

# Extreme cold good for exercise recovery

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Athletes go to great lengths to protect their muscles and recover from exercise-induced muscle damage, but there has been little work to determine what methods are most effective.

Now, a study published in the Dec. 7 issue of the online journal [PLOS ONE](#) reports that [runners](#) benefit more from whole-body cryotherapy, in which the [study participants](#) was exposed to temperatures as cold as -166°F (-110°C), than from exposure to far-infrared radiation or no treatment.

The study, led by Christophe Hausswirth of the National Institute of Sport, Expertise and Performance in Paris, was conducted with nine well trained runners, and each participant tested each recovery method to control for individual differences in [muscle damage](#) and recovery.

Overall, the researchers found the whole-body cryotherapy method to be most effective. The first cryotherapy session, conducted one hour after exercise, allowed the runners to recover maximal muscle strength, while the same result took much longer to attain with the other strategies, and three cryotherapy sessions performed over 48 hours post-run accelerated recovery more than the other two methods over the same time period.

According to Dr. Hausswirth, the "whole-body cryotherapy is effective in enhancing post-exercise recovery in well-trained runners, by limiting the maximal force loss and sensations of pain."

**More information:** Hausswirth C, Louis J, Bieuzen F, Pournot H,

Fournier J, et al. (2011) Effects of Whole-Body Cryotherapy vs. Far-Infrared vs. Passive Modalities on Recovery from Exercise-Induced Muscle Damage in Highly-Trained Runners. PLoS ONE 6(12): e27749. [doi:10.1371/journal.pone.0027749](https://doi.org/10.1371/journal.pone.0027749)

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