

Infrared Thermal System For Whole-Body Regenerative Radiant Therapy

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Is the Infrared Thermal System safe for me?

What exactly is radiant heat? No need to worry – it has nothing to do with either ultraviolet radiation (which gives you a sunburn and damages your skin) or atomic radiation (the kind from a nuclear bomb).

Radiant heat is simply a form of energy that heats objects directly through a process called conversions, without having to heat the air in between. Radiant heat is also called Infrared Energy (IR).

The sun is the principal source of radiant energy that we experience daily. Have you ever been outside on a partly cloudy spring day of about 50 degrees and felt quite comfortable when the sun was suddenly obscured by a cloud? Although the air temperature had not had time to drop, you felt chilled, as the cloud would not let the warming infrared rays through to reach you. The infrared heat in Infrared Thermal System is just like the heat from our sun or that which our own bodies produces as they burn fuel to keep us warm.

Our bodies radiate infrared energy out through the skin at 3 ~ 50 microns, with most of their output at 9.4 microns. Our palms emit infrared energy at between 8 ~ 14 microns. Palm healing, which as a 3,000 year-old tradition in China, has been based on the healing properties of these natural infrared rays. The Yogis of India also use such palm healing and recommend it especially for relieving eye strain. Sauna use has been popularized by the Finns whose old religion used it as a ceremony for ental, spiritual and physical cleansing. This religion came with the Finns when they migrated from an area northwest of present day Tibet, between 5,000 ~ 3,000 year BC, to their present location in Finland.

Dr. Tadashi Ishikawa received the patent on the zirconia ceramic infrared heaters used in these thermal systems in 1965, after five years with Fuci Medical R & D department. The Infrared Thermal Systems based on these heaters were used exclusively by medical practitioners in Japan until they were released for public use in 1979. The idea has now been further refined into the Infrared Thermal System that has been sold in the United States since 1981. Panels that produce similar infrared rays are used in hospitals to warm newborn babies.

Only one of its kind available

Why is this Infrared Thermal System Unique?

It uses infrared radiant energy to directly penetrate the body's tissues to a depth of over 1.5". Its energy output is tuned to correspond very closely to the body's own radiant energy that our bodies absorb as much as 93% of the infrared waves that reach our skin. A conventional sauna must rely only on indirect means of heat: First on convection (air currents) and the conduction (direct contact of hot air with the skin) to produce its healing effect on us. In an infrared Thermal System, less than 20% of the infrared energy heats the air, leaving over 80% available to be directly converted to heat within our bodies. Thus an infrared based system can warm its user(s) to a much greater depth and much more efficiently than a conventional sauna, as its energy output is primarily used to convert energy directly to heat in us and not to create excessively hot air which only heats the skin superficially. This crucial difference explains many of the unprecedented benefits reported to be available through an Infrared Thermal System not attainable through the use of a conventional sauna.

The infrared energy applied in the Infrared Thermal System may induce up to 2 ~ 3 times the sweat volume of a traditional hot-air sauna while operating at a significantly cooler air temperature range of 100 degrees to 130 degrees F (40C – 55C) vs. 180 degrees to 235 degrees F (80C to 115C) for hot-air saunas. The lower heat range is safer for those concerned about cardiovascular risk factors that might be adversely affected by the higher temperatures encountered in old-style hot-air saunas. German researchers report beneficial effects from an hour-long whole body infrared exposure in two groups of hypertension patient that they studied in 1989, including a 24 hour-long increase in peripheral blood flow and a decrease in high blood pressure.

It is also distinctly more pleasant to breathe in Infrared Saunas with air temperatures about 50 degrees to 125 degrees F cooler than in traditional hot-air saunas. Due to its user-friendly nature, people naturally prefer to use

the Infrared Sauna Systems and will continue to do so on a regular basis because of the ease of breathing the much cooler air while feeling as warm as they choose, and the distinctive feeling of wellbeing reported by users as an after-effect. These infrared Sauna Systems may even be used with the door fully open if the only effect desired is infrared penetration, or if a very cool, minimal-sweating experience is desired as a pre-activity warm-up while fully clothed. This approach might be used in warming up prior to stretching, working out, running or exposure to cold weather.

Infrared Saunas are easier and more comfortable to use than old-fashioned hot-air saunas. The conventional hot-air saunas require extensive warm-up periods of 30 ~ 90 minutes, making them much less practical than the modern Infrared Saunas that warm up in about 5 minutes at a room temperature. Consistent and convenient at home use is thus, again, much more likely with an Infrared Sauna System.

Significantly lower operating costs make the Infrared Sauna System more desirable than a regular sauna. A 20 minute session, including a 5 minute warm-up in the Infrared Sauna, costs about 5 cents of electricity.

A comparable session with a full warm-up in a conventional sauna costs about \$.75 ~ \$1.00. Daily usage of the Infrared Sauna System will raise your electrical bill by only \$1.50 a month compared to \$22.50 to \$30.00 a month in a conventional sauna, if each is used for 20 minutes after warm-up.

Infrared Sauna Systems bring you the same infrared rays experienced in the traditional American Indian sweat lodge in a much more convenient and practical form, and in the privacy of your own home. The cleansing and purifying benefits attributed to the traditional sweat lodges are now available for a daily purification without the time consuming and extremely labor-intensive set-up processes that a sweat lodge requires.

HEALTH BENEFITS ATTRIBUTED TO INFRARED RAYS

Passive Cardiovascular Conditioning Effect

Due to the deep penetration, over 1.5" into the skin, of the infrared rays generated by the Infrared Thermal System, there is a heating effect deep in the muscular tissues and the internal organs. The body responds to this deep-heating effect via an hypothalamic-induced increase in both heart volume and rate. This beneficial heart stress leads to a sought-after cardiovascular training and conditioning effect. Medical researches confirm that the use of a sauna provides cardiovascular conditioning as the body works to cool itself and involves substantial increases in heart rate, cardiac output and metabolic rate. 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. Blood flow during whole-body hypothermia is reported to rise from a normal 5 ~ 7 quarts per minute to as much as 13 quarts per minute.

Outstanding Caloric Consumption and Weight Control

In Guyton's Textbook of Medical Physiology, we find that producing one gram of sweat requires 0.568 kcal. The journal of American Medical Association (JAMA) states; "A moderately conditioned person can easily sweat off 500 grams in a sauna consuming nearly 300 kcal, which is equivalent to running 2 ~ 3 miles. A heat conditioned person can easily sweat off 600 ~ 800 kcal with no adverse effects.

While the weight of the water loss can be regained by drinking water, the calories consumed will not be." Since an Infrared Thermal System helps generate two or three times the sweat produced in a hot-air sauna, the implications for increased caloric consumption are quite impressive. Assuming "a sauna", as mentioned in JAMA, to last for 30 minutes, some interesting comparisons might be drawn. Two of the highest calorie-consuming forms of exercises are rowing and marathon running.

Peak output on a rowing machine or during a marathon run burns about 600 calories in 30 minutes. An Infrared Thermal System may enhance this effect from "just slightly" up to as much as 250% by burning about 900 ~ 2,400 calories in a 30 minute session. The Infrared Thermal System might then simulate the consumption of energy equal to that expended in a 6 ~ 9 mile run during only a single session. An Infrared Thermal System can, thus, play a pivotal role in both weight control and cardiovascular conditioning. This would be very valuable for those who don't exercise and those who can't exercise yet want an effective weight control and fitness maintenance program and the benefits of a regular exercise.

Musculoskeletal Cases – success reported with infrared treatments by Japanese researchers.

- TMJ Arthritis
- Muscle Spasms – reduced or eliminated

- Traumatic Arthritis
- Lower Back Pain – relieved
- Acel-decel Injury Sequelae
- Adhesions – lengthened or more easily broken; they are common in competitive athletes, trauma and repetitive stress syndromes.
- Disc-protrusion Related Neuralgia
- Brain Contusion – accelerated healing
- Tight shoulders – relaxed
- Compression Fracture – Example: pain stopped for 3 days with only a single treatment
- Spinal Cord Shock – post traumatic shock reversed
- Muscle Tension – relaxed
- Post-exercise Muscle Pain – relieved, which is vital to competitive athletes
- Arthritis (Gouty, Rheumatoid & DJD) – each substantially relieved or improved
- Shoulder Pain – relieved or eliminated
- Bursitis – eliminated

"Medical practitioners make use of Infrared Radiant Heat to treat sprains, strains, bursitis, peripheral vascular diseases, arthritis, and muscle pain..." – McGraw/Hill Encyclopedia of Science and Technology

Dr. Masao Nakamura of the O & P Medical Clinic in Japan has reported great success with the use of infrared treatment for:

- Whiplash
- Sciatica
- Menopause
- Arthritis
- Shoulder Stiffness
- Rheumatism
- Acne
- Gastro enteric Problems
- Ear Diseases
- Insomnia

Rheumatoid Arthritis

A clinical trial in Japan reported the successful solution in seven out of seven cases of Rheumatoid Arthritis treated with the whole-body infrared therapy. These case studies and clinical trials indicate that further study is warranted on the usage of whole-body infrared therapy in the care of patients with Rheumatoid Arthritis.

The following is a summary from Therapeutic Heat and Cold, 4th Edition, Ed. Justus F. Lehmann M.D., Williams and Wilkins, Chapter 9 or concluded from the data therein.

Generally it is accepted that heat produces the following desirable therapeutic effects.

1. It increases the extensibility of collagen tissues.
2. It decreases joint stiffness directly.
3. It relieves muscle spasms
4. It produces pain relief.
5. It increases blood flow.
6. It assists in resolution of inflammatory infiltrates, edema and exudates.
7. More recently, it has been used in cancer therapy.

Infrared healing is now becoming the leading edge in the care of soft tissue injuries to promote both relief in chronic and intractable "permanent" cases, and accelerated healing in newer injuries.

Researchers reported over 90% success in a summary of Chinese studies that assessed the effect of infrared therapy on:

- Soft tissue injury
- Lumbar strain
- Periarthritis of the shoulder
- Sciatica
- Pain during Menstruation
- Neurodermatitis
- Eczema with Infection
- Post-surgical Infections
- Diarrhea
- Cholecystitis
- Neurasthenia
- Pelvic Infection
- Pediatric Pneumonia
- Tinea
- Frostbite with inflammation
- Facial Paralysis (Bell's Palsy)

Japanese researchers, as reported in the book Infrared Therapy by Dr. Yamajaki, have produced the following provocative results.

- Burns: relieves pain and decreases healing time, with less scarring.
- High Blood Pressure: safe in 40 ~ 50 degrees C range and regular use helps to lower it
- Low Blood Pressure: sauna trains body to raise it
- Brain Damage: accelerated repair in brain contusions
- Short-term memory improved
- Cancer of the tongue reversed
- Toxic Electromagnetic Fields: effects neutralized
- Cerebral Hemorrhages: recover is both sped up and significantly enhanced
- Auto Accident: related soft tissue injury – daily sessions were used until best healing was attained; the residuals from such injuries lasted three days before another treatment was necessary.
- Arthritis, acute and chronic was greatly relieved
- Gouty Arthritis: relieved
- Rheumatoid Arthritis: relieved
- Menopause Symptoms: relieved chills, nervousness, depression, dizziness, head and stomach aches
- Weight Loss: first, through sweating and the energy use needed to produce the sweat and second, through direct excretion of fat Blood Circulation – All of the following may be associated to some degree with poor circulation and, thus, may respond well to the increased peripheral dilation associated with infrared application:
 - Arthritis
 - Sciatica
 - Backaches
 - Hemorrhoids
 - Nervous Tension
 - Diabetes
 - Children's over-tired muscles
 - Varicose Veins
 - Neuritis
 - Bursitis
 - Rheumatism
 - Strained Muscles
 - Fatigue
 - Stretch Marks
 - Menstrual Cramps

- Upset stomachs
- Leg and Decubitus Ulcers: failed to heal using conventional approaches
- Post – Operative Edema: treatment with infrared has been so successful that hospital stays were reported to have been reduced by 25%.
- Peripheral Occlusive Disease: “The goal is to maintain an optimal blood flow rate to the affected part... In general the temperature should be maintained at the highest level which does not increase the circulator discrepancy as shown by cyanosis and pain” – therapeutic Heat and Cold pp. 456 ~ 457

Coronary Artery Disease, Arteriosclerosis and Hypertension

Finnish researchers, talking about the regular use of conventional saunas state that there are abundant evidences to suggest that blood vessels of regular sauna-goers remain elastic and pliable longer due to the regular dilation and contraction of blood vessels induced by sauna use.

Problems often accompanying aging that have been reported to have been alleviated or reduced by Infrared Therapy in Japan:

- Menopause
- Cold hands and feet: A physical therapist found 20 ~ 50% improvements were maintained
- High Blood Pressure: Example – Case of a diabetic with a systolic decrease from 180 to 125 and a concurrent 10 lbs. weight loss after infrared use
- Rheumatoid Arthritis: 7 out of 7 cases successfully resolved in one clinical trial
- Radiation Sickness, relieves signs and symptoms
- Cancer Pain: relieved pain in later stages of cancer extremely well
- Sequelae of Strokes: Example – Hemiparesis relieved over time
- Benign Prostatic Hypertrophy: reduced
- Duodenal Ulcers: eliminated
- Pain: which prevented sleep or limited useable sleeping positions were relieved
- Compression Fracture Pain: Example – pain gone for 3 days after each treatment in steoporotic compression fractures
- Hemorrhoids; reduced
- Cystitis: gone
- Cirrhoisis of Liver: reversed
- Gastritis: relieved
- Hepatitis: gone
- Asthma and Bronchitis; cleared up (like moving to Arizona's dry air)
- Chron's Disease: Gone
- Post Surgical Adhesions: reduced
- Leg ulcers: healed when previously static and resistant to other care
- Keloid: significantly softened and, in some cases completely gone

Ear Nose and Throat conditions relieved with Infrared treatments in Japan:

- Chronic middle-ear inflammation or infection: in one clinical study of chronic serousotitis media no pathogenic bacteria were isolated in 70% of the subjects studied
- Sore throats
- Tinnitus: chronic severe case cleared with 10 infrared treatments
- Nose bleeding

Skin conditions benefited by Infrared treatments in Japan and China:

- Nettle rash
- Clogged pores are unplugged of cosmetics creating a skin texture and tone of unexcelled quality. Mikkel Aaland's book Sweat (Capra Press, 1978) quotes a Finnish doctor to the effect that: “The best dressed foreigner can come into a doctor's office, and when his skin is examined, it is found to be rough as bark. On the other hand, as a result of the sauna, the skin of any Finnish worker is supple and healthy”
- Poor skin tone is restored to a more youthful level
- Scars and pain from burns or wounds are decreased in severity and extent. Infrared therapy is used routinely in burn units throughout Asia.

- Lacerations heal quicker and with less pain and scarring
- Acne: three or four infrared treatments may open pores that have not been functioning in years, forcing out clogging cosmetics and loosening dead outer skin. The sauna is thus a boon to teenage skin, clearing acne and blackheads.
- Body odor: by improving the function of the skin, the infrared treatments may eliminate the cause of offensive body odor. It definitely reduces body odor induced by occupational exposure to odorous chemicals.
- Eczema and Psoriasis: reported to have responded extremely well to infrared treatments
- Sunburn: according to the 9th edition of Clayton's Electrotherapy, "infrared is the only antidote to excessive ultraviolet radiation."
- Keloids forms at a reduced rate in those prone to their formation with infrared treatments and may be softened by use of infrared systems if they have formed.

REPORTED BENEFITS OF INFRARED RAYS

1. Weight Loss

Burns up to 900 & more calories in just one 30-minute session.

Here are how many calories a 150 pound person normally burns up in 30 minutes of exercise:

- Rowing (peak effort) 600
- Swimming (crawl stroke) 300
- Jogging 300
- Tennis (fast game) 265
- Chopping Wood 265
- Cycling (10mph) 225
- Golfing (without cart) 150
- Walking (3.5mph) 150
- Bowling 120
- Vigorous Racquet Ball 510
- Marathon Running 593

Some weight loss authorities believe that our bodies use fat to dilute toxins. As an infrared Thermal System is an unsurpassed expeller of toxins, it is also a great way to get rid of any fat our bodies are using to dilute toxins we are storing.

2. Beauty

- Excellent for increasing blood circulation to the skin, which is essential for beautiful, youthful, and glowing skin.
- A new "inner glow" as the skin is free of accumulated dirt and dry skin cells, due to deep cleansing of impurities.
- Improves the conditions of acne, eczema, psoriasis, burns and any skin lesions and cuts.
- Open wounds heal quicker with reduced scarring.
- Removes roughness, leaving skin baby smooth and soft again.
- Firms and improves skin tone and elasticity.

3. Scars on Skin

- Scars fully formed, even keloids, may be gradually softened. Burns and other wounds or incisions may heal with significantly reduced scarring.

4. Cellulite

- Cellulite is a gel-like substance made up of fat, water and wastes, which are trapped in pockets below the skin. An Infrared Thermal System can assist this condition, as profuse sweating helps clear this form of unwanted debris from the body.
- European beauty specialists confirm that a sauna will greatly speed any anti-cellulite program.

- Due to at least twice the depth of heat penetration into cellulite combined with up to 10 times the level of heating in these tissues, an Infra Therapist System can be significantly more effective than any conventional sauna.

5. Relieve Pain

- Effective for arthritis, back pain, muscle spasms, headache, etc.

6. Injuries

- Radiant heat helps with sprains, strains, arthritis, muscle spasm and pain.
- If you are an athlete, an Infrared Thermal System is all good news. It allows oxygen debt to be repaid more quickly. This is likely to lead to improved and quicker healing of sprains and muscle pain for you.

7. Relaxation and Enjoyment

CONTRAINDICATIONS

As you can see, the segment of the infrared spectrum emitted by the Infrared Thermal System is reputed to offer an astounding range of possible therapeutic benefits and effects in research conducted around the world. The data presented is offered for reference purposes only and to stimulate further observation. Infrared Thermal Systems creating a cure for or treating any disease is neither implied nor should be inferred.

- If you have a disease, be certain to consult with a primary-care physician concerning it.
- If you are using any prescription drugs, check with your physician or pharmacist for any possible change in the drug's effect due to any interaction with infrared energy.
- It is considered inadvisable to raise the core temperature in someone with adrenal suppression and systemic lupus erythematosus or multiple sclerosis, by some authorities.
- If you have a recent (acute) joint injury, it should not be heated for the first 48 hours after an injury or until the hot and swollen symptoms subside. If you have a joint or joints that are chronically hot and swollen, these joints 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.
- If you are pregnant or suspect you may be, discontinue your sauna use. Finnish women use their saunas, which don't throw heat as deeply into the body, for only 6-12 minutes and reportedly leave at that time, due to perceived discomfort. Their usage at this low level of intensity is not linked to birth defects. Infrared Thermal System usage may be 2-3 times more intense, and comparatively shorter 2-6 minute sessions hardly seem worth any minimal risk they may present
- Metal pins, rods, artificial joints, or any other surgical implants generally reflect infrared rays and thus are not heated by this system, nevertheless you should consult your Surgeon prior to using Infrared Thermal System. Certainly, the usage of Infrared Thermal System must be discontinued if you experience pain near any such implants. Silicone does absorb energy. Implanted silicone or silicone prostheses for nose or ear replacements may be warmed by the infrared rays. Since silicone melts at over 200 degrees C (392F), it should not be adversely affected by the usage of Infrared Thermal System. It is still advised that you check with your surgeon and possibly a representative from the product manufacturer to be certain.
- Heating of the low back area of women during the menstrual period may temporarily increase their menstrual flow. Once a woman is aware that this may occur, she can choose to allow herself to possibly experience this short term effect without worry or to simply avoid Infrared Thermal System usage at that time of her cycle.
- Hemophiliacs and anyone predisposed to hemorrhage should avoid Infrared Thermal System usage or any type of heating that would induce vasodilatation which can potentiate the tendency to bleed.
- Obviously, should any condition worsen with use of an Infrared treatment, the use of the system should be discontinued.
- People do not experience pain using Infrared Thermal Systems unless such is contraindicated. If you do, the use of radiant heat is clearly inappropriate for you at that time.
- **DO NOT attempt to self-treat any disease with this Infrared Thermal System without direct supervision of a certified physician.**