# Ice or heat, which to use for injury management

Article by Jim Burke May 2014

Ice and heat have been used in injury management for some time. Even with recent advances in technology and in the understanding of the pathology of different conditions, used well, these tried and tested modalities remain extremely effective in both pain relief as well as in ensuring the most rapid resolution of pathology. As therapists, one of the comments we regularly hear in the clinic is “I didn’t know whether to use ice or heat”. Below is a description of the effect of ice and heat as well as some guidelines as to which is the most effective to use and when.



## Ice

Ice acts as a vasoconstrictor (causes the blood vessels to narrow) thus reducing blood flow to the inured area. In doing this, ice can act to reduce the amount of bleeding and swelling leaking and accumulating in the tissues at the site of injury. Often the analogy which is used is turning off the tap to reduce water pressure in a leaky hose. By reducing the amount of swelling and bleeding in the area, ice can significantly reduce your pain and allows the body to get underway with the process of tissue repair earlier.

- – Don’t ice for longer than 20 mins and if the skin is looking quite red, remove it to ensure you don’t over cool the tissue, which can result in an ice burn.

– You can apply ice to the injury every few hours for the first 2-3 days post injury, or until the ‘heat’ comes out of the site of injury.

## Heat

Heat can be used to stimulate blood flow in the tissues, enhancing delivery of nutrients for healing. Heat also tends to relax tight muscle as well as plasticising (softening up) tight tissue or scar in the area, aiding with stiffness. As heat increases blood flow into the tissue, it should be avoided immediately after a new injury where significant tissue damage or irritation has occurred as it may result in an increase in bleeding and swelling into the area.

– Heat for up to 20 mins and it can be applied regularly throughout the day.

– The heat pack can feel quite warm but if it feels like it is burning the skin or too hot, wrap the pack in a layer of towel to



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cool it down and protect the skin.

## Ice Or Heat, What To Use

As a good general rule, if it is hot and swollen you should apply ice. The length of time that ice should be applied is based on the degree of swelling, heat and inflammation present. For significant muscle tears and ligament sprains you may need to ice the injury for 2-3 days to reduce the swelling. For minor injuries and for exacerbations of chronic injury, ice for the first 24 hours may suffice.

If the injury is stiff and sore but not swollen, heat is usually the most beneficial. In the case of acute muscle spam in the neck or back, there is generally not a great deal of swelling and inflammation present and heat may be used immediately to reduce muscle spasm and thus pain. In the case of an acute muscle tear or traumatic injury to a knee or shoulder, there will generally be a considerable degree of tissue damage and swelling and ice should be used to reduce this.

If unsure of your injury and as to whether heat or ice is the most effective modality to use you should consult your physiotherapist for advice.

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