

Cold ice packs, compresses and ice massage benefits

Cold packs, compresses, and ice massage: local cold applications

Ice has a wide range of uses in modern medicine because of its five main effects:

1. **Ice reduces sensation** by slowing down the messages from local sensory nerve fibers to the brain. The numbing effect of ice is widely used in medicine to reduce discomfort of musculoskeletal injuries, such as bruises, muscle strains, hematomas, and fractures; to reduce pain after orthopedic surgery; to numb skin which is going to be injected with anesthetic or stung by bees in bee sting therapy; and to numb the tongue to decrease the unpleasant taste of certain bad-tasting medications
2. **Ice reduces inflammation.** This anti-inflammatory effect is widely used in medicine to reduce swelling after musculoskeletal injuries. such as bruises, sprains, strains, and torn muscles; to reduce swelling after orthopedic surgery; to decrease the itching caused by some types of cancer; to decrease the itching caused by some medications used for cancer; and to decrease the itching and oozing of mild poison ivy.
3. **Ice reduces local blood flow** by reflex vasoconstriction. In one study, the effect of an ice wrap applied to one knee was compared to a room temperature wrap applied to the opposite knee. Researchers found that the ice wrap caused a 38% decrease in arterial blood flow, a 26% decrease in soft tissue blood flow, and a 19% reduction in blood flow to the bone itself (1) **As little as 5 minutes of icing a knee can decrease blood flow** to both soft tissue and bone in the knee (2) The reason ice applications are generally limited to 15 to 30 minutes is because the tissues under the ice may become so ischemic that they are injured: **frostbite and nerve palsy have resulted from longer applications.** The blood flow-reducing effect of ice is used in medicine for these purposes:

- To decrease blood flow into tissues after musculoskeletal trauma
- To decrease blood flow to the brain during a migraine headache
- To decrease blood flow into the joints of hemophiliacs during a bleeding episode
- To decrease the metabolism of local tissues, as shown in Figure 3-11
- 16 decrease blood flow to the nose during a nosebleed
- To decrease blood flow to the skin to slow the absorption of medications given by injection
- To decrease blood flow to the scalp during administration of some chemotherapeutic drugs that cause hair loss, with ice applied to the skull
- To decrease blood flow to an erupting herpes blister to arrest its development and shorten its healing time

Ice decreases muscle spasm. This effect is used in medicine to decrease muscle spasm in specific muscles, to deactivate trigger points and release muscle tension long enough for individual muscles to be gently but thoroughly stretched, and to increase range of motion before stretching. Ice reduces body temperature. This effect is used in medicine to reduce core temperature in patients with heatstroke, heat exhaustion, and high fevers

Indications, contraindications, and cautions for local cold applications

Below are the primary indications, contraindications, and cautions for local cold treatments. Unless otherwise indicated, these apply to all treatments in this chapter.

Indications for ice applications

- Muscle strains for the first 24 to 48 hours
- Contusions for the first 24 to 48 hours
- Joint sprains for the first 24 hours
- Vigorous exercise that might lead to delayed-onset muscle soreness
- Acute low back pain
- Chronic low back pain
- Rheumatoid arthritis if beneficial for the client (heat may work better for some)
- Osteoarthritis if beneficial for the client (heat may work better for some)
- Bursitis if beneficial for the client (heat may work better for some)
- Chronically stiff or spastic muscles due to damage to the brain or spinal cord
- Temporary stimulation of muscle contraction in muscle weakness brought on by conditions such as stroke, spinal cord injury, or muscular dystrophy (see Chapter 14)
- Stimulation of local circulation (when used as part of a contrast treatment)
- To reduce blood flow in congested areas by creating a derivative effect (fluid-shifting). For example, when cold is applied on the back of the neck, it causes local vasoconstriction and may be helpful in treating a migraine headache.
- Overheated client

Contraindications to ice applications

1. Cold client. If it is important that a client who is cold have an ice treatment, first warm him or her by putting such materials as hot packs, blankets, hot water bottles, and/or warmed linens proximal to the iced area. A heating pad to the abdomen will raise core temperature and cause reflex vasodilatation in the hands and feet.
2. Aversion to cold
3. Sensitivity to cold. This is common in clients with fibromyalgia.
4. Headache upon contact with cold
5. Inability to provide feedback about tissue temperature (impaired sensation) in the area to be treated
6. Always check tissues periodically for cold damage. If an area has been cooled too much, there will be blotchiness, redness, or a welt underneath the cold application.
7. Numbness can be caused by spinal cord injury, diabetic neuropathy, other medical conditions, or the use of some medications, which may cause the person to be unable to feel the pain of a too-cold application. Never put a cold application on a numb area.
8. Poor circulation. Because cold will further decrease blood flow, do not use over areas where circulation is already poor.
9. Raynaud's syndrome
10. Previously frostbitten areas should not have local cold gel packs or ice applications.
11. Peripheral vascular disease, including diabetes, Buerger's disease, and arteriosclerosis of the lower extremities
12. If an analgesic cream has been applied to the skin, do not cover that area with a cold application.
13. Wounds that are not completely healed
14. Malignancy in the area to be treated
15. Heart disease: do not apply cold over the heart, as this can cause a reflex constriction of the coronary arteries.
16. Implanted devices, such as cardiac pacemakers, stomach bands, and infusion pumps that are in the area to be treated
17. Marked hypertension. (Ice applications anywhere on the body normally cause a brief rise in blood pressure, so they are contraindicated for persons with marked hypertension.)
18. Lymphedema: avoid exposure to extreme cold for long periods. For example, avoid using cold gel packs, ice packs, and flat plastic water bottles filled with chilled water. However, cold compresses, iced compresses, and ice massage are safe to use.

Cautions for ice applications

1. Cold client. If it is important that cold clients have an ice treatment, warm them first by using such applications as hot footbaths, hot packs, blankets, hot water bottles, and/or warmed linens.
2. Elders, that is, clients who are over 60 years old, may not be able to keep warm during cold treatments; be careful not to chill them.
3. Children, especially preschool-age children, have difficulty describing their bodily sensations and may not be able to tell you if cold is causing pain, so use local cold with caution.
4. Use caution when applying cold over superficial nerves. Do not exceed recommended times, and do not tie cold applications over superficial nerves.
5. Clients may have decreased muscle strength and slowed reflexes for 30 minutes after ice treatment and may be prone to injury if they exercise right away.

<http://www.naturalhealthcure.org/therapies/cold-ice-packs-therapy-cold-compress-benefits.html>