



Sauna and health – What have we learned the last 60 years?

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How to interpret research evidence

-  *strong evidence*: numerous methodologically high level studies with similar results from different research groups
-  *moderate evidence*: one methodologically high level study or many eligible studies with similar results from different research groups
-  *limited evidence*: one eligible study with clear results
-  *no evidence*: consensus statement of experts without real research evidence

*Physiologiska Rön och Anmärkningar,
om de i Finland hos Almogen brukeliga
Badstugors nytta och skada;*

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Kongl. Sv. Vet. Acad. Handl.

1765. Jan. Febr. Mart.

69

Acute physiological effects of sauna

There is a consensus that sauna bath temporarily

-  increases skin temperature by several degrees
-  increases inner temperature by 1-1,5 degrees
-  increases pulse rate maximally to 150 beats/min
-  lowers blood pressure
-  induces sweating , 0,5 -1 liters (two or three hot-cooling cycles)

Sauna, heart and blood vessels

The best studied area on the effects of sauna,
main topics

-  sauna in the prevention of diseases of heart and blood vessels
-  sauna in the treatment of diseases of heart and vessels
-  dangers of sauna for patients
-  interesting results in coming lectures of this symposium

What do we know?

-  rheumatological disorders: limited to moderate evidence for pain relief
-  lungs: limited evidence for improvement of the symptoms of chronic obstructive pulmonary disease
-  common cold: no evidence for hardening against the diseases or curing
-  cancer: no evidence for changed risk to get the disease or to cure from it
-  spermatogenesis: conflicting results

Sauna deaths

-  less than 100 sauna deaths/year in Finland 1990-2002, one death/three million baths (Kenttämies and Karkola, J Forensic Sci 53: 724, 2008)
-  about six sauna deaths/year in Sweden 1992-2003 (Rodhe and Eriksson, Am J Forensic Med Pathol 29: 27, 2008)
-  *strong evidence on the role of alcohol*: more than half of the victims have had alcohol in blood, often with very high concentrations

Sauna and congenital central nervous system defect (ccnsd)

“Exposure to Hot Tubes May Harm Fetus”

Washington Post 19.8.1992

- 🪴 23 491 mothers, 49 newborns with ccnsd, two of their mothers have had a sauna bath, non-significant (Milunsky et al., J Am Med Ass 268, 882, 1992)
- 🪴 100 consecutive babies with ccnsd, no relation to sauna habits of the mothers (Saxen et al., Teratology 25: 309, 1982)
- 🪴 ccnsd is rare in Finland

Characteristics of sauna research

-  randomised control trials rare
-  number of subjects studied small, only major changes can be detected
-  follow-up times are usually short, not possible to detect long-term effects
-  outcome measures varying and often subjective
-  risk of publication bias
-  relatively much non-English reporting, results do not reach the main scientific community

Avoid overinterpretation

🪴 Finland is the happiest country in the world (World Happiness Report, 2018)

🪴 In Finland the number of saunas/inhabitant is by far the highest

