

Newsletter

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When to Use Ice or Heat

Giving Injuries the Cold Treatment

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When you sprain your ankle or have a similar injury, tissue is stretched and torn, and swelling occurs. Swelling interferes with healing, so anything that will prevent or reduce swelling should help you recover from a minor injury more quickly.

The sooner you attend to swelling after an injury the better, and the best approach is to apply cold directly to the injured area right away. (See "A Time for Cold, a Time for Heat") Cold shrinks the blood vessels, which reduces bleeding in the area and helps to prevent swelling. It also helps prevent the muscles from going into spasm (involuntary contractions) and relieves pain.

The use of cold as a treatment is as old as the practice of medicine, dating back to Hippocrates. Today, methods of applying cold are more advanced than they were in 400 BC, but the principles and the need for precautions are the same. When you apply cold, the skin will initially feel cold, often followed by relief of pain from the injury. As icing progresses, you will feel a burning sensation, then pain in the skin, and finally numbness.

To avoid skin damage, stop when the skin begins to feel numb. (This is different, though, from the "numbness" you feel early on as the cold relieves injury pain. Keep icing after this pain subsides.) Applying too much cold for too long can cause frostbite or even nerve damage. Also, cold treatment is not for everyone (see "When to Avoid Cold Therapy").

The length of time you apply cold will vary depending on the method and location of the injury (see specifics below). Areas with little body fat (like the knee, ankle, and elbow) do not tolerate cold as well as fatty areas (like the thigh and buttocks). So, for bonier areas, keep to the low end of the recommended application ranges listed below.

For best results, apply cold at regular intervals throughout the waking hours of the day, allowing a few hours between treatments. Time off will keep cooling effects from accumulating and will allow the skin to return to normal temperature. An ice bag remains--for good reason--the cool treatment of choice for most people, but several options exist:

Ice Bags

- **Strengths:** Ice bags are the old standby for applying deep, penetrating cold. Fill a bag made of thick plastic, rubber, or moisture-proof fabric with ice and apply it directly to the skin. The cooling effect of ice bags lasts long and is more effective than some of the superficial methods like ice massage. If you use a regular plastic food bag, place a thin towel (like a dish towel) between the bag and your skin.
- **Weaknesses:** A shortcoming is getting the bag to contour to the curves of the body for maximum application. The bag will mold better if you don't fill it completely with ice or if you use crushed ice. An alternative is to use a bag of frozen peas or corn. The bag will conform nicely to the injured part of the body. Place a thin towel between the bag and the skin.
- **Application time:** 10 to 30 minutes, depending on the body part and comfort.

Gel Packs

- **Strengths:** Cold gel packs contain a special gel that can be frozen and refrozen. Just store the packs in the freezer until needed. The gel remains flexible when frozen, allowing it to contour to the injured body part.
- **Weaknesses:** Cold gel packs will cool the skin faster than ice bags and so deserve greater caution. Never apply them directly to the skin--always wrap them in a towel.
- **Application time:** No more than 10 minutes at a time.

Chemical Cold Bags

- **Strengths:** Chemical cold bags stay at air temperature until squeezing the bag and mixing the chemicals produces cold. They work well on the field or in the wilderness.
- **Weaknesses:** The degree of cold produced by the chemical reaction is not great. Even so, the bags provide a good first-aid approach.
- **Application time:** Because the temperature is not that low, a 30-minute application should not be a problem, and the bag can be applied directly to the skin.

Immersion

- **Strengths:** Immersion entails placing the foot, hand, or elbow in icy water filled with crushed ice or ice cubes. This technique provides very complete and concentrated cold exposure to the entire injured area.
- **Weaknesses:** Body parts besides the foot, hand, and elbow do not lend themselves to immersion, because too much of the uninjured area is exposed to the cold.
- **Application time:** 10 to 20 minutes. Let comfort be your guide.

Ice Massage

- **Strengths:** Ice massage involves rubbing ice on the skin with a circular motion. It is easy to apply and focuses the cold on the injured area. A useful approach is to fill a paper or foam cup with water and freeze it until needed. Then peel away the top to reveal the ice and hold the bottom of the cup to apply. Ice cubes or chunks can also be used.
- **Weaknesses:** The cold tends not to penetrate as deeply nor last as long as the methods listed above.
- **Application time:** When applying to bony areas such as the ankle, apply for only 7 to 10 minutes. Double the time when applying to fatty areas such as the thigh or buttocks.

Combination Treatment

To maximize the benefits of cold therapy, think RICE: rest, ice, compression, and elevation. So in addition to cold therapy, rest your injury, apply elastic wrap snugly, and keep the injured area raised. New technologies combine RICE aspects. Cold tape, for example, compresses and--because of a chemical reaction--applies cold to an injured part.

Putting Injuries on Ice

Whichever method you choose, remember to ice early, ice often. But not too often. To avoid harmful effects like frostbite, let your skin recover between cold applications, and listen to your body. A Time for Cold, a Time for Heat

A Time for Cold, a Time for Heat

There has been controversy over the years as to when to apply cold and when to apply heat. Because heat stimulates blood flow, it promotes healing just as cold does. It can also relax muscles and ease pain.

But heat can make swelling worse. That's why cold is best right after an injury and heat is recommended for later, when swelling abates. As a rule of thumb, use ice for at least 48 hours after injury. Then, when

the swelling is gone, you can apply heat.

When to Avoid Cold Therapy

Using cold therapy may not be a good idea for some people. Those who are very sensitive to cold will not be able to tolerate icing long enough to do any good. Conversely, those who have a high tolerance to cold-or who pride themselves on being "tough"-open themselves to injury by applying cold therapy too long.

People with problems in the blood vessels near the skin should avoid cold therapy, especially those with Raynaud's phenomenon (a condition in which the blood vessels in the fingers, toes, ears, and nose constrict dramatically when exposed to cold and other stimuli). If you suspect you may be at risk because of diabetes or another condition that can diminish blood flow, check with your doctor before applying cold to an injury.

Remember: This information is not intended as a substitute for medical treatment. Before starting an exercise program, consult a physician.

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