

International Standard **Colored Edition**



**CBS**  
**Digital Dictionary** for Nurses

Principles & Procedures of

# NURSING FOUNDATIONS

*(Covers Basic and Advanced Nursing Procedures  
as per the Revised INC Syllabus)*

Vol.  
**II**

**Sushma Pandey • Mohd. Atif Muzammil**

**2nd**  
Edition

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# Principles & Procedures of **NURSING FOUNDATIONS**

*(Covers Basic and Advanced Nursing Procedures  
as per the Revised INC Syllabus)*

Vol.  
**II**

— | **Second Edition** | —

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Nursing Knowledge Tree  
An Initiative by CBS Nursing Division

*Foreword*

**Avani Oke**



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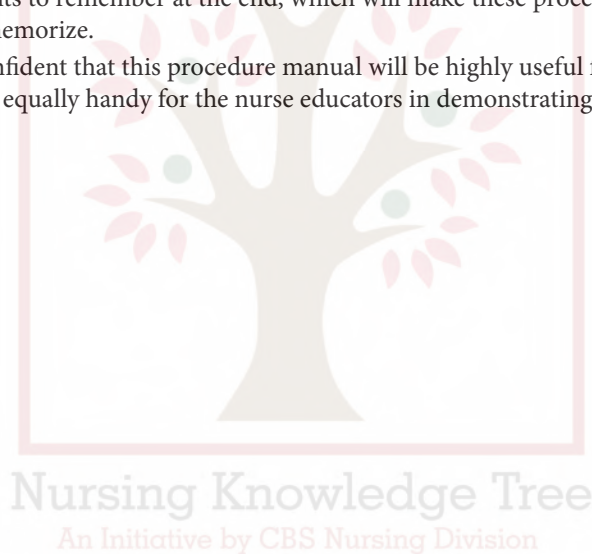
# Preface

This book, Principles and Procedures of Nursing Foundations (Volume II), is a contemporary nursing practice book built upon the premise that nursing is both a caring and a knowledge-based profession. It has been designed to provide today's students with solid advance nursing principles to prepare them for the challenges of tomorrow. This cutting-edge text illustrates how to attain and integrate knowledge of theory and practice.

This book covers all the basic and advanced nursing procedures used in nursing. It instills an advance understanding of the procedures by the inclusion of proper procedural steps and their rationales. In this second volume, we have covered around 200 procedures in accordance with the latest INC Curriculum 2021–22. We have tried our level best to include all the practical procedures asked in the practical curriculum of *Nursing Foundation I & II*. All the procedures are categorized as per the requirement in the clinical settings. The procedures are explained in a systematic manner, emphasizing higher level of cognitive, affective and psychomotor skills needed to carry out the procedures. Each procedure carries articles and their purposes along with their points to remember at the end, which will make these procedures and the key concepts easy to understand and memorize.

We are quite confident that this procedure manual will be highly useful for nursing students and nurses. Besides, it will prove equally handy for the nurse educators in demonstrating the procedures.

**Sushma Pandey**  
**Mohd. Atif Muzammil**



# Special Features of the Book

Important **Articles** and their **purposes** are included to make them familiar to the readers.

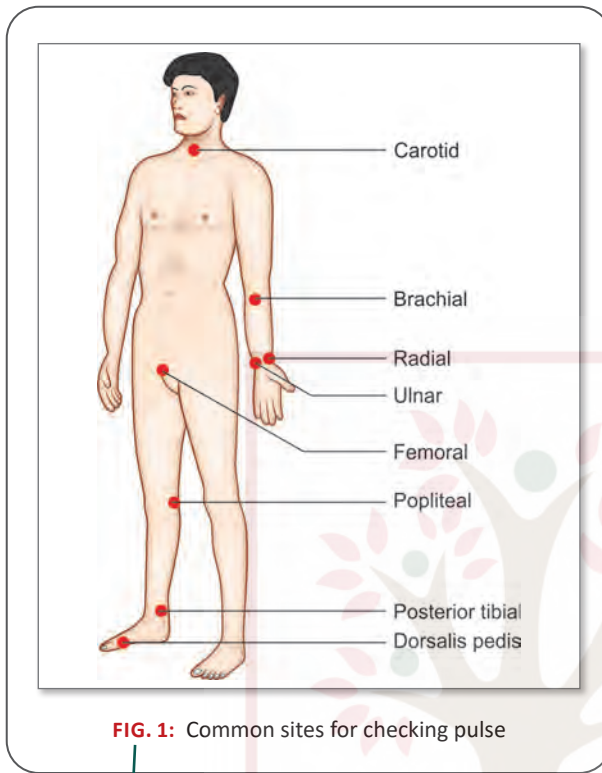
Articles	Purposes
<b>Oral temperature</b> <ul style="list-style-type: none"> <li>• Clinical thermometer in types of thermometer in a glass bottle</li> <li>• Dry cotton swabs</li> <li>• Paper bag</li> <li>• Blue and red pens</li> <li>• Spirit</li> </ul>	<ul style="list-style-type: none"> <li>• To take temperature</li> <li>• To clean the thermometer</li> <li>• To put the dry waste</li> <li>• For documentation</li> <li>• To disinfect the thermometer</li> </ul>
<b>Axillary temperature</b> <ul style="list-style-type: none"> <li>• Small towel</li> <li>• Clinical thermometer in a glass bottle</li> <li>• Dry cotton swabs</li> <li>• Paper bag</li> <li>• TPR sheets, blue and red pens</li> <li>• Spirit</li> </ul>	<ul style="list-style-type: none"> <li>• To wipe the axilla</li> <li>• To take temperature</li> <li>• To clean the thermometer</li> <li>• To put the dry waste</li> <li>• For documentation</li> <li>• To disinfect the thermometer</li> </ul>

Steps	Rationale
<b>Checking pulse:</b> Select the appropriate pulse site. Place tips of three fingers other than thumb over pulse site	Thumb is not used for assessing pulse as it has its own pulse which can be mistaken for patient's pulse
After getting the pulse regularly, count the pulse for 1 minute. Assess for rate, rhythm and volume of pulse	Irregularities can be noticed only if pulse is counted for 1 minute

**Steps** and their **Rationales** have been highlighted to make the nurses aware of the correct process of pulse checking.

**Points to Remember** have been included to help the readers learn the important information easily and comfortably.

Points to Remember
<ul style="list-style-type: none"> <li>• Client should be made comfortable before taking vital signs.</li> <li>• Thermometer should be placed properly to get accurate reading.</li> <li>• Thumb should not be used for taking pulse.</li> <li>• Client should not be alert while checking respiration.</li> <li>• Check the functioning of sphygmomanometer before taking blood pressure.</li> </ul>



Figures are included to clarify the concepts to the students.

Scientific Principles highlighted in between the text strengthen the scientific knowledge of the readers.

## Scientific Principles

### Anatomy and Physiology

Provide a clean and comfortable bed to the patient. Keep the bed in appropriate position to ensure patients body alignment.

### Microbiology

Articles given to patient should be neat and clean.

### Psychology

Sudden change and strangeness of the environment produces fear and anxiety. Entering the hospital is a threat to one's own personal identity. People have diversity of habits and behaviors. Illness can be a traumatic experience for the patients and brings stress on his physical and mental health. Nurse should understand the patient's psychology.

**Special Considerations** included in the book help nurses develop a human touch and make them learn how to take utmost care of the patient.

### Special Considerations

- Information regarding the admission is received either from outpatient department (OPD) or emergency department.
- Always remember that admission to a hospital is stressful experience for most of the people.
- Illness can be a new experience for the patient.
- The patterns of response to illness can vary.
- Maintaining personal identity of the patient is important.
- Respect the ethical and socioeconomic background of the patient.

## Elimination Needs

### Procedures Covered

- Chapter 46 Giving and Removing Bedpan
- Chapter 47 Assisting with the Use of an Urinal
- Chapter 48 Performing Urinary Catheterization
- Chapter 49 Catheter Care
- Chapter 50 Enema
- Chapter 51 Bowel Wash/Colonic Irrigation

## Nutritional Needs

### Procedures Covered

- Chapter 31 Insertion of Nasogastric Tube
- Chapter 32 Artificial Feeding
- Chapter 33 Assisting for Feeding

Chapters on **Elimination Needs** and **Nutritional Needs** are included to make the readers aware of various procedures.

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Nursing Knowledge Tree  
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# Gloving

## DEFINITION

Gloving is defined as the donning of a pair of sterile gloves to protect one's hands from pathogenic microorganisms and to avoid contamination of a sterile area by hand.

## PURPOSES

- To protect the nurse from pathogenic microorganisms.
- To handle sterile articles without contaminating.

## ARTICLES REQUIRED

- Soap/antiseptic detergent
- Running warm water
- Nail brush in antiseptic lotion
- Towel (sterile)
- Pair of sterile gloves (Fig. 1).

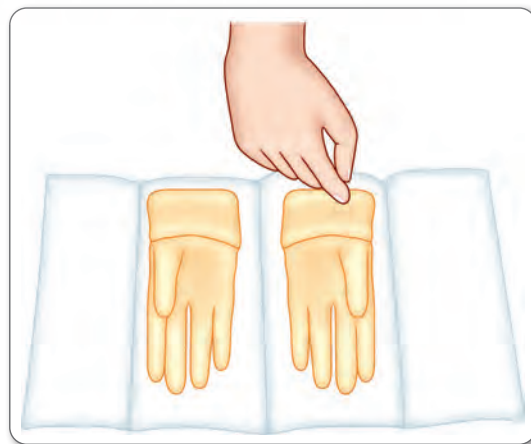


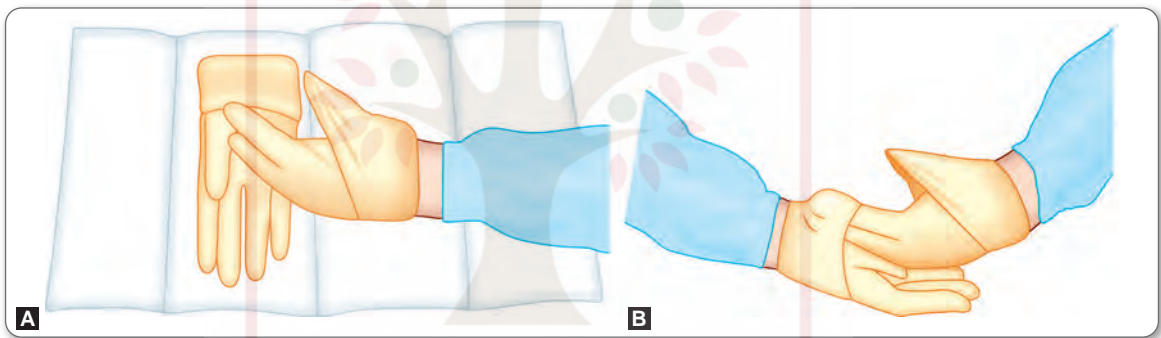
Fig. 1: Pair of sterile gloves

- Wear the right glove with your left hand and slowly push your fingers gently into the gloves until it properly, gets fit over the thumb. Make sure that your left hand should only touch the folded part of the glove, so that rest of the glove remains sterile (Fig. 2).



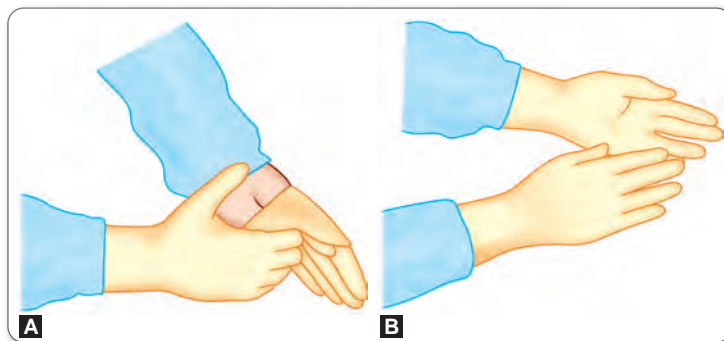
Fig. 2: Wearing the gloves

- To wear left glove slowly slide your fingertips into the folded cuff of the left glove, see that other area should remain sterile (Figs 3A and B).



Figs 3A and B: Procedure to wear gloves

- After wearing both the gloves, use left hand to hold the folded cuff of the right glove to cover the wrist part of the gown (Figs 4A and B).



Figs 4A and B: Both gloves worn

- Put your fingers of the gloved right hand under the cuff of the partially gloved left hand, unfold that cuff over the gown sleeves. See that your gloved finger should not touch bare forearm or wrist.

## REMOVAL OF GLOVES

### Steps of Procedure and Rationale

Steps	Rationale
<ul style="list-style-type: none"><li>● Removal of first glove by grasping it on its palmar surface taking care to avoid touching wrist</li></ul>	<ul style="list-style-type: none"><li>● This keeps the soiled parts of the used gloves from touching the skin of the wrist/hand</li></ul>
<ul style="list-style-type: none"><li>● Pull the first glove completely off by inverting or rolling the glove inside out and discard it</li></ul>	<ul style="list-style-type: none"><li>● Outside of glove does not touch skin surface</li></ul>
<ul style="list-style-type: none"><li>● Take fingers of bare hand and tuck inside remaining glove cuff. Peel glove off, discard into designated receptacle</li></ul>	
<ul style="list-style-type: none"><li>● Wash hands</li></ul>	

### Points to Remember

- Select appropriate size of the gloves.
- Nails should be short to avoid tear of the gloves.



# CHAPTER 50

## Enema

### DEFINITION

An enema is introduction of fluid into the bowel through the rectum for the purpose of cleansing or to introduce nourishment.

### PURPOSES

- To relieve constipation or fecal impaction.
- To prevent involuntary escapes of fecal matter during surgical procedure and delivery.
- To promote visualization of the intestinal tract during radiographic or instrumental examination.
- To help establish regular bowel function during a bowel training program.
- Preoperative preparation for bowel surgeries.
- To relieve retention of urine by reflex stimulation of bladder.

### TYPES (TABLE 1)

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**Table 1:** Evacuant enema and retained enema

Evacuant enemas	Retained enemas
<ul style="list-style-type: none"><li>● Simple evacuant enema</li><li>● Medicated evacuant enema</li><li>● Cold enema</li></ul>	<ul style="list-style-type: none"><li>● Stimulant enema</li><li>● Nutrient enema</li><li>● Emollient enema</li><li>● Sedative enema</li><li>● Anesthetic enema</li></ul>

### Solutions Used

- **Hypertonic:** Sodium phosphate (fleet enema)
- **Hypotonic:** Tap water
- **Isotonic:** Physiological saline (1 tsp. of table salt in 500 mL of tap water)
- **Others:** 3–5 mL of concentrated soap solutions in 1000 mL of water.



## INDICATIONS

Before any surgery, diarrhea, hyperpyrexia, constipation, and impacted feces, before diagnostic test, before childbirth, prior to beginning a bowel training program.

## CONTRAINDICATIONS

- Acute renal failure
- Acute myocardial infarction and cardiac problems
- Appendicitis
- Obstetrical contraindications like antepartum hemorrhage, leaking membrane
- Recent surgical procedure involving lower intestinal tract
- Intestinal obstruction
- Inflammation and infection of abdomen
- Dehydration
- Young infants
- Fluid and electrolyte imbalance
- Hypothermia
- Abdominal cramps

## PRELIMINARY ASSESSMENT

### Preparation of the Patient

- Explain the procedure to the patient to gain his confidence and cooperation.
- Explain the discomfort caused by enema fluid and need of retaining the solution for some time.
- Provide screen for privacy.
- Cover the patient with bath blanket, fanfold the top linen to the foot end of the bed.
- Remove the blanket and pillow.

Articles required for enema is depicted below in Figure 1.



Fig. 1: Articles required for enema

## Preparation of Articles and their Purposes

Articles	Purposes
<ul style="list-style-type: none"> <li>• Screen</li> </ul>	<ul style="list-style-type: none"> <li>• To maintain privacy</li> </ul>
<ul style="list-style-type: none"> <li>• Enema can (Fig. 2)</li> </ul>	<ul style="list-style-type: none"> <li>• To fill the solution</li> </ul>
<ul style="list-style-type: none"> <li>• Tubing (Fig. 2) and clamp adult (22–23 French), child (12–18 French)</li> </ul>	<ul style="list-style-type: none"> <li>• For attachment of enema can</li> </ul>
<ul style="list-style-type: none"> <li>• Enema solution (Fig. 3) temperature adult (105°–109°F), child (98.6°F)</li> </ul>	
<ul style="list-style-type: none"> <li>• Lotion thermometer</li> </ul>	<ul style="list-style-type: none"> <li>• To check temperature</li> </ul>
<ul style="list-style-type: none"> <li>• Lubricating jelly</li> </ul>	<ul style="list-style-type: none"> <li>• To lubricate tube</li> </ul>
<ul style="list-style-type: none"> <li>• Ounce glass</li> </ul>	<ul style="list-style-type: none"> <li>• To measure solution</li> </ul>
<ul style="list-style-type: none"> <li>• Mackintosh towel</li> </ul>	<ul style="list-style-type: none"> <li>• To protect the bed</li> </ul>
<ul style="list-style-type: none"> <li>• Bath blanket</li> </ul>	<ul style="list-style-type: none"> <li>• To feel relaxed and comfortable</li> </ul>
<ul style="list-style-type: none"> <li>• Disposable gloves</li> </ul>	<ul style="list-style-type: none"> <li>• To prevent transmission of infection</li> </ul>
<ul style="list-style-type: none"> <li>• Jug with warm water or antiseptic solution</li> </ul>	<ul style="list-style-type: none"> <li>• To cleanse perineum</li> </ul>
<ul style="list-style-type: none"> <li>• Wet cotton pieces</li> </ul>	<ul style="list-style-type: none"> <li>• To clean the tube</li> </ul>
<ul style="list-style-type: none"> <li>• Paper bag and kidney tray</li> </ul>	<ul style="list-style-type: none"> <li>• To discard waste</li> </ul>
<ul style="list-style-type: none"> <li>• Clean linen</li> </ul>	<ul style="list-style-type: none"> <li>• To change the soiled linen</li> </ul>
<ul style="list-style-type: none"> <li>• Bedpan with cover</li> </ul>	<ul style="list-style-type: none"> <li>• To support lumbar curve</li> </ul>



Fig. 2: Enema can and tubing



Fig. 3: Proctoclysis enema

Amount of enema and its temperature for different types of patients are depicted in Table 2.

**Table 2:** Amount of solution with its temperature for different age groups

Type of patients	Amount of solution	Temperature
Infants	250 mL or less	100°F (37.1°C)
Children	250 mL or less	100°F (37.1°C)
Adult	500–1000 mL	105°–110°F (40–43°C)

### Preparation of the Environment

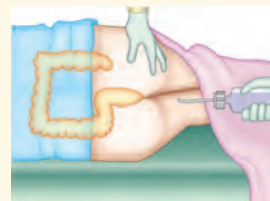
- Keep all the articles arranged on the bedside locker.
- Adjust IV stand to hold the enema can on the appropriate height.

### Preparation of the Nurse

- Check diagnosis, date and time of surgery.
- Assess the patient's for any evidence of constipation, abdominal pain or cramps, defecation difficulty.
- Assess the patient's complaint of anorexia, abdominal fullness.
- Assess the patient's mobility, history of previous enema associated with it.
- Assess the patient's control of external sphincter, ability to retain fluid.
- Assess physician's order and nature of enema, collection of specimen.

## STEPS OF PROCEDURE AND RATIONALE

Steps	Rationale
● Explain the procedure and provide privacy	● For cooperation
● Place the mackintosh under the patient hips	● To prevent soiling of bed
● Position the patient in left lateral position with right knee flexed	● To allow the enema solution to flow down by gravity along the natural curve of the sigmoid colon and rectum
● Cover the patient with a bath blanket exposing the rectum	● To feel relaxed and comfortable
● Place the bedpan in easily accessible position	● For easy accessibility
● Do hand washing	● To maintain medical asepsis
● Assemble enema can, tubing clamp, rectal tube	● To reduce anxiety
● Check temperature of the solution and pour into the can	
● Raise the container 30–45 cm above the anus	Fluid flows into the rectum and colon by the force of gravity
● Wash hands and wear gloves	● To reduce transmission of infection
● Lubricate sides of the rectal tube with petroleum jelly	● To prevent friction while inserting the tube
● Gently separate buttocks and insert rectal tube 7–10 cm in adult and 5–7 cm in children and inform patient to take deep breath	● Deep breathing promotes relaxation of external sphincter (Fig. 4)

**Fig. 4:** Procedure for inserting rectal tube for enema

Contd...

Steps	Rationale
● Hold tube till end of fluid instillation	● Bowel constriction can cause expulsion of rectal tube
● Open regulating clamp to expel air and allow the solution to enter slowly	● For easy accessibility
● Explain feeling of distension is normal	● Sensation in bowel
● Advise patient to retain solution 15–20 minutes	● Enhance the effective stimulation of peristalsis
● After thorough washing replace the can and the tubing	
● Raise the head and ask him to raise the hips by bending the knees	● To position the bedpan
● Leave the patient alone while he/she is relieving	● To maintain privacy
● Hold bedpan steadily	
● Clean the anus with water	● To avoid spilling

## IN PROCTOCLYSIS ENEMA (PREPACKAGED DISPOSABLE CONTAINER)

(Preprocedure is same as enema procedure)

### STEPS OF PROCEDURE AND RATIONALE

Steps	Rationale
● Remove the plastic cap from the rectal tip	
● Lubricate the catheter with the lignocaine jelly	● To introduce the catheter easily
● Squeeze the container until all the solution has entered the rectum and colon	
● Explain feeling of distension is normal	● Sensation in bowel
● Advise patient to retain solution 15–20 minutes	● Enhance the effective stimulation of peristalsis
● After thorough washing replace the can and the tubing	
● Raise the head and ask him to raise the hips by bending the knees	● To position the bedpan
● Leave the patient alone while he/she is relieving	● To maintain privacy

## AFTERCARE OF THE PATIENT AND THE ARTICLES

### Articles

- Remove equipment, wash it with soap and water, clean dry and replace.
- Remove patient's bedpan.

### Patient

- Assist the patient for perineal care.
- Give patient soap and water to wash hands, dry the patient, put on the garments.
- Change the linen if it is wet, make patient comfortable.
- Observe the enema result noting the color, consistency and the amount, obtain specimen if required.
- Wash hands.

## Recording and Reporting

- Record the type of enema, the result, time and chart in nurses record.
- Return to the bedside, evaluate the patient's condition and make comfortable.
- Send the specimen to laboratory.

## SCIENTIFIC PRINCIPLES

### Anatomy and Physiology

- The large intestine is made up of the cecum, the colon and the rectum, its length is 5 feet in adult.
- Ileocecal valve separates the small intestine from the large intestine. Ileocecal valve opens in one direction, so it prevents the passage of material in opposite direction. Fluid injected in a treatment cannot go beyond the ileocecal valve.
- Colon is divided into the ascending colon, transverse colon, the descending colon and the sigmoid flexure.
- Rectum is five to six inches long and ends at the anus. It is guarded by internal and external sphincter.
- The walls of the large intestine are made up of longitudinal and circular muscles.
- Peristalsis is produced due to contraction and relaxation of the involuntary muscles tissue.
- The large intestine is lined with mucous membrane which is not so sensitive as the skin, so the temperature of the solution used for treatment must be tested.
- When the veins in the rectum and the anal areas become dilated, it is called hemorrhoids.
- The action in the intestine is controlled by the autonomic nervous system.
- Cellulose acts as mechanical stimulus to peristalsis.

### Microbiology

- Wash hands before and after the procedure.
- Provide the patient with hand washing facilities after the use of bedpan.
- Sterilization of used rectal tubes and catheter is done by boiling or autoclaving.
- Other equipment are also sterilized by boiling or autoclaving.
- When pathogenic bacteria are present in the feces, it is necessary to disinfect the stool before emptying it, mix chlorinated lime, with stool and keep it for a period of at least 1 hour.

### Physics and Chemistry

- The rate of flow of a solution in a rectal treatment varies with the pressure, the caliber of the tube and the density of the fluid.
- Fluid will flow only when there is a difference in pressure between the solution in the container and the end of the outflow tube.
- Pressure depends upon the height of the column of the fluid.
- If pressure is too great, muscles of the intestinal walls contract too quickly and cause so much pain that the patient will not be able to take sufficient fluid for the treatment to be effective. Too much pressure may cause injury to the mucous membrane.
- A thick fluid, e.g., milk increases friction and flows slower than a thin solution, because specific gravity of a fluid influences pressure.
- Pressure of the gas against walls of the intestines causes pain.
- Pressure against the small veins in the anal regions causes hemorrhoids.
- Fluid flows into the rectum and colon by the force of gravity.

- Gravity will aid the flow of solution from the higher level to lower level.
- Friction is reduced by using lubricants.
- Water is a good conductor of heat, and heat travels through the pelvic tissues by conduction.
- The nurse should stand with her feet apart in giving a treatment in order to provide a wide base of support for her body.
- Bending should be at the hips or at the knees. When carrying a bedpan, carry it close to the body to prevent strain on to the back muscles.
- Absorption of water through the intestinal wall is by osmosis.
- Soap lowers surface tension of water and causes the water to combine more quickly with fecal material.
- Carminative enemas aid in expelling gas. Glycerin is adhesive to the mucous membrane and will be retained longer than water.

### Pharmacology

- When mild solutions are not efficient, sometimes more irritating drug is used.
- Mineral oil may be given by rectum to soothe the irritated mucosa or to lubricate hardened fecal material to make its passage easier.
- Barium Sulfate is opaque to X-ray. It is injected in the colon in order to outline the colon in X-ray examination.
- Coffee is given by rectum as a stimulant.
- Sodium bromide, chloral hydrate and paraldehyde are given by rectum to quiet the patient.
- The dose of a drug given by rectum is larger than the dose given by mouth for the same effect because the absorption is slower in the rectum.

### Psychology

- Explain the procedure to the patient to get the cooperation.
- Maintain privacy throughout the procedure, so that the patient will not be tense.
- Listen to the complaints of the patient, and do not ignore any discomfort, however, small they are.
- Distract the attention of the patient by conversation.

## PREPARATION OF GLYCERIN, ENEMA

*Preparation of glycerin enema is same as proctoclysis enema.*

### GENERAL INSTRUCTIONS

- Given by syringe and funnel method.
- A glycerin syringe and a rubber catheter is attached to the nozzle are used.
- Air is expelled from the syringe and the tube.
- This method is used in children in case of fever.
- The quantity of the solution depends upon the age of the patient.
- Pure glycerin can be used or glycerin and water 1:2 is used.

### Points to Remember

- Position the patient in left lateral position with right knee flexed.
- Only isotonic solutions are used in children. Plain water and hypotonic solution causes water retention and fluid overload.

# Throat Culture

## DEFINITION

A throat culture is a laboratory diagnostic test that evaluates for the presence of a bacterial or fungal infection in the throat (Figs 1A and B).



**Figs 1A and B:** A. Taking sample from throat for culture and B. Throat culture showing bacterial growth

## STEPS OF PROCEDURE AND RATIONALE

Steps	Rationale
<ul style="list-style-type: none"> <li>● Explain the procedure to the patient</li> </ul>	<ul style="list-style-type: none"> <li>● To get cooperation and reduce anxiety</li> </ul>
<ul style="list-style-type: none"> <li>● Clean hand don clean gloves</li> </ul>	<ul style="list-style-type: none"> <li>● Reduces transmission of microorganisms</li> </ul>
<ul style="list-style-type: none"> <li>● Ask the client to sit erect in bed or on a chair facing the nurse</li> </ul>	<ul style="list-style-type: none"> <li>● Provides easy access to the nose or throat</li> </ul>
<ul style="list-style-type: none"> <li>● Provide a sterile swab for use by loosening the top of the container</li> </ul>	<ul style="list-style-type: none"> <li>● Prevents contamination of the swab</li> </ul>

Contd...

Steps	Rationale
<ul style="list-style-type: none"> <li>● Ask the client to tilt the head backwards, open the mouth and say 'ah'</li> </ul>	<ul style="list-style-type: none"> <li>● Promotes visualization of the pharynx, relaxes the throat muscles and minimizes the gag reflex</li> </ul>
<ul style="list-style-type: none"> <li>● Depress the anterior one third of the tongue with a tongue blade for better visualization</li> </ul>	<ul style="list-style-type: none"> <li>● Promotes visualization of the pharynx but may induce the gag reflex</li> </ul>
<ul style="list-style-type: none"> <li>● Insert the swab without touching the cheek, lip, teeth or tongue</li> </ul>	<ul style="list-style-type: none"> <li>● Prevents contamination of the specimen with oral flora</li> </ul>
<ul style="list-style-type: none"> <li>● Swab the tonsillar area from side to side in a quick gentle motion</li> </ul>	<ul style="list-style-type: none"> <li>● Ensures collection of microorganisms. Retains microorganisms in the culture tube and ensures the life of bacteria for testing</li> </ul>
<ul style="list-style-type: none"> <li>● Withdraw the swab without touching adjacent structures and place in the culture tube</li> </ul>	<ul style="list-style-type: none"> <li>● Prevents contamination from outside microorganisms and erroneous culture results</li> </ul>
<ul style="list-style-type: none"> <li>● Secure the top of the culture tube and label with patient's name</li> </ul>	<ul style="list-style-type: none"> <li>● Prevents identification mistakes</li> </ul>
<ul style="list-style-type: none"> <li>● Discard the tongue depressor. Remove gloves and discard. Wash hands</li> </ul>	<ul style="list-style-type: none"> <li>● Reduce transmission of microorganisms</li> </ul>

### Points to Remember

- Insert swab or applicator into the sterile packet will avoid contamination.
- Send specimen to the laboratory immediately with the requisition form duly filled.



# Principles & Procedures of **NURSING FOUNDATIONS**

(Covers Basic and Advanced Nursing Procedures  
as per the Revised INC Syllabus)

Vol.  
**II**

## Salient Features

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- Supplemented with numerous real-time photographs for easy grasp of the relevant procedure
- Important points from nursing point of view have been given at the end of every procedure under 'Points to Remember'
- Each and every skill procedure has been presented in a tabular form with standard format of presentation in a nursing process approach with rationale at every step and documentation

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