

ICE VS HEAT

Cold Therapy (Ice)

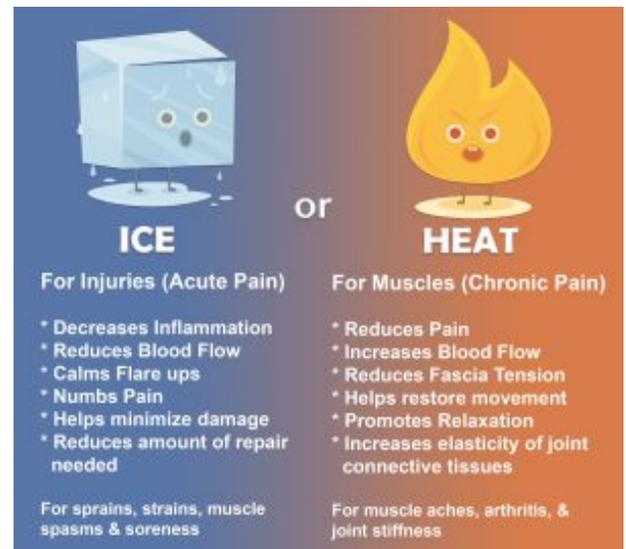
Cold therapy can be defined as the application of any substance which removes heat. It can be delivered in a number of ways, but the most common is in the form of an ice pack. Ice can decrease blood flow, which in turn helps to minimize swelling and inflammation, and reduce muscle spasm, all of which help to decrease pain.

Cold therapy is ideal for the following situations/conditions:

- Acute injury/trauma
- Chronic pain relief
- Muscle spasm
- Soreness after exercise
- To minimize swelling

Methods of delivering cold therapy include:

- Bags of crushed or cubed ice
- Pre-made ice and gel packs
- Ice massage
- Electronic cold compression units
- Cold whirlpool



Ice is the ideal therapeutic method for an acute injury that just happened and that involves swelling. Ice is usually preferable to heat within 72 hours of the injury. It also can help with itching and skin irritation. Generally speaking, ice is preferable to heat when the injury involves the skin or a bone.

Ice, or any method of cold therapy, should be applied to the affected body area for no more than 20 minutes at a time and may repeat every 1-2 hours. Make sure there is adequate time for the body area to warm back up before participating in any kind of physical activity. This is because tissue that is cold is not as flexible as tissue that is warmed up and a cold body part is more susceptible to injury.

While Cold Therapy may be useful in many situations, it may also cause injury if used inappropriately. Ice may be painful initially, and some patients may have a low tolerance for cold therapy. Pre-made gel packs may cause frostbite if placed directly on the skin, and should always be used in conjunction with some sort of barrier between the cold source and the skin, such as a thin towel. Conversely, bags of crushed or cubed ice do *not* need a barrier between the source and the skin and are more effective without one.

One common method of application of cold therapy is the RICE method. RICE is an acronym standing for rest, ice, compression, elevation. RICE is often used to minimize pain and swelling in new, acute injuries. For more information on RICE, see **Table 1**.

Some individuals can actually have an allergic type reaction to ice. Symptoms include:

- Reddish itchy welts and/or swelling on the skin
- A burning sensation and is usually apparent within 2-5 minutes after exposure and can last for 1-2 hours.
- At times these symptoms may develop after the ice is removed
- As soon as this is felt/identified, remove the ice immediately and discontinue use
- Contact your physician if this does not resolve in 24 hours

Heat Therapy

Heat Therapy is the application of heat to the body resulting in an increase in tissue temperature. This increase in temperature increases blood flow, which in turn allows for an increase in the supply of nutrients and oxygen found in the blood to the injury site. Heat has been found to be more effective for pain relief and overall outcomes when coupled with rehabilitative exercises as opposed to being used alone. Generally speaking, heat is preferable to ice for chronic pain and muscle stiffness/soreness. For acute/initial injuries avoid heat for the first 72 hours. Heat is ideal for the following situations/conditions:

- Chronic pain and stiffness
- Muscle spasm

Methods of delivering heat include:

- Hot water bottles
- Hot towels and baths
- Heated stones
- Soft heated packs filled with grain
- Moist and electric heating pads and wraps
- Poultices
- Sauna/steam

Heat should be applied to the body part for 20 minutes, once per hour, several times a day if necessary. A barrier method should be placed between the source and the skin, depending on patient comfort.

There are some complications that can arise from heat use, the most common of which is skin pinkness. Heat may affect disease progression in patients with certain conditions, such as poor circulation, spinal cord injury, diabetes and rheumatoid arthritis. Heat may also cause burns or skin ulceration. The skin should be protected, especially in patients with altered or decreased sensory function.

For more information visit:

American Academy of Pediatrics

www.aap.org/en-us/pubserv/coya/Documents/UseofIceHeat.pdf

www.healthychildren.org/English/health-issues/injuries-emergencies/sports-injuries/Pages/Treating-Sports-Injuries-with-Ice-and-HeatWiqq_IW6vuS_nYYy4LPLp_9IEcpqunQLK7RyQZ9TVOOUL4Xr_VIiVMxhBoCiTwQAvD_BwE

Consult your primary care physician for more serious injuries that do not respond to basic first aid. As an added resource, the staff at **Children’s Sports Medicine** is available to diagnose and treat sports-related injuries for youth and adolescent athletes. To make an appointment, call **402-955-PLAY (7529)**.

Table 1

RICE is the initial treatment for acute injuries, to minimize swelling and reduce pain.	
REST	Avoid using body part
ICE	Apply for 20 min every 1-2 hours as needed
COMPRESSION	Ace wrap for support to minimize swelling – loosen when in bed for night
ELEVATION	Keep body part elevated above the level of the heart.