

4 things to know about cold plunges and contrast therapy

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Images of people jumping from icy plunge baths after a period in saunas or hot tubs are heating up social media. Participants claim that this method—“contrast therapy”—improves their mental health and helps their muscles recover more efficiently.

Some fitness and wellness experts are also singing its praises, saying it is “invigorating ... really wakes you up” and that it helps boost recovery and cut soreness from intense workouts. So is contrast therapy a method that people should turn to for heart health or as part of their wellness routine? The new AMA podcast [“Health vs. Hype”](#)—produced in partnership with iHeartRadio—[tackles these very questions](#).

“Health vs. Hype” takes on medical misinformation, viral health trends, DIY medicine, and common health myths to help listeners understand what’s real, what’s risky, and what’s backed by science. Host Trace Dominguez fact-checks popular health claims, explains how medical misinformation spreads, and reveals the real-world consequences of getting it wrong.

Reminiscent of practices used in ancient Rome, contrast therapy can temporarily reduce pain and improve mobility and muscle relaxation. But there's no evidence pointing to sustained benefits, said [Chelsea M. Evans, DO](#), a sports medicine physician who is chief of the primary care sports medicine section at Lehigh Valley Health Network’s Orthopedic Institute.

The short-term changes that contrast therapy produces may also pose risks in patients with cardiovascular disease, said Dr. Evans.

[Lehigh Valley Health System](#)—part of Jefferson Health—also takes part in the [AMA Health System Member Program](#), which provides enterprise solutions to equip leadership, physicians and care teams with resources to help drive the future of medicine.

Contrast therapy can help temporarily

Current research fails to show that contrast therapy speeds recovery or provides lasting cardiovascular, mental health or immune benefits. “When you look at big, large meta-analysis, the evidence is really weak in terms of true, long-term benefit” due to inconsistencies in study protocols, said Dr. Evans.

In the short term, it may have some advantages. Deconstructing it, cold therapy can temporarily reduce pain, and heat can improve mobility and muscle relaxation, said Dr. Evans. Put together, “you have this effect of contraction and then vasodilation” which can lead to pain reduction and healing.

Dunking in that cold water will boost the heart rate, blood pressure and the breathing rate. “You’re going to have an increase in that norepinephrine and those cortisol levels, which temporarily help,” she said.

But the goal isn’t just to sustain some of the effects of cold therapy.

“We also want the benefits of that norepinephrine rush and that cortisol rush from doing that,” she said.

When researchers check blood levels over a period after frequent exposure to this type of therapy, there’s no evidence showing that it lasts in the system long enough to have true, longstanding cardiovascular benefits, she added.

Some studies suggest it may help athletes recover more quickly from delayed onset muscle soreness. One research article found that contrast therapy helped restore functional performance faster than passive recovery or light activity afterward, she said.

That said, growing evidence suggests using cold therapy right after exercise may actually reduce the body’s ability to build new muscle.

“While it may allow you to work out sooner because your creatine kinase levels are better, it might not in turn allow you to build up as quickly as you want it,” Dr. Evans said.

Contrast therapy shows little long-term benefit

Other studies have shown that contrast therapy temporarily boosts mood and sleep quality, as well as reduces sickness-related work absences.

The problem with these studies is they’re done in populations that do regular cold therapy as part of an exercise routine, so it’s difficult to distinguish whether these benefits are from the exercise alone “or if they’re from repetitive contrast therapy that they have because the populations that they use are generally healthier populations who exercise on a regular basis,” said Dr. Evans.

The published literature does not show a long-term benefit of contrast therapy on depression, anxiety, or chronic stress.

“While it may give you temporary euphoria, in terms of long-term benefit, I don’t think we’re there yet to say that contrast therapy adequately can change those symptoms,” she said.

For some patients, contrast therapy is risky

Contrast therapy isn’t for everyone. “I think you need to approach this with a degree of caution in certain populations,” particularly those at risk for cardiovascular events, said Dr. Evans.

For people who have cardiac arrhythmias, cold therapy can lower their threshold for developing an arrhythmia, she said. Those with uncontrolled high blood pressure should also avoid it because the last thing you want is anything that increases their risk of stroke. Heart disease is another concern because cold therapy causes vasoconstriction.

The same is true for people with vascular disease. If blood vessels are already narrowed by calcium deposits or cholesterol buildup, “the last thing you want is any type of vasoconstriction,” she said.

Contrast therapy can be a supportive tool

Contrast therapy alone is not going to have dramatic effects on accelerating healing, Dr. Evans summarized. Nor will it reverse any health conditions. “It’s one of those things you need to use as a supportive recovery tool rather than that therapy alone.”

Anyone trying this therapy should work their way up to adjust and adapt to hot and cold temperatures, she advised. Cold therapy usually hovers at 10 to 15 degrees Celsius, or 50 to 59 degrees Fahrenheit. Hot tubs are typically 100 to 104 degrees Fahrenheit and saunas usually start around 120 degrees and can reach 160 or 170, she said.

Dr. Evans admitted that she tried cold therapy once, following a Disney half marathon.

“I was a little less sore than I anticipated,” she said, but hasn’t tried it since. “Am I running another Disney Princess race? No. So maybe if I do something crazy again like that, then we’ll talk about it.”