you can become healthier. I know when I heard about this information I was amazed. It's simple yet profound and it's effects drastic.

I have been engaged in research on health and the many ways you can attain it for several reasons. The obvious reason of having health and avoiding illness and disease. Also I know that improved health has a positive correlation to performance which is my primary field of interest and possibly yours as well.

Just released is my new book **101 Simple Steps to Radiant Health**. Health doesn't have to be hard. Touching the earth sure isn't. That's what this book is about. The *simple steps* to becoming super healthy. Check it out at <http://www.radianthealthtoday.com/book/>

In health,

A handwritten signature in black ink, appearing to read 'Logan Christopher', with a stylized, cursive script.

Logan Christopher