What 20 Years of Finnish Research Says About Sauna and Living Longer

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Sauna routines for longevity include cold plunge. Here’s what the research says.

In a small Finnish city in the early 1980s, researchers began following more than 2,300 middle-aged men to figure out what was driving their heart disease risk. Decades later, the **Kuopio Ischemic Heart Disease Risk Factor Study** has produced some of the most striking longevity data we have, and a lot of it comes down to a habit most of these men were already doing several times a week: sitting in a sauna.

The findings are hard to ignore. Men who used a sauna 4 to 7 times per week had a 40% lower risk of death from cardiovascular causes than men who used one only once a week, and a 50% lower risk of fatal coronary heart disease, even after researchers controlled for exercise, smoking, alcohol, and other risk factors. A **follow-up cohort** that included men and women (median age 62.7) found that frequent sauna users were 61% less likely to have a stroke. And the same population data linked frequent sauna use to a **66% lower dementia risk**.

Those are observational numbers, not proof of cause and effect. But they’re the kind of numbers that have made sauna one of the most talked-about longevity practices of the last decade, and they hold up across multiple analyses of the same population.

So what do we actually know about sitting in a hot wooden room? Here’s what the research supports, what it doesn’t, and how to use a sauna well.

The Science-backed Benefits of Sauna

The benefits in the Kuopio data don't happen because saunas are relaxing (though they are). They happen because heat is a controlled stressor, and the body's response to that stressor strengthens the systems that keep us alive longer.

When you sit in a sauna, your core temperature rises, your heart rate climbs, and your blood vessels dilate to move heat to the surface of your skin. Your cardiovascular system works in a way that researchers have compared to **moderate-intensity exercise**. At the cellular level, the heat triggers a process called **heat shock**, which prompts your cells to release heat shock proteins (HSPs). These proteins repair and protect other proteins in the body, and researchers think they're a big part of why **sauna use is linked to longevity benefits**, offering protection against age-related cardiovascular disease, neurodegeneration, and muscle loss.

In other words: the discomfort is the point. Heat is a hormetic stressor, the same category of beneficial stress that includes exercise and cold exposure, and your body adapts to it by getting more resilient.

How Sauna Boosts Your Cardiovascular, Respiratory, and Mental Health

Sauna and Cardiovascular health: Sauna use has been found to impact cardiac conditioning similar to the effects of moderate-intensity exercise. The benefits appear to be both protective and curative.

The **Finnish Kuopio Ischemic Heart Disease Risk Factor Stud**y, a long-term population-based study to determine risk factors for cardiovascular disease (CVD), found:

- Middle-aged men who used a sauna 4-7 times per week had decreased risk of death by 40% over those who used a sauna once per week; and using a sauna 2-3 times per week

was associated with a 24% decrease.

- Greater sauna use was also associated with decreased risk of **CVD**, by 50%, while 2-3 time use was associated with a 27% reduction in risk.
- A **subsequent cohort study** found similar cardiac benefits: Men and women (median age 62.7), who took sauna baths 4-7 times per week were 61% less likely to have a stroke than people who used a sauna once per week. Both studies adjusted for other potential protective factors.

Other research has shown sauna use **improves vascular function** among people at risk for atherosclerosis.

Even a single sauna session may provide cardiac benefits. A **2019 German study** found that one sauna session positively impacted heart rate and blood pressure equal to a session of moderate-intensity exercise.

Another small study found that 16 minutes of sauna, split into two 8-minute sessions, decreased vascular resistance among people with hypertension. When the sauna intervention followed 30 minutes of aerobic exercise, people experienced additional positive effects on blood pressure up to 24 hours later.

Sauna and Pulmonary function: By improving lung capacity and **function,** sauna use may help improve breathing among people with asthma and **bronchitis**. It may also reduce risk of respiratory disease, including COPD and pneumonia.

Meanwhile sauna use **in conjunction with physical activity** has been shown to increase cardiorespiratory function (CRF). In one small but important study, researchers assigned 48 sedentary middle-age men and women at risk for CVD, into three intervention groups:

- One did 60 minutes of exercise, including aerobic activity and resistance training, 3 times

per week for 8 weeks

- One did the same exercise program followed by 15 minutes of sauna after each exercise session
- A control group

The results? Compared to the control group, the exercise-only group increased their CRF and decreased fat mass. But those who did a sauna after exercise not only experienced additional CRF gains, they also had considerably lower blood pressure and cholesterol levels.

“These beneficial changes are promising, given that [the] sauna exposure, such as duration and frequency, were not only relatively short and tolerable, but [feasible] and replicable as well,” the study authors noted.

Sauna and Stress reduction: The body’s response to sauna heat triggers a cascade of physiological reactions that promotes relaxation and support stress reduction:

- Increased blood flow helps muscles relax, and delivers oxygen and nutrients throughout the body to promote healing
- The release of **endorphins** promotes a sense of well-being
- Post-sauna reduction in cortisol levels indicates increased stress reliance
- Sauna use seems to help **modulate the nervous system**
- By triggering heat shock, and the subsequent release of HSP, sauna use may help the body counter oxidative stress and inflammation, both of which are linked to chronic stress.

6 Surprising Sauna Benefits

While cardiac health and relaxation are the most recognized benefits of sauna use,

some studies have indicated other potential benefits, including:

1. **Reduced Inflammation:** One **study** of more than 2,000 middle-age men found that sauna use 4-7 times per week, resulted in lower levels of C-reactive protein, a marker of systemic inflammation.
2. **Pain Reduction:** One **small study** of 3 men and 15 women with rheumatoid arthritis found that 4 weeks of infrared sauna use twice a week relieved both pain and stiffness. A **small Korean study** found that twice-daily, 15-minute sauna sessions over 5 days, significantly reduced low back pain.
3. **Improved Cognitive Health:** Regular sauna use may support brain health: The Finnish study found that men who use a sauna 4-7 times per week had a **66% lower dementia risk than once-per-week users**. How sauna use might protect the brain isn't understood, but could be related to the release of HSP and their cellular benefits; increased blood flow to the brain; or the expression of **brain-derived neurotrophic factor** (BDNF), which is important for the creation, health, and plasticity of brain neurons.
4. **Increased Calorie Burn and Improved Metabolic Health:** Sauna can **indirectly impact weigh**t loss, by increasing heart rate and caloric burn, although most weight reduction will be through water loss and therefore temporary. However, regular sauna use appears to help **lower total cholesterol** and **enhance insulin sensitivity**.
5. **Preserved Muscle Mass**: Sauna use **may help preserve age-related muscle loss** (scarpenia), by reducing protein degradation that contributes to muscle atrophy. Heat stress can also stimulate the **release of** growth hormone, which is important for muscle recovery, and when combined with exercise, **may support** muscle growth.
6. **Strengthened Immunity:** Sauna use can **increase white-blood cell** count, and may offer protection against respiratory illness.

Although a growing body of research points to a variety of *potential* benefits of sauna bathing, in some cases, the excitement may surpass the evidence. Most of the largest studies have been observational, which don't determine cause and effect. And those were done in Finland, where sauna use is deeply culturally ingrained, and may not be reflective of a more general population. Meanwhile, randomized control studies on sauna use have been small.

How to Use a Sauna

The concept behind sauna bathing is simple: You enter an enclosed structure, usually made of wood, that is heated to temperatures ranging from 113-212°F. While saunas were traditionally heated with fire, many modern saunas use electricity, or infrared light panels, although wood stoves are still popular, especially in cold climates.

Inside the sauna, stones are sometimes placed on top of a heating grid to both hold heat and disperse it as steam when doused with water.

As you sit, your body temperature rises, creating a cascade of physiological events, including:

- Increased heart rate
- Increased and redistributed blood flow
- Rise in core body temperature
- Rise in skin temperature
- Sweat response

The Different Types of Saunas

- **Traditional:** The Finnish model of sauna is still the most common. These complete-

wood structures, typically made from warp-resistant wood like aspen, cedar, or hemlock, have benches for sitting, and provide a dry-heat experience, with any humidity produced by pouring water over sauna rocks. Temperatures must be at least **150**°F, according to the North American Sauna Society, to 190°F, and as high as 212°F.

- **Infrared sauna:** Instead of heating an entire room, infrared sauna uses electromagnetic lamps to produce thermal radiation that's absorbed directly into the body. Temperatures are lower, typically 113-140°F.
- **Steam or wet sauna:** While traditional saunas utilize steam to provide some humidity and increase heat, they are for the most part dry. In a wet sauna, steam from boiling water is pumped into a room, creating 100% humidity, and temperatures of **100-110**°F.

How Often Should You Use a Sauna?

Most studies find benefit from using a sauna 3 or more times per week. But even one sauna session can promote relaxation and help reduce stress.

How Long Should You Stay in a Sauna?

Although the Finnish study found the greatest mortality protection after more than 19 minutes of sauna use, there is no established sauna time guideline.

Most studies find that 15-20 minutes of use, 3-7 times per week, seems to be enough **to experience benefits**.

The lower temperature of the infrared sauna allows for longer sessions, up to 30 or more minutes.

Getting used to extreme heat can take time. If you're curious about sauna use, start with just a few minutes and increase your exposure time incrementally. With longer

sessions, it’s common to take brief breaks outside the sauna.

Who Should Be Cautious?

Because saunas rely on extreme dry heat, dehydration and lightheadedness are an immediate risk. And some people and others with certain conditions should be careful or avoid saunas altogether. For example, children under age 6 should not use a sauna. Caution is advised for people with blood pressure issues, heart conditions, or during pregnancy.

Consult with your healthcare provider before using a sauna for any of the following conditions or circumstances:

- Pregnancy
- Severe cardiac conditions, including recent stroke or heart failure, angina or advanced aortic stenosis
- Extremely low or high blood pressure
- Kidney disease
- Active infection, rash, or inflamed skin
- Using blood thinners or diuretics
- Are on drugs or alcohol

If you don’t have any of the mentioned risk factors, and are curious about sauna use, give it a try. It can be a relaxing adjunct to a healthy lifestyle. But take any claims of extreme benefits with a grain of salt. Most of all, be safe.

Pro Sauna Tips

BEFORE YOU SAUNA

- **Hydrate Well**: Drink plenty of water beforehand to avoid dehydration.

- **Prep Comfortably**: Shower first, and bring a towel, flip-flops, and a wool/felt sauna hat to regulate heat around your head and protect your hair and ears.
- **For added cardio fitness benefit**: Lift or do cardio, then sauna. Pairing a 15-minute sauna after workouts has been shown to boost cardiorespiratory fitness and improve blood pressure and cholesterol beyond exercise alone. Add 2–3 rounds with cool-downs to compound benefits and recovery.

DURING THE SESSION

- **Ideal Temperature & Time**: Aim for 160–195°F (70–90°C). Start conservatively (10–15 minutes), gradually increasing session length over time.
- **Monitor Your Comfort**: Pay attention to how you feel. If you become dizzy, short of breath, nauseous, or uncomfortable, exit the sauna calmly and slowly.
- **Breathing Comfort**: Consider using a damp cloth over your nose and mouth to ease breathing in dry heat.
- **Stretch Gently**: Light stretching during or after sauna sessions can improve flexibility and muscle relaxation.

REPEATING SAUNA ROUNDS

- **Multiple Rounds**: Aim for 2–3 rounds per session, totaling around 30–45 minutes. Adjust based on your comfort and tolerance.

COOLING OFF

- **Cold Shower or Plunge**: Step out after each sauna round and cool off with a **cold shower or plunge**. Rest for 5–10 minutes to help regulate core temperature and enhance circulation.

POST-SAUNA RECOVERY

- **Rehydrate & Rest**: Drink plenty of water or electrolyte-rich fluids, shower again to cleanse and refresh, and take some time to rest afterward.

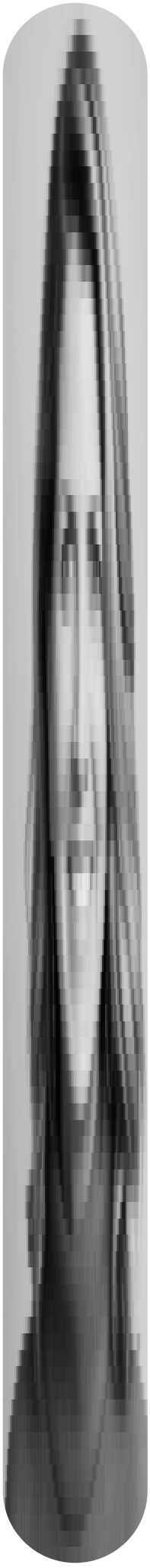
FREQUENCY RECOMMENDATIONS

- Begin with 2–3 sessions per week, gradually increasing frequency if your body tolerates it comfortably.

Tell us about your sauna experience! Write to us at **editors@superage.com**

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