

Cryotherapy (Cold Application)

Q: What is cryotherapy?

A: Cold application (cryotherapy) is the simplest and most commonly used method for treatment of acute musculoskeletal injury.

Q: How does cryotherapy do?

A: Studies have shown that cold applications can reduce the metabolic rate of a tissue, decrease pain and swelling, and reduce muscle spasm. Cold therapy can be used to control pain and edema. Cold has an analgesic effect for musculoskeletal pain. Studies have shown that cold has an effect on nerve conduction velocity and can raise pain threshold and tolerance. Cold therapy has been used in reduction of muscle spasm.

Q: How long should I apply cold?

A: Cold should be applied for at least 20 minutes and preferably 30 minutes to ensure the lowering of deep tissue temperature to effect a beneficial change at the site of injury. A treatment at 20-30 minute repeated every 2 hours, for up to 48 -72 hours during the acute inflammatory phase is optimum.

Q: Is cryotherapy safe? Are there any contraindications?

A: Yes. If done according to directions the risk of freezing the skin is minor. Cold Hypersensitivity and persons with vasospastic disorders are contraindicated for ice therapy. Cold sensitive patients may risk local burns or systemic complications with ice therapy. Vasospastic disorders are conditions in which the vessels of the extremities do not dilate properly. Conditions such as Raynaud's Phenomenon are regarded as absolute contraindications.

Q: What are the options for cold application?

A: *Ice packs.* Crushed, shaved, or chipped ice usually in a plastic bag applied directly to the injured area. Ice packs can be applied directly to the skin to maximize the effectiveness of the cold application. Most agree that ice packs are the most efficient for ice therapy.

Cold-gel packs. A gelatinous substance enclosed in a vinyl cover containing water, and antifreeze (such as salt). These are also good options.

Chemical cold packs. These consist of two chemical substances, one in a small vinyl bag within a larger bag. Squeezing the smaller bag until it ruptures and spills its contents into the larger causes a chemical reaction producing the cold. They are ideally utilized for emergency use, however they do not adequately lower the body temperature to therapeutic levels.

Ice immersion. A container is filled with ice and water, and the body part is immersed in it. Immersion is recommended for extremities (arm and leg joints).

Ice massage. A cube of ice is rubbed over and around the underlying muscle fiber for five minutes. The applicator can be prepared in an 8-10 ounce paper cup and applied with constant circular motion around the site to prevent frostbite.