DIFFERENCES BETWEEN FAR INFRARED AND NEAR INFRARED LAMP SAUNAS
By Lawrence Wilson, MD

Significant differences exist between any far infrared sauna versus a near infrared lamp sauna. Before we explore them, it is necessary to emphasize that the near infrared heat lamps can be added to many far infrared saunas to gain the advantages the lamps provide.

Here are some major differences between the near and the far infrared types of designs.

1. NEAR INFRARED SAUNAS ARE ELECTROMAGNETICALLY FAR SAFER

All electrically-powered saunas emit a small quantity of electromagnetic radiation due to their 110-volt wiring. This cannot be avoided, but is not a big problem with saunas.

However, far infrared saunas emit far more harmful electromagnetic fields. This has to do with the frequencies they are supposed to emit in the 4-15 micron range. This is similar in nature to the emissions from cell phones and portable phones, although saunas emit much less than most telephones.

Some people, especially when ill, do not handle this radiation well. It heats the tissues too fast. This may damage the tissues a little, though not significantly in most cases. If one is very ill, however, this could be a factor in one's healing.

Also, in a near infrared sauna, the wiring is all on one wall, and the rest of the sauna is relatively far from this wiring. In a far infrared sauna with the emitters scattered throughout the sauna, the wiring goes all around the sauna, on all its walls. This means there is no place in the sauna that is further away from the electric wiring and the emitters.

Some companies claim to shield their far infrared emitters, but they cannot get rid of this radiation, as it is a feature of far infrared emission. The only way this type of sauna will not emit a small microwave field is if, in fact, the emitters are not putting out much far infrared radiation. In other words, it really cannot be avoided if the unit is actually putting out far infrared in the amount that they claim it is doing.
In contrast, near infrared lamp saunas emit much less harmful microwave radiation because they emit only a tiny amount of far infrared radiation.

Also, near infrared saunas never need to use 220 volt wiring because they are so efficient and operate at a lower temperature. 220-volt wiring, used in larger far infrared saunas, emits more of the 60-cycle electromagnetic fields.

2. NEAR INFRARED LIGHT SAUNAS PENETRATES MORE DEEPLY, AND THE INFRARED ENERGY CAN BE CONCENTRATED ON A PART OF THE BODY

Two reasons for this are: 1) the near infrared heat lamps are far more powerful than most far infrared heat emitters. The heat lamps are 250 watts, whereas the emitters are usually of lower wattage in many cases.

2) If the design I recommend is used, all three or four of the heat lamps are placed near each other on one wall. This further concentrates the heat source. In contrast, the emitters in most far infrared saunas are scattered around the sauna. This has the advantage that one need not rotate in the sauna to experience the benefits. However, it also means that the infrared energy is scattered around the sauna and not nearly as concentrated.

As a result, the lamp sauna energy penetrates inside the body quite a lot deeper and thus the infrared effects tend to be much greater.

Research indicates that near infrared energy may penetrate up to 10 inches inside the body in fact. See the references for more on this topic.

3. THE SPECTRUM EMITTED BY A NEAR INFRARED LAMP SAUNA IS SUPERIOR IN SEVERAL WAYS

Visible radiation in the red, orange and yellow color range appears to stimulate the lower body organs, including the organs of elimination - the liver, kidneys and large intestines. This is an excellent added benefit. Colored lamps can be added to any sauna, but this requires extra wiring and cost, and a different bench arrangement in most instances. In contrast, it is built-in to the design of the near infrared lamp sauna.

Also, an infrared lamp sauna emits mainly near and some middle infrared energy. Plenty of research supports the fact that this type of infrared is extremely beneficial for the human organism. It assists healing and regeneration of all the cells, glands and organs. It also relaxes the
body more than far infrared, which is somewhat irritating to certain tissues. For more on this topic, see the article on this website titled, The Benefits of Near Infrared Energy.

I do not agree with the idea that only far infrared is beneficial. I do not know where this idea originated, but it is not true.

4. THE RECOMMENDED NEAR INFRARED SAUNA DESIGN OFFERS CERTAIN OTHER ADVANTAGES SUCH AS THE ABILITY TO FOCUS THE ENERGY EVEN MORE POWERFULLY AND TO STIMULATE THE CIRCULATION EVEN MORE

The ability to focus energy easily. With a near infrared light sauna, one can easily move a body part closer to the heat lamps to provide more infrared to that part of the body. For example, one can sit so as to direct more energy to the liver, the sinuses or even to a painful ear or shoulder. This cannot be done as effectively with a far infrared sauna.

The head is somewhat more sensitive to infrared, by the way. Thus, one should exercise caution regarding moving the head too close to any source of infrared energy. Limit this to no more than five minutes at a time during a session. Repeated short applications of infrared to the head area, for no more than five minutes or so every two hours, however, appear to be very safe.

5. A NEAR INFRARED LIGHT SAUNA USES MUCH LESS ELECTRICITY.

As electricity costs go up, this is worth considering. Lamp saunas, in my experience, use about 1/3 to 1/2 less electricity to operate. In part, this is because a near infrared sauna operates at a lower temperature than an FIR sauna. Also, the heat lamps are extremely energy efficient.

Sauna therapy requires using your sauna each day for up to an hour or more. When you add the extra time to preheat the sauna, which we recommend for most people, the energy savings of a lamp sauna add up.

6. NEAR INFRARED SAUNAS MAY BE LESS COSTLY TO PURCHASE, AND ARE DEFINITELY LESS COSTLY TO BUILD FROM SCRATCH

Parts are readily available at Home Depot, Lowe's and other hardware stores. The lamps, the most costly parts, sell for $15.00 each or less.
Also, having all the heat lamps on one wall, as we recommend, reduces both wiring costs and general construction costs.

7. ROTATING IN AN INFRARED LAMP SAUNA HAS SEVERAL ADDITIONAL BENEFITS

The lamp sauna design I recommend requires the bather to rotate 90 degrees every few minutes to expose different parts of the body to the infrared rays. This may be viewed as a disadvantage. However, here are just some of the advantages of rotating the body during your sauna session:

a) **Weight loss.** Rotating the body exposes all parts of the body to the infrared and should help weight loss much more than just sitting or lying down during the session.

Fatty tissue has poor circulation, which is one reason weight loss is difficult for many people. The improvement in circulation that occurs due to rotating the body may help weight loss even more than burning calories or other mechanisms.

b) **Greater Safety.** One can fall asleep if one does not move in a sauna. In fact, rarely one hears that a person has died this way if the sauna timer does not work right. This can be an advantage of having to move every 5 minutes or so.

c) **More even heating.** Sitting or lying down in one spot causes uneven heating of the body. This is usually not helpful and could even be harmful. Uneven heating of the body also adds some stress to the body. More even heating is safer and assists healing.

d) **More even sweating.** This is related to the previous paragraph. As the body is heated more evenly, it also sweats more evenly.

e) **Much better circulation.** Rotating shunts the blood powerfully from one side of the body to the other. This greatly enhances circulation and assists the healing process.

f) **Even less electromagnetic radiation.** Lamp saunas emit only tiny amounts of electromagnetic fields due to the electrical wiring most saunas require. Rotating the body, however, keeps any one part of the body from staying close to the wires, further reducing any electrical field effects.

Far infrared saunas emit far more electromagnetic energies, especially if they are powered by 220-volt electricity. Sitting in one position for an hour, for example, will subject certain parts of the body to quite strong fields that are harmful or at least not beneficial in the least.

The higher voltages, such as 220 volts, are even more harmful for the
human system, especially in people who are ill or weak. These should be avoided if at all possible.

Also, far infrared saunas, with their heat emitters scattered through the unit, have wiring in all or most of the walls of the sauna. This makes it impossible to escape the radiation that comes off the wiring in the sauna.

Lamp saunas use so much less electricity there should be no reason they should be built to work on 220 volts, unless perhaps one is constructing a very large, multi-person sauna.

g) **Muscle relaxation.** Rotating and shifting one's position allows muscles to relax that might otherwise remain tense during the entire sauna session. This is more of a benefit than one may imagine.

h) **A more active experience.** Becoming more involved in your sauna session by rotating keeps the mind focused on the session and its purpose. This may be helpful, although one can argue that just relaxing and "forgetting" the session is also excellent for some situations.

In general, we believe that becoming more active in the session by rotating is a benefit.

i) **Some movements during a sauna session are easier when one sits on a bench in the middle of the sauna.** As one sits and rotates, certain movements are possible that are more difficult or perhaps impossible on a fixed-style bench. These include neck rolls, for example, and other exercises involving the legs and arms.

**ADVANTAGES OF THE FAR INFRARED TYPE**

These include:

- Far infrared saunas may be less intense, and some people prefer this.
- They do not require rotating the body every few minutes. This could be arranged in a lamp sauna as well, although we don’t recommend it.
- They can be smaller. The reason is the infrared lamps in the lamp sauna are quite large, and protrude into the sauna about 8 inches. One could recess the lamps, placing them partially or wholly outside the sauna, but we do not like this design as it will interfere with the heating and operation of the sauna, most likely.

In conclusion, my experience as a physician is that the near infrared lamp sauna is a much better healing tool. The far infrared type may be
used, however, and is much better than no sauna at all. Even a traditional “hot rocks” sauna may be used with some benefits.

For much more on sauna therapy, see the book, Sauna Therapy, that explains much more about sauna protocols, safety, cautions, and much more. On this website is also a longer general article about Sauna Therapy.

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