

Ice or no Ice?

Latest evidence and practice for managing acute injuries

By David Tan, Chiropractor and Strength & Conditioning Coach

For years, ice has been one of the primary methods used for the management of acute injuries, such as ankle sprains, acute lower back pain and jarred fingers. It is often the first thing we think about when someone goes down with an injury on the field or court. However, in recent years our understanding of the pathophysiology of acute mechanical injuries has advanced, and the use of ice has become a highly debated subject.

Should you use ice as part of an acute injury management? Why do we even use it in the first place? Let's have a quick dive into how -ICE came about

The History of -ICE

For many years, inflammation was believed to be a catastrophic phenomenon that impairs our body's ability to heal and recover. In 1978, Dr Gabe Mirkin coined the term RICE (Rest, Ice, Compression, Elevation). The inclusion of ice in this process was to minimise the inflammatory response of an injury, which is believed to help accelerate healing. This was the protocol of choice for two decades before it evolved to include Protection (PRICE) in 1998.

Years later, research produced substantial evidence that rest following an acute injury is detrimental to the healing and recovery process. Instead, proper loading of the injured structure was shown to aid recovery during the early stages of an acute injury. In response, the protocol became POLICE in 2012 with the addition of "Optimal Loading" and removal of "Rest".

The Great Debate on Ice

In recent years, the effectiveness of ice or cryotherapy in the early phases of acute injuries has been brought into question. We have now come to understand that inflammation is a natural and necessary part of the healing process. Believe it or not – *inflammation is actually good for healing!*

In the event where tissue is damaged or injured, the body responds by mounting an immune response in that part of the body. Your immune system sends cells called macrophages to the injured tissue where it releases a hormone called Insulin-like Growth Factor (IGF-1). This hormone marks the damaged tissue, which is killed off by our immune system to make way for the healing of that tissue. This process is called inflammation¹.

By applying ice to an acute injury, you do indeed limit the inflammatory process which reduces swelling. However, by doing so, you may also be preventing the natural healing process by reducing the migration of macrophages into the damaged tissue and its release of IGF-1. This also applies to the use of anti-inflammatory medications, which chemically reduces the inflammatory response. Although in the short term you may experience relief of pain due to the numbing effect of the ice, the mid- to long-term effects of ice may be more detrimental.

To his credit, Dr Gabe Mirkin himself acknowledged this evidence against the use of ice. He made a statement to remove the use of ice in the management of acute injuries¹. In 2019, a new protocol acronym was produced: PEACE & LOVE (Protection, Elevation, Avoid Anti-inflammatory drugs, Compression, Education & Load, Optimism, Vascularisation and Exercise)².

All this points to the conclusion that icing injuries is not the best practice and should therefore be removed from the management of acute injuries.

Excessive Inflammation is NOT Good

This is not to say that we should let inflammation go unchecked. Too much and/or prolonged inflammation creates excessive pressure on the tissues, impairs movement and muscle function and may increase pain. This is commonly seen in the “tennis ball sized” swelling of ankle sprains or ACL tears.

In these examples, the use of ice may be appropriate to limit the extent of inflammation, rather than to prevent it completely.

The Bottom Line

Should ice be used in the management of an acute injury? In most cases, the answer is no. The use of ice in the management of acute injuries may not be as important as we once thought, and in fact may be detrimental to recovery by impairing inflammation which is a part of the healing process. Unfortunately, this development is not widely known and ice is still commonly used to treat acute injuries. An active approach to recovery has been shown to be a more effective way to manage acute injuries, producing better recovery outcomes. This is superior in comparison to using the traditional RICE method.

Reference

1. Mirkin, G. Why Ice Delays Recovery. <https://www.drmirkin.com/fitness/why-ice-delays-recovery.html>. 2015.
2. Dubois B, Esculier, J-F. Soft-tissue injuries simply need PEACE and LOVE. *British Journal of Sports Medicine*. 54 (2):72-73. 2020.

Trinity Health and Performance is a chiropractic clinic based in Gordon in Sydney's North Shore. We are passionate in helping you feel, move and perform at your best in everything you do. We are experts in injury diagnosis and management, rehabilitation and performance optimisation. Our variety of treatment modalities is individualised to what you need to help you achieve the best functional outcome.