

## Techniques of application of cold therapy →

Preparation of patient: → Nature and effect of cold therapy should be explained to the patient. The area to be treated should be examined for any contraindication.

Preparation of apparatus: → <sup>Decide</sup> ~~Decide~~ by which method you should apply the cold.

Preparation of the part: → A suitable position and support for the part is arranged depending on whether it is to be immersed or have a cold pack applied.

Instruction for the patient: → The patient is warned

to indicate any increased pain or discomfort.  
cold may be applied in following ways-

- 1° Local immersion
- 2° cold packs
  - ice pack
  - commercial cold packs
- 3° Ice towel
- 4° Ice massage
- 5° Evaporating sprays
- 6° Excitatory cold

**Local immersion** :- It involves placing the part in container of iced water - a mixture of water from cold tap and flaked ice. A temperature around  $16-10^{\circ}\text{C}$  continuous immersion can usually be tolerated for 15-20 minutes.

A lower temperature around around  $10^{\circ}\text{C}$  continuous immersion is uncomfortable so intermittent application may given.

Such treatment can only be applied to the extremities.

**Cold packs** :-

1° Ice packs :- This can be applied by two methods

a) Flaked Ice / [crushed ice] is folded in damped towel or put in bags of same material and directly applied to the skin.

• Flaked ice may be put in a suitable sized polythene bag.

Top of the polythene bag is tight to prevent water leaking out. The ice filled can be moulded to fit the region to which it is being applied and a damp towel is use to support the bag from the skin.

Commercial cold packs :- These are basically plastic, often vinyl bags filled with a mixture of some substance that prevents the water freezing solid, thus the pack will remain flexible and can be moulded to the part to be treated.

'Silica gels' are most commonly used.

Size - Commercial packs are of various sizes but normally small enough to store in a freezer compartment

The pack is stored at a temperature below  $0^{\circ}\text{C}$  often  $-5^{\circ}\text{C}$  or above  $-12^{\circ}\text{C}$ .

Depending on their size such pack provide adequate cooling for about 20 minutes.

Ice towel :- If a Terry towel is put into a mixture of flaked ice and water and then wrung out much of the chipped ice will be found adhere to the cloth. This can be placed over a larger area.

The ice towel need to be replaced by another after two-three minutes.

It allows movement or exercise to be performed by cold therapy is being applied.

Ice massage :- This is given with a solid piece of ice either as a cube sapped in a cloth or as an ice lollipop on a wooden stick. This can be made by putting a wooden spatula upright in a small plastic cup of water in the freezer.

Being larger the lollipop lasts longer and is easier to handle than the usual size of ice cubes.

Purpose for using ice massage :-

Slow and prolong (15-20 min for pain relief)

Boief strokes for muscle fascilitate

The application should be over the dermatome of the same nerve root as those to the muscles to be stimulated.

Evaporating sprays :- Spraying a rapidly evaporating liquid on the skin has the effect of using heat energy and than cooling the surface.

Ethyl chloride is mostly used. It is highly inflammable.

Fluoro methane is non inflammable.  
Cooling from such sprays can be very rapid but does not last very long.

Excitatory cold: The marked sensory stimulus of ice on the skin may be used to facilitate contraction of inhibited muscle.

The sensory stimulus can be generated by application of quick ice strokes over the dermatome of the inhibited muscle.

In case of inhibition or in later stages of recovery following a nerve lesion, technique of quick ice is often a useful stimulus in aiding the voluntary contraction of the muscle.