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## Saunas Can Burn Heavy Metals and Toxic Chemicals Out of Your Body

April 22, 2012 | 315,769 views

### By Dr. Mercola

Steve Benda is trained in power systems and nuclear engineering. Here, we discuss saunas and the electromagnetic fields (EMF's) they can produce. While sauna bathing can be highly beneficial for your health, EMF's are a distinct health hazard. Benda literally grew up in and around saunas, due to his Finnish and German heritage.

*"The saunas were always in my family and they became part of our lives, so I guess I just had an early interest," he says.*

### The Historical Use of Saunas

Historically, saunas have a longstanding tradition of use. They are common to many Eastern European countries, as well as Asia. In some countries, such as Finland, you can find them in nearly every home.

*"Some of the old Finnish saunas were fires under piles of rocks inside a room that was very smoky," Benda explains. "People would come in to those rooms and throw water on that pile of rocks; get the steam heat in the room, and sweat.... It evolved into contained wood stoves, where the woodstove would heat the pile of rocks.."*

*That evolved into electrical saunas, which are more traditional now, where electric heating elements will heat the rocks in a small stove. It's very typically found in basements or little recreation centers in homes and in lots of clinics.*

*... That has led, in more recent years... to the evolution of the infrared sauna, which is a different kind of heating mechanism that relies on the infrared portion of the electromagnetic spectrum to provide heat and radiation; radiant heat."*

### The Different Types of Saunas

Today, there are three basic types of saunas:

1. The wet Finnish sauna, where steam is created by throwing water on hot rocks (the heat can be generated by either wood burning or electricity)

### Story at-a-glance

Saunas can provide great health benefits by helping you detoxify. However, many electric saunas, including infrared saunas, can emit very high levels of electromagnetic fields, which can have a harmful effect on your health

You can easily test your sauna (or any other area) by using an inexpensive electrical meter, or a more sophisticated EMF meter like Trifield. Ideally, EMF levels should be below 3 milligauss or so. The newer, safer saunas have a standard of 2.0 milligauss at 30 centimeters

The difference between an infrared sauna and the traditional Finnish-style saunas is that the latter heats you up from the outside in, like an oven. The infrared sauna heats you from the inside out

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2. The dry Finnish sauna that uses electrical heating, and therefore does not employ water (these stoves are not made to have water poured on them. Doing so can result in short-circuiting)

3. Infrared saunas

The difference between an infrared sauna and the traditional Finnish-style saunas is that the latter heats you up from the outside in, like an oven. The infrared sauna heats you from the inside out. The traditional wet sauna typically uses a small stove with radiant heat elements, i.e. resistive elements that heat up when current flows through them. These elements heat up the rocks piled on top. The temperature is regulated by a thermostat. Initially, the sauna will feel warm and dry, but once you toss some water on the rocks, hot steam is generated.

*"At that moment, when it goes from dry to more of a humid environment, thousands of pores are popping [open] at the same time on your body," Benda explains. "It feels really, really nice as your sweat mechanisms turn on. That's a traditional sauna. We throw water on the rocks. We get the steam heat in the room and we experience a lot of sweating... That'd be considered the wet sauna.*

*... I'll say it's the best recipe to get ready to go to bed. Now when you lay down to go to sleep at night, you're very, very relaxed and cleaned from the sauna... My sauna at home is heated every night — my traditional (sauna) in the basement."*

## Beware: Saunas Can Generate Very High Levels of Electromagnetic Radiation

While some still favor old-fashioned wood-burning saunas, the more modern electrical versions and the infrared saunas are the most common today. Unfortunately, this has also led to some problems, namely high electromagnetic radiation.

*"Electromagnetic fields are all about electrical energy. I call it the force components that come off of electrical energy," Benda says. "The force equations are set up where electrical fields are everywhere around us. If there are energized wires, [then] electrical fields are around us...[T]hey can be mitigated through shielding. The electrical fields are probably one of the areas that we can easily contain.*

*But the other component that's in the electrical field is the electromagnetic radiation (EMF). ... [B]oth are very bad actors, I would say, because they act on our bodies. Our bodies are filled with charged particles. We're made up of charged particles. An electrical field will act out with a force on those charged particles, depending on its magnitude, and over time may alter the way that our bodies behave cellularly."*

Many people don't realize that we are fundamentally electrical beings. The cells in your body communicate with each other electrically, and if you're exposed to an external electrical field, it could interfere with their communication and wreak havoc on your system.

*"From the electrical side, I know that if I have an energized source, which is an EMF, an electromotive force – volt... Volts generate or emit electric fields. We measure that by volts per distance; that's what our meter will tell us.*

*The other part of that force equation would be the electromagnetic part, which is when a charged particle moves in the wire; meaning current (so you have volts and current). This generates a magnetic field around the wire, and that magnetic field will also impart a force on those same charged particles in your body. We have developed technology that can effectively mitigate or eliminates the electric field... [and]... technology that will mitigate or minimize below acceptable standards the electromagnetic [field]..."*

Benda's background in nuclear power deals with radiation, power systems, and the control of electrical properties. He was asked to apply some of these theories to the development of a safer, low-EMF infrared sauna, which led to the creation of a whole new generation of shielded saunas.

## Is Your Infrared Sauna Emitting High Levels of EMF?

About 15 years ago, when I first started doing saunas, the panels used to create infrared heat were initially made of ceramic. Later, they began using carbon. The problem with this is that while ceramic panels are relatively safe, the later-generation carbon panels actually emit very high EMF levels. You can easily test this by using an inexpensive electrical meter, or a more sophisticated EMF meter like Trifield.

One of the saunas I recently tested measured off the chart—about 120 milligauss. Even outside the sauna the EMF level was high. Normally, it should be below three or so.

Needless to say, the technology Mr. Benda has helped develop can be of great benefit, especially if you're regularly using your sauna. Because while radiation drops off exponentially as you move away from the source, when you're sitting in a small confined space such as a sauna, you don't have the choice to move further away.

*"Hotspots would be ranges of 100 to 300 milligauss," Benda explains. "... [A]s you move away from the source, the measured field drops off by one over the distance squared. So it drops off relatively quickly. However, we don't have that luxury when we're sitting in one of these [saunas]... [M]ost likely you'll be leaning against the source..."*

*[W]hen there is an electric field and there's an electric current flow, it will generate electromagnetic radiation (EMR).*

*Being that electric fields and electromagnetic radiation fields are vectors—meaning they have a direction and a magnitude—any combination of an electric field, plus an electric field, plus other components that add up will end up to be the result of the many, not just one. What happens is, if we don't effectively control all the sources of the electric field, or all the sources of electromagnetic radiation, we aren't really taking care of the problem.*

*... "[To describe] the electric field, I use a water analogy where you have a garden hose, a water source, and then you saw a pressure gauge. In the pressure gauge, the pressure is volts in the electric analogy. When you turn it on, the flow of the water is the current in the electric analogy. You can't have current flowing without volts in the electric portion. To address only one, and to assume only one exists, is missing half of the equation. If we're truly addressing all aspects of the electromagnetic field, we need to effectively address both.*

*... So the [patented] technologies we have developed can effectively eliminate all the induced electric fields in the room so that they entire environment is below our acceptable standards. We have also upgraded the technologies to mitigate... the magnetic portion."*

Many are using saunas for detoxification, and it would clearly seem counterproductive to employ a device that is aiding one aspect of their health while hurting them in another. In fact, depending on your specific health status, detoxing in a high-EMF environment might actually do you more harm than good. This is why I'm delighted to see that the issue of EMF's is finally being addressed—at least by one sauna company. Clearly, if you're in the market for a new sauna, this is definitely something you'll want to investigate, to make sure your sauna does not encase you in a high-EMF environment...

## A New Generation of Infrared Saunas

The technology developed by Mr. Benda can effectively shield the bather from dangerous levels of EMF. In the interview, he describes how they determined these safer limits of exposure:

*"... The standard we use as our target is one that has developed in Sweden... called the electromagnetic Swedish standard... They have developed a standard where, at 30 or 50 centimeters from [a computer] screen, there would be a certain amount of milligauss reading or maximum electric field. What we have done, based on that study and the credibility of that study, is, we have said, "Okay, let's take that same benchmark, that same standard, and apply that to our saunas." Currently, our standard is 2.0 milligauss at 30 centimeters."*

Besides addressing EMF's, Mr. Benda is also working on redefining the infrared signature from the typical 50 percent "on," to one that's about 96 percent "on." Benda explains:

*"When an infrared room nears the set point – the thermostat at 150 °F setting, let's say – it begins to cycle on and off, based on the controls and the set points. We have done some very interesting high-performance [modifications] that will more effectively keep the infrared signal "on" 96 percent of the time versus only 50 percent.*

*To the bather that means a lot because he'll feel warm and he'll feel like he's in an experience when the infrared is on. Again, the heat signature is coming from the electrical energization, whereas if the room is turned off their bodies will start to feel cooler almost instantaneously."*

## Sauna Bathing Can be an Excellent Addition to a Healthy Lifestyle

Everyone today is exposed to heavy metals and toxic chemicals. Particularly for slow metabolizers, using an infrared sauna can be a very good method to detoxify. Its dry, warming energy is highly compatible with the human body. By heating your tissues several inches deep, it helps enhance metabolic processes, and greater cellular energy production facilitates healing. Furthermore, viruses and toxin-laden cells are weaker than normal cells and tolerate heat poorly, so raising your body temperature helps heal infections quicker.

A major organ of elimination, most people's skin is very inactive. Many simply do not sweat enough. Repeated use of the sauna slowly restores skin elimination, allowing toxic chemicals and metals to be removed. It's a daily habit that pays many dividends. To learn more about the health benefits of using saunas, please review the related articles listed below.

However, all of these benefits could be effectively cancelled out if your sauna is emitting very high EMF's, so please, do take the time to evaluate your sauna, and make sure to purchase a low-EMF version if you're buying new.

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