HEALTH BASICS

Ice and cold packs

Ice and cold packs provide short periods of cooling to ease pain after some injuries or procedures.

WHAT IT IS
A wrapped cold source used briefly on the body

WHERE IT COMES UP
Minor injuries, swelling, pain, and some procedures

WHY IT MATTERS
Can temporarily reduce pain and limit swelling

WHAT IT IS NOT
Not a disease or treatment for serious injury

WHO TO ASK
Pharmacist, physiotherapist, nurse, or primary care clinician

HOW IT IS CHECKED
Skin comfort, colour, and feeling during use

Overview

Ice and cold packs are forms of cold therapy , also called cryotherapy. They are placed against part of the body for a short time to reduce pain and sometimes swelling.

Cold therapy may be suggested after a minor sprain, strain, bump, injection, or procedure. A sprain is an injury to a ligament, which connects bones. A strain affects a muscle or tendon.

Options include a bag of ice, frozen peas, a reusable gel pack, or an instant chemical cold pack. These should usually be wrapped in a thin, damp towel rather than placed directly on bare skin. Gel packs can become especially cold and may cause skin injury if used without a barrier.

Ice is not required for every injury. It may make you more comfortable, but it does not confirm what the injury is or repair damaged tissue by itself. Evidence that cold therapy speeds recovery from soft-tissue injuries is limited.

How it works

Cooling makes small blood vessels near the skin narrow for a while. This can reduce local blood

flow and may limit some early swelling.

Cold also slows signals travelling through nearby nerves. This can temporarily dull pain and make the area feel numb. The benefit usually fades as the tissues warm again.

The aim is gentle, controlled cooling-not freezing the skin. During normal use, the area may feel cold, then mildly aching or numb. Stop sooner if it becomes very painful or if the skin changes to a pale, blue, blotchy, or waxy appearance.

Cooling does not reach every structure equally. A thick layer of body tissue, clothing, a dressing, or a cast can reduce the effect. In contrast, areas where nerves or bones lie close to the skin may be more vulnerable to excessive cold.

Why it matters for your health

A cold pack can provide short-term pain relief after some minor injuries. This may make early movement or rest more comfortable.

It can also be useful when a clinician has advised cooling after an injection, dental procedure, surgery, or treatment involving the skin. Follow the instructions given for that procedure because the timing and placement may differ.

Cold should not be used to push through an activity that is causing pain. Numbness can hide warning signals, so remove the pack before exercising or testing the injured area.

For many minor injuries, cold therapy is only one part of self-care. Protecting the area, using comfortable movement, and gradually returning to normal activity may also matter. Some injuries need an examination, imaging, a brace, or another form of treatment instead.

What can go wrong

Leaving ice on too long or applying it directly can cause a cold injury . Mild cold injury may cause redness, burning, or prolonged numbness. More serious injury can produce hard, pale, blue, or blistered skin and may be a form of frostbite.

Excessive cooling can also irritate or injure a nerve near the skin. This may cause tingling, weakness, burning pain, or numbness that continues after the area has warmed.

Risk is higher if you cannot feel temperature normally or have reduced blood flow. This can occur with peripheral neuropathy, which is nerve damage often affecting the feet or hands, or with some blood-vessel conditions. Ask a clinician before using cold if you have poor circulation, reduced skin sensation, a previous cold injury, or a condition triggered by cold.

Do not place a leaking chemical cold pack against the skin. Follow its disposal instructions and keep the contents away from the eyes and mouth. Cold packs should not be eaten or used as toys.

Cold may ease discomfort from an injury without addressing conditions such as a fracture, dislocation, significant tendon injury, infection, or blood clot. Cooling should not delay an assessment when the injury appears more than minor.

Arrange routine follow-up if pain or swelling is not starting to improve after several days, repeatedly returns, or continues to limit normal activity.

Seek urgent medical advice for:

Call emergency services for a major injury, an obviously badly deformed limb, uncontrolled bleeding, or a limb that becomes cold, pale or blue with loss of feeling.

- Severe or worsening pain, swelling, or bruising
- Inability to bear weight or use the injured part
- A joint or limb that looks deformed
- Increasing warmth, redness, pus, or fever
- Numbness, weakness, or colour change that continues after warming
- Pale, hard, blue, or blistered skin after cold exposure

What you can do

For a recent minor injury, check first that the skin is intact and that you can normally feel touch and temperature in the area.

Wrap the cold source in a thin towel. Apply it gently rather than strapping it down tightly. Many first-aid sources advise limiting each session to about 15 to 20 minutes, then allowing the skin to return to its usual temperature before using it again. Follow any more specific instructions from your clinician.

Check the skin during use. Remove the pack if you develop strong burning, increasing pain, marked colour change, or complete numbness. Do not fall asleep with a cold pack in place.

Avoid putting ice directly over an open wound unless a clinician has explained how to protect the wound and dressing. Do not soak an injured hand or foot in ice water without professional guidance because it is harder to control tissue temperature.

If you have a cast or splint, keep it dry. A wrapped cold pack may sometimes be placed over or around it, but follow the instructions from the service that fitted it. Do not push ice inside a

cast.

Useful questions to ask include:

There is no home test that proves cold therapy is working. Its practical effect is whether pain becomes temporarily easier without harmful skin changes.

- Is cold appropriate for this particular injury or procedure?
- How long and how often should I use it?
- Should I keep moving the area or temporarily protect it?
- What changes would mean I need an examination?

Common questions

Is ice better than heat?

Cold is often used soon after a minor injury when pain and swelling are prominent. Heat may feel better for muscle tightness or stiffness once an acute injury has settled. Neither is suitable for every problem, and both can burn or injure skin if used carelessly.

Can I put ice directly on my skin?

It is safer to use a cloth barrier. Direct contact, especially with a frozen gel pack, raises the risk of cold injury.

Should I keep icing until the swelling disappears?

No. Swelling is part of the body's response to injury, and prolonged cooling is not better. Use short sessions for comfort and seek advice if swelling is severe, increasing, or slow to improve.

Can I sleep with a cold pack on?

No. You may not notice pain, numbness, or skin changes while asleep.

Can children use cold packs?

They can sometimes use them with close adult supervision. Use a cloth barrier, keep sessions brief, and check the skin often. Do not allow a child to bite or open a gel or chemical pack.

What if cold makes the pain worse?

Remove the pack and let the area warm naturally. Do not rub skin that appears injured by cold. Seek advice if pain, numbness, unusual colour, or blistering persists.

Sources

- NHS. Sprains and strains
- American Academy of Orthopaedic Surgeons. Sprains, Strains and Other Soft-Tissue Injuries
- Mayo Clinic. Sprain: First aid
- Bleakley CM, McDonough SM, MacAuley DC. The use of ice in the treatment of acute soft-tissue injury: a systematic review of randomized controlled trials. American Journal of Sports Medicine. 2004;32(1):251-261
- Kwiecien SY, McHugh MP. The cold truth: the role of cryotherapy in the treatment of injury and recovery from exercise. European Journal of Applied Physiology. 2021;121:2125-2142