

Paracetamol improves exercise endurance in the heat

19 September 2013

Paracetamol has a significant effect on exercise performance and the body's ability to cope with the thermal challenge of exercise in the heat, shows a study published today [20 September] in *Experimental Physiology*.

The research team have previously shown that paracetamol can improve [endurance performance](#) through a reduction in exercise-induced pain. This study suggests, for the first time, that paracetamol can also improve the length of time someone can exercise for in hot conditions. The data suggests that this is achieved by reducing the body's temperature during exercise, which subsequently improves their tolerance to exercise in the heat.

To perform the research, a group of healthy, male participants ingested single doses of paracetamol or a placebo, before cycling at a fixed intensity for as long as they could in hot conditions. During the exercise, measures of core and [skin temperature](#) were recorded alongside the participants' perception of the heat.

As the study was performed in humans, with a common over-the-counter drug, the implications are far reaching.

Dr Lex Mauger, who led the study at The University of Kent's School of Sport and Exercise Sciences, explains:

"Firstly, consideration by the World Anti-Doping Agency (WADA) and local anti-doping authorities should be made about the use of non-steroidal anti-inflammatory drugs (NSAIDs) in sport – on both health and performance grounds. Secondly, the utility of paracetamol as a first-response drug to exertional [heat illness](#) should be investigated."

The research gives a new insight into the effects of paracetamol on [endurance exercise](#), and further studies hope to determine by which mechanisms this takes place.

Dr Mauger says: "Whilst we have found that paracetamol improves the time someone can exercise in the heat, and that this occurs alongside a reduced body temperature, we did not measure the specific mechanisms by which this may have occurred. It is important now to try and isolate how paracetamol reduced participants' body temperature during exercise."

More information: Mauger A, Taylor L, Harding C, Wright B, Foster J and Castle P (2013). Acute acetaminophen (paracetamol) ingestion improves time to exhaustion during exercise in the heat. *Experimental Physiology*.

Provided by Wiley

APA citation: Paracetamol improves exercise endurance in the heat (2013, September 19) retrieved 19 August 2022 from <https://medicalxpress.com/news/2013-09-paracetamol.html>

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