

FAR INFRARED

WHAT IS FAR INFRARED (FIR) ?

It is a specific wave length of light from the sun. Among the rays coming from the sun, the FIR waves are the safest and the most beneficial.

Radiant heat is simply a form of energy that heats objects directly through a process called conversion, without having to heat the air in between. **Radiant heat is also called infrared energy (IR).** The infrared segment of the electromagnetic spectrum is divided into three segments by wave length, measured in microns or micrometers (a micron = 1/1,000,000 meter); .076-1.5 microns = near or close; 1.5-5.6 = middle or intermediate; 5.6-1000 = far or long-wave infrared. The infrared segment of the electromagnetic spectrum occurs just below or “infra” to red light as the next lowest energy band of light. This band of light is not visible to human eyes but can be seen by special cameras that translate infrared into colors visible to our eyes. We can, however, feel this type of light which we perceive as heat.

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 until suddenly the sun was 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 the Hot House is just like the heat from our sun or that which our own bodies produce as they burn fuel to keep us warm. These rays are selectively absorbed by the tissues needing a boost in their output.** The internal production of infrared energy that normally occurs within our tissues is associated with a variety of healing resources. After boosting a tissue’s level to maximum, the remaining rays pass onward harmlessly. This phenomenon is called “resonant absorption.”

WHAT DOES IT DO ?

- **Elevates the temperature of subcutaneous layers**, thus expanding blood capillaries, stimulating blood circulation, increasing metabolism between blood and tissue, promoting tissue regeneration and reducing cramping.
- **Penetrates 4-5 centimeters into the dermis** (middle layer of skin) from muscles into blood vessels, lymphatic glands and nerves.
- **Affects every living cell and produces warmth.** Through this cell tissue” micro-friction” and the vibration of molecular resonance, chemicals within cells are activated.
- **The warming effect is helpful in eliminating** such things as the waste products generated by aging, heavy metals and toxic substances, which are then secreted by the sweat and dermis-layer fat glands.
- **Adjusts the autonomic nerve function** and reduces the over-stimulation of sensory nerves.

When FIR penetrates our bodies it can be converted into the appropriate energy. This **activates the self-regulating systems in our living tissue** so as to alleviate the bodily imbalance and lead to recovery. It is not only a beneficial health therapy, but can also be a substitute for other therapeutic modalities. Because of its heat penetration property, FIR radiates to the meridian points of the body.

FAR INFRARED BENEFITS

- Far Infrared emits **photons**
- Photons help release **enzymes**
- Enzymes stimulate **macrophage** activity increasing the elimination of **damaged and diseased tissues**
- Nitric **oxide** is released which **expands capillaries** and **increases circulation**

One of the reasons FIR has beneficial results in a variety of illnesses is the **ability of FIR waves to remove toxins**, which are often at the core of many health problems. Numerous toxins are stored in our bodies. Toxic gases may be encapsulated by clusters of water. Where these toxins are accumulated, blood circulation is blocked and cellular energy is impaired. When a 10 micron FIR wave is applied to these large water molecules, the water begins to vibrate, which reduces the ion bonds of the atoms which are holding together the molecules of water. As the breakdown of the water molecules occurs, encapsulated gases and other toxic materials are released.

MAJOR STUDIES OF FAR INFRARED ENERGY

Summary from *Therapeutic Heat and Cold, 4th Ed.*, ED Justus F. Lehmann M.D.

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

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

Dr. Otto Warburg was nominated for the Nobel Prize in 1944 for research concerning photosynthesis in connection with the chemotherapeutics of cancer and the use of x-rays. His research has shown that infrared impacts cancer.

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

- Whiplash
- Menopause
- Shoulder stiffness
- Rheumatism
- Sciatica
- Arthritis
- Insomnia
- Acne
- Ear diseases
- Gastroenteric problems

Researchers reported **over 90% success** in a summary of Chinese studies that assessed the effect of Far Infrared on:

- Soft tissue injury
- Lumbar strain
- Sciatica
- Eczema with infection
- Cholecystitis
- Pelvic infection
- Tinea
- Neurodermatitis
- Diarrhea
- Neurasthenia
- Pediatric pneumonia
- Menstrual pain
- Periarthritis of the shoulder
- Post-surgical infections
- Facial paralysis (Bell's Palsy)
- Frostbite with inflammation

Substances harmful to the human body are excreted through sweat and oil glands, such as carcinogenic heavy metals, toxic substances from food processing, lactic acid, nonesterified fatty acids, fat and subcutaneous fat which cause fatigue and aging, as well as hypertension caused by sodium ions which trigger uric acid pain.

FAR INFRARED RAYS PRODUCE THERAPEUTIC EFFECTS IN THE FOLLOWING:

CONDITIONS AFFECTED BY CIRCULATION

Increases blood flow by promoting dilation of capillaries

- Diabetes
- Poor peripheral circulation
- Arthritis
- Rheumatism
- Hypertension
- Clogged capillary vessels
- Arteriosclerosis
- High blood pressure
- Low blood pressure
- Coronary artery disease
- Sciatica
- Backaches
- Hemorrhoids
- Nervous tension
- Varicose veins
- Neuritis
- Bursitis
- Strained muscles
- Fatigue
- Stretch marks
- Menstrual cramps
- Upset stomach
- Piles

INFLAMMATORY INFILTRATES, EDEMA AND EXUDATES

- Edema of the joints
- Inflammation of joints
- Tendinitis
- Sprain
- Joint stiffness
- Peripheral Occlusive Disease
- Gout

PAIN RELIEF

- Neuralgia
- Headache
- May lead to increased endorphin production, which reduces pain
- Pain during menstruation

JOINTS

- Assists in reduction of swelling and inflammation by improving lymph flow
- Decreases joint stiffness directly

PROBLEMS THAT OFTEN ACCOMPANY AGING

- High blood pressure
- Rheumatism
- Rheumatoid arthritis
- Pain which affects ability to sleep
- Menopause
- Cold hands & feet
- Radiation sickness
- Sequelae of strokes
- Leg ulcers
- Insomnia
- Benign prostatic hypertrophy
- Pain from a metal joint implant
- Speeds healing of joint implants
- Compression fracture pain

IMMUNE SYSTEM

- Pelvic infection
- Post-surgical infection
- Scleroderma (an autoimmune disease where collagen builds up and healing cannot take place because the circulation can't get to the area due to the buildup of the collagen).
- Toe-and-finger-nail fungus

Infrared energy appears capable of potentiating functions of white blood cells. More white blood cells means greater immune function and resistance to disease and viruses. There is an immune response facilitated by the photons of the FIR technology that turns on the enzyme system, particularly the nitric oxide synthase enzyme. It is well established medically that this is the mechanism involved in the FIR technology.

CELLS

- Attracts calcium ions to the cellular level.
- Promotes adhesion and osmosis of water molecules across the cellular membrane.
- Stimulates enzyme activity.

BRAIN & NEUROSYSTEM

- Short-term memory improved
- Accelerated repair in brain contusions
- Cerebral hemorrhages - healing both speeds up and is significantly enhanced

COLLAGEN TISSUES

- Ligaments
- Joint capsules
- Tendons
- Fascia Synovium
- Increases range of motion
- Scarred, thickened or contracted tissues
- Increases extensibility of collagen tissues

SKIN CONDITIONS

- Clogged pores.
 - Poor skin tone.
 - Open wounds
 - Laceration
 - Body odor
 - Loosens dead outer skin
 - Eczema
 - Psoriasis
 - Aging skin
 - Chapping
 - Chillblains
 - Frostbite
 - Rashes
 - Removes roughness
 - Improves skin tone
 - Nettle rash
 - Neurodermatitis
- Leg & Decubitus **ulcers** improved when previously resistant to other care
 - **Dandruff** - due to increased blood flow through the scalp
 - **Burns** - Scars and pain from burns and wounds are decreased in severity and extent. FIR therapy is used routinely in burn units throughout Asia.
 - **Keloids** - significantly softened and in some cases completely gone
 - **Acne** - FIR may open pores that have not been functioning in years
 - **Sunburn** - FIR radiations are the only antidote to excessive ultraviolet radiation, according to Clayton's Electrotherapy, Ninth Ed.

BODY ACIDITY

- Reduces acidity in the body (FIR causes fruit to ripen faster by reducing acidity)

Over acidity, which can become a **dangerous condition** that weakens all body systems, is very common today. It gives rise to an internal environment conducive to disease, as opposed to a pH-balanced environment which allows normal body function necessary for the body to resist disease. A healthy body maintains adequate alkaline reserves to meet emergency demands.

NERVES

- Neuresthenia
- Adjusts autonomic nerve function
- Reduces over-stimulation of sensory nerves

CARDIOVASCULAR

- Atherosclerosis (thickening of artery walls due to fatty deposits)
- Septic shock (dangerous drop of blood pressure)

Due to the deep penetration over 1-1/2" into the skin of the infrared rays generated by the FIR dome, there is a healing effect deep in the muscular tissues and the internal organs. The body responds to this deep healing affect as a hypothalamic-induced increase in both heart volume and rate. 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. As the body works to cool itself, there is a substantial increase in heart rate, cardiac output and metabolic rate, and blood flow rises.

CANCER

- Cancer therapy
- Radiation sickness - relieves signs & symptoms
- Cancer pain - relieved in later stages of cancer
- FIR heat can penetrate through the body and kill cancerous cells

Cancerous cells cannot exist if blood circulation is smooth. Good circulation in the capillaries leaves no room for a cancerous cell to settle down. (A cancerous cell has to settle down so it can proliferate.) **FIR helps capillaries to expand, improving circulation.** The cancer cell also has a weakness: heat above 42 deg C can kill it. FIR heat can penetrate through the body and kill cancerous cells. FIR treatment raises body temperature. FIR therapy can alleviate pain and prolong life when conventional cancer treatment fails. Surgery, radiotherapy and chemotherapy are considered detrimental to health - they are invasive treatments. FIR therapy and immuno-therapy are regarded as non-invasive. FIR is extremely beneficial.

MUSCULOSKELETAL

- Arthritis
- Accel-decel injury sequelae
- Brain contusion
- Lumbago
- Relieves muscle spasms
- TMJ arthritis
- Abnormal nerve functions
- Back, shoulder, neck and muscle pain
- Facial paralysis (Bell's Palsy)
- Reduces muscle spasms as muscle fibers are heated
- Great for warming up before exercise
- Cramping
- Whiplash
- Lumbar strain
- Muscle tension
- Spinal cord shock
- Post-exercise muscle pain
- Bursitis
- Muscle spasms
- Knee injuries
- Paralysis
- Sciatica
- Neuralgia

SOFT TISSUE

- Soft tissue injuries - promotes relief in chronic cases Accelerated healing in newer injuries
- Auto accident-related soft tissue injury Cellulite
- Aids in regeneration of tissue
- Reduces soreness through direct action on nerve endings in tissues and on periphery

WEIGHT LOSS

- Direct excretion of fat.
- Burns calories
- Increases metabolism

Weight loss can come through the energy use needed to produce sweating.

Cellulite (a gel-like substance made up of fat, water and wastes, which are trapped in pockets below the skin) A FIR dome will assist this condition, as profuse sweating helps clear it from the body. FIR heat can be significantly more effective than other heat methods, due to the heat penetration being twice the depth into cellulite.

Warming Up to Far Infrared

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