

# Sports Injuries: Ice or Heat?

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To most of us, the statement "For the first 24 hours after an injury use ice and then go to heat" is familiar. While the "24 hour rule" is a simplistic formula for the management of acute strains and sprains; it is not necessarily the best protocol to follow.

The basic tenets of the statement are correct. Namely, at the onset of an injury there is inflammation, swelling and pain. These are best controlled by ice, which will reduce all three. Second, once the acute nature of an injury is relieved, the area is generally stiff, tight and in need of additional healing. Moist heat will enhance circulation which in turn reduces stiffness and promotes healing. The flaw in the "24 hour rule" is inflammation may last for longer than 24 hours, even several days or weeks.

As stated above, the first line of defense for an acute injury is ice. The rule of thumb is twenty minutes on and forty minutes off for aggressive intervention of an acute injury. For recent injuries remember the **R.I.C.E.** principle: **Rest: Ice: Compression: Elevation.** So get off the injured area, apply an ice pack or cold compress, gently wrap it to reduce swelling and elevate it to at least the level of the heart. An inflamed area will be swollen, reddened and even feel 'hot' to the touch. These are the indicators for using ice.

Ice may be applied in several ways. The traditional ice pack is fine, however, as it sweats, leave the water on the surface of the towel which increases its therapeutic effect. Re-useable ice packs that are flexible and mold to the body are the best. They are the most comfortable and stay cold for the recommended twenty minutes making overuse difficult. Do not use the icepacks that are designed for coolers. Not only are they uncomfortable, they retain the cold for too long, making it easy to over chill the area. Ice massage is also an excellent way to ice an injured area. Fill a paper cup with ice and place it in the freezer. Once frozen, peel the top of the cup away and hold on to the bottom of the cup and massage the injured area. Let the water remain on the skin and rub the region for approximately eight minutes or until it gets numb. First, ice massage will feel cold, then it will start to hurt, or burn, and then get numb. Stop at that point. Remember an area that is red and swollen requires ice, even if the injury was several weeks ago. As the swelling, heat and redness disappear, then it is time to move on to heat.

Heat is best applied as moist heat because water is a better conductor of heat than air. Since the objective is to get the heat into the body, using moisture to allow it to penetrate deeply will enhance its effectiveness. Dry heat, as in traditional heating pads, only serves to warm the superficial muscle layers and frequently aggravates conditions that are still inflamed. Moist heat is best applied with an electric moist heating pad, microwaveable moist heat pack or hydrocollator steam pack. A hot soak in the tub or Jacuzzi will help to relax larger groups of muscles, however, application of heat to a localized area will optimize its effect because the body will increase circulation to the area in most need. Heat is beneficial for tight and sore muscles, as well as post workout stiffness and tired muscles. Moist heat may be applied for up to twenty minutes every hour.

Regardless of whether it is heat or ice, more is not necessarily better. Too much ice, (more than 20 minutes per hour), will decrease circulation and reduce the healing effect. While ice does reduce swelling, inflammation and pain, the body must still get blood into the area to promote healing. Using too much ice will prevent the healing process from beginning in the acute stage.

As for heat, no sleeping on the heating pad! Too much heat will cause increased inflammation and swelling. Heat feels soothing and can be easily overused. Again, limit this to no more than 20 minutes per hour. Just as with the ice, removing heat after 20 minutes is an important part of the healing process. More is not necessarily better.

For chronic injuries, the protocol is simple. Before activity, use heat to increase circulation and "warm-up" the injured part. After activity apply an ice pack as soon as possible to prevent any build up of inflammation just in case the injured area was irritated.

Remember, if an injury feels "hot", use ice. If it is stiff and tight, go to heat. Acute, intense pain that returns with activity, use ice. If it seems to be getting worse and you are using heat, go back to ice as the area may be getting over inflamed by the heat. When in doubt, use ice. It will not aggravate a sore and stiff area while heat will make an inflamed injury worse.

Finally, remember to ask your family physician or even better, a sports oriented doctor about the best home treatment. This will ensure your quickest recovery.

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