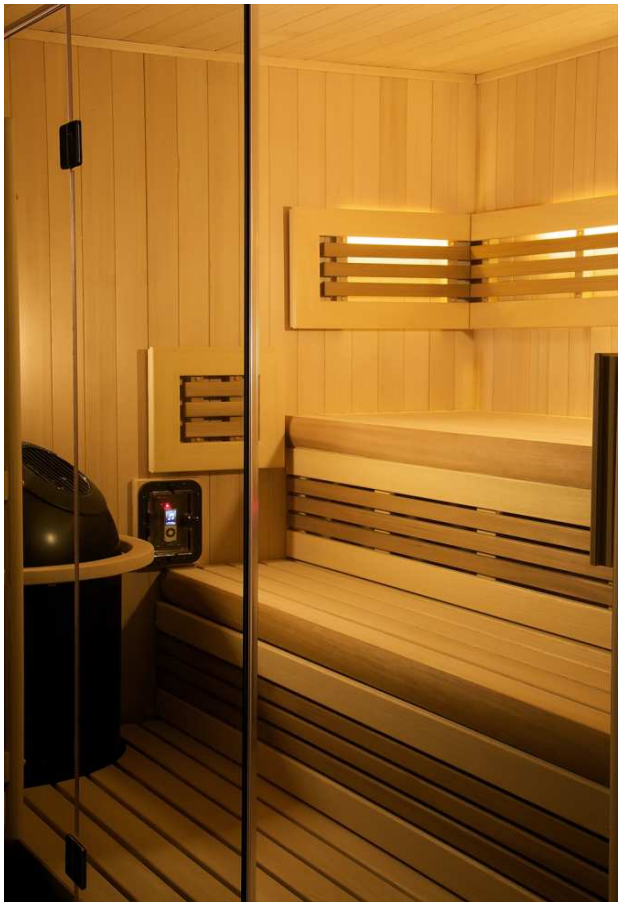
Traditional vs. Infrared Sauna

Comparison & Contrast



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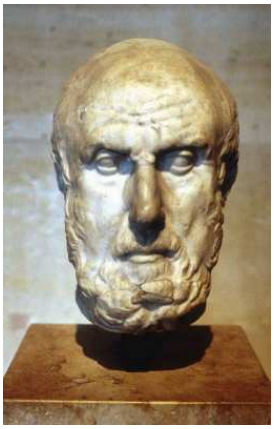
If you are interested in heat bathing, you have probably read many articles regarding the health benefits of traditional sauna, far infrared sauna, and steam baths. Today, we are going to look at the biggest debate, which is between traditional sauna and far-infrared sauna.

To begin: “The sauna you will use the most is the best sauna.” Thus, this article is not to address the question of “What’s better—traditional sauna or far-infrared sauna?” Rather, we’ll explore the differences between the sauna types and why you might prefer one over the other.

If you enjoy steam in the sauna, higher temperatures and a more social environment, then traditional sauna may be the best sauna for you. If you prefer lower temperatures but with body-penetrating heat, far-infrared sauna may be your best sauna choice.

First, let us look at the similarities of the rooms and the shared benefits. The goal of sauna bathing varies by person, but let’s assume your general goal is to enjoy the benefits of heat bathing: relaxation and stress reduction, sweating (with the associated detoxification) and relieving aches and pains. Both sauna types provide these benefits, although the conditions under which the benefits are achieved are quite different.

The benefits of heat bathing have much to do with the sauna creating a self-induced fever. As Hippocrates, the Father of Medicine observed, “Give me fever and I can cure every disease.” While this statement is hyperbole, it does point to the healing power of an increased body temperature.



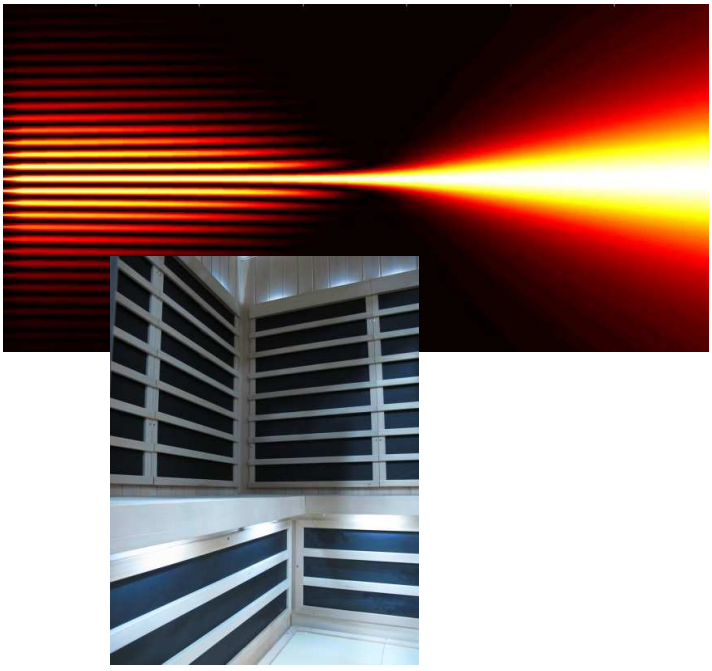
Both sauna types will be relatively dry. The far-infrared rooms tends to be close to normal house humidity levels unless it has been on for extended periods of time. The traditional sauna will be drier (10% or lower) until water is sprinkled over the rocks. The traditional sauna is the only bath in the world where the user controls both temperature and humidity, with humidity controlled to user liking by how much water is thrown on the rocks. In far-infrared saunas you control the temperature, but the humidity is whatever it is.

While perspiring in either sauna, you will experience deep relaxation, sore muscles are loosened, and aching joints will likely feel relief. The process of perspiration burns some calories, though the amount of calories burned is debatable and is dependent upon the individual. Most of the weight lost in a sauna is water loss and is re-gained upon rehydrating. However, without a doubt sauna can be an important part of a healthy weight loss program.

To look at the differences between traditional and IR saunas, I will separate these into verifiable, theoretical, and fabricated differences. The verifiable differences are temperature, method of heat, heat-up time, amount of energy used for typical sized room, and the social experience.

The temperature for a traditional sauna typically ranges between 150 and 185º F. In the United States, Underwriters Laboratory (UL) dictates that the maximum temperature at ceiling level is 194º F (90º C). Thus, the hottest point in the sauna—which is at the ceiling directly above the sauna heater—is typically between 185 and 190º F. Claims that a traditional sauna exceeds 200º F is simply not true and not applicable for electric saunas sold in the US.

The temperature for a far-infrared sauna is usually set between 120 and 140º F; however, unlike the traditional sauna, the goal in and IR room is <u>not</u> to achieve a high temperature.



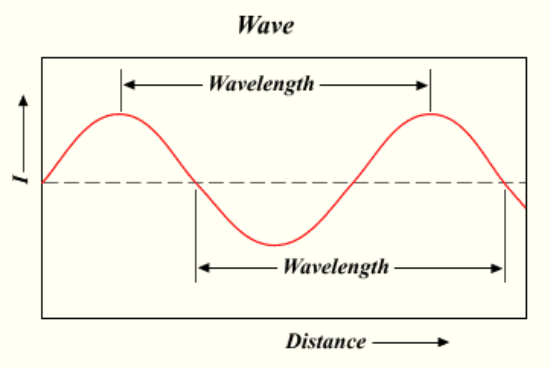
Instead, in a far-infrared room, the bather wants the emitters to remain active because infrared energy is only being emitted (therefore providing the benefit of the deep penetrating infrared heat) when the emitters are on. Because of this, the temperature difference is almost irrelevant, since profuse sweating results in both sauna types, but the method of heating the body is different. In an IR sauna the bather will feel hot and will sweat profusely, but at much lower temperatures. Thus, if the goal is to spend longer periods of time in the sauna, the IR sauna is a good choice.

In a traditional sauna, perspiration is achieved when the bather enters a heated room. When a traditional sauna has been properly heated, the sauna walls are warm, the air temperature has achieved set temperature and the rocks are super heated. As an interesting side note, the heated walls and the rocks are emitting far-infrared heat, combined with the heated air, to create an “enveloping heat”. The process for heating the room most often involves an electric heater that heats a compartment of stones, which then radiate the heat throughout the room.

When the high temperature is achieved, the elements cycle on and off to maintain the high temperature. Most traditional sauna users enjoy pouring water over the rocks to create steam to raise sauna humidity levels. The benefits of pouring water over the rocks include: making the room more comfortable, moistening the nasal passages, and allowing the use of aromatherapy by mixing essential oils with the water.

There is an on-going worldwide trend with traditional sauna bathing for “lower temperatures and higher humidity”—the so-called “soft sauna”.

In a far-infrared sauna, the heat waves penetrate the body to effectively heat the body and raise the body core temperature. To achieve this increased temperature, Far-infrared emitters create infrared energy which is close to the same wavelength as that which the body naturally emits—often referred to as the “Vital Range” of 7 to 14 microns), so the energy is well received by the body. The infrared energy deeply penetrates the skin and warms the muscles and joints. When the energy enters the body, it causes the body temperature to increase and ultimately results in perspiration.



In an infrared sauna, it's important for the emitters/heaters to remain on almost constantly. Since there is no mass of rocks to retain heat, the sauna will cool if the emitters shut off. Thus, even though most of the energy is turned into efficient infrared energy, IR saunas are designed for almost continuous operation of the infrared emitters. As mentioned above, the sauna bather in an infrared room wants to position himself in front of operating emitters to get maximum benefit from the heat.

The heating time for the two rooms can be very different, depending on how the rooms are used. For a traditional sauna, a bather should allow 30-40 minutes for the room to achieve a desired temperature and to properly pre-heat the rocks. This heating time is dependent upon the ambient temperature from which the room begins heating, the amount of insulation in the walls, and the ventilation provided in the room. A well constructed sauna will typically achieve a temperature of 150-160º F in about 30-40 minutes. For hotter temperatures, the room may need to heat for a longer period. Once the room achieves set temperature, the heater will cycle on and off, typically operating about 50% of the time. The insulated walls and the heated rocks will keep the room hot and at stable temperatures. Many sauna users enjoy staying in the sauna after the elements have timed out (a 60-minute timer is standard on all residential saunas).

For a Far-Infrared room, a person may begin bathing when the room is turned on, since the infrared energy is being emitted by the heaters; however, many bathers would prefer to wait until the room is 110º F or hotter. Over the weekend, I worked a trade show, and I turned our infrared sauna on with an ambient room temperature of 70º F degrees, and within 15 minutes, the room had exceeded 100º F . There are two schools of thought with how to use the room. To some, 15 minutes was "wasted" while the infrared energy heated the wood panels rather than heating a body, while others find a pre-heated room to be more comfortable and believe an elevated starting temperature is necessary to begin perspiring.

The length of recommended use for each room is approximately the same (10-15 minutes per session); however, due to the lower air temperatures and the ability to feel the effects of infrared heat faster than a traditional sauna, it is not uncommon for a person to spend a total of 20-30 minutes in an infrared sauna. There are many medical practitioners, especially in Canada, who prescribe 30 minute infrared sauna sessions for their patients. Regardless of which heat system is used, the bather must closely monitor how he feels while using the room, and he must be sure to drink plenty of water during the break between sessions.

From an economic and ecologic standpoint, energy use has become a more important factor in consumers' decision making. Neither room will cause a substantial increase in a household electric bill, but I will compare one of the most common traditional sauna sizes to one of the most common infrared sauna sizes. Traditional saunas tend to be larger (hence use more electricity) than infrared saunas, although traditional saunas are certainly available in one and two person sizes as well.

For a two-person traditional sauna, 5x6 or 5x7 size is most popular. The top bench can comfortably seat two or three people and is also long enough to lie down during the sauna session. This room uses a 4.5 kW heater, 240 volt, 1 phase power; it draws 18.8 amps and requires a dedicated line and breaker. The average cost per kWH of electricity in the U.S. is approximately $0.11 (varies by region: ttp://www.eia.doe.gov/cneaf/electricity/epm/table5_6_a.html), so a 4.5 kW heater will cost approximately $.50 to run for one hour, if the heater runs continuously for one hour. Typically a sauna heater will run for 75% of the first hour and 50% of subsequent hours on since the elements cycle once the set temperature is achieved. Thus, a 4.5 kW heater will cost about $.37 the first hour and $.25 each subsequent hour of continuous use.

A two person far-infrared room is usually physically smaller than a traditional sauna, often about 4’ x 4’ or smaller. The IR heating system is typically 1.5-1.7 kW using a 120 volt 15 amp plug-in service. Since the room can be used sooner than a sauna room, we will assume the room is used for ½ to ¾ of an hour including heat up time. At $0.11 / kWH, a two person infrared room will cost $0.18 to run for 1 hour, but because the IR sauna most likely not on for a full hour, realistically the room will cost about $.10 per use.

Finally, there is a seldom discussed difference in the social experience between the two rooms. While our culture has lost some of the social benefit of the traditional sauna experience, it can be very socially rewarding. From family time in the sauna, to heart-felt conversations with significant others, to sauna parties—the traditional sauna experience can lead to intimate socializing. Traditional saunas are typically large enough to allow multiple people to enjoy the sauna for social time.

Though a sauna session may only be 10-15 minutes at a time, when time allows the sauna can be used in multiple “innings”; the experience of heating the sauna, preparing to use the sauna, talking while in the sauna, and relaxing after the sauna can be very therapeutic and rewarding.

While it is possible to converse in an infrared room, due to the smaller room sizes and room design the typical experience of the infrared room is often more of a private escape. Most higher end infrared rooms include color light therapy and FM/MP3 stereos. The size of most rooms allow for 2 people to comfortably use the room, while some designs may allow for a 3rd or 4th person to use the room. Custom infrared rooms are available, but given the need to be in close proximity to the infrared emitters, the range of available sizes is not as great as a traditional sauna.

As you prepare to purchase your sauna, please keep an open mind to both experiences. If you cannot decide which is best for you, consider an InfraSauna which combines both traditional and far-infrared in one room—where the user decides what type of sauna he/she is in the mood for at “sauna time”.

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