



WHITE PAPER

Traditional vs Infrared Sauna

Comparison & Contrast

By Mark Raisanen | June 2026

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Introduction

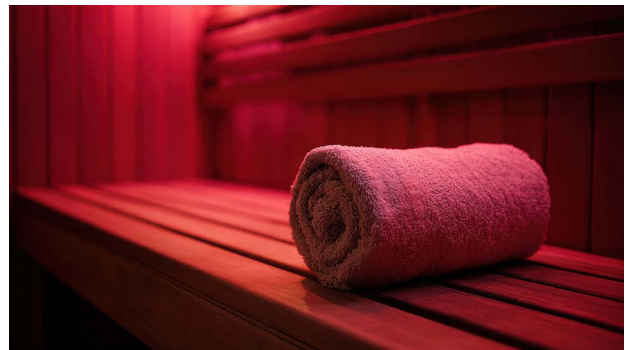
Most people who are looking for a sauna or similar form of heat bathing probably either has relaxed in, enjoyed one, or perhaps have heard the amazing benefits saunas can provide.

This white paper takes a closer look at infrared and traditional sauna (we'll leave steam bathing out of this discussion for now since most of the confusion lies with traditional sauna and infrared sauna differences).

First of all, whatever sauna you will use the most is the best sauna for you. The intention is not to tell you which form of heat bathing is best but rather explain the similarities and differences and why your experience may feel different or similar in each.

For those that enjoy steam or high temperatures (or both) or for those that enjoy the social aspect, then a **traditional sauna** may be your best bet.

If you prefer lower temperatures but with body-penetrating heat, or perhaps like to sit in the sauna longer **far-infrared sauna** may be your best sauna choice.



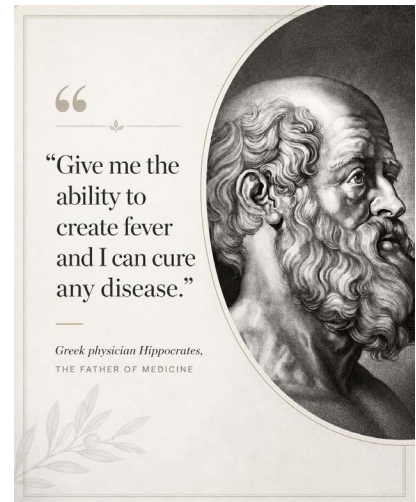
First similarities and shared benefits will be presented. Second, major differences and different benefits will be explained.

Introduction

The end result or goal of using the sauna will vary from one person to another, but it's safe to assume most people agree with these common benefits: Relaxation and stress reduction, sweating (and the added benefit of detoxification), and relieving aches and pains. Both sauna types provide these benefits, although the way in which they are delivered can be quite different.

Both sauna types will be relatively dry. The far-infrared rooms tend to be at or near ambient household humidity unless it has been running for a long period of time. The longer it runs the more the humidity levels will decrease. The traditional sauna will be drier (10% or lower) until water is added to the rocks. A long held truism is that a "traditional sauna is the only bath in the world where the user controls both temperature and humidity." The bather controls both by setting the thermostat (or adjusting the wood burn) and then by how much water they throw on the rocks. In far-infrared saunas, you control the temperature with your thermostat, but the humidity is whatever ambient is, for the most part.

The benefits of heat bathing have much to do with the sauna creating a self-induced fever



Even though the Hippocrates quote is an exaggeration, the healing power of an increased body temperature is well known and a sauna helps achieve a similar reaction in the body. White blood cell counts go up. Antibody counts go up. And so on. While sweating in either sauna, the bather will experience deep relaxation, relief for sore muscles and aching joints as well as an overall feeling of well being.

The process of sweating also burns calories. While studies have varied from several hundred to almost none, several peer reviewed studies have shown a typical sauna session can burn 200 to 300 calories, which can be the equivalent of a couple mile run. You likely will experience some immediate weight loss when using a sauna, but this is almost entirely water loss and it will be negated upon drinking fluids and rehydration. The added benefit of the calorie burn is often seen more as an added bonus while sitting in the relaxing heat of a sauna.

Additionally, the category awareness explosion that occurred following the University of Eastern Finland sauna study proved amazing "all-cause-mortality" benefits that occur in a traditional sauna but have not been proven in an infrared sauna. Make sure to spend a lot of time reading the "benefits that occur" from this study.

Links

Below is a summary link of the study, a link to Harvard health summary and finally the link to the U of EF study.

<https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2130724>

<https://www.health.harvard.edu/blog/sauna-use-linked-longer-life-fewer-fatal-heart-problems-201502257755>

<https://www.uef.fi/en/article/frequent-sauna-use-associated-with-lower-cardiovascular-death-rate-in-men-and-women>

<https://www.uef.fi/en/article/frequent-sauna-bathing-reduces-risk-of-stroke>

<https://www.uef.fi/en/article/scientists-uncover-why-sauna-bathing-is-good-for-your-health>

And, lastly, here is an excellent YouTube video with Dr. Rhonda Patrick (USA) and the lead doctor of the study, Dr. Laukkanen, from Finland.

<https://www.youtube.com/watch?v=hwadE1l6RdQ>



To look at the differences between traditional and IR saunas, this white paper attempts to 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 185° F. In the United States, Underwriters Laboratory (UL-875, the longtime traditional sauna safety code) dictated that the maximum temperature at The sensor, near the ceiling, is 194° F (90° C). Thus, the hottest point in the sauna—which is at the ceiling directly above the sauna heater—is typically between 185 and 190° F.

The temperature for a far-infrared sauna is usually set between 120 and 150° F although some IR rooms, such as the Icelandic Himalayan can reach temperatures of 170F or more; Unlike the traditional sauna, the goal in an IR room is not to achieve a high room temperature, but rather to produce the precise optimal wavelength of IR heat energy that is most readily absorbed by the user to stimulate profuse sweating.



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 via convection effect. 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, inducing a sweat, moistening the nasal passages, and allowing the use of aromatherapy by mixing essential oils with the water.

Side note: There is an on-going worldwide trend with traditional sauna bathing for “lower temperatures and higher humidity” what many describe as a throwback to the original “Savu Sauna” or smoke saunas, where temperatures were a bit lower with higher humidity.

In a far-infrared sauna, the heat waves penetrate the body to effectively warm your muscles 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 absorbed by the body. The optimal wavelength is between 8.4 and 9.4 microns. 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 continuously. Since there is no mass of rocks to retain heat, the sauna will cool if the emitters shut off. The bather in an infrared room will want to position themselves in front of operating emitters to get maximum benefit from the heat. 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.

In an IR sauna the bather will feel hot and will sweat profusely, at lower temperatures than a traditional sauna. Additionally, if the goal is to spend longer periods of time in the sauna, the IR sauna is a good choice for many people.

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 their 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 150–160°F at head level 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 33% to 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 that are UL listed). 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 110° F or hotter. Many times athletes will use an IR sauna for pre-workout warmup since the emitters are already sending IR waves into the muscles. Then, once complete with their workout they'll sit in the now warmer IR sauna to complete a post workout sauna sweat.

The length of recommended use for each room is approximately the same (10–15 minutes per session) up to a maximum suggested time of 30 minutes, per UL; 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 longer periods of time in an infrared sauna.

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 we 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 which can also plug into a household outlet. For a three-person or larger traditional sauna, 4x6 or 5x7 sizes are most popular. The top bench can comfortably seat two or three people and is also long enough to lie down during the sauna session. Depending on the room size the kW of the heater will vary. With an average cost per kWh of electricity in the U.S. of approximately \$0.12 (varies by region:), a 6.0 kW heater will cost approximately \$.72 to run for one hour. However, the second hour it will typically run only 33% to 50% of the time and thus, likely use approximately \$.25 to \$.35 in the second hour, depending on your exact set temperature and how well the sauna is built.



Lastly, there is a seldom discussed difference in the cultural/family/friends/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. For example, I raised five children and especially enjoyed the time with my boys in their teens and early twenties as it was a great way to end the day and talk about life. Hav-

ing the added wellness/health benefit was only icing on the cake compared to the mental and psychological benefit of talking out our days highs or lows. Now my wife and I find that it's a great way to connect after a hectic day.

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 1.5-1.9 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 \$0.12 / kWh, a two person infrared room will cost \$0.20 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. 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 Bluetooth sound systems. The size of most rooms allow for 2 people to comfortably use the room, while some designs 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 and often one of the most buyer remorse sauna purchases (large custom IR) due to the problems associated with the inverse square law of light.

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 a hybrid, traditional and infrared sauna (2-in-1). These are available for situations where a person may prefer one style over another compared to their spouse for example. Or, better yet, for those whose taste might vary from one day to the next they can choose. For instance, I like infrared for post workout sore muscles, but I enjoy the benefit of the steam and aroma (eucalyptus) of traditional saunas as my favorite experience. The good news is that I can adjust to whatever experience I want that given day.

In summary, what sauna is best for you?

As stated at the beginning of this paper, “Whatever sauna you are going to use the most” or better yet, own a hybrid where you can use according to your tastes that day. Another benefit of purchasing a sauna from your local dealer you have the opportunity to test drive the sauna styles to see what suits you best. I don’t know anyone who would purchase a car without a test drive. The same should go for sauna. Purchasing online is a risky endeavor and the experience in each sauna can vary greatly especially due to rock heater differences (in traditional saunas) and IR heater placement and surface temperatures (in infrared saunas). Rely on your Icelandic Sauna dealer for expertise and walking you through the different heat bathing styles.



This whitepaper was produced by Mark Raisanen. Mark grew up taking saunas since he was a baby, continued in later years as a teenager taking his 92 year grandfather to sauna twice a week. About the same time Mark's older brother Keith (with an assist from another brother and his father) started what eventually became North America's largest sauna company—Finnleo/Saunatec. He started working full-time for Saunatec (Finnleo, Helo, Tylo, Polar) in 1992 and has been involved in the industry ever since. He sits on the board of North American Sauna Society (NASS) the non-profit organization formed for the education on the benefits and truths of traditional Finnish sauna—due to the improper information being espoused by many Infrared-Only sauna companies. NASS continues to educate the media, the public and designers/architects on features and ingredients that are necessary for proper sauna designs.