

# Cryotherapy and sports-related muscle recovery

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3-minute digest · 15 March 2019

**A growing body of research indicates that cryotherapy can be effective as a therapeutic method to help recovery following exercise and sports competition.**

**In 10 seconds?** Recent studies suggest that whole-body cryotherapy and related methods can improve recovery following intensive physical exercise and also help prevent exercise-induced inflammation and soreness. ([Read the science](#))



**What are the researchers saying?** Whole-body cryotherapy (WBC) can reduce muscle pain by up to 80%, limit inflammation and muscle damage that accompanies intense exercise and also improve recovery. Scientists have further established that repeated sessions in the cryo tank made the recovery more consistent. ([Find out more](#))

**Wow - how do we know this?** Researchers tested members of the Italian national rugby team and students of the Polish National Military Academy. They found that in physically active

people, cryotherapy displayed anti-inflammatory, pain-killing and antioxidant effects, which helps athletes to deal with soreness and stress. Additionally, a study involving English Premier League Academy soccer players found that a single cryo session following a sprint exercise can [decrease stress hormones](#), but increase the levels of growth and 'strength' hormone testosterone in players' bodies. ([Read more](#))

**So is WBC the smart way for peak performance?** Today, a number of professional sports teams and celebrity athletes use cryotherapy to complement their training and recovery routines. Although the majority of studies into the impact of cryotherapy on recovery don't report adverse effects, more studies are needed due to the sheer number of types of exercise-induced muscle damage to find out the optimal temperatures and frequencies of cryo-sessions to match these. ([More on how cryo compares to far infrared treatment](#))

**I also heard about partial-body cryotherapy?** There are studies suggesting that partial-body cryotherapy (PBC) – where only parts of the body are subjected to extreme cold – can improve performance. For example, in a recent experiment scientists tested the handgrip strength of 200 adult men and women. They found that after a single cryo session muscle strength had increased. ([Read more](#))

**Finally, which sports injuries can cryo help with?** It depends on the nature of injury and method of involving cryotherapy in rehabilitation. For example, a [2013 crossover Scandinavian study](#) suggested that WBC did not offer significant benefits after sports-related hamstring injury. However, a 2018 study of cryostretching found that this rehabilitation technique useful in increasing passive knee range of motion in athletes. In other words: gentle stretching performed after a cryo session helps to deal with injury better than just cryo. ([Find out more](#))

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**'Thermovision' to establish safety levels in WBC**

**This research was curated by**

Whole-body cryotherapy in a tank involves being exposed to up to -140°C temperatures, so naturally,

there are questions about the safety of the treatment.

Scientists used thermal imaging techniques to analyse temperature distribution on the human body during cryo sessions.

The aim was to examine the effects of the extreme cold on the skin, blood pressure and heart rate changes and establish safe limits for the treatment.

Polish scientists used specialist thermovision cameras to record subjects during and after sessions at various temperatures. They have concluded the [optimal temperature and duration for sessions](#): -120 °C and 3 minutes respectively.



[Endre Szvetnik](#),

Senior Editor at Sparrho,  
working with Sparrho Heroes to  
curate, translate and  
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*((Psst, [Endre](#) distilled [17 research papers](#) to save you 968.1 min))*