

No evidence that whole-body cryotherapy enhances athletes' recovery

September 24 2015, by Niki Widdowson

Rugby World Cup teams such as England, Wales and Georgia using whole-body cryotherapy to speed muscle recovery may not be getting the edge over those teams using traditional methods, a world-class review of top sports science studies suggests.

The review was conducted by the Cochrane Collaboration, the gold standard for medical reviews and evidence-based practice, on studies which had investigated whether whole-body cryotherapy (WBC) was superior in reducing [muscle soreness](#) and improved recovery and safe.

Professor Philip Baker, Associate Professor Ian Stewart and Dr Geoffrey Minett from QUT's Institute of Health and Biomedical Innovation joined some of the world's leading practitioners and researchers in athletic recovery from the UK, France, and Northern Ireland on the Cochrane Collaboration review panel.

Dr Minett said there was some scepticism in the elite sporting community about the benefits of WBC over other treatments and little quality research had been done on it.

"WBC involves single or repeated exposures to extremely cold dry air (below -100°C) in a specialised chamber or cabin for two to four minutes per exposure," Dr Minett said.

"It is suggested that it improves recovery and reduces muscle soreness after exercise and is gaining popularity in elite sport as a way to quickly

recovery after a test match or hard training."

Dr Minett said rugby players experienced a great level of muscle damage.

"Not only from collisions while tackling or in the ruck, but also from the high number of repeated sprint efforts completed during a match," he said.

"The idea is that WBC reduces the inflammatory process to allow the muscles to recover more quickly and enhance their training quality and return to fitness."

Dr Minett said the review team analysed the four published studies that compared WBC with either passive rest or no treatment. They found no studies that compared it with other cooling interventions such as cold water immersion.

"In all, the four studies reported results for 64 physically active predominantly young adults with a mean age of 23, including only four women.

"None of the studies reported active surveillance of predefined adverse events, though there is one report of frost bite in the literature.

"In fact, the evidence for all outcomes in the four studies was classified as 'very low' quality."

Dr Minett said the [review panel](#) concluded there was insufficient evidence to determine whether WBC reduces self-reported muscle soreness or improves subjective [recovery](#) after exercise when compared with passive rest or no WBC.

"The lack of evidence on adverse effects on the athletes is concerning because exposure to extreme temperature presents a potential hazard," he said.

"Until there is definitive evidence that WBC lives up to its claims, it might just be an expensive, uncomfortable fad."

More information: "Whole-body cryotherapy (extreme cold air exposure) for preventing and treating muscle soreness after exercise in adults." *Cochrane Database of Systematic Reviews* 2015, Issue 9. Art. No.: CD010789. [DOI: 10.1002/14651858.CD010789.pub2](https://doi.org/10.1002/14651858.CD010789.pub2)

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