



QUEENSLAND  
PHYSIOTHERAPY

# Ice Vs Heat



Do you have an **acute injury** from weekend sport and unsure whether to use heat or ice? Or perhaps you have **ongoing chronic** low back pain and need something to take the edge off? There is a lot of speculation and confusion about **how** to use heat and ice, **when** to use it, and most specifically, **which one** to use.

Here we help you understand why you would use either heat or ice, which one to use and when.

## Ice

### *Why do you use it?*

Ice causes an effect in the tissues called vasoconstriction, where the muscles in small blood vessels contract to restrict blood flow to the area. This is a necessary initial step during acute injury to prevent further swelling, inflammation and pain building around the injury. Reducing inflammation in the earlier stages of injury can speed up the recovery time frame for healing, and allow return of full movement earlier, due to the reduction in pain and fluid in the area.

### *When to use it*

Ice is best used initially, post injury, for days 1-3, then as needed depending on the swelling of the area. This is the period when acute inflammation, swelling and bruising present, and there is puffiness and fluid in the affected region. For best results, ice the affected area for 20 minutes every 2-4 hours.

## Heat

### *Why do you use it?*

Heat enables increased blood flow by relaxing the smooth muscles within the walls of small blood vessels. Blood flow to an injured area is important because it carries oxygen and nutrients to the affected tissues, and carries away waste products from the area such as inflammatory and nociceptive markers (chemicals that cause you pain). When muscles are tight as a result of injury or pain, there is often restricted blood flow to the area, limiting nutrition, function and optimal healing. Secondly, heat helps to reduce the viscosity of the muscle tissue, relaxes the contractile fibers, makes the muscle easier to stretch, and improves performance.

### *When to use it*

Once initial swelling and bruising have relatively subsided (often 3-4 days post injury) is an appropriate time to start using heat. For best results, apply heat 3-4 times daily over the affected area for 15-20 minutes at a time.



## FAQs

### What else can I be doing for an acute injury?

Ice is a part of the acute injury management acronym RICE, standing for rest, ice, compression and elevation. In the event of an acute injury, ice should be applied in combination with the above strategies. This means using a compression sock or bandage, and elevating the affected areas as able above your heart.

**Queensland Physiotherapy Pty Ltd**  
 23/5-15 Jagora Drive  
 Albany Creek  
 Queensland 4035

**T** (07) 3325 1858  
**F** (07) 3325 4760  
**E** [reception@qldphysio.com.au](mailto:reception@qldphysio.com.au)  
**W** [www.qldphysio.com.au](http://www.qldphysio.com.au)

ABN 35 155 893 603

### Can I use deep heat instead?

Although deep heat may feel nice as you put it on the skin, is it really having a physiological effect? For superficial areas and joints, it can be relieving, and distracting from pain. It can also be useful if the lotion contains medicated ingredients such as anti-inflammatory properties. However, there is common misbelief that deep heat and creams alike can simply be substituted for heat packs as they magically increase the skins temperature in a similar fashion. Unfortunately, this is not the case, as the mechanism for deep heat and other creams is generally just stimulation of the 'heat nerves' in your skin by chemical irritants (usually capsaicin). The effect can be likened to how chilis taste on your tongue. Whilst it can feel nice, and distract you from the pain, there is little physiological benefit of these creams to your injury from a tissue and blood flow perspective.