Why ice doesn't help an injury

New research shows that icing an injury may even make it worse

Aaron Hutchins May 20, 2014

Gary Reinl has an ice pack at home that he's saving for a special occasion. Despite decades of experience in the sports medicine industry, he's not keeping it in the freezer in case someone has a sprained ankle that begins to swell. Quite the contrary. He is holding onto the ice pack for the day when no one asks for ice to nurse injuries. "My goal," he says, "is to take it to the Museum of Questionable Medical Devices and have it displayed there." The first instinct of countless coaches and parents is to g cold pack on an injury right away. Icing restricts blood flow to the area, which helps numb pain and ke initial swelling from getting out of control. But Reinl is part of a small chorus of voices trying to convinc people that what they have believed for decades might be wrong. Years ago, he was exploring the literature to see how he could use ice more effectively when treating injuries, when he realized the research was inconsistent. "It didn't make any sense to me," he says. "I thought that, if everybody is icing, it must be good." He has since written a book, *Iced! The Illusionary Treatment Option,* and dub himself "the anti-ice man." Research on the efficacy of ice is, in fact, more tepid than many might thin "Ice is commonly used after acute muscle strains, but there are no clinical studies of its effectiveness," noted a 2012 study in the British *Journal of Sports Medicine*. Some studies say this practice could be counterproductive in the long run. "Topical cooling (icing) . . . seems not to improve but, rather, delay recovery from eccentric exercise-induced muscle damage," according to a 2013 study published in the *Journal of Strength and Conditioning Research*. And yet, since the late 1970s, medical practitioners ha often treated an injury with RICE (rest, ice, compression and elevation). It's an easy formula to remember: RICE is nice. The term was coined by Dr. Gabe Mirkin, a former assistant professor at the University of Maryland, in the bestselling *Sports Medicine Book* published in 1978. But even he has changed his mind. "Nobody believes in rest anymore," he says. "You can get a hip replacement and y on the bike 12 hours after surgery." As for ice, "there is no data to show that ice does anything more block pain," he says. "And there is data that shows it delays healing." The mnemonic he made famous however, remains prevalent. "RICE is just something that stuck—and it's wrong," Mirkin adds. "I'm partially responsible for this misinformation." Even top sports-medicine experts haven't caught up to h thinking. Basketball superstar LeBron James is frequently spotted icing his knees after practice. The sa goes for soccer players. Jake Joachim, head athletic trainer for the Vancouver Whitecaps, agrees there dearth of evidence about ice's effectiveness. But, he says, "if there's a tremendous amount of swelling No. 1 thing is to return function. Part of returning function is getting that swelling out." Dick Hartzell, author of Don't Ice that Ankle Sprain, has seen baseball pitchers icing their shoulders. "It should be illegal," he says. "The whole world needs to change on treating sprained ankles and bruises." The 73-year-old invented the Flexband—a giant rubberband—that can be used for gentle resistance, or traction, exercises. He has spawned believers. Three years ago, John Paul Catanzaro was trimming branches in his backyard when he rolled his ankle. "It's almost a knee-jerk reaction. Something happe Put ice on it immediately," the certified exercise physiologist says. But he went against his instinct anc thought to try something he'd read in Hartzell's book. He got out a stretch band, rigged it to his chin-u bar and started doing simple movements for his ankle. The next morning when he woke up, there was pain or restriction in motion. "It really opened my eyes," Catanzaro says. "The worst thing you can do put on the crutches and rest it." Now when clients come to his training facility in Richmond Hill, Ont., w an injury, he tells them to forget about RICE. Instead, he recommends movement, elevation, traction heat. It has its own memorable acronym too: METH.

IceSports Injuries

Why ice doesn't help an injury

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1. Ice doesn't aid in healing. Neither do pain killers, anti-inflammatories or muscle relaxants because in each case their purpose is to break up the events of an acute injury and so, be definition, interfere with complete recovery. While there was never any definitive evidence that ice treatment aids in recovery time and some evidence that it interferes with recovery (in a very specific set of conditions) there is no disputing its role as a topical analgesic which is its primary role as a first line of defence in the treatment of acute injuries in (and on) the field.
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   DAVE ANDERSON
   ON MAY 21, 2014 AT 4:50 PM

2. Ice effectively treats inflammation in a bursal sac that prevents normal joint motion. Heat worsens the condition.
   Ice also inhibits blood flow, and decreasing the flow of blood/ nutrients to a torn muscle or tendon will increase healing time. You have to know what you are treating. A practicing physiotherapist, as I am, is best able to recognize different injuries and treatment protocols. In general, the practice of always using ice for the first 2 days of an injury has been a better choice than this article's discussion of not using it at all. I fear that there will be substantial numbers of people harmed by the fallacies enclosed in this article. SMH…
   Reply↓

   BRENDAN ARMITAGE
   ON MAY 23, 2014 AT 11:23 AM

3. The research used to support this article is limited. The one article is looking at muscles after eccentric exercise. That is a little different then a arums tic injury. I tried to obtain the full article but was unable too. I agree with Brendan, as an Athletic therapist myself, the injury must be assessed appropriately then addressed. Ice is used to break the spasm pain cycle, modulate pain and reduce blood flow. Nothing will improve healing, we use ice to reduce the chance of secondary cell death in the area. Individuals that sustain traumatic injuries or have overuse injuries should seek the advice of trained professional, such as AT's and PT's. Do not read this article and take the advice of the Exercise Pysiologist that May have no background in injury assessment or rehab and traction a joint that you may have torn all the ligaments in. To the author, pull more studies that have had a sample size greater than 20 people and maybe show both sides of the coin by referencing the scientific research that supports icing appropriately.
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   CHELSEA
   ON MAY 27, 2014 AT 10:41 PM

4. Since the publishing of this article, I have received many questions from patients coming in to the clinic about the use of ice. In this regards, I think your article has created a positive debate. It is true that good evidence to the use of ice is lacking, but the same can be said for a stunning number of other treatment aids. The lack of hard proof to the validity of a tool does not discredit it use or suggest banning it when the vast majority of existing data trends towards a positive effect. The use of ice as a topical analgesic and agent to deal with local inflammation after trauma is common practice and yields very good results. Quoting an article that deals with delayed onset muscle soreness (DOMS) to suggest it has negative effects and drawing conclusions about its use on acute sprains for example is incoherent. I truly hope Macleans would take a few more minutes to research it's articles and publish information that shows both sides of a topic.
   Reply↓

   FELIX CROTEAU
   ON MAY 30, 2014 AT 9:42 AM

5. Heat within the first 24-48 hours is risky in situations where there is the possibility of bleeding (e.g. a bad joint sprain). It might be okay if you put heat on after a minor muscle strain (e.g. sore leg after a run) but it is best to wait 24 hours. CPA's fact sheet on hot and cold treatment for sprains and strains provides an overview on this topic: **http://physiocanhelp.ca/wp-content/uploads/2014/05/HotAndColdTherapy_EN.pdf**
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   CANADIAN PHYSIOTHERAPY ASSOCIATION
   ON JUNE 2, 2014 AT 12:03 PM

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