



Nursing

NTQF Level III

Learning Guide # 31

**Unit of Competence: Performing Basic Nursing Care
Procedures and Techniques**

Module Title: Performing Basic Nursing Care

LG Code: CON MAS2 M01 L05-05

TTLM Code: CON MAS2 TTLM 0112v1

LO 5: Apply therapeutic procedures

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics –

- **Apply therapeutic procedures**
- 5.1. Hot and Cold application
- 5.2. Applying hot water bottle
- 5.3. Precautions and contra indications

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to –

- State purpose of applying heat to the body; of applying cold to the body.
- Explain specific precaution when applying heat, or cold
Demonstrate the administration of leg soak and sitz.

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described
3. Read the information written in the “Information Sheet” Accomplish the “Self-check
4. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check).
5. If you earned a satisfactory evaluation proceed to “ next Information Sheet”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity.
6. Submit your accomplished Self-check. This will form part of your training portfolio.
7. Read the information written in the “Information Sheet ”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
8. Accomplish all self check

Information Sheet-1	Key terminology
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5. Apply Therapeutic Procedures

5.1 Hot and Cold application

At the end of this chapter the learners will be able to:

- State purpose of applying heat to the body; of applying cold to the body.
- Explain specific precaution when applying heat, or cold
- Demonstrate the administration of leg soak and sitz bath

Information (Key Terminology)

Hypothermia blanket

Sitz bath

Tepid sponge bath

Care of Patient with Fever

This includes sponging of the skin with alcohol or cool water for reducing temperature

Solution: Tepid (lukewarm) water

Alcohol

- Part of alcohol to 3 parts of lukewarm H₂O remove patient's gown
- Take the patient temperature, sponge the body using the wash cloth alternately, and sponge each part 2-3 min. changing the wash cloth
- Heat loss is by conduction or vaporization
- Check pulse frequently and report any change

Local Application of Heat and Cold

Heat and cold are applied to the body for local and systemic effects

5.2 Applying hot water bottle/ *Heat Application*/

Purpose

1. To relieve pain and muscle spasm – by relaxing muscles
 - Increase blood flow to the area
2. To relieve swelling (facilitate wound healing)
 - To relieve inflammation and congestion

Heat

- Increases the action of phagocytic cells that ingest moisture and other foreign material
 - Increases the removal of waste products or infection metabolic process
3. To relieve chilling and give comfort

Heat can be applied in both dry and moist forms

- Dry Heat :- is applied locally, for heat conduction, By means of a hot water bottle
- Moist heat – can be provided, through conduction, By compression or sitz bath

Applying Cold water /Cold Application/

Purpose

- To relieve pain: cold decrease prostaglandins, which intensify the sensitivity of pain receptors, and other substances at the site of injury by inhibiting the inflammatory processes
- To reduce swelling and inflammation: by decreasing the blood flow to the area (vasoconstriction effect)
- Reduce raised body temperature due to fever

Cold can be applied in moist (cold compress 18-27 °C) and dry form (ice pack (bag) <15 °C)

Systemic effects of cold – extensive cold application can increase blood pressure

Nursing Perform Basic Nursing Care Procedures and Techniques Level III	Version:1-2019	Page No. Page 2 of 9
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Systemic effects of Hot – produce a drop in blood pressure – excessive peripheral vasodilatation

Tepid Sponging

Definition: sponging of the skin with alcohol or cool water.

Purpose: to lower body temperature (fever)

Tepid (Lukewarm) water + alcohol (3 parts water: 1 part alcohol)

The temperature of the water is 32 c (below body temperature) 27-37 – alcohol evaporates at a low temperature and therefore removes body heat rapidly

- Less frequently used – because alcohol causes skin drying
- Heat loss is by conduction and vaporization
- Determine the patients' temperature, PR and RR frequently every (Q) 15 min
- Sponge each area (part) for 2-3 min changing the wash cloth
- The sponge bath should take about 30 minutes
- Reassess v/s at the end
- Discontinue the bath if the clients becomes pale or cyanotic or shivers, or if the PR becomes rapid or irregular
- Temperature of hot water bottle (bag) 52° c for normal adults, 40.5 –46 °c–: for debilitated (unconscious patients).40.5-46 °c for children < 2 yrs;

Fill the bag about 2/3 full;

Expel the remaining air and secure the top; Maximum effect occurs in 20-30 min;

The application is repeated Q2 – 3 hrs to relieve swelling compress

- A moist gauze or cloth immersed in (hot or cold) water and applied over an area.

5.3Precautions and contra indications

Contraindications to the use of heat application

1. The first 24 hours after traumatic injury (heat increase bleeding and swelling).
2. Active hemorrhage (heat causes vasodilatation and increase bleeding).
3. Non inflammatory edema (heat increases capillary permeability and edema).
4. Skin disorder (heat can burn or cause further damage to the skin).
5. Localized malignant tumor (heat increase cell growth and accelerate metastases).
6. Hypertension or other circulatory issues are present.

Contraindications of cold application

1. Reynaud's Disease or decreased skin sensitivity to temperature is present.
2. The person feels chilled.
3. Impaired circulation.
4. Do not use over new wounds.

NB. Great care has to be taken to prevent heat/cold burns when applying heat or cold especially to elderly.

Nursing Perform Basic Nursing Care Procedures and Techniques Level III	Version:1-2019	Page No. Page 3 of 9
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Local Application of Cold and Heat***Application of Cold***

- Has systemic and local effect
 - Can be applied to the body in two ways
1. Moist
 2. Dry

Purpose: (Indication)

- To reduce body to during high fever and hyper pyrexia or sun stroke
- To relieve local pain
- To reduce subcutaneous bleeding e.g. in sprain and contusion
- To control bleeding e.g. epistaxis
- To relieve headache
- To provide comfort to a patient in extreme hot weather if desired

1. Moist Cold

- Cold compress
- A cloth (padded gauze) is immersed in cold water and applied in area where we get large superficial vessels

E.g. axilla and groin

- Change the cloth when it becomes warm
- Applied for 15-20 min

2. Dry Cold (Ice Bag)

- Ice kept in a bag
- Covered with cloth and applied on an area
- Temperature <150 C

Application of Heat***Purpose***

- To relieve stasis of blood
- To increase absorption of inflammatory products
- To relieve stiffness of muscle and muscle pain
- To relieve pain and swelling of a localized inflammation boil or carbuncle – sometimes increases edema, increases capillary permeability
- To increase blood circulation
- To promote suppuration
- To relieve distention and congestion
- To provide warmth to the body

(Operation sheet)Methods**1. Dry Heat**

- Using hot water bottle (bags)
- After contact of the body with moisture of water vapors temperature >46 °C
- 52 °C for normal adults
- 40.5 – 46°C for debilitated or unconscious patient's and child < 2 yrs
- 2/3 of the bag should be filled with water
- Expel the remaining air and secure the top
- Dry the bag and hold it upside down to test for leakage
- Wrap it in a towel or cover and place it on the body part
- Maximum effect occurs in 20-30 min
- Remove after 30-45 minutes



2. Moist Heat

1. Hot compress: a wash cloth immersed in hot water of temperature 40-46°C and change the site of washcloth frequently

Complication

- Paralysis
- Numbness
- Loss of sensation – fear of burn

2. Sitz bath

Sitz Bath (hit bath)

It is used to sock the client's pelvic area

- A clients sits in a special tub or a bowel
- The area from the mid thighs to the iliac crests or umbilicus -increases circulation to the perineum (when the legs are also immersed blood circulation to the perineum or pelvic area decrease)
- Temperature of water – 40-43 ° c (105-110 ° F) – unless the patient is unable to tolerate the temperature.

Aquathermia Pa:- Is pad constructed with tubes containing water .



Purpose:

- To relieve pain in post operative rectal condition
- Smoothen irritated skin (perineum)
- Facilitates wound healing (after episiotomy)
- To release the bladder in case of urinary retention

If it is going to be given in the tub – fill ½ the tube with water and add the ordered medication

In a bowel – fill 2/3 of it with water – add the ordered medication and dilute

The medication to Rx the perineum in KMNO₄ sol. 250 mg KMNO₄ in 500 ml of water

The duration of the bath is generally 15-20 minutes (20-25) depending on the client's health.

Help the client to dry.

Nursing Perform Basic Nursing Care Procedures and Techniques Level III	Version:1-2019	Page No. Page 5 of 9
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Instructions: Perform the following tasks. Write your answers in the answer sheet provided:

1. Describe the purpose of cold and hot application
2. What is the average duration of time the patient is soaked in sitiz bath?
3. Define thermoregulation?
4. Describe the mechanism of action of heat application to affect its purposes.
5. What is tepid sponge?
6. Explain the different types of cold and hot compress?
7. What is the common medicine used in sitiz bath?
8. Identify the conditions that necessitate *precautions* in the use of heat and cold applications

Short answer

1. _____

2. _____

3.

4.

5.

6.

7.

8.

List of Reference Materials

List of Reference Materials

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