

An Overview of FAR-INFRARED THERAPY for HEALTHY AGING & DETOX

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What is Infrared Heat?

Radiant heat is simply a form of energy that heats objects directly, without having to heat the surrounding air. Radiant heat is also called infrared energy or IR. The electromagnetic spectrum is divided into three segments of wavelength, measured in microns or micrometers (a micron = 1/1,000,000 or a micron or 0.000,001): 0.076 to 5.6 = middle or intermediate, 5.6 to 1000 = far or long wave infrared. The far-infrared segment of the electromagnetic spectrum occurs just below or "infra" to red light as the next lowest energy band. This band of light is not visible to human eyes but can be seen by special cameras that translate infrared into visible colors, such as done by thermal cameras. We can, however, feel this type of light, which we perceive as heat. The sun produces most of its energy in the infrared segment of the spectrum. Our atmosphere has a "window" in it that allows infrared rays in the 7 to 14 micron ranges to safely reach the earth's surface. When warmed, the earth radiates infrared rays in the 7 to 14 micron bands, with peak output at 10 microns.

Our tissues normally produce infrared energy for warmth and tissue repair. Tissue production of infrared energy is associated with a variety of healing responses. At times, the infrared energy in our tissues may require a boost to a higher level to ensure the fullest healing possible for tissue repair, as you will learn and observe from the MPS Global, Inc., products (MPS capsule & sauna) and Oaky Smoky™ concentrate and its products.

Body tissues that need an infrared boost, selectively absorb infrared rays. The tissue will only use the infrared rays in areas where it is needed. After boosting a tissue's infrared energy, the remaining rays pass onward harmlessly. This phenomenon is called "resonant absorption." Our bodies radiate infrared energy through the skin at 3 to 50 microns, with most output at 9.4 microns. Our palms emit infrared energy in the level of 8 to 14 microns. Palm healing, an ancient tradition in China, has used the healing properties of infrared rays for 3,000 years. Yogis in India also employ palm healing and recommend it especially for relieving eyestrain.

History of the Sauna and Development of Far-Infrared Therapy

The Finns first popularized sauna use in Europe. Their ancient religious ceremonies used it for mental, spiritual, and physical cleansing. Use of the sauna in their religion stayed with them when they migrated between 5,000 and 3,000 B.C. from an area northwest of Tibet to their present location in Finland. Similarly, Native Americans have used sweat lodges for cleansing and purifying since prehistoric times, recognizing the health benefits, as well.

Dr. Tadashi Ishikawa, a member of the Research and Development Department of Fuji Medical, received a patent in 1965 for a zirconium ceramic infrared heater used in the first healing infrared thermal systems. Medical practitioners in Japan were the only ones using infrared thermal systems for 14 years. In 1979, they were finally released for public use. The technique has been further refined into far-infrared thermal systems, such as developed by MPS Global, Inc., and are being sold in the United States. One use of infrared heat in the United States has been in the form of panels used in hospital nurseries to warm newborns.

Far Infrared Therapy and Electromagnetic Fields

Recently, there have been reports detailing the hazards of exposure to certain kinds of electromagnetic fields, such as those from high-tension power lines, cell phones, or from computer display terminals. Infrared heating systems have been tested in Japan and found to be free of toxic electromagnetic fields. The Swedish National Institute of Radiation Protection has also concluded that infrared heaters are not dangerous. Instead, Japanese researchers have reported that infrared radiant heat antidotes the negative effects of toxic electromagnetic sources.

Infrared energy penetrates tissues to a depth of over one inch. If high-grade jade enhances the source of the far-infrared energy, the penetration rate may be as much as 4 – 6 inches. IR energy output is tuned to correspond closely to the body's own radiant energy, so that body tissues absorb close to 93 percent of the infrared waves that reach the skin. A conventional sauna, in comparison, must rely on an indirect means of heat to produce the heating effect on the body by (convection: air currents and condition and direct skin contact with hot air). The MPS capsule and sauna use special carbon fibers manufactured by Daiguin, that generate far-infrared at temperatures as high as 180oF in the capsule and 148oF on the spine (via jade balls). The special carbon fiber allows one to touch these surfaces without burning one's skin.

The radiant heat generated by these carbon fibers creates a penetrating heat and mildly warm air (which only heats the skin superficially). This crucial difference explains the many unprecedented benefits that come from its use that are not attainable in conventional saunas.

Another difference lies in the process of sweating. Infrared energy created in an MPS capsule may induce up to two to three times the volume of sweat produced in a traditional sauna, while operating at significantly cooler temperatures (100-130oF – 37-55oC, compared to 180-235oF). The lower heat is safer for those concerned with cardiovascular risk factors that might be adversely affected by high temperatures encountered in more traditional saunas. In fact, German researchers have reported beneficial effects from hour-long, whole-body infrared exposure in two groups of hypertensive patients studied in 1989. They included a 24 –hour-long increase in peripheral blood flow and decrease in high blood pressure. One issue for traditional sauna users has been breathing exceptionally hot air. Unlike traditional saunas which require a closed atmosphere to maintain the levels of heat required for therapeutic results, infrared saunas can be used with the door or window fully open if the only desired effect is infrared penetration. It is distinctly more pleasant to breathe air that is 50-125oF (10-60oC); in an infrared sauna, patients breathe cooler air, while maintaining a feeling of warmth.

Therapeutic Effects of Far-Infrared Therapy

Far-Infrared therapy can result in using MPS Capsule, sauna, and Oaky Smoky™

concentrate. Oaky Smoky™ is a plant vinegar made from oak wood charcoal. It is made by condensating the smoke from burning oak wood into a liquid. The liquid is filtered to remove any harmful chemicals that are associated with charcoals.

The oak tree lives for many years and gathers nutrients from the air and soil to thrive on this earth. It is a very strong and majestic tree, which contains far-infrared micron energies within the same range as a human (9.4 microns). Our earth puts out 10 microns, thus humans need to resonate with the earth, as it is a living source of far-infrared, too.

Oaky Smoky™, oak wood charcoal vinegar, is considered to be a radiator of far-infrared rays and has a very high transmissivity into the materials (living cells) and has the warming effect of kinetic energy by vibration or rotation of the molecules, resulting in biological effects of warming, sweating, easier metabolism, better blood circulation and pain alleviation by stimulating the cerebral nerves and autonomic nerve system. There have been reports that the charcoal as a radiator of far-infrared rays is effective in helping in the recovery from fatigue and to prevent the disease, diabetes.

Using Oaky Smoky™ concentrate and the MPS Capsule together allows for accelerated healing and penetration of booster far-infrared rays into the cells and target organs that have been compromised from some disease, disorder or physical trauma. The use of the MPS Capsule alone can result in these therapeutic occurrences:

- Increases extensibility of collagen tissue. Use of far-infrared heat causes muscles to stretch more than ones with regular heat.
- Decreases joint stiffness. (There is a 20% decrease in rheumatoid finger joint stiffness at 112°F as compared to 92°F, which correlates perfectly to both subjective and objective observation of stiffness.)
- Relieves muscle pain, spasms, and neuropathological conditions.
- Leads to pain relief. Pain may be relieved via the reduction of attendant or secondary spasms. Pain is also, at times, related to ischemia (lack of blood supply) due to tension or spasm that can be improved by the hyperemia that heat-induced vasodilatation produces, thus breaking the feedback loop in which the ischemia leads to further spasm and then more pain.
- Heat may lead to both increased endorphin production and a shutting down of the so-called "spinal gate" of Metzack and Wall, each of which can reduce pain.
- Increases blood flow. Heating muscles produces an increased blood flow level similar to that seen during exercise. Temperature elevation also produces an increased blood flow and dilation directly in capillaries, arterioles, and venules, probably through direct action on their smooth muscles. The release of bradykinin, released as a consequence of sweat-gland activity, also produces increased blood flow and vasodilatation.
- Assists in resolution of inflammatory infiltrates, edema, and exudates. Increased peripheral circulation provides the transport needed to help evacuate edema, which can help inflammation, decrease pain, and help speed healing.
- Introduced in cancer therapy. More recently, infrared heat has been used in cancer therapy. This is a new experimental procedure that shows great promise in some cases, when used properly. American researchers favor careful monitoring of the tumor

temperature, whereas, the successes reported in Japan make no mention of such precaution.

International Reports on Far-Infrared Therapy Use

Over the last 25 years, Japanese and Chinese researchers and clinicians have completed extensive research on infrared treatments and report many provocative findings. In Japan, there is an "infrared society" composed of medical doctors and physical therapists dedicated to further infrared research. Their findings support the health benefits of infrared therapy as a method of healing.

There have been over 700,000 infrared thermal systems sold in the Orient for whole-body treatments. An additional 30 million people have received localized infrared treatment in the Orient, Europe, and Australia with lamps, which emit the same 2-25 micron wave bands as employed in a whole body system. In Germany, physicians in an independently developed form have used whole-body infrared therapy for over 80 years.

Therapeutic Applications of Far-Infrared Therapy

Cardiovascular Conditioning and Weight Loss

The August 7, 1981 issue of the Journal of the American Medical Association (JAMA) reported what is common knowledge today. Many people who run, do so to place a demand on their cardiovascular system, as well as to build muscle. What isn't well known is that it also reported the "regular use of a sauna may impart a similar stress on the cardiovascular system, and its regular use may be as effective as a means of cardiovascular conditioning and burning of calories as regular exercise." It has been found that the far-infrared sauna makes it possible for people in wheelchairs, those who are otherwise unable to exert themselves, and those who won't follow an exercising/conditioning program to achieve a cardiovascular training effect. It also allows for more variety in any ongoing training program. As a confirmation of the validity of this form of cardiovascular conditioning, extensive research by NASA in the early 1980's led to the conclusion that infrared stimulation of cardiovascular function would be the ideal way to maintain cardiovascular conditioning in American astronauts during long space flights.

Guyton's Textbook of Medical Physiology reports that producing one gram of sweat requires 0.586 kcal. The JAMA citation above goes on to state "A moderately conditioned person can easily sweat off 500 grams in a sauna, consuming nearly 300 kcal – the equivalent of running two to three miles. A heat-conditioned person can easily sweat off 600 to 800 kcal with no adverse effect. While the weight of water loss can be regained by rehydration, the calories consumed will not be." Since an infrared sauna helps generate two to three times the sweat produced in a conventional hot-air sauna, the implications for increased caloric consumption are quite impressive.

Far-Infrared Therapy can, therefore, play a pivotal role in both weight control and cardiovascular conditioning. It is valuable for those who do not or cannot exercise, but who want an effective weight control and fitness maintenance program.

Additional findings:

- Coronary Artery Disease, Arteriosclerosis, and Hypertension have been reduced due to regular dilation and contraction after exposure to far-infrared therapy.
- Environmental Toxin Overload – chemicals that have a lower melting point than the heat

generated by the far-infrared will become unlodged. The combinative use of Oaky Smoky™ concentrate would aid in neutralizing the chemical compounds. Symptoms of toxic overload include fatigue, headache, joint or muscle pain, frequent colds and flu, allergies, hormonal imbalance, chemical sensitivity, sinus congestions, psoriasis and other skin conditions, loss of dexterity, insomnia, and more. Psychological symptoms include poor concentration, memory loss, mood changes, mental confusion, and changes in behavior.

Contraindications for Far-Infrared Therapy

Prescription Drugs

If you are using prescription drugs, check with your physician or pharmacist for possible changes in the drug's effect due to an interaction with infrared energy.

Certain Ailments

According to some authorities, it is considered inadvisable to raise the core temperature of someone with adrenal suppression, systemic lupus erythematosus, or multiple sclerosis.

Joint Problems

If a person has a recent (acute) joint injury, it should not be heated for the first 48 hours, or until the hot and swollen symptoms subside. Joints that are chronically hot and swollen may respond poorly to vigorous heating of any kind. Vigorous heating is strictly contraindicated in cases of enclosed infections, be they dental, in joints, or in any other tissues.

Pregnancy

In pregnancy or the suspicion of pregnancy, discontinuation of sauna use is recommended. Finnish women use traditional saunas that don't heat the body as deeply as an infrared sauna (for only six to twelve minutes) and reportedly leave at that time, due to perceived discomfort. Their usage of traditional saunas at this low level of intensity is not linked to birth defects. Infrared sauna use may be two to three times more intense, due to deep tissue penetration, and comparatively shorter (two to six-minute) sessions hardly seem worth any minimal risk they may present.

Surgical Implants

Metal pins, rods, artificial joints, or any other surgical implants generally reflect infrared rays and are not heated by an infrared heat system. Nevertheless, a person should consult his or her surgeon before receiving such therapy. Certainly, infrared therapy must be discontinued if a person experiences pain near any implants.

Silicone

Silicone does absorb infrared energy. Infrared rays may warm implanted silicone or silicone prostheses for nose or ear replacement. Since silicone melts at over 200 degrees Celsius, it should not be adversely affected by an infrared heat system. However, it is still advised that a person check with his or her surgeon to be certain.

Menstruation

Heating of the low-back area of women during the menstrual period may temporarily

increase menstrual flow. Once a woman is aware that this is occurring, she can choose to allow herself to experience this short-term effect without worry, or she may simply avoid using an infrared heat source at that time in her cycle.

Hemorrhage

Hemophiliacs and anyone predisposed to hemorrhage should avoid infrared usage or any type of heating that would induce vasodilatation that can lead to the tendency to bleed.

Worsened Condition

Should any condition worsen with the use of an infrared heat system, the use of the system should be discontinued. In the case of Bio-Oaky Concentrate, usage cases with serious tumors or disorders may get worse just before the change in their conditions turns for the better.

Pain

Pain should not be experienced when using an infrared heat system. If one does, the use of radiant heat is clearly inappropriate for the person at that time. In some cases where you may have had a previous physical injury to a particular body area, one may experience the same pain in that area as originally experienced. This is because the far-infrared energy is being filled into this area, as a boosting effect.

Summary

It is to this end that Far-Infrared Therapy is effective and also by its direct heating effects on the tissue or its internal absorption through high far infrared reflective oak wood charcoal vinegar (Oaky Smoky™ concentrate).

Far-Infrared Therapy mobilizes toxins from fat cells and increases circulation, thus aiding in elimination of these toxins in their bodies that they are exposed to each day. Normal sweat is 97.99% water; sweat induced by Far Infrared Therapy is only 80-85% water. The rest is composed of environmental toxins that are being mobilized, some heavy metals, urea, cholesterol, and lactic acid (which causes pain). Removal of such toxic residues from the body provides increased and improved cellular function, thus enhancing overall health for healthy aging and detox, thus allowing each one of us to be the one person in 2 billion people to live to be 116 years old.

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