



THE ROAD TO HEALTH & WELLNESS

HEALTH TOPIC OF THE WEEK

4/22: Cold-Water Immersion and Muscle Growth

Introduction

Cold-water immersion has grown popular in recent years. It's being used by a wide range of people, from athletes to those seeking to boost their immune system, build resilience to stress and treat inflammation. Cold water immersion is also being explored for mental health benefits.



One popular use of cold-water immersion is its use after exercising. The purported benefit is reduced muscle soreness. There is some minimal research to suggest that cold water immersion may ease muscle pain, boost relaxation and improve circulation.



As always, there is no shortage of novel protocols, gizmos, diets and exercise programs that become popular only to be replaced in a few years by the next generation of health fads.



So, let's explore the scientific basis, or lack thereof, for cold-water immersion post exercise. But first, a definition:

What is Cold-Water Immersion?

Cold-water immersion (CWI), also known as ice-baths, pool plunges or cold-water therapy, is a recovery process involving the immersion of the body into cold water ($\leq 15^{\circ}\text{C}/59^{\circ}\text{F}$). It is often, but not always, done immediately after exercise to enhance the recovery process



The Value of Meta-Analysis

A meta-analysis of controlled studies is a statistical technique used to combine and analyze the results of multiple individual studies. A single conclusion is drawn only after all available research has been gathered and rigorously reviewed. For this reason, meta-analysis provides the highest level of scientific evidence and certainty.



Elite Personal Training and Fitness Solutions does not provide medical treatment or intervention. We acknowledge scientific evidence that appropriately intensive exercise and sustainable nutritional intervention can have significant impact on chronic health disorders and obesity, dramatically improving symptoms when recommendations are followed. Please visit us at Eliteptf.com for more information and to schedule your evaluation.

Cold Water Immersion and Muscle Growth – Here's The Science

What was studied?

- The topic was the effect of post exercise cold water-immersion on gains in muscle size during resistance training.



Who was studied?

- There were 116 participants with an average age of 26.

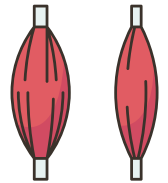
How was the study conducted?

- All available eight randomized controlled studies were evaluated. They were approximately 12 weeks in duration. The studies compared post exercise cold-water immersion following resistance training to resistance training without cold water immersion. Muscle size was assessed using DEXA scan or MRI.



What were the results?

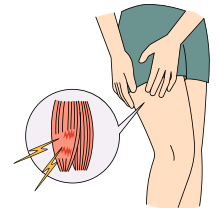
- Compared to resistance training alone, resistance training combined with cold water immersion led to less muscle growth.



The Big Picture

Cold-water immersion is still a relatively new intervention. There is limited research to support its benefits.

Depending on the intensity, exercise can cause various degrees of fatigue to the musculoskeletal, nervous, and metabolic systems. Exercise is also associated with microscopic tears in muscle tissue that can result in DOMS (Delayed Onset of Muscle Soreness). This is an area where cold-water immersion therapy might be helpful, when done properly and for a limited duration.



However, there is solid scientific evidence that suggests cold immersion therapy following exercise reduces muscle growth. This is an outcome you do not want!



The Importance of Muscle Growth

Everyone knows that muscle mass plays a role in increased workout performance, but it also factors into your overall health. Increased muscle mass can lead to less body fat, a stronger immune system, improved energy levels, improved balance, injury reduction and reduced stress.



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Muscle growth is the foundation for all fitness goals. A bigger muscle is a stronger muscle. For a detailed discussion of muscle size and strength, please refer to our [March 2024 newsletter](#).



Conclusion

Whether to use CWI is an example of the complexity of health management! If you are experiencing systemic inflammation, significant muscle soreness and fatigue then you may benefit from this intervention.

However, based on current scientific evidence, it is EPT's stance to typically avoid cold-water immersion following exercise because of its reduction of desired muscle growth.

This underscores the importance of discussing any exercise-related concerns with your trainer. Exercise management is highly complex. There are many variables, so please let EPT guide you appropriately. We'll tailor our advice to your specific needs and circumstances.



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