

Moms-to-be can exercise in warm weather and use saunas without getting too hot

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Pregnant women can safely exercise in warm weather and take short hot baths or saunas without risking critical elevations in body temperature that could harm their unborn child, finds a review of the available evidence published online in the *British Journal of Sports Medicine*.

The findings contradict current advice that pregnant [women](#) should avoid heat stress based on concerns about possible risks of exceeding a core body temperature of 39C during pregnancy.

However, current guidelines do not clearly define heat stress limits and may therefore be discouraging physical activity during pregnancy, which benefits both mother and child. Some evidence also suggests that the body's ability to regulate its core temperature is enhanced during pregnancy.

To investigate further, a team of researchers set out to assess heat stress response during pregnancy and whether the body's thermal regulation capacity improves during pregnancy.

They analysed the results of 12 studies, published in English up to July 2017, reporting the core temperature response of 347 pregnant women to heat stress, either through exercise or through passive heating, such as using a sauna or sitting in a hot bath.

Differences in study design and quality of evidence were taken into account. Studies included women at any stage of pregnancy and

responses were measured according to intensity and duration of exercise as well as ambient temperature and humidity.

No woman exceeded the recommended core temperature limit of 39C across all studies. The highest individual core temperature reported was 38.9C. The highest average core temperature was 38.3C for exercise on land, 37.5C for exercise in water, 36.9C for hot water bathing and 37.6C for sauna exposure.

Based on these results, the researchers say that pregnant women can safely engage in up to 35 minutes of high intensity aerobic exercise (at 80-90% of their maximum heart rate) at air temperatures of up to 25C and 45% relative humidity.

They can also safely participate in aqua-aerobic exercise in water temperatures ranging from 28.8C to 33.4C for up to 45 minutes, and sit in hot baths (40C) or hot/dry saunas (70C; 15% relative humidity) for up to 20 minutes, irrespective of pregnancy stage, without reaching the recommended core temperature limit of 39C.

Some studies also showed a reduction in the rise in core temperature as pregnancy progressed, lending support to the theory that thermal regulation is enhanced during [pregnancy](#). While the underlying reason for this is unclear, the researchers suspect it may be linked to changes in body mass and surface area.

They also point out some limitations of their review, such as the small body and varying quality of evidence, and inconsistency in study design. Although they were able to allow for some of these factors, they cannot rule out the possibility that they may have influenced the results. As such, they say their recommendations "may change with future research."

They suggest that more research is needed to identify safe exposure and environmental limits for [pregnant women](#) who are physically active in hotter climates, but say their results suggest that [heat stress](#) risk is low.

More information: Heat stress and fetal risk. Environmental limits for exercise and passive heat stress during pregnancy: a systematic review with best evidence

synthesis. *British Journal of Sports Medicine* (2018). DOI: [10.1136/bjsports-2017-097914](https://doi.org/10.1136/bjsports-2017-097914)

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