

How to Create a Low-EMF Infrared Sauna

One of the best ways to detoxify your body is through the use of an infrared sauna. However, most infrared saunas have high levels of EMF pollution, which can cause health problems over time and acute symptoms for sensitive populations. In this article, you will learn how to test your infrared sauna for electromagnetic fields and I share how you can have a low-EMF infrared sauna in your home.

The Basics:

Let's begin with some of the basics about saunas. There are four general types:

- Hot Sauna (Finnish)
- Steam Sauna
- Far-Infrared Sauna
- Near-Infrared Sauna (using red bulbs)

From an EMF perspective, hot and steam saunas are typically quite good. They also are [shown in studies](#) to reduce cardiovascular disease and lower the risk of premature death. However, many people with health conditions do not tolerate the heat of hot saunas (140-210 degrees Fahrenheit). Steam saunas are easier to tolerate, but unless you know that the water is filtered (very rare), you could be exposing yourself to many toxins including fluoride and chlorine along with its derivatives. Furthermore, both hot and steam saunas primarily heat the skin by convection, so the detox effects may not be as pronounced as they are with infrared saunas.

Far-infrared saunas have been around a few decades and have become quite popular with health conscious people, even though the sauna price is typically \$2,000 to \$4,000. The added health benefit is that far-infrared energy penetrates and heats the body from the inside (approximately 1.5 inches under the skin), which can provide better detox effects than hot and steam saunas. This is also done at a lower temperature, from 110-140 degrees Fahrenheit. The problem with this type of infrared sauna is that they almost always produce very high levels of electromagnetic fields, which can affect some people. [Here is a video](#) I made showing this phenomenon. The EMFs are produced by current flowing over numerous plates in the walls of the sauna. There is one far-infrared sauna that comes highly recommended by multiple people I have discussed this with and the company ([High Tech Health](#) in Boulder, CO) has made the EMF exposures quite low. If you go this route, you get a 10% discount and free shipping by giving them my name when you order. This [report shows](#) that HTH actually tests and shows low-EMF levels for their far-infrared sauna.

Near-infrared saunas use reddish, 250-Watt incandescent bulbs and can be custom-made at a lower cost. The bulbs produce infrared energy in the wavelengths of 600 to 1,200 nanometers (nm). This type of sauna utilizes the lowest temperature of all saunas (95 - 110 degrees), but produces excellent detox effects because the near-infrared energy penetrates farther into the body than far-infrared (approximately 3 inches). This heats the body from within and allows you to generate a lot of sweat and tolerate the sauna for a longer period of time (typically 20-60 minute

sessions). This type of sauna also has the potential to be the lowest-EMF infrared sauna, as I will explain next.

How to Measure Your Sauna for EMFs:

There is a lot of confusing information and false claims about low-EMF infrared saunas on the internet. A primary reason for this is that most people claiming to offer low-EMF infrared saunas or that provide information on this topic simply do not have a good understanding of electromagnetic fields. Here are a few common mistakes:

1. They think low frequency magnetic fields are the only man-made electromagnetic field that matters with saunas. In fact, there are [four types of EMFs](#) and each one is important to consider. These include low frequency magnetic fields, electric fields, EMI (electromagnetic interference) and microwave radiation (RF).
2. When mentioning magnetic fields, many people erroneously state that 2.5 mG is the "safe" level (a number once [considered for Swedish safety guidelines](#) and just below the level that [multiple studies](#) have linked to childhood leukemia). The actual level allowed by U.S. federal regulations is 1,000 mG. However, this is obscenely high and most EMF professionals recommend magnetic field exposures below 0.1 mG. That is the level at which many electrically sensitive people can have symptoms and is the maximum level you want in your infrared sauna.
3. They use inadequate EMF meters that are not accurate enough and are typically only single-axis meters that can easily miss a field if the meter is not rotated along all 3 axis. I outline the EMF meters to use below.

The following video shows how unhealthy the low-frequency EMF levels are in a typical far-infrared sauna:

https://www.youtube.com/watch?v=eYFQOsiJz_o

To help you further understand the four types of EMFs to test in your sauna, here is a video where I measure a custom-made, Low-EMF near-infrared sauna:

<https://www.youtube.com/watch?v=hF1xbhb96MU>

The following image has the EMF meters that will allow you to accurately test your sauna. You can see how to obtain them [on this page](#). The measurements seen below are from a past home of mine and are ideal. They show minimal RF and very low magnetic fields at 0.01 mG (using a sensitive, 3-axis Gauss meter). The AM radio also shows very little EMI as static interference and electric fields (at right) are well below 1.0 V/m using a grounded Gigahertz Solutions ME 3851A meter (single-axis).



How to Create a Low-EMF Near-Infrared Sauna:

The following steps will help you create a low-EMF near-infrared sauna in your home. The main purpose of this design is to reduce electric field and EMI exposure, which are the most common EMF exposures in this type of sauna. This should allow for even better detox outcomes over the years as your body will rest and relax more easily with minimal EMF in the environment.

1. First measure the EMF levels ([all four types](#)) where you wish to place your sauna. Ideally, they will be similar to the readings seen in the picture above. If not, then consider a different location or have your home [tested by an EMF professional](#) to determine if there is a wiring error or RF source that can be easily fixed or shielded.
2. Build the electrical apparatus of your near-infrared sauna using shielded [MC Cable](#) or, better yet, use EMT conduit with compression fittings and twisted pair wiring (I discuss this in [my book](#)). You should use the assistance of an electrician for this. Shielded wiring is the way to reduce your electric field and EMI exposure while in the sauna. If wired properly, the magnetic fields will also not increase once the sauna is turned on.
3. Use industrial quality, metal clad light switches and bulb sockets. They will be incorporated with the MC Cable or EMT conduit with compression fittings and will further reduce your electric field exposure. EMF mitigation is limited by your weakest link. If you use unshielded, inexpensive, or plastic parts, there will still be high electric fields in your sauna. You can purchase a pre-made low-EMF bulb apparatus [here](#).
4. Build the enclosure for your near-infrared sauna. Teak, cedar or other natural woods as seen in the video above are excellent options for custom-built saunas. You could also create or purchase a natural covering, similar to what [this company produces](#) as seen in [this informative video](#) on near-infrared saunas. You want to avoid synthetic woods, glues or other construction materials that will off-gas chemicals.

5. 250-watt incandescent red bulbs like this [one from Philips](#) or this [bulb from SaunaSpace](#) are the type to use.
6. Re-test the EMF levels in your sauna once you have built it and turned it on. If everything was done correctly, the levels of all four types of electromagnetic fields will be no different than they were before the sauna was turned on.
7. Consider reading "[Sauna Therapy](#)" by Dr. Lawrence Wilson, one of the few books on the detoxification benefits, procedures and DIY construction techniques for near-infrared, lamp-based saunas (I mention the benefits of Dr. Wilson's Nutritional Balancing program with near-infrared saunas and coffee enemas in #15 [in this article](#)). The book covers the EMF problems associated with far-infrared saunas. However, the above steps will help you to take this a step further by minimizing all four types of electromagnetic fields in your near-infrared sauna. A truly low-EMF sauna will help to detoxify and heal your body.
8. If building your own low-EMF near-infrared sauna seems too daunting, then one has already been built for you. I recently learned about [SaunaSpace](#), a company that is manufacturing a low-EMF sauna similar to what I outline above. Their [near-infrared "Luminati" sauna](#) is expensive at \$2,999, but it is the only product I have seen that uses quality materials along with shielded wiring to create what they call the "lowest EMF sauna on Earth." I have not measured their infrared sauna yet, but they state that there are no magnetic or electric fields. Two electrically sensitive people I know are very happy with this sauna. SaunaSpace now also has a specific [low-EMF infrared sauna](#). The aptly named "[Faraday](#)" sauna is more expensive at \$5,500, but is likely a great product if you have the funds. It is scheduled to be released July 2019.

I have personally experienced the benefits of a low-EMF near-infrared sauna (though not as low-EMF as what I outline above). During three consecutive weeks of nightly 30-40 minute sessions, my sleep deepened, my mind became very clear, my computer sensitivity temporarily waned and multiple long-time friends mentioned that I looked vibrant. I also did not experience any of the common EMF symptoms that I had with multiple far-infrared saunas in the past. I do think that this type of detoxification therapy will help most people and that low-EMF construction practices will make this type of therapy even more beneficial.

Hopefully this article will help you to create or purchase a low-EMF infrared sauna for your family. If you do use the procedure above or you have measured other infrared saunas (far or near-infrared) with good quality EMF meters, please share your results below (ideally with a video) so that we can all learn from your experience.

This article was updated December 2018.