

Cochrane finds no reliable evidence on effectiveness of electric fans in heatwaves

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A new Cochrane systematic review of the effects of electric fans in heatwaves has found no high quality evidence to guide future national and international policies. The review outlines the type of study that would help resolve the uncertainty which is spelt out in a podcast and an editorial all published today in *The Cochrane Library*.

Heatwaves in Europe and the USA have led to increasing interest in health protection measures to reduce the impacts of such [extreme weather events](#) on [human health](#). [Heatwaves](#) are also an issue for [mass gatherings](#) and heatwave planning has been incorporated into the preparation for the London [Olympics](#) beginning this month.

One way to try to get relief from the heat is to use an electric fan, but [health experts](#) have questioned whether this will do more harm than good. A fan might help to increase [heat loss](#) if the temperature is below 35°C and the fan is not directly aimed at the person, but, when temperatures are above 35 °C, the fan might actually contribute to heat gain. Excess sweating can also lead to dehydration and other health problems.

One of the review authors, Dr Saurabh Gupta, a consultant in public health at Hertfordshire Community NHS Trust in the UK, said: "It is important, to know about the potential benefits and harms of electric fans when choosing whether to use one. This is true if you are simply making a decision about your own use of a fan, but it also applies to broader public health decisions, such as whether to give electric fans to

groups of people during a heatwave.

"This is particularly important for people who are considered more vulnerable to the effects of heat, such as older adults who are less able to cool down through sweating or increasing the flow of blood to their skin."

The Cochrane researchers tried to provide some of the answers that would help decision makers. Introducing the review, they write: "We looked for high quality research that had compared groups of people using fans with groups who didn't use them during a heatwave. However, we didn't find any research that met our requirements.

"We did find some studies which used designs that are less reliable for answering this sort of question, and these had mixed results. Some suggested that fans might reduce health problems, while others suggested that the fans might make things worse."

Another of the authors, Katie Carmichael from the UK's [Health Protection Agency](#) says in the podcast that accompanies the review: "Our review does not support or refute the use of electric fans during a heatwave and people making decisions about them should consider the current state of the evidence base. They might also wish to make themselves aware of local policy or guidelines when making a choice about whether or not to use or supply electric fans."

Professor Mike Clarke from the All-Ireland Hub for Trials Methodology Research in Queen's University Belfast added: "We have shown that the evidence is not already out there on the benefits and harms of electric fans. We need a large randomised trial to resolve this long standing and on-going uncertainty, and to help people make well-informed choices about their use."

More information: Gupta S, Carmichael C, Simpson C, Clarke MJ, Allen C, Gao Y, Chan EYY, Murray V. Electric fans for reducing adverse health impacts in heatwaves. *Cochrane Database of Systematic Reviews* 2012, Issue 7. Art. No.: CD009888. [DOI: 10.1002/14651858.CD009888.pub2](https://doi.org/10.1002/14651858.CD009888.pub2)

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