

Chapter 40

Heat and Cold Applications

Using Heat and Cold (1 of 4)

- The use of heat and cold for ailments has been practised for centuries.
- Today, traditional healers, physicians, nurses and physiotherapists use heat and cold applications to reduce tissue swelling.
- There has been a trend towards the use of heat as part of healing—blending both ancient Indigenous practices and modern practices.
 - See textbook box *Respecting Diversity: Indigenous Healing Sweats*

Using Heat and Cold (2 of 4)

- Heat and cold applications:
 - Promote healing and comfort
 - Reduce tissue swelling
- Heat and cold have opposite effects on body function.
- You must understand the purposes, effects, and complications of heat and cold applications
 - See textbook *Box 40.1 General Guidelines for Applying Heat or Cold*

Using Heat and Cold (3 of 4)

- Doctors, nurses, and physiotherapists use heat and cold applications.
 - Before you apply heat or cold applications, make sure that:
 - Your provincial or territorial laws and employer's policies allow you to perform the procedure.
 - The procedure is in your job description and in the care plan.
 - You have the necessary training.
 - You know how to use the equipment.
 - You have reviewed the procedure with a nurse.
 - A nurse is available to answer questions and to supervise you.

Using Heat and Cold (4 of 4)

- Support workers are never to use heat or cold applications unless they are in the client's care plan—and then only if this duty has been delegated by a nurse.
- Any client receiving a heat or cold application should be checked frequently for any signs of problems related to their use.
 - See textbook *Table 40.1: Comparison Between Heat and Cold Applications*

Heat Applications (1 of 7)

- Heat applications can be applied to almost any body part.
- Are often used for musculoskeletal injuries or conditions .
- Heat does the following:
 - Relieves pain
 - Relaxes muscles
 - Promotes healing
 - Reduces tissue swelling
 - Decreases joint stiffness

Heat Applications (2 of 7)

- When heat is applied to the skin:
 - Blood vessels in the area dilate.
 - Blood flow increases.
 - Tissues have more oxygen and nutrients for healing.
 - Excess fluid is removed from the area faster.
 - The skin is red and warm.

Heat Applications (3 of 7)

- Complications:
 - High temperatures can cause burns.
 - When heat is applied too long or is too high it can result in:
 - Pain
 - Excessive redness
 - Blisters
 - If not treated right away, burns can lead to serious, life-threatening problems.
 - See textbook box: *Think About Safety: Heat and Cold Applications*

Heat Applications (4 of 7)

- Complications:
 - Clients at risk for heat complications include:
 - Clients with thin, delicate, or fragile skin
 - Clients with decreased sensation
 - Clients with dementia or confusion
 - Clients with metal implants

Heat Applications (5 of 7)

- Types of Heat Applications

- Moist heat applications

- Water is in contact with the skin.
 - Moist heat has greater and faster effects than dry heat.
 - Heat penetrates deeper with a moist application.
 - To prevent injury, moist heat applications have lower temperatures than dry heat applications.

Heat Applications (6 of 7)

- Types of Heat Applications

- Types of moist heat applications:

- A warm compress is a moistened pad applied over a body area.
 - A warm soak involves putting a body part into water.
 - A sitz bath involves immersing the perineal and rectal areas in warm water.
 - Warm or cold packs, a pack involves wrapping a body part with a wet or dry application.

Heat Applications (7 of 7)

- Dry Heat Applications

- Examples: heating or microwaveable bean bags
- Water is not in contact with the skin.
- The application stays at the desired temperature longer.
- Dry heat does not penetrate as deeply as moist heat.
- Dry heat needs higher temperatures to achieve the desired effect.
- Burns are a risk.
 - Check the skin under the application every 5 minutes
 - Never leave on longer than 15 minutes

Cold Applications (1 of 3)

- Cold applications are used to:
 - Treat sprains and fractures.
 - Reduce pain, prevent swelling, and decrease circulation and bleeding.
 - Cool the body when fever is present.
- Cold has the opposite effect of heat.
 - When cold is applied to the skin, blood vessels constrict.
 - Cold applications are useful right after an injury.
 - See textbook procedure: *Applying Cold Compresses*

Cold Applications (2 of 3)

- Complications of cold applications include:
 - Frostbite:
 - A medical condition in which damage is caused to skin and other tissues due to extreme cold.
 - Do not use cold applications on old injuries.
 - Pain, burns and blisters
 - From intense cold
 - When dry cold is in direct contact with the skin
 - Cyanosis
 - When cold is applied for a long time, blood vessels dilate.
 - Check client every 5 minutes or more frequently.

Cold Applications (3 of 3)

- Moist and Dry Cold Applications

- Moist cold applications:

- Penetrate deeper than dry ones
 - Are not as cold as dry applications

- Moist cold applications use a cold compress.

- Dry cold applications include ice bags, ice collars, and ice gloves.

- Cold packs can be moist or dry applications

- See textbook procedure: *Applying an Ice Bag, Ice Collar, or Dry Cold Pack*

Applying Heat and Cold

- Protect the person from injury.
- Remember RICE for recent injuries:
 - R: Rest the limb
 - I: Apply ice (to reduce swelling)
 - C: Compression
 - E: Elevate limb

- See textbook Box 40.2: Focus on First Aid