Heat it up or Ice it down?

You have sprained your ankle! Do you apply ice or heat? There are different views around applying ice or heat to musculoskeletal ailments and injuries. Using ice or heat can depend on the type of injury and the body's natural healing response.

When an injury occurs, whether this is a muscle tear or ankle sprain, the body starts the healing process through an inflammatory response -the body's natural healing response to injury. Typically, inflammation is characterised by heat, pain, redness and swelling. This arises because blood vessels open up to deliver more blood, cells, pain chemical and healing factors to the injury site. Inflammation is normal and needs to occur to promote healing, however, this process makes the injury painful and sore.

Ice and heat can be used to manage injuries. However, they have different effects on the healing process, thus are usually used under different circumstances.

What does ice do?

Icing counteracts some parts of the inflammatory process. Ice will close the blood vessels around the area of injury, therefore, reduce the amount of blood, cells, pain chemical and healing factors being delivered to the site. Ice is a doubled edged sword in the initial stages (first 2 days of injury) – it provides effective pain relief, however, may also slow down the inflammatory/response. This is why you may have heard to avoid icing for injuries. Despite the effect of ice on the inflammatory process, our elite athletes will still apply ice for the initial stages of injury and it is considered best practice to ice in the first 48-72 hours post injury.

What does heat do?

Heat does the opposite to the ice. Heat on the body promotes blood vessels to open up, therefore, leading to more blood and an inflammatory response. Applying heat in the first few days of injury, may sound like it is promoting healing, however, applying too much can lead to an intense/over the top inflammatory response leading to more swelling and pain in an acute injury. Thus, heat is generally avoided with acute injuries.

Heat, however, is useful for managing muscle and joint tightness or stiffness. This is because heat 'softens' tissues – think of how butter is spreadable sitting at room temperature or how a car's engine is runs more smoothly after a warm-up – the muscles/joints become less tight with heat.

Bottom Line

- Ice in the initial stages of injuries for pain relief – first 48-72 hours
- Heat after 48-72 hours or for muscle and joint tightness/stiffness