

Ice vs. Heat

To ice or heat, that is the question.

By Erik D. Lee, D.C.

Ice and heat are simple, safe, effective, and natural self care techniques for injury, pain, and/or discomfort in muscles and joints. Here are some tips to the when, the how and the how long of ice and heat.

Should I use ice or heat?

If there are signs of inflammation, use ice only. If you have no signs of inflammation, you can use heat or ice.

Signs of inflammation: Acute inflammation is a short-term process. It is characterized by five cardinal signs: redness (rubor), increased heat (calor), swelling (tumor), pain (dolor), and loss of function (functio laesa). These five signs appear when acute inflammation occurs on the body's surface, whereas acute inflammation of internal organs may not result in the full set.

Ice - it's not just for soft drinks anymore

The first mention of ice therapy is by Hippocrates, the "father of medicine", around 400 BC. Although how he managed to find an ice pack in 400 BC Greece I'll never know.

How to apply ice:

1. You can use cold packs, crushed ice wrapped in a moist cloth or towel, reusable gel packs, or chemical ice packs. If you are thinking, "*Que es mas macho?*", you can use real ice like an ice cube or water frozen in a paper cup. If you use real ice, place it in a hand towel, and move in circular motions over the area. The hand towel will absorb the melting runoff.
2. Go for 10 minutes, then stop.
3. Repeat every hour. Remember this rule: "10 minutes on, 50 minutes off".

Effects of ice therapy.

Ice reduces the swelling associated with bleeding and inflammation, limits the extension of the injury to uninjured tissues, and decreases pain and muscle spasm.

They call me Heat Miser

How to apply heat:

1. You can use a hot pack, heating pad, hot shower, whirlpool, Jacuzzi bath, paraffin wax, etc. Generally moist heat - e.g., microwavable hot packs that emit moisture - works best.
2. Go for 10 minutes, then stop.
3. Repeat every hour. Remember this rule: "10 minutes on, 50 minutes off".

Effects of superficial heat

The physiological effects of increased temperature include vasodilatation with a resultant increase in oxygen and nutrient supply, an increase in capillary permeability, venous and lymphatic drainage, decreased nerve conduction velocity and, therefore, decreased pain. Muscle spasm is decreased and the extensibility of collagen tissue increased.

Why 10 minutes?

Too much of a good thing, with either ice or heat, is actually too much of a bad thing and can be detrimental to your healing. Excessive ice or heat can actually increase swelling.

Why would excessive ice increase swelling? Because when you cool the tissue too much for too long, it starts to defend itself against hypothermia and thereby increases blood flow to the area.

Excessive ice or heat can also "burn" the skin, leaving a rash. I see this a lot when someone falls asleep on an electric heating pad. Besides being painful itself, the rash further compounds the issue by making it hard for someone to treat that area of the body.

"10 minutes on, 50 minutes off" is an easy to remember, safe rule of thumb. For those of you thinking more is better, think this way: Heat or ice, 10 minutes a day, 3 times a day, for 7 days, is better than 210 straight minutes on Sunday.

So, the next time you are feeling some musculoskeletal pain or discomfort, try ice or heat. It's simple, safe, effective, and natural self-care relief.

Live healthy. Live happy.

- Dr. Lee

References:

© 1993 by P Brukner & K Khan. Clinical Sports Medicine. McGraw-Hill Book Company, 1993.

© 1977 by R Shestack. Handbook of Physical Therapy. Springer Publishing Company, 1977.