Nursing level III

NTQF Level III

Learning guide -18

Unit of Competence	**Providing Basic First aid and Emergency Care**
Module Title:	**Providing Basic First aid and Emergency Care**
LG Code:	**HLT NUR3 LO4 LG -16**
Module Code	**HLT NUR3 M04 0219**
TTLM Code:	**HLT NUR3 M LO 4TTLM, 09 2019 V2**

LO4. Perform patient/client assessment

Instruction Sheet	Perform patient/client assessment

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

History taking

Physical Examination

Principles of physical examination

Vital signs

Documentation of patient/client data

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**:

Perform Patient/client history is taking

Describe Principles of Physical Examination

Perform Complete Patient/client physical examination is performed

Measure vital sign

Document complete patient data

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below 3 to 6.
3. Read the information written in the information "Sheet 1 in page 16.
4. Accomplish the "Self-check 1 in page 23,
5. If you earned a satisfactory evaluation from the "Self-check" proceed to "Operation Sheet 1, Operation Sheet 2 and Operation Sheet 3" **in page 26.**
6. Do the "LAP test" **in page 27**
7. Your trainer will give you feedback and the evaluation will be either satisfactory or unsatisfactory. If unsatisfactory, your trainer shall advice you on additional work. But if satisfactory you can proceed to Learning Guide #19

Information Sheet 1	Anatomy and physiology of cardiovascular system

1.1 History taking- Is complete history taking may include information gathered from patient/client, family and other care givers

For medical patients the history may be completed prior to the physical examination. History of the casualty can be taken from the casualty himself or herself. If the casualty could not respond or he/she is not conscious, history can be taken from a witness or bystander. Take "SAMPLE" history on: Signs / Symptoms, Allergies, Medications, Pertinent past History, Last Oral Intake, and Event

Initial assessment- After a through observation of the situation and the surroundings, the first aider can proceeds to initial assessment comprising General impression, assessment of responsiveness, and Assessment of **Air way**, **Breathing** and **Circulation** (**A,B** and **C**).

a. General impression – this is performed based on the First Responder's immediate assessment of the environment and the patient's chief complaint

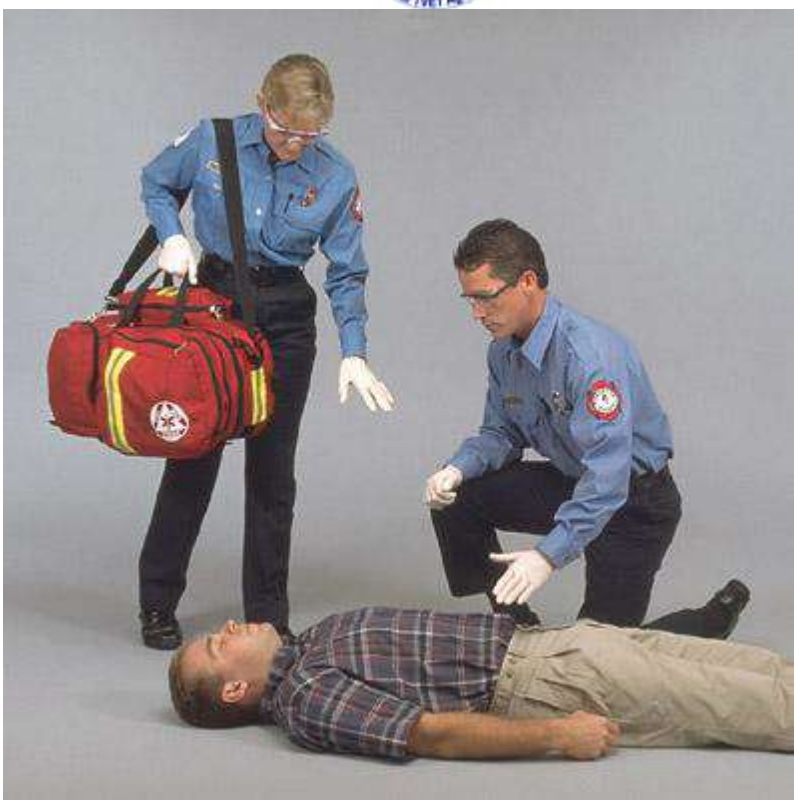

Figure: 1. General assessment

b. Assessment of responsiveness by checking if the casualty is **Alert, responding** to Verbal stimuli, responding to pain stimuli or Unresponsive.

The level of responsiveness / consciousness can be expressed as: Full consciousness – able to speak & answer questions normally **Drowsiness**- Easley aroused (awoken) but lapses in to unconsciousness **Stupor** – Can be aroused with difficulty and is aware of painful stimuli Ex- pin prick **Coma** – Cannot be aroused by any stimuli

Figure 2: first aider assess responsivenes of the casulty

c. Assessment of Air way (open the air way, inspect the air way, clear the air way as needed) , Breathing and Circulation)

Figure 3: Air way assessment: open airway by performing head-tilt/chin-lift maneuver

Figure 4: Open airway;perform jaw thrust.

d. Assessment of Breathing

- Look at the effort of breathing.
- Look, listen, and feel for presence of ventilations
- Ventilate as needed

Figure 5: **Assess breathing; look, listen, feel**

e. Assess the Patient's Circulation

- Assess Pulse , Assess for Bleeding and Assess Skin

Figure 6: checking for radial pulse

Figure 7; ***Check for a carotid pulse.***

Figure 8: Checking Brachial pulse

1.2 Physical examination: Complete physical examination form head to toe Techniques of physical examination (inspection, palpation, percussion and auscultation) Vital signs (temperature, pulse rate, respiration, blood pressure)

The First Responder Physical Examination is designed to locate and begin the initial management of the signs and symptoms of illness or injury. The First Responder should complete a physical exam on all patients following the initial assessment. Inspection and palpation /feeling of body parts/ are the two important methods of physical examination in first aid practice.

Inspect and palpate for DOTS (Deformity, Open wound, tenderness and Swelling). Do the physical examination in the sequence of: **Head ▸ Neck ▸ Chest ▸ Abdomen ▸ Pelvic ▸ Extremities**

Figure 9: Assessment of the head

Figure 10: Assessment of the neck

Figure 11; Assessment of the Chest

Figure 12: Assessment of the abdomen

Figure 13: Assessment of the pelvic

1.3 Vital Sign

Vital sign is an outward signs of what is occurring inside the body. They are the key signs that are used to evaluate the patient's condition. The first set of vital signs that you obtain is called the baseline vital sign. You should take vital sign every 5 minutes for unstable patient and every 15 minutes for stable patient.

1.3.1. Respiration

Breathing is a continuous process in which each breath regularly follows the last with no notable interruption. Breathing normally a spontaneous, automatic process, which occur without conscious thought, visible effort, marked sounds or pain. You will assess breathing by watching the patient chest rise and fall, feeling for air through the mouth and nose during exhalation and

listening to the breath sound with a stets scope over each lung. Chest rise and breath sound should be equal on both sides of the chest. When assessing respirations, you must determine the rate, quality (character) and depth of the patients breathing

Rate Table 1. Normal range respiration for different age group

Age	Range, breath per minute
Adult	12 to 20
Children	15 to 30
Infant	25 to 50

1.3.2 Pulse

The pulse is the pressure wave that occurs as each heart beat causes a surge in the blood circulating through the arteries. The pulse is mostly felt at a pulse point where a major artery lies near the surface and can be pressed gently against a bone or solid organ. To palpate (feel) the pulse, hold together your index and long fingers and place their tip over a pulse point, press gently against the artery until you feel intermittent pulsation

Figure 14 Radial pulse

Figure 16 Carotid pulses

Figure 15 Brachial pulse

Table 2 Normal range for pulse rate

Age	Range beat per minute
Adult	60 to 100
Children	70 to 150
Infant	100 to 160

1.1.4.C Skin condition

The condition of the patient's skin can tell you a lot about the patient's peripheral circulation and perfusion, blood oxygen level and body temperature. When assessing the skin condition, you should evaluate its color, temperature and moisture.

- **Color**
- **Temperature**
- **Moisture**

1.3.3. Capillary refill

Capillary refill is evaluated to assess the ability of the circulatory system to restore blood to the capillary system

Figure 17 Checking capillary refill

Capillary refill should be prompt and the nail bed color should be pink, with adequate perfusion, the color in the nail bed should be restored to its normal pink within 2 second. Or about the time it takes to say “capillary refill” at a normal rate of speech.

1.3.4 Blood Pressure

Blood pressure is the pressure of circulating blood against the wall of arteries A drop in blood pressure may indicate: Loss of blood, Loss of vascular tone and Cardiac pumping problem.

Normal blood pressure

Blood pressure level varies with age and gender. The normal ranges for blood pressure

a) Adults: 90 to 140 mm Hg (systolic)/60 to 90 mm Hg (diastolic)

b) Children (1 to 8 years): 80 to 110 mm Hg (systolic)

c) Infants (newborn to age 1 year): 50 to 95 mm Hg (systolic)

1.2 Level of consciousness (LOC)

Level of consciousness (LOC) should also be assessed as a vital sign. AVPU scale is a rapid method of assessing LOC. (See the previous session for detail)

A = Alert and awake

V = Response to verbal stimulus

P = Responsive to pain

U = Unresponsive

1.3. Pupils

The diameter and reactivity to light of the patient’s pupil reflect the status of the brain’s perfusion, oxygenation and condition.

On injury if the pupil reacts in any of the following ways:

- Become fixed with no reaction to light
- Dilate with light and constrict when light is removed
- React sluggishly
- Become unequal in size

- Become unequal in size when a bright light is introduced into or removed from one eye

Depressed brain function can be produced by the following situation

- Injury to the brain or brain stem
- Trauma or stroke
- Brain tumor
- In adequate oxygen perfusion
- Drugs or toxins (Central nervous system depressant)

Figure 18 Constricted pupil

Figure 19 Dilated pupil

Figure 20 unequal size pupil

The letter PEARRL serves as a useful guide in assessing pupil. They stand for the following:

- P = Pupils
- E = Equal
- A = And
- R = Round
- R = Regular in size
- L = react to Light

1.4 Documentation of patient/client data - Document all the necessary patient information and procedure carried out and outcome of the procedure as well as patient condition before the procedure.

Self-Check 1	Written Test

1. List the most common Initial assessment performed (4 Point)
2. What general principles of first aid she would have to consider while providing care (3 Point)
3. The common site to take pulse for the victim is? (2 Point)
4. Describe AVPU (3 point)
5. Describe the normal ranges of blood pressure of Adult, Children, Infant (3 Point)

Note: **Satisfactory rating - 10 points Unsatisfactory - below 10 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____
Rating: _____
Name: _____ Date: _____

Short Answer Questions

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Operation Sheet 1	History Taking

The techniques used for history taking are:

Step 1: Assess responsiveness of the casualty

Step 2: Talk, listen and reassure the conscious casualty

Step 3: Check safety of casualty and of yourself

Step 4: check for breathing, bleeding and level of consciousness

Step 5 : assess any history of illness Eg: Epilepsy, Diabetes mellitus

Step 6 Assess for history of ingested material E.g. Drug, Alcohol, type of food or fluid

Operation Sheet 2	physical examination

The techniques used for conducting physical examination are:

Step 1: Perform initial assessment

Step 2: Assess level of responsiveness

Step 3: Assess:" ABC"

Step 4: Inspect and palpate for DOTS (Deformity, Open wound, tenderness and Swelling)

Operation Sheet 3	vital sign

The techniques used for measuring vital sign are:

Step 1: Hand washing

Step 2: Put on disposable glove

Step 3: Collect the necessary equipment

Step 4 Take vital sign

Step 5: Record patient finding

LAP Test	Practical Demonstration

Name: _____ Date: _____

Time started: _____ Time finished: _____

Instructions: Given necessary templates, tools and materials you are required to perform the following tasks within 2 hours.

Task 1: Perform history taking

Task 2: Conduct physical examination

Task 3: Measure and record vital sign

List of Reference Materials

1. First aid manual, Emergency procedures for everyone, at home, at work, at leisure, 8th edition

2. The Federal democratic republic of Ethiopia Minster of health , First Aid learning module Addis Abeba, Ethiopia 2014

3. First Aid and Accident Prevention Lecture Note for Health Science Students the Carter Center, the Ethiopia Ministry of Health, and the Ethiopia Ministry of Education

Nursing Level III

NTQF Level III

Learning guide -

Unit of Competence	**Providing Basic First aid and Emergency Care**
Module Title:	**Providing Basic First aid and Emergency Care**
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Module Code	**HLT NUR3 M04 0219**
TTLM Code:	**HLT NUR3 M LO5 TTLM, 09 2019 V1**

LO5. Apply basic patient/client care

Instruction Sheet	Apply basic patient/client care

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

Basic procedures
- Bed making
- Catheterization
- Insertion and removal of NG-tube
- Enema
- Specimen/sample collection
- Medication administration
- Body mechanics and patient transport
- Cold compression.

Basic patient care
- Oral care
- Care for pressure area
- Bed bath
- Back care
- Wound care
- Perineal care
- Car for fingernails and toe nails
- Car for hair

Advanced patient care
- Colostomy
- Tracheostomy
- Lumbar puncture
- Postural drainage
- Thoracentesis
- Paracentesis
- Patient care tools and equipment

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**:

- Perform Bed making, catheterization, NG-tube insertion, vital sign taking, specimen collection, medication administration, body mechanics and patient transport and cold/cold compression.
- Provide oral care, pressure area care, bed bath, back care, wound care, perineal care, caring for fingernails and toe nails and hair washing.

- Identify and provide advanced patient cares : colostomy care, tracheostomy care, lumbar puncture, postural drainage, thoracentesis and paracenthesis.

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below 3 to 6.
3. Read the information written in the information "Sheet 1, Sheet 2, Sheet 3, Sheet 4, Sheet 5, Sheet 6, Sheet 7, Sheet 8, Sheet 9, Sheet 10, and Sheet 12,**in page 32,43, 51, 59, 67, 73, 112, 122, 126, 131, 141 and 146** respectively.
4. Accomplish the "Self-check 1, Self-check 2, Self-check 3, Self-check 4" , Self-check 5 Self-check 6, Self-check 7, Self-check 8, Self-check 9, Self-check 10, and Self-check 11," **in page 36, 46, 55, 63, 71, 95, 120, 123, 140, 144 and 179** respectively.
5. If you earned a satisfactory evaluation from the "Self-check" proceed to "Operation Sheet 1, Operation Sheet 2, Operation Sheet 2, Operation Sheet 3, Operation Sheet 4, Operation Sheet 5, Operation Sheet 6, Operation Sheet 7, Operation Sheet 8, Operation Sheet 9, Operation Sheet 10, Operation Sheet 11, Operation Sheet 12, Operation Sheet 13, Operation Sheet 14, Operation Sheet 15, Operation Sheet 16, Operation Sheet 17, Operation Sheet 18, Operation Sheet 19, Operation Sheet 20, Operation Sheet 21, Operation Sheet 22, Operation Sheet 23, and Operation Sheet 2 " **in page 38, 39,48,49,57,58,65,66,97,98,99,105,107,108 and 109** respectively.
6. Do the "LAP test" **in page 41, 50 and 111 respectively**
7. Ask from your trainer the key to correction (key answers) or you can request your trainer to correct your work. (You are to get the key answer only after you finished answering the Self-checks).
8. 7. Your trainer will give you feedback and the evaluation will be either satisfactory or unsatisfactory. If unsatisfactory, your trainer shall advice you on additional work. But if satisfactory you can proceed to Learning Guide #19

Information Sheet 1	Bed Making

Basic procedures

1.1. Bed making

- In most instances beds are made after the client receives certain care and when beds are unoccupied. Unoccupied bed can be both open and closed.

Closed bed: is a smooth, comfortable and clean bed, which is prepared for a new patient

- In closed bed: the top sheet, blanket and bed spread are drawn up to the top of the bed and under the pillows.

Open bed: is one which is made for an ambulatory patient are made in the same way but the top covers of an open bed are folded back to make it easier of a client to get in.

Occupied bed: is a bed prepared for a weak patient who is unable to get out of bed.

Purpose:

1. To provide comfort and to facilitate movement of the patient

2. To conserve patient's energy and maintain current health status

Anesthetic bed: is a bed prepared for a patient recovering from anesthesia

⇒ ***Purpose***: to facilitate easy transfer of the patient from stretcher to bed

Amputation bed*:* a regular bed with a bed cradle and sand bags

⇒ ***Purpose***: to leave the amputated part easy for observation

Fracture bed: a bed board under normal bed and cradle

⇒ ***Purpose:*** to provide a flat, unyielding surface to support a fracture part

Cardiac bed: is one prepared for a patient with heart problem

⇒ ***Purpose***: to ease difficulty in breathing

General Instructions

1. Put bed coverings in order of use

2. Wash hands thoroughly after handling a patient's bed linen Linens and equipment soiled which secretions and excretions harbor micro-organisms that can be transmitted directly or by hand's uniforms

3. Hold soiled linen away from uniform

4. Linen for one client is never (even momentarily) placed on another client's bed

5. Soiled linen is placed directly in a portable linen hamper or a pillow case before it is gathered for disposal

6. Soiled linen is never shaken in the air because shaking can disseminate secretions and excretions and the microorganisms they contain

7. When stripping and making a bed, conserve time and energy by stripping and making up one side as completely as possible before working on the other side

8. To avoid unnecessary trips to the linen supply area, gather all needed linen before starting to strip bed

9. Make a vertical or horizontal toe pleat in the sheet to provide additional room for the clients feet.

Vertical - make a fold in the sheet 5-10 cm 1 to the foot

Horizontal – make a fold in the sheet 5-10 cm across the bed near the foot

10. While tucking bedding under the mattress the palm of the hand should face down to protect your nails.

Order of Bed Covers

1. Mattress cover
2. Bottom sheet
3. Rubber sheet
4. Cotton (cloth) draw sheet
5. Top sheet
6. Blanket
7. Pillow case

Note

- Pillow should not be used for babies
- The mattress should be turned as often as necessary to prevent sagging, which will cause discomfort to the patient.

A. Closed Bed

• It is a smooth, comfortable, and clean bed that is prepared for a new patient

Essential Equipment:

- Two large sheets
- Rubber draw sheet
- Draw sheet
- Blankets
- Pillow cases
- Bed spread

B. Occupied Bed

Purpose: to provide comfort, cleanliness and facilitate position of the patients

Essential equipment:

- Two large sheets
- Draw sheet
- Pillow case
- Pajamas or gown, if necessary

Making a post operative bed:

- The entire bed need clean linen.
- Make the bottom of bed as you normally would.
- The post operative the bottom of bed as you normally would.
- The post operative bed usually requires a draw sheet under the client's hips. Usually another draw sheet is placed under the client's heard.
- In some cases, top liners are simply tan-folded to the foot of the bed. In others, a full post operative bed is made.

- To do this, put the top linens over the foundation, but do not tuck them in.
- Fold down the top as you would do in an occupied bed.
- Then fold the bottom of the linens up so that the fold is even with the bottom of the mattress.
- Do not tuck the linen in. Fanfold the top linens to the side so that they lay opposite from where you will place the client's stretcher.
- Alternatively, you may fanfold the linens to the foot of the bed.
- Leave a tab on top for easy grasping.
- Have two or more pillows available, but do not put them on the bed. Rational: A pillow may be contraindicated for a client, usually the physician or charge nurse will determine when it is safe for the client to have one.
- Be sure all furniture is out of the way.
- Be sure the call light is available, but keep it on the bed side stand until the client is in bed. The call light cord is kept out of the way, to facilitate the transfer of the client to bed.
- Know what surgical procedure your client has had before you determine what special equipment is needed.
- For the client's convenience and safety, make the following items available: tissue, an emesis basin, a blood pressure cuff and stethoscope, a "frequent vital signs" flow sheet an in take and output record, and an intravenous (IV) stand.
- Other items can be added according to the client specific requirements.
- Report to your charge nurse when you have completed the postoperative bed and assembled the necessary equipment.

N.B. Procedures for other beds like cardiac bed are similar except the following points.

- For cardiac patient the bed need extra materials such as over bed table and additional pillows
- Hard board is needed under the mattress for fracture bed.

Self-Check 1	Written Test

1. How many types of bed making do you know?
2. What is the function of bed the cradle?
3. Which types of bed are usually prepared for newly admitted patients?
4. What is the difference between open and closed bed?
5. Define occupied bed.

Note: **Satisfactory rating - 8 points Unsatisfactory - below 8 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____
Rating: _____
Name: _____ Date: _____

Short Answer Questions

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Operation Sheet 1	Closed Bed

Step 1Wash hands and collect necessary materials

Step 2: Place the materials to be used on the chair. Turn mattress and arrange evenly on the bed

Step 3: Place bottom sheet with correct side up, center of sheet on center of bed and then at the head of the bed

Step 4: Tuck sheet under mattress at the head of bed and miter the corner

Step 5: Remain on one side of bed until you have completed making the bed on that side

Step 6: Tuck sheet on the sides and foot of bed, mitering the corners

Step 7: Tuck sheets smoothly under the mattress, there should be no wrinkles

Step 8: Place rubber draw at the center of the bed and tuck smoothly and tightly

Step 9: Place cotton draw sheet on top of rubber draw sheet and tuck. The rubber draw sheet should be covered completely

Step 10: Place top sheet with wrong side up, center fold of sheet on center of bed and wide hem at head of bed

Step 11: Tuck sheet of foot of bed, mitering the corner

Step 12: Place blankets with center of blanket on center of bed, tuck at the foot of beds and miter the corner

Step 13: Fold top sheet over blanket

Step 14: Place bed spread with right side up and tuck it

Step 15: Miter the corners at the foot of the bed

Step 16: Go to other side of bed and tuck in bottom

Step 17: Go to other side of bed and tuck in bottom sheet, draw sheet, mitering corners and smoothening out all wrinkles, put pillow case on pillow and place on bed

Step 18: See that bed is neat and smooth

Step 19: Leave bed in place and furniture in order

Step 20: Wash hands

Operation Sheet 2	**Occupied Bed**

If a full bath is not given at this time, the patient's back should be washed and cared for

Step 1: Wash hands and collect equipment

Step 2: Explain procedure to the patient

Step 3: Carry all equipment to the bed and arrange in the order it is to be used

Step 4: Make sure the windows and doors are closed

Step 5: Make the bed flat, if possible

Step 6: Loosen all bedding from the mattress, beginning at head of the bed, and place dirty pillow cases on the chair for receiving dirty linen

Step 7: Have patient flex knees, or help patient do so. With one handcover the patient's shoulder and the shoulder hand over the patient's knees, turn the patient towards you

Step 8: Never turn a helpless patient away from you, as this may cause him/her to fall out bed

Step 9: When you have made the patient comfortable and secure as near to the edge of the bed as possible, to go the other side carrying your equipment with you

Step 10: Loosen the bedding on that side

Step 11: Fold, the bed spread half way down from the head

Step 12: Fold the bedding neatly up over patient

Step 13: Roll dirty bottom sheet close to patient

Step 14: Put on clean bottom sheet on used top sheet center, fold at center of bed, rolling the top half close to the patient, tucking top and bottom ends tightly and mitering the corner

Step 15: Put on rubber sheet and draw sheet if needed

Step 16: Turn patient towards you on to the clean sheets and make comfortable on the edge of bed

Step 17: Go to the opposite side of bed. Taking basin and wash cloths with you, give patient back care

Step 18: Remove dirty sheet gently and place in dirty pillow case, but not on the floor

Step 19: Remove dirty bottom sheet and unroll clean linen

Step 20: Tuck in tightly at ends and miter corners

Step 21: Turn patient and make position comfortable

Step 22: Back rub should be given before the patient is turned on his /her back

Step 23: Place clean sheet over top sheet and ask the patient to hold it if she/he is conscious

Step 24: Go to foot of bed and pull the dirty top sheet out

Step 25: Replace the blanket and bed spread

Step 26: Miter the corners

Step 27: Tuck in along sides for low beds

Step 28: Leave sides hanging on high beds

Step 29: Turn the top of the bed spread under the blanket

Step 30: Turn top sheet back over the blanket and bed spread

Step 31: Change pillowcase, lift patient's head to replace pillow.

Step 32: Loosen top bedding over patient's toes and chest

Step 33: Be sure the patient is comfortable

Step 34: Clean bedside table

Step 35: Remove dirty linen, leaving room in order

Step 36: Wash hands

LAP Test	Practical Demonstration

Name: _____ Date: _____

Time started: _____ Time finished: _____

Instructions: Given necessary templates, tools and materials you are required to perform the following tasks within 2 hours.

Task 1: Perform closed bed

Task 2: Conduct Open bed

Task 3: Prepare occupied bed

Task 4: Prepare Cardiac bed

List of Reference Materials

1. First aid manual, Emergency procedures for everyone, at home, at work, at leisure, 8th edition

2. The Federal democratic republic of Ethiopia Minster of health, First Aid learning module Addis Abeba, Ethiopia 2014

3. First Aid and Accident Prevention Lecture Note for Health Science Students the Carter Center, the Ethiopia Ministry of Health, and the Ethiopia Ministry of Education

Information Sheet 2	Catheterization

2.1 Urinary Catheterization

2.2 Definition of catheterization: Is the introduction of a tube (catheter) through the urethra into the urinary bladder

• Is performed only when absolutely necessary for fear of infection and trauma

Note*. Strictly a sterile procedure, i.e. the nurse should always follow aseptic technique*

Catheter: is a tube with a hole at the tip

2.3 Types of Catheter

1. Straight (plain or Robinson)
2. Retention (Foleys, indwelling)

Selecting an appropriate catheter:

- May be made of
- ⇇ Plastic – for 1 week
- ⇇ Latex – 2-3 (rubber)
- ⇇ Silicon – for 2-3 month
- ⇇ Pelyvinylchloride (PVC) – 4-6

1. Select the type of material in accordance with the estimated length of the catheterization period:

2. Determine appropriate catheter size

- are determined by diameter of lumen
- graded on French scale or number.

• Catheter size depends on the size of the urethral canal

⇐ # 8-10 Fr – children

⇐ # 14-16 Fr – female adults

⇐ # 18 Fr – adult male

NB. Fr= French Scale

3. Determine appropriate catheter length by the clients gender

• For adult male – 40 cm catheter

• For adult females – 22 cm catheter

4. Select appropriate balloon size

• 5 ml – for adults

• 3 ml – for children

2.4 Catheterization using a straight catheter

Purpose

- To relieve discomfort due to bladder distention
- To assess the residual urine
- To obtain a urine specimen
- To empty the bladder prior to surgery

Equipment

I. Sterile

- Kidney dish
- Galipot
- Gauze
- Towel

- Solution
- Lubricant
- Catheter
- Syringe
- Water
- Specimen bottle
- Gloves

II. Clean

- Waste receiver
- Rubber sheet
- Flash light
- Measuring jug
- Screen

2.5 Inserting a Retention (Indwelling) Catheter

Retention (Foley) Catheter

Contains a second, smaller tube throughout its length on the inside

– This tube is connected to a balloon near the insertion tip.

Purpose

- To manage incontinence
- To provide for intermittent or continuous bladder drainage and irrigation
- To prevent urine from contacting an incision after perineal surgery (prevent infection)
- To measure urine output needs to be monitored hourly

Self-Check 2	Written Test

Instruction: Say **True** if the statement is correct and **False** if it was wrong

1. Catheterization is performed only when absolutely necessary for fear of infection and trauma. (2 point)

2. Catheterization is the introduction of a tube (catheter) through the urethra into the urinary bladder. (2 point)

3. Among the following which one is not include on the purpose of catheterization __ (2 point)

A. To relieve discomfort due to bladder distention

B. To assess the residual urine

C. To obtain a urine specimen

D. To empty the bladder prior to surgery E. None

Note: **Satisfactory rating - 4 points Unsatisfactory - below 4 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____
Rating: _____
Name: _____ Date: _____

Short Answer Questions

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Operation Sheet 3	**Catheterization**

Step 1: Prepare the client and equipment for perennial wash

Step 2: Position the patient – dorsal recumbent (pillows can be used to elevate buttocks in females)

Step 3: Drape the patient.

Step 4: Perform perinea care

Step 5: Prepare the equipment

Step 6: Create a sterile field

Step 7: Drop the client with a sterile drape

Step 8: Clean the area with antiseptic solution.

Step 9: Lubricate the insertion tip of the catheter (5-7 cm in)

Step 10: Expose the urinary meatus adequately by retracting the tissue or the labia minora in an upward direction – female

Step 11: Retract the fore skin of uncircumcised mal.

Step 12: Grasp the penis firmly behind the glans and hold straighten the down ward curvature of vertical it go to the body – male hole the catheter 5 cm from the insertion tip

Step 13: Insert the catheter into the urethral orifice

Step 14: Insert 5 cm in females and 20 cm in males or until urine comes

Step 15: Collect the urine – for specimen (about 30 ml)

Step 16: Pinch previous leakage

Step 17: Empty or drain the bladder and remove the catheter

Step 18: For adults experiencing urinary retention an order is needed on the amount to urine to be expelled

Operation Sheet 4	**Retention (Indwelling) Catheter**

Step 1: Explain the procedure to the patient

Step 2: Prepare the equipment like:

Step 3: Retention catheter

- Syringe
- Sterile water
- Tape
- Urine collection bag and tubing

Step 4: After catheter insertion, the balloon is inflated to hold the catheter in place with in the bladder.

Step 5: The out side end of the catheter is bifurcated i.e., it has two openings, one to drain the urine, the other to inflate the balloon.

Step 6: The balloons are sized by the volume of fluid or air used to inflate them 5 ml – 30 ml (15 commonly) indicated with the catheter size 18 Fr – 5 ml.

Step 7: Test the catheter balloon

Step 8: Follow steps as insertion straight catheter

Step 9: Insert the catheter an additional 2.5 – 5 cm (1-2 in) beyond the point at which urine began to flow (the balloon of the catheter is located behind the opening at the insertion tip) – this ensures that the balloon is inflated inside the bladder and not in the urethra (cause trauma)

Step 10: Inflate the balloon with the pre filled syringe

Step 11: Apply slight tension on the catheter until you feel resistance: resistance indicates that the catheter balloon is inflated appropriately and that the catheter is well anchored in the bladder

Step 12: Release the resistance

Step 13: Tape the catheter with tape to the inside of a females thigh or to the thigh or a body of a male client

Step 14: Restricts the movement of the catheter and irritation in the urethra when the client moves

Step 15: When there is increased risk of penile scrotal excoriation

Step 16: Establish effective drainage

Step 17: The bag should be off the floor – the emptying spout does not become grossly contaminated

Step 18: Document pertinent data

Removal

Step 19: Withdraw the solution or air from the balloon using a syringe And remove gentl

LAP Test	**Practical Demonstration**

Name: _____ Date: _____

Time started: _____ Time finished: _____

Instructions: Given necessary templates, tools and materials you are required to perform the following tasks within 2 hours.

Task 1: Perform Straight (plain or Robinson) chateterization

Task 2: Conduct Retention (Foleys, indwelling)

Task 3: Remove Retention (Foleys, indwelling)

Information Sheet 3	Insertion and removal of NG-tube

3.1 Clinical Indicators/Purpose for Nasogastric Tube insertion

Appropriate Nasogastric tube selection is dependent on the clinical indication for placement

3.2 Decompression indicators

- Post-operative Ileus
- Increased abdominal distention
- Abdominal Pain
- Vomiting associated with any of the above indicators mentioned.

Other indicators

- Provide a route for short term Enteral Nutrition.
- Administration of medication

Correct Tube Insertion

3.3. Gastric Content Drainage/Decompression Tube selection

Roche Ryles tubes (Sizes 8-16 Fr) are most commonly used for gastric decompression and aspiration of gastric contents

They are not recommended for enteral feeding (> 1 week) as they are associated with the following complications

- Rhinitis
- Oesophagitis
- Gastritis

3.4. Enteral Feeding Tube selection

- Fine bore NGT can be inserted to provide a route for enteral nutrition and hydration of patients.

3.5 Nasogastric tubes commonly used for enteral feeding include:

- Flexiflo
- Flocare
- Corflo

These provide access for short term enteral nutrition (up to 6 weeks)

- For mid to long term (>6weeks) it is recommend that a Percutaneous Endoscopic gastrostomy (PEG) tube be considered.
- If a Post Pyloric Tube insertion is required, the surgical /medical team responsible for the patient should contact the Radiology department and send the appropriate referral

Note:

- Seek clinical guidance from senior medical, nursing staff and dietitian with regards to the recommended size tube for the patient. This can range from 8-16 Fr.
- Ensure gauge is appropriate for viscous medication administration if required.
- A weighted enteral feeding tube tip gravitates preferentially to the posterior oropharynx, pointing towards the oesophagus reducing the potential risk of misplacement.
- An oral syringe (catheter tip syringe) must be used with medication administration through a nasogastric tube

3.6 Checking the Correct Positioning of NGT

1. Correct Tube position **must** be checked:

- On insertion **and**
- Before every feed or medication administration
- If there is suspected displacement following vomiting, excessive coughing or accidental dislodgement by patient

2. Confirmation of gastric contents must be confirmed using ph indicator strips. Auscultation of air insufflated via the nasogastric tube should **not** be used and litmus paper is not longer recommended)

3. Confirmation of correct position **must** be documented in the clinical notes.

4. Enteral Feeding Tube considerations

- All naso- gastric enteral feeding tubes (Fine bore and wide bore tubes) must have correct placement **confirmed by an X-ray** before administering any feed
- All patients that require enteral feeding must **be referred to the Dietitian** prior to commencement of enteral feeding.

3.7 Complication Considerations

1. If dislodged the NGT **must not be re-inserted** in patients who have received an:

- Oesophagectomy
- Gastrectomy

In this case Nursing staff are to notify senior medical staff immediately

2. Other potential complications following insertion of a NGT include:

- Oesophageal Perforation
- Aspiration
- Fistula Formation
- Knotting/Kinking of the tube
-

3.8 Contra indications

- Reduced LOC (Ward Level)
- Maxillo-Facial Disorders/Surgery

- Fractured Skull
- Disorders of the nasopharynx/oesophagus

3.9 Insertion Equipment

- Lubricant (water based)
- Baker-PHIX pH Indicator Strips 2.0 – 9.0 (0.5 pH graduation)
- Skin prep, Flexi-Trak or Naso-Fix securing dressing
- Tissues and towel
- Disposable pad
- White Plastic Container
- 50mL catheter or Luer lock syringe (if introducer to remain in for X-ray purposes)
- Non sterile gloves
- Apron
- Continuous drainage bag and holder
- Naso-gastric Pack
- Local anaesthetic spray (needs to be prescribed on QMR0004 Form)
- Permanent marker pen
- Glass of water & a straw

Removal of NG tube
Equipment

- Non-sterile Gloves
- Disposable Apron
- Tissues, Protective Sheet
- White Plastic Container
- Clinical Waste Bag
- 'Remove' Swabs

Self-Check 3	Written Test

1. Define NG tube (2 Points)
2. List indication of NG tube insertion (4 Points)
3. Mention indicators of correct placement of NG tube (4 Points)
4. Describe complication of NG tube insertion (4 Points)
5. Describe contraindication of NG tube insertion (4 Points)

Note: **Satisfactory rating - 12 points Unsatisfactory - below 10 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____
Rating: _____
Name: _____ Date: _____

Short Answer Questions

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Operation Sheet 5	**Insertion and removal of NG-tube**

Steps 1	Ascertain the need for the nasogastric tube, i.e. feeding or aspiration/decompression. Verify the order for tube placement – with medical staff/senior nursing staff before proceeding.
Steps 2	Identify the correct patient, explain and discuss the procedure to the patient forewarning them that they may experience some discomfort. Agree on a signal that the patient can use to stop during the procedure e.g. raising hand
Steps 3	Position the patient in an upright position in a bed or a chair. This position assists swallowing and increases the oesophageal opening. Support the head with pillows and assemble equipment.
Steps 4	Check the patient's nostrils are patent by asking the patient if possible to sniff with one nostril closed. Repeat with the other nostril. (Apply local anaesthetic spray if charted)

Steps 5	Measure the length of the tube to be inserted and mark by placing the end of the tube at the tip of the patient's nose and then extend the tube to the earlobe and 5cm past the xiphisternum. Lubricate tip of tube (3-4cms) with a reasonable coating of lubricating gel. If possible ask patient to have a sip water to lubricate pharynx.
Steps 6	Gently, insert the lubricated tube into the selected nostril. Using the natural curve of the NGT facing downward, slide the tube backwards and inwards along the floor of the nose to the nasopharynx. If any obstruction is felt, withdraw the tube and try again in a slightly different direction or use the other nostril. Resistance will be encountered at the posterior wall of the nasopharynx. Once past the nasopharynx rotate tube between fingers so that natural curve should be running along posterior pharyngeal wall. Ask patient to put their head as forward as possible – chin to chest (neck flexed)
Steps 7	As the tube passes down the oropharynx, instruct patient to swallow (if appropriate) sips of water, advancing the tube gently with each swallow. Insert tube as far as marked length. **Note: Do NOT force the tube.** **Seek Medical or Specialist Nursing assistance if you are unable to insert the tube.**
Steps 8	Aspirate contents of the stomach or obtain immediate drainage with a syringe and test acidity using the Ph indicator. Ensure the pH is < 5.5
Step 9	If aspirate cannot be obtained, inject 30 mL of air and try again. If still unable to aspirate fluid, move patient onto left side so gastric contents are sitting within the greater curvature and wait 30 minutes before trying to aspirate again.
Steps 10	If there are any doubts regarding the placement of the tube or if the patient's condition causes concern such as □ In-effective cough, swallow reflex □ Previous episode of misplacement An X-ray must be obtained to confirm placement.
Steps 11	Measure the external length of the tubing and document in clinical record. Tape tube to patient's nose to secure it. For patients with an increased risk of accidental removal, tape the tube behind the patient's ear and secure down the neck. Attach a spigot or a continuous drainage bag if ordered (ensure that the bag is placed below stomach level).
Steps 12	Educate patient re securement to avoid accidental removal. Document the insertion of the tube, stating time, reason for insertion and volume of aspirate in the patient's clinical record

Operation Sheet 6	**Removal of NG-tube**

Step	**Action**
Step 1	Verify verbal/written order for removal of NGT from medical team responsible for patients care. Identify the correct patient, explain and discuss the procedure to the patient, ensuring privacy and adequate lighting.
Step 2	Wash hands and prepare equipment required as per local infection control policy Volume 10.
Step 3	Ensure that patient is placed in an upright in a bed or a chair, supporting the head with pillows.

Step 4	**Aspirate** the gastric contents before removal **then flush** NGT with 10-20mls of air (this will dispel any residual fluid that may be located at the distal end of the tubing)
Step 5	Remove securing adhesive strips or Naso-Fix dressing.
Step 6	Instruct patient to take a deep breath and hold, this will close off the glottis and reduce the risk of potential aspiration whilst removing the tubing.
Step 7	While removing the tubing, pinch the tubing, this will prevent any contents in the tubing from draining into the patient's throat.
Step 8	Observe nasal mucosa for signs of trauma or ulceration, ensuring patient is comfortable post removal of tubing.
Step 9	Document procedure on Fluid balance chart and in clinical record

Video: https://www.youtube.com/watch?v=_bfyhbrdohU

Information Sheet 4	**Enema**

4.1 Enema: is the introduction of fluid into rectum and sigmoid colon for cleansing, therapeutic or diagnostic purposes.

Purpose:

- For emptying – soap solution enema
- For diagnostic purpose (Barium enema)
- For introducing drug/substance (retention enema)

Solution used:

1. Normal saline

2. Soap solution – sol. Soap 1gm in 20 ml of H2O

3. Epsum salt 15 gm – 120 gm in 1,000 ml of H2O

Mechanisms of some solutions used in enema

1. Tap water: increase peristalsis by causing mechanical distension of the colon.

2. Normal saline solution

3. Soap solution: increases peristalsis due to irritating effect of soap to the lumenal mucosa of the colon.

4. Epsum salt: The concentrated solution causes flow of ECF (extra cellular fluid) to the lumen causing mechanical distension resulting in increased peristalsis.

4.2 Classified into:

• Cleansing (evacuation)

• Retention

• Carminative

• Return flow enema

Cleansing enema

Kinds:

1. High enema

- □ Is given to clean as much of the colon as possible
- □ The solution container should be 30-45 cm about the rectum

2. Low enema

- □ Is administered to clean the rectum and sigmoid colon only

Guidelines

- Enema for adults are usually given at 40-43oc and for children at 37.7 oc
- Hot – cause injury to the bowel mucous
- Cold – uncomfortable and may trigger a spasm of the sphincter muscles

The amount of solution to be administered depends on:

- Kind of enema

- The age of the person and
- The person ability to retain the solution

Age Amount

- 18 month 50-200 ml
- 18 mon-5 yrs 200-300 ml
- 5-12 yrs 300-500 ml
- 12 yrs and older 500-1,000 ml
- The rectal tube should be appropriate: is measured in French scale

Age Size

- Infants/small child 10-12 fr
- Toddler 14-16 fr
- School age child 16-18 fr
- Adults 22-30 fr

Purpose

- To stimulate peristalsis and remove feces or flatus (for constipation)
- To soften feces and lubricate the rectum and colon
- To clean the rectum and colon in preparation for an examination. E.g. Colonoscopy
- To remove feces prior to a surgical procedure or a delivery
- For incontinent patients to keep the colon empty
- For diagnostic test

  E.g. before certain x-ray exam – barium enema

  Before giving stool specimen for certain parasites

Retention Enema

- Administration of solution to be retained in rectum for short or long period
- Are enemas meant for various purpose in which the fluid usually medicine is retained in rectum for short or long period

– For local or general effects

E.g. oil retention enema

Antispasmodic enema

1. Principles:

- Is given slowly by means of a rectal tube
- The amount of fluid is usually 150-200 cc
- Cleansing enema is given after the retention time is over
- Temperature of enema fluid is 37.4 c or body

(Return flow Enema) Harris fluid

Purpose

- To supply the body with fluid.
- To give medication E.g. stimulants – paraldehyde or antspasmodic.
- To soften impacted fecal matter.

Other equipment is similar except that the tube for retention enema is smaller in width.

Procedure

- Similar with the cleansing enema but the enema should be administered very slowly and always be preceded by passing a flatus tube

Note

1. Most medicated retention enema must be preceded by a cleansing enema. A patient must rest for ½ hrs before giving retention enema
2. Elevate foot of bed to help patient retain enema
3. The amount of fluid is usually 150-200 cc
4. Temperature of enema fluid is 37.4 oc or at body
5. Kinds of solution used to supply body with fluid are plain H2O, normal saline, glucose 5% soda bicarbonate 2-5%
6. Olive oil 100-200 cc to be retained for 6-8 hrs.' is given for server constipation

Rectal Washout (Siphoning Enema)

(Colon irrigation or colonic flush)

- Also called heterolysis

- Is the process of introducing large amount of fluid into large bowel for flushing purpose and allow return or wash out fluid?

Purpose

- To prepare the patient for x-ray exam and sigmoidoscopy
- To prepare the patient for rectum and color operation

Solution Used

- Normal saline
- Soda-bi-carbonate solution (to remove excess mucus)
- Tap water
- KMNO4 sol. 1:6000 for dysentery or weak tannic acid

Note:

- The procedure should not take > 2 hrs
- Should be finished 1 hr before exam or x-ray – to give time for the large intestine to absorb the rest of the fluid
- Give cleansing enema ½ hr before the rectal wash out
- Allow the fluid to pass slowly

Amount of solution

- 5-6 liters or until the wash out rectum fluid becomes clear
-

Self-Check 4	**Written Test**

1. Enema will be provide for the purpose of all except ____ (3 point)

A. For emptying B. For diagnostic purpose

C. For introducing drug D. None

2. Among the following which one is not include in classification of Enema (3 point)

A. Cleansing (evacuation) B. Retention

C. Carminative D. None

3. During provision of enema the amount of solution to be administered depends on (3 point)

A. Cleansing (evacuation) B. Retention

C. Carminative D. None

4. List purpose of providing enema (5 point)

Note: **Satisfactory rating - 10 points Unsatisfactory - below 10 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____
Rating: _____
Name: _____ Date: _____

Short Answer Questions

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Operation Sheet 7	**Cleansing Enema**

Step 1: Inform the patient about the procedure

Step 2: Put bed side screen for privacy

Step 3: Attach rubber tube with enema can with nozzle and stop cock or clamp

Step 4: Place the patient in the lateral position with the Rt. leg flexed, for adequate exposure of the anus (facilitates the flow of solution by gravity into the sigmoid and descending color, which are on the side Step 5: Fill the enema can which 1000 cc of solution for adults

Step 6: Lubricate about 5 cm of the rectal tube – facilities insertion through the sphincter and minimizes trauma

Step 7: Hung the can = 45 cm from bed or 30 cm from patient on the stand

Step 8: Place a piece of mackintosh under the bed

Step 9: Make the tube air free by releasing the clamp and allowing the fluid to run down little to the bed pan and clamp open – prevents unnecessary distention

Step 10: Lift the upper buttock to visualize the answer

Step 11: Insert the tube

- 7-10 cm in an adult smoothly and slowly
- 5-7.5 cm in the child
- 2.5-3.75 cm in an infant

Step 12: Raise the solution container and open the clamp to allow fluid to flow

Step 13: Administer the fluid slowly if client complains of fullness or pain stop the flow for 30" and restart the flow at a slower rate

– decreases intestinal spasm and premature ejection of the solution

Step 13: Do not allow all the fluid to go as there is a possibility of air entering the rectum or when the client cannot hold anymore and wants to defecate, close the clamp and remove the rectal tube from the anus and offer the bed pan.

Step 14: Remove bed pan and clean the rectal tube

Operation Sheet 8	**Rectal Washout (Siphoning Enema)**

Step 1: Insert the tube like the cleansing enema

Step 2: The client lies on the bed with hips close to the side of the bed (client assumes a right side lying position for siphoning)

Step 3: Open the clamp and allow to run about 1,000 cc of fluid in the bowel, then siphon back into the bucket

Step 4: Carry on the procedure until the fluid return is clear

Information Sheet 5	**Specimen Collection**

5.1 Introduction: Specimen collection refers to collecting various specimens (samples), such as, stool, urine, blood and other body fluids or tissues, from the patient for diagnostic or therapeutic purposes. Various types of specimen collected from the patient in the clinical settings, either in

outpatient departments (OPD) or in-patient units, for diagnostic and therapeutic purposes. These includes, stool, urine, blood and other body fluid or tissue specimens.

5.2 General Considerations for Specimen Collection

When collecting specimen, wear gloves to protect self from contact with body fluids.

1. Get request for specimen collection and identify the types of specimen being collected and the patient from which the specimen collected.

2. Give adequate explanation to the patient about the purpose, type of specimen being collected and the method used.

3. Assemble and organize all the necessary materials for the specimen collection.

4. Get the appropriate specimen container and it should be clearly labeled have tight cover to seal the content and placed in the plastic bag or racks, so that it protects the laboratory technician from contamination while handling it.

• The patient's identification such as, name, age, card number, the ward and bed number (if in-patient).

• The types of specimen and method used (if needed).

• The time and date of the specimen collected.

6. Put the collected specimen into its container without contaminating outer parts of the container and its cover.

All the specimens should be sent promptly to the laboratory, so that the temperature and time changes do not alter the content.

A. Collecting Stool Specimen

Purpose

• For laboratory diagnosis, such as microscopic examination, culture and sensitivity tests.

Equipments required

- Clean bedpan or commode
- Wooden spatula or applicator
- Specimen container

- Tissue paper
- Laboratory requests
- Disposable glove, for patients confined in bed
- Bed protecting materials
- Screen

B. Collecting Urine Specimen

Types of urine specimen collection

1. Clean voided urine specimen

(Also called clean catch or midstream urine specimen)

2. Sterile urine specimen

3. Timed urine specimen

• It is two types

Short period → 1-2 hours

Long period → 24 hours

Purpose

• For diagnostic purposes

- Routine laboratory analysis and culture and sensitivity tests

Equipments Required

• Disposable gloves

• Specimen container

• Laboratory requisition form (Completely filled)

• Water and soap or cotton balls and antiseptic solutions (swabs).

For patients confined

• Urine receptacles (i.e. bedpan or urinals)

• Bed protecting materials

• Screen (if required)

5.3 Collecting a Sterile Urine Specimen

Sterile urine specimen collected using a catheter in aseptic techniques (The whole discussion for this procedure presented on the catheterization part)

5.4 Collecting a Timed Urine Specimen

Purpose

• For some tests of renal functions and urine compositions, such as:- measuring the level of or hormones, such as adrenocortico steroid hormone creatinine clearance or protein quantitation tests.

Equipments Required

• Urine specimen collecting materials (usually obtained from the laboratory and kept in the patient's bathroom.)

• Format for recording the time, date started and end, and the amount of urine collected on each patient's voiding during the specified period for collection.

C. Collecting sputum specimen

Sputum is the mucus secretion from the lungs, bronchi and trachea, but it is different from saliva. The best time for sputum specimen collection is in the mornings up on the patient's awaking (that have been accumulated during the night). If the patient fails to cough out, the nurse can obtain sputum specimen by aspirating pharyngeal secretion using suction.

Purpose

Sputum specimen usually collected for:

• Culture and sensitivity test (i.e. to identify the
microorganisms and sensitive drugs for it)

• Cytological examination

• Acid fast bacillus (AFB) tests

• Assess the effectiveness of the therapy

Equipments Required

- Disposable gloves

- Specimen container
- Laboratory requisition form
- Mouth care (wash) tray

D. Collecting Blood Specimen

The hospital laboratory technicians obtain most routine blood specimens. Venous blood is drown for most tests, but arterial blood is drawn for blood gas measurements. However, in some setting nurses draw venous blood.

Purpose

Specimen of venous blood are taken for complete blood count, which includes

- Hemoglobin and hemotocrit measurements
- Erythrocytes (RBC) count
- Leukocytes (WBC) count
- Differential counts

Equipment

- Sterile gloves
- Tourniquet
- Antiseptic swabs
- Dry cotton (gauze)
- Needle and syringe
- Specimen container with the required diluting or preservative agents, for example: anticoagulant.
- Identification/ labeling: name, age address, etc.
- Laboratory requisition forms

Self-Check 5:	**Written Test**

1. Explain at least three reasons for laboratory examination of urine.
2. Explain at least one reason for collecting specimens like sputum, blood or stool.
3. Mention purposes for sputum specimen collection.
4. Describe the process how to draw venous blood for laboratory investigation.
5. How can you obtain sterile urine specimen?
6. Differentiate between signs and symptoms.

Note: **Satisfactory rating - 12 points Unsatisfactory - below 10 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____
Rating: _____
Name: _____ Date: _____

Short Answer Questions

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Information Sheet 6	Medication administration

6.1 Introduction

Pharmacology is the study of drugs. Drugs are chemicals that alter functions of living organism. Therapeutic agents are drugs or medications that, when introduced in to living organism, modify the physiologic functions of that organism.

6.2 Drug Metabolism

Drug metabolism in the human body is accomplished in four basic stages: absorption, transportation, biotransformation, and excretion. For a drug to be completely metabolized, it must first be given in sufficient concentration to produce desired effect on body tissues. When this "Critical drug concentration" level is achieved, body tissue change.

6.3 Route of Absorption

Drugs are absorbed by the mucus membranes, the gastro intestinal tract, the respiratory tract, and the skin. The mucus membranes are one of the most rapid and effective routes of absorption because they are highly vascular.

Oral drugs (drugs that are given by mouth) are absorbed in the gastro intestinal tract. The rate of absorption depends on the pH of the stomach's contents, the food contents in the stomach at the time of ingestion, and the presence of disease conditions. Most of the drug concentrate dissolves in the small intestine where the large vascular surface and moderate pH level enhance the process of breaking down the drug.

Parental methods are the most direct, reliable, and rapid route of absorption. This method of administration includes intradermal, subcutaneous, intramuscular (IM) and intravenous (IV). The actual site of administration depends on the type of drug, its action, and the client. Another route of medication include respiratory tract by inhalation, sublingual, buccal and topical.

6.4 Transportation

The second stage of metabolism refers to the way in which a drug is transported from the site of introduction to the site of action. When the body absorbs a drug, a portion of the drug binds to plasma protein and may compete with other drugs for this storage site.

Another portion is transported in “free” form through the circulation to all parts of the body. It is the “free” drug that is pharmacologically active. As the free drug moves from the circulatory system, it crosses cell membranes to reach its site of action. As the drug is metabolized and excreted, protein bound drug is freed for action.

Lipid-soluble drugs are distributed to and stored in fat and then released slowly in to the bloodstream when drug administration is discontinued. The amount of the drug that is distributed to body tissues depends on the permeability of the membranes and blood supply to the absorption area.

6.5 Biotransformation:- The third stage of metabolism takes place as the drug, which is a foreign substance in the body; is converted by enzymes into a less active and harmless agent that can be easily excreted. Most of this conversion occurs in the liver, although some conversion does take place in the lungs, kidney plasma and intestinal mucosa

6.6 Excretion:- The final stage in metabolism takes place when the drug is changed in to an inactive form or excreted from the body.

The kidneys are the most important route of excretion because they eliminate both the pure drug and the metabolism of the parent drug.

During excretion, these two substances are filtered through glomeruli, secreted by the tubules, and either reabsorbed through the tables or directly excreted. Other routes of excretion include the lungs (which exhale gaseous drugs). Feces, saliva, tears, and mother’s milk

6.7 Factors Affecting Drug metabolism

Many factors affect drug metabolism, including personal attributes, such as body weight, age, and sex, physiologic factors, such as state of health or disease processes, acid-base and fluid and electrolyte balance; permeability; diurnal rhythm; and circulatory capability.

Genetic and immunologic factors play a role in drug metabolism, as do psychologic, emotional and environmental influences, drug tolerance, and cumulation of drugs. Responses to drugs vary, depending on the speed with which the drug is absorbed into the blood or tissues and the effectiveness of the body’s circulatory system.

6.8 Source and Naming of Drugs

The primary natural sources from which drugs are compounded are roots, bark, sap, leaves, flowers, and seeds of plants, other natural sources include animal organs or organ cells secretions, and mineral sources. Synthetic drugs, such as sulfonamide, are made in a laboratory from chemical substances.

Most drugs are given chemical, generic, and trademark names. The generic name is shorter and simples and reflects the chemical fancily to which the drug belongs. The trade name is the most common way in which the drugs are known. Once a drug is registered with a brand name, only its legal owners can manufacture the drug.

6.9 Drug Administration

The route of drug administration influences the action of that drug on the body. To obtain a systemic effect, a drug must be absorbed and transported to the cells or tissues that respond to them. How a drug is administered depends on the chemical nature and quantity of the drug, as well as on the desired speed of effect and the overall condition of the client.

Individual drugs are designed to be administered by specific route be sure to check drug labels for the appropriate route of administration. Common routes of administration to obtain systemic effects include the following: oral, sublingual, rectal, trans dermal, and parentral. Parentral ingections are commonly administered in these sites: intradermal, subcutaneous, IM and IV.

6.10 Safety Procedures

When you administer drugs, you must follow certain safety roles, which are also known as “the Five Rights.”

These rules should be carried out each time you give a drug to a client.

The Five Rights

- Right medication. Compare drug card, medication sheet or drug kardex (client’s medication record) three times, with label on drug container. Know action, dosage and method of administration. Know side effects of the drug.
- Right client, check the client’s identification-Name, Age, Bed number, and ward/door number.
- Right time
- Right method/route of administration

- Right amount/dosage- cheek all calculations of divided dose with another nurse.

6.11 Application of Nursing Process

- Assessment /Data base
- Assess route for drug administration
- Assess specific drug action for cheat
- Observe for sign and symptoms of side effects or adverse reactions
- Assess need for and accuracy of drug calculation

6.12 Planning /setting objectives

- To administer medications using correct route
- To determine appropriate drug actions
- To identify when side effects or adverse reactions occur
- To accurately calculate drug dosages.

6.13 Implementation /Intervention

- Preparing for drug administration
- Creating a rapport with the patient
- Assembling necessary equipment
- Converting medication
- Calculating dosage as appropriate
- Following the five rights
- Using the unit Dose system
- Using the Narcotic control system

6.14 Evaluation /Epected out comes

- Medications are administered by correct route
- Medication action and side effects are identified
- Drug dosages are calculated accurately

6.15 Different Routes of Drug Administration

- Oral
- Topical
- Parentral
- Intradermal
- Subcutaneous
- Intramuscularly
- Intravenous
- Rectal
- Vaginal
- Inhalation

I. Oral Administration

Definition: Oral medication is drug administered by mouth

Purpose

a. When local effects on GI tract are desired

b. When prolonged systemic action is desired

Contra- indications

1. For a patient with nausea & vomiting, unconscious patients.

2. When digestive juices inactivate the effect of the drug.

3. When there is inadequate absorption of the drug, which leads to inaccurate determination of the drug absorbed.

4. When the drug is irritating to the mucus membrane of the alimentary canal.

Type of Oral Medication

1. Lozenges (troches) - sweet medicinal tablet containing sugar that dissolve in the mouth so that the medication is applied to the mouth and throat

2. Tablets - a small disc or flat round piece of dry drug containing one or more drugs made by compressing a powdered form of drug(s)

3. Capsules - small hollow digestible case usually made of gelatin, filled with a drug to be swallowed by the patient.

4. Syrups - sugar containing medicine dissolved in water

5. Tinctures - medicinal substances dissolved in water

6. Suspensions - liquid medication with undissolved solid particles in it.

7. Pills and gargle - a small ball of variable size, shape and color some times coated with sugar that contains one or more medicinal substances in solid form taken in mouth.

8. Effervescence - drugs given of small bubbles of gas.

9. Gargle - mildly antiseptic solution used to clean the mouth or throat.

10. Powder - a medicinal preparation consisting of a mixture of two or more drugs in the form of fine particles.

Equipment

- Tray
- Towel

Note

1. Remember the 5 R's
    - Right patient
    - Right medication
    - Right route
    - Right dose
    - Right time
2. Always keep the bottle tightly closed.
3. Clean and keep the label of the bottle clear.
4. Keep medication away from light.
5. Cheek their expiration date.
6. Keep the rim of the bottle clean.
7. Give your undivided attention to your work while preparing and giving medications.
8. Make sure that a graduate nurse checks some potent drugs.

9. Never give medications from unlabeled container

10. Never return a dose once poured from the bottle.

11. Check your patient's vital sign may be necessary before and after administrating some drugs e.g. digitals, ergometrine.

12. Never give medicine that some one poured or drawn.

13. Never leave medicine at bed side of a patient and within reach of the children

II. Suppository

Purpose

- To produce a laxative effect. (bowel movement),suppository is used frequently instead of enema since it is inexpensive.
- To produce local sedative in the treatment of hemorrhoids or rectal abscess.
- To produce general sedative effects when medications cannot be taken by mouth
- To check rectal bleeding

Equipment

- Suppository (as ordered)
- Gauze square
- Rectal glove or finger cot
- Toilet paper
- Receiver for soiled swabs
- Bedpan, if the treatment is in order to produce defection.
- Screen
- Mackintosh and towel

Kinds of Suppositories Used:

1. Bisacodyl (Dulcolax) is commonly ordered for its laxative action. It stimulates the rectum and lubricates its contents.

Normally 15 minutes is needed to produce bowel movement.

2. Glycerin or suppository for bringing about bowel movement. If soap suppository is used cut a splinter of soap 2-6 cm. loch and wash it in hot water to smooth the rough edges before administration.

3. Bismuth - for checking diarrhea.

4. Opium, sodium barbital etc. for sedation

III. Parentral Drug Administration

A. Intradermal Injection

Definition: It is an injection given into the dermal layer of the skin (corneum)

Purpose

For diagnostic purpose

a. Fine test (mantoux test)

b. Allergic reaction

For therapeutic purpose

c. Intradermal injection may also be given like in vaccination

Site of Injection

- The inner part of the forearm (midway between the wrist and elbow.
- Upper arm, at deltoid area for BCG vaccination

Equipment

- Tray
- Syringe & needle (sterile)
- Receiver
- Drug (to be injected)
- File
- Alcohol swab
- Marking pen
- Water in the bowel to rinse syringe and needle

B. Sub - Cutaneous Injection

Definition: Injecting of drug under the skin in the sub- cutaneous tissue, (under the dermis)

Purpose:

- To obtain quicker absorption than oral administration
- When it is impossible to give medication orally

Equipment

- Tray
- Sterile syringe & needle (disposable)
- Alcohol swabs
- Medication
- File
- Medication card and patient chart
- Receiver
- Water in a bowel
- Disposing box

Site of Injection

- Outer part of the upper arm
- The abdomen below the costal margin to the iliac crest.
- The anterior aspect of the thigh

Note: If repeated injections are given, the nurse should rotate the site of injection so that each succeeding injection is about 5 cm away from the previous one.

C. Intera- Muscular Injection

Definition: It is an introduction of a drug into a body's system via the muscles.

Purpose

- To obtain quick action next to the intra- venous route
- To avoid an irritation from the drug if given through other route.

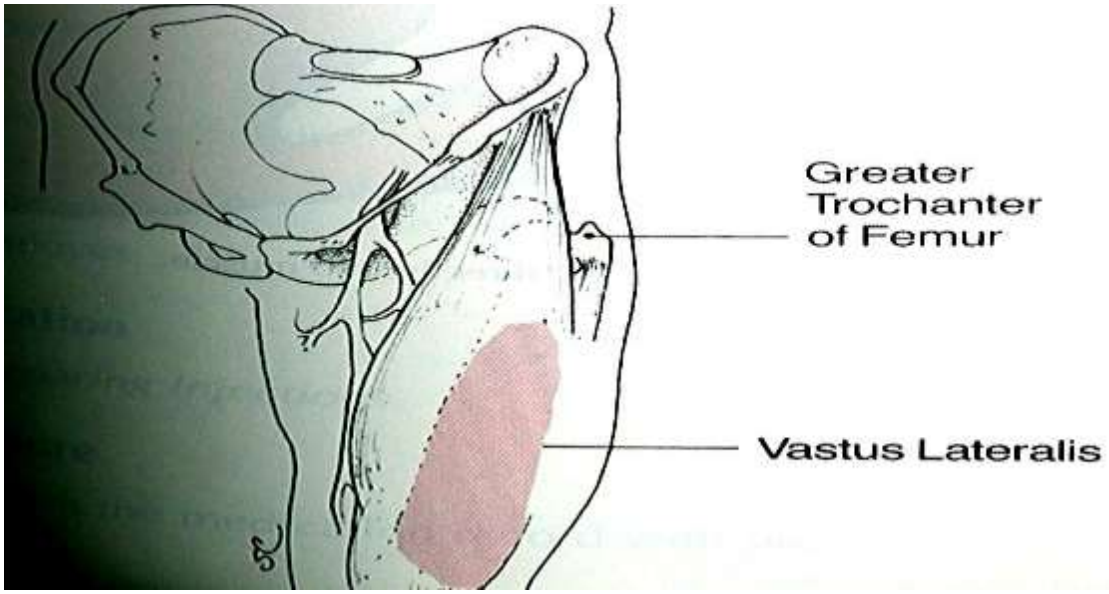
Equipment

- Tray
- Ordered drug (ampoule, vial)

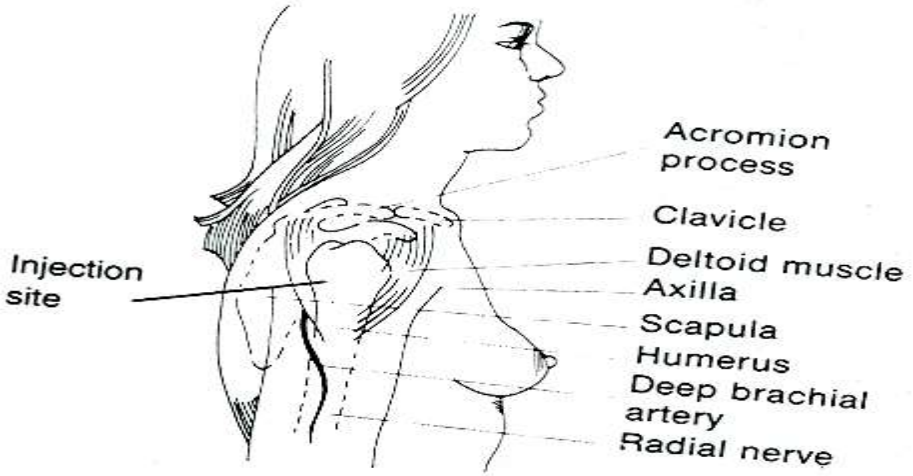
- Sterile syringes and needle in a container
- Alcohol swab
- Receiver
- A bowl of water for used syringes and needle
- File
- Sterile jar with sterile forceps
- Chart

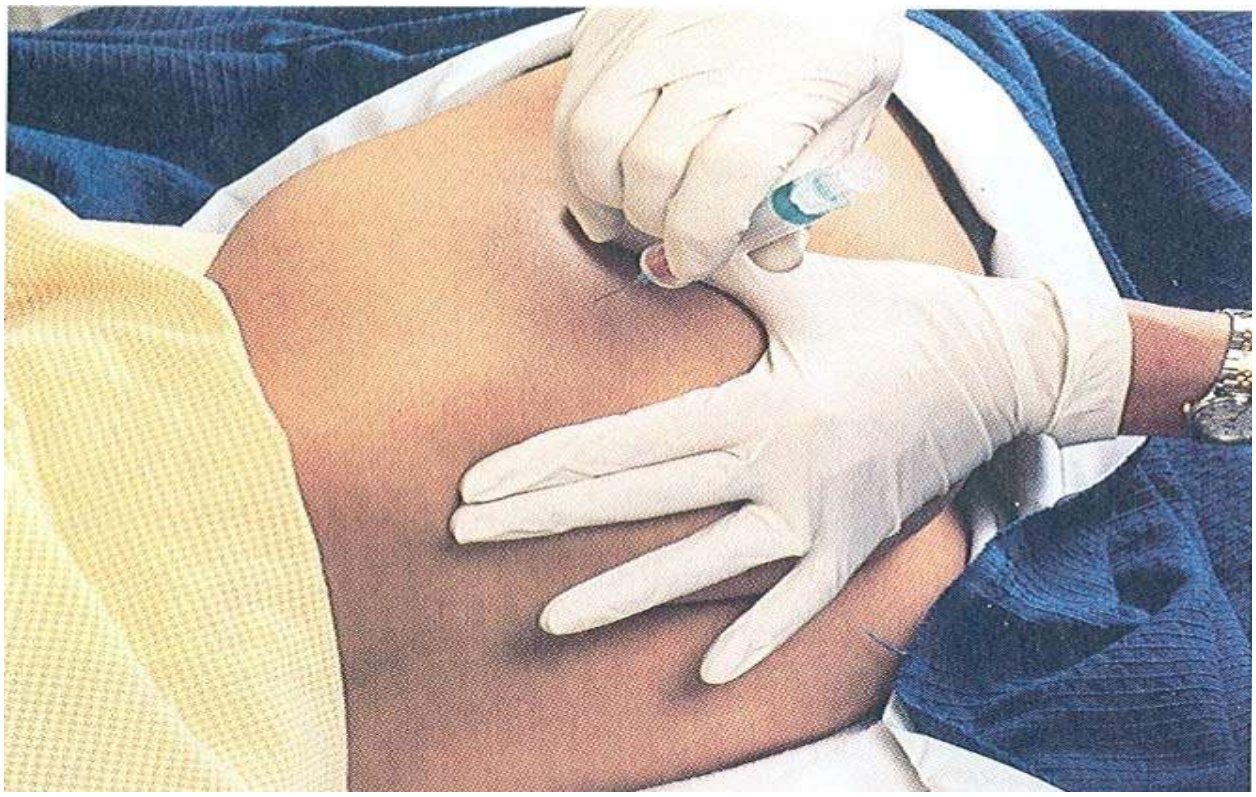
Sites for I.M. Injection

• Ventrogluteal muscle



A =
Dorsogluteal muscle
• Deltoid muscle
• Vastus Lateralis





Note:

1. The needle for i.m. Injection should be long
2. Strict aseptic technique should be observed throughout the procedure.

3. Injection should not be given in areas such as inflamed, edematous, those containing moles and pus.

D. I.V. INJECTIONS

- ***Definition***: It is the introduction of a drug in solution form into a vein. Often the amount is not more than 10.ml. at a time.

Sites for IV injection

1. Dorsal Venous network
2. Dorsal metacarpal Veins
3. Cephalic Veins
4. Radial vein
5. Ulnar vein
6. Baslic vein
7. Median cubital vein
8. Greater saphenous vein

Purpose

- When the given drug is irritating to the body tissue if given through other routes.
- When quick action is desired.
- When it is particularly desirable to eliminate the variability of absorption.
- When blood drawing is needed (exsanguinations)

Equipment

- Tray
- Towel and rubber sheet
- Sterile needle and syringes in a sterile container
- Sterile forceps in a sterile container
- Alcohol swabs
- File
- Medication
- Tourniquet

- Receivers (2)
- Treatment Chart
- Glove

Note:

1. Have a bowl of water to rinse the needle used immediate
2. Make yourself as well as the pt. Comfortable before giving injection.
3. It is the fastest way of drug administration
4. Never recup a used needle

E. Intravenous Therapy

- ***Definition:*** It is the administration of a large amount of fluid into the system through a vein.

Purpose

• To maintain fluid & electrolyte balance

• To introduce medication particularly antibiotics.

Equipment

- IV fluid as ordered
- Sterile syringe & needle
- Rubber & towel
- Receiver
- Alcohol swabs
- Arm board
- Bandage & scissors
- Tourniquet
- I.V pole
- Adhesive tape
- Medication chart

Preparation of the Patient

- Since an infusion therapy takes several hours to complete, the patient should first be made comfortable.
- **Number of ml. of sol's number of drops in a ml.**
- **Number of hrs. over which sol. is to be administered x 60 minutes**
- 1ml = 15 drops

E.g. if 1000ml of 5% D/w is to run for 24 hrs, how many drops per minutes should it run?

1000 ml. x 15 gtt/ml. = 1000 x 15 gtt. = 10 gtt/min

24 x 60 min. 24 x 60 min.

Note:

1. The arm board should be long enough to extend beyond the wrist and elbow joint.
2. Board should be padded
3. Infusion bottle should be labeled with the date, time infusion is started, drops per minute, and any added medications. If more than one bottle as used in 24 hrs, it should be labeled as bag 1, 2,3, and so on.
4. Extend the arm in the most comfortable position.
5. Usual areas used for intravenous infusion are:

a) The median basilic vein on the inner surface of the arm.

b) A vein on top of the foot

c) In an infant the jugular vein and the scalp vein

F. Blood Transfusion

Definition: It is the giving of blood to a patient through a vein

Purpose

- To counteract severe hemorrhage and replace the blood loss.
- To prevent circulatory failure in operation where blood loss is considerable, such as in rectal resection hysterectomy and arterial surgery.
- In severe burns to make up for blood lost by burning but only after plasma and electrolytes have been replaced.
- For treatment of severe anemia due to cancer, marrow aplasia and similar conditions.

- To provide clotting factors normally present in blood, which may be absent as a result of disease.

Equipment

- Bottle containing blood, with the patient name, blood group and Rh. Factor and expiry date.
- Blood giving set
- Sterile syringes and needle
- Alcohol swabs
- Sterile gauze
- Rubber sheet and towel
- Tourniquet
- Arm splint
- Bandages and scissors
- Adhesive tape
- Receiver for dirty swabs
- I.V pole (stand)
- Patient's chart.

Note:

1. Always member to have anti- histamine injection ready in case a patient has reaction from the blood.

2. Be familiar with the most usual symptoms of blood reactions which are:-

Immediate Reaction:

a) Headache

b) Backache

c) Chills

d) Pyrexia

e) Rash of the skin (urticaria)

Late Reaction

a) Dyspnea

b) Renal shut down in severe cases

c) Heamaturia

d) Chest pain

e) Rigor (rigidity)

Nursing Interventions in Transfusion Reaction

- Reactions following blood transfusion may occur for various reasons. Patient must be informed that the supply of blood is not completely risk-free but that it has been tested carefully. Nursing management is directed toward preventing complications and promptly initiating measures to control any complications that occur.
- The following steps are taken so that a diagnosis may be made regarding the type and severity of the reaction:
- The transfusion set is disconnected, but the intravenous line is kept patent with a normal saline solution (0.9%) in case intravenous medication should be needed rapidly.
- The blood container and tubing are saved, not discarded.

They are sent to blood bank for repeat typing and culture.

The identifying tags and numbers are verified.

- The symptoms are treated as prescribed and vital signs are monitored.
- The patient blood is drawn from plasma hemoglobin, culture, and retyping.
- A urine sample is collected as soon as possible and sent to laboratory for a hemoglobin determination. Subsequent voiding of urine should be observed.
- The blood bank is notified that a suspected transfusion reaction has occurred.
- The reaction is documented according to the institution's policy.

G. Cut Down

Definition - Dissection of a vein for inserting I.V cannula or needle.

Purpose

- When vein puncture is difficult

- When pro longed, continuos infusion is needed
- When rapid infusion is important and emergency situation combine these indications.

Equipment

Sterile

- Dressing forceps (1)
- Cotton balls in a gallpot
- Solution for cleansing
- Gloves
- Hole sheet (Fenestrated towel)
- Syringe and needle
- Scalpel (surgical knife)
- Mosquito forceps (3)
- Aneurysm needle (1)
- Silk
- Intravenous cannula or vein flow (2)
- Small, straight scissors (1)
- Small, curved scissors (1)
- Needle holder (1)
- Round needle (1)
- Cutting needle (2)
- Tissue forceps (1)
- Gauze (slit at one end)
- Probe
- Fine dissecting forceps (1)
- Local anesthesia

Clean

- Receiver of dirty swab
- Stand light, if available

- Adhesive tape (plaster)
- Dressing scissors

Administering Vaginal Medications

Purpose

- To treat or prevent infection
- To remove an offensive or irritating discharge
- To reduce inflammation
- To relieve vaginal discomfort

Equipment

- Prescribed vaginal suppository
- Client's applicator (should be kept in client's room)
- Clean gloves

Administering Ophthalmic Medications

Purposes:

• **Instillation**

- To provide an eye medication the client requires

• **Irrigation**

- To clear the eye of noxious or other foreign material or excessive secretion in the preparation for surgery

Administering Ear Medications

Purpose:

- To relieve pain
- To treat infection
- To better visualize during examination

Equipment

- Disposable tissues
- Medication
- Cotton ball

- Gloves

H. Inhalation

- ***Definition:*** Inhalation is the act of drawing in of gas vapor or steam into the lungs for therapeutic purposes it could be in dry, moist or vapour form.

i. Oxygen Administration:

Purpose

- To provide and maintain a normal supply of o2 for blood, and tissues. o2 may be administered in three ways.

1. By mask
2. Nasal Catheter
3. Tent.

1. Giving O2 by mask

There are many kinds of masks used for O2 administration the common ones are:

1. The venture mask
2. The B.L.B. masks (Boothby. Lovelace & Bulbulain)

The venture mask gives a controlled amount of O2 i.e. it is not high to cause respiratory depression & it is sufficient to relieve anoxia. It gives 24-35% of O2

The B.L.B mask provides an oxygen concentration of 90% with the flow meter set at 7 liters/minute. This kind of mask allows the patient to eat, drink and to expectorate. If the patient cannot breath through his nose, the B.L.B mask should not be used.

Equipment

- A cylinder of O2 with a reducing value and pressure tubing to be connected with the O2 cylinder.
- Mask
- Safety pin to secure the tubing to the bed linen
- Tissue paper to clean the nostrils with. If the patient is unconscious, a tray containing a galipot of saline or water, wooden applicator and receiver for soiled applicator is necessary in order to clean the nostrils

2. Giving oxygen by nasal catheter.

There are different kinds of catheters,

a) A fine catheter

b) A spectacle frame, which carries two, places of rubber tubing and is worn by the pt.

c) Two soft rubber catheters connected by ***y- shaped*** connection to the tube on O2 apparatus.

Equipment

- Oxygen cylinder with regulating valve and pressure tubing
- Wolf's bottle
- Glass connection
- Fine catheters, lubricant, plaster
- Safety pin
- Tray containing a galipot of saline or water. Receiver for soiled applicators.

Note:

- Oxygen catheter are removed every 8 hrs. and a clean catheter is inserted into the other nostril. Patient's receiving oxygen by catheter requires special mouth and nose care since the catheter tends to irritate the mucous membrane. Oxygen dries and irritates mucous membrane, therefore, should be passed through water (Humidified) before it is administered by catheter. The advantage of administration of oxygen by catheter is the freedom of movement that it gives to patients receiving oxygen. By this method patient can obtain about 50% concentration of oxygen.

3. Oxygen tent

Purpose:

a) To keep patient in high oxygenation environment.

b) Whenever the other means are not possible.

Equipment

1. Transparent oxygen tent and its apparatus fitted with oxygen

2. Ice if the apparatus is with out refrigerator device.

3. Hanger for the tent

4. Room thermometer if needed

5. No smoking sign for the unit

Precautions to be taken when Oxygen is used

1. Oxygen supports combustion. Therefore it is essential for the patient's safety their is no smoking within 3 meters of oxygen equipment. Lighted matches, cigarettes, electric lights, nylon clothing, electric pads, bells mechanical toys should be forbidden.

2. Alcohol must not be applied to the pt's skin

3 The catheter tip and the cylinder itself must not be lubricated with Vaseline or oil or any kind

4. Cylinders must be handled carefully as the oxygen is under pressure.

5. The fine adjustment should always be closed when the main tap is turned on.

6. Check that there is no obstacle in the pt's airway before firing oxygen in order to prevent pt. from suffocation.

7. A rate of 2-liters/ minute is commonly used when oxygen used in case of emergency instead of free air. In the case of asphyxia liter/min may be needed. Protect patient from asphyxia, inspecting regularly pressure gauge and flow meter and noting pulse, respiration, color, mental state and necrosis from carbon dioxide.

ii. Steam Inhalation

Definition: It is the intake of steam alone or with medication through the nose or mouth

Purpose

1. In order to produce a local effect on the upper respiratory passage during cold, sinusitis, laryngitis, bronchitis etc. common drugs used are frier balsam (tincture of benzoin compound, eucalyptus. Menthol, camphor)

2. To allay spasm e.g. Asthma, angina pectoris

3. To increase circulation in the lungs by increasing or decreasing the secretion of the bronchi.

E.g. ammonia inhaled in cases of fainting and syncope stimulated the respiratory center and heart action.

4. To moisten secretions e.g. Tracheotomy

There are two Types of Inhalation

1. Intermittent (interrupted) e.g. Nelson's inhaler.
2. Continues method e.g. steam tent.

1. Nelson's Inhaler

Equipment

- Nelson's inhaler with the mouth piece
- Cover for the inhaler (blanket or towel)
- A bowl or saucepan to carry the inhaler
- Face towel to wipe the face as patient required
- Gauze can be use around the mouthpiece to prevent burning of the lips.
- A tray should be large enough, to carry the inhaler to take it to the bedsides.
- A measuring jug with water which is 820C
- The drug ordered might be eucalyptus, tincture of benzene (about 4 cc).

N.B:

1. If a Nelson's inhaler is not available a wide- mouthed jug may used. The patient should be covered up to the waist with a balance from a canopy, or the mouth of the jug may be covered with a towel to make the opening small enough for the patient to put his nose and mouth (not eyes) on it.
2. For irrational, helpless patients, stay with them throughout the procedure.
3. Report the amount and nature of any sputum or discharge.

Care of Equipment after use

- Pour out the water from the inhaler (not onto a sink)
- Wash the inhaler with hot water
- Boil the mouth piece

Emergency tray and Trolley : *List of Emergency Drugs*.

- O2 - Tourniquet
- Morphine sulfate - O2 mask or nasal catheter
- Aramine - plaster
- Adrenalin(Epinephrin.) - Dressing scissors

- Levophed -Arm Board
- Phenergan - Small makintosh " towel"
- Aminophylline - Tongue depressor
- Allercur - Mouth gag
- Nor adrenaline - Air way
- Carmine (Nikethamide) - suction machine
- Lasix - Files
- Syringes and needles - Container with alcohol
- Digoxin - Receiver
- Na HCO3 (Sodium bicarbonate) - Bandage
- Swabs - Levin's tube
- Vitamin k - Ned blacks
- 0 .9% Normal Saline
- 5% D/w with complete set
- Largactil
- Diazepam
- Ergometrine
- Kcl (potassium chloride)
- 40% dextrose

Self-Check 6	**Written Test**

1. Which one of the following rout of drug administration has fastest action? (2 Point)

   a. Oral c. Intravenous

   b. Subcutaneous d. Rectal

2. Mention two indications for oral drug administration (3 point)
3. State the 5 Rs during drug administration.(5 Point)
4. Which one of the following site of injection most preferred for young children? (2 point)

   a. Vastus lateralis c. Deltoid muscle

   b. Ventrogluteal d. Dorsogluteal

5. Explain the difference between intravenous injection and intravenous infusion.(3 point)
6. List at least three immediate complications of blood transfusion.(3 point)

7. Define inhalation (2 point)

Note: **Satisfactory rating - 12 points Unsatisfactory - below 10 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____
Rating: _____
Name: _____ Date: _____

Short Answer Questions

1. _____

2 _____

_____

_____

_____

3. _____

_____

. _____

4_____

_____

5. _____

_____

_____

_____

6 _____

_____

_____

_____

7_____

_____

_____

_____

Operation Sheet 9	**Oral medication**

Step 1: Prepare your tray and take it to the patient's room

Step 2: Begin by checking the order

Step 3: Read the label 3 times

Step 4: Place solution and tablets in a separate container.

Step 5: If suspension, shake the bottle well before pouring

Step 6: Take it to the pt's bedside

Step 7 Keep the medication in site at all time

Step 8: Identify the patient carefully using all identification variables.(Pt's name, bed number…)

Step 9: Remain with the pt. until each medicine is swallowed

Step 10: Offer additional fluid as necessary unless contra-indicated

Step 11: Record the medication given, refused or omitted immediately.

Step 12: Take care of the equipment & return them to their proper places.

Step 13: Wash your hands.

Operation Sheet 10	**Suppository medication**

Step 1. Check medication order.

Step 2. Review client's medical record for rectal surgery/ bleeding.

Step 3. Wash hands.

Step 4. Prepare needed equipment and supplies.

Step 5. Apply disposable gloves

Step 6. Identify client.

Step 7. Explain procedure to client.

Step 8. Arrange supplies at client's bedside.

Step 9. Provide privacy.

Step 10. Position client in Sims' position.

Step 11. Keep client draped, except for anal area.

Step 12. Examine external condition of client's anus. Palpate rectal walls.

Step 13. Dispose of gloves, if soiled, and reapply new gloves.

Step 14. Remove suppository from wrapper and lubricate rounded end.

Step 15. Lubricate gloved finger of dominant hand.

Step 16. Ask client to take slow, deep breaths through mouth and to relax anal sphincter.

Step 17. Retract client's buttocks with nondominant hand.

Step 18. With index finger of dominant hand, gently insert suppository through anus, past the internal sphincter, and place against rectal wall, 10 cm for adults or 5 cm for children and infants.

Step 19. Withdraw finger and wipe client's anal area clean.

Step 20. Remove and dispose of gloves.

Step 21. Wash hands.

Step 22. If suppository contains a laxative or fecal softener, be sure that client will receive help to reach bedpan or toilet.

Step 23. Keep client flat on back or on side for 5 minutes.

Step 24. Return in 5 minutes to determine if suppository has been expelled.

Step 25. Observe client for effects of suppository 30 minutes after administration.

Step 26. Record medication administration.

Operation Sheet 11	**Intradermal Injection**

Step 1: Take equipment to the patient's side

Step 2: Explain procedure to patient

Step 3: Get hold of the arm & locate the site of injection.

Step 4: Clean the skin with swab and inject the drug about 0.1. 0.2 inch in to the epidermis after the bevel of the needle is no longer visible. Don't massage the site.

Step 5: Check for the immediate reaction of the skin (10-15 minutes later for tetanus, 20-30 minutes later for penicillin)

Step 6: If it is for tine test, mark the area

Step 7: Chart the data and time of the administration of the drug.

Step 8: Take care of the equipment & return to their places.

Step 9: Do not forget to do the reading after 72 hours if it is for fine test (tuberculin test)

Step 10: Document about the procedure

Operation Sheet 12	**Sub - Cutaneous Injection**

Step 1: Take equipment to the pt's bed side or room

Step 2: Explain the procedure to the patient

Step 3: Draw your medication

Step 4: Expel the air from the syringe

Step 5: Clean the site (usually it is in upper arms, thighs or abdomen)

Step 6: Grasp the area between your thumb & forefinger to tense it.

Step 7: Insert the needle elevate about 450 - 600 angle.

Step 8: Pierce the skin quickly & advance the needle

Step 9: Aspirate to determine that the needle has not entered a blood vessel

Step 10: Inject the drug slowly.

Step 11: After injecting withdraw the needle and massage the area with alcohol swab.

Step 12: Chart the amount and time of administration immediately.

Step 13: Take care of the equipment- wash, sterilize and return to its place

Step 14: Watch for undesired reaction (side effect of the drug) etc.

Operation Sheet 13	**Intera- Muscular Injection**

Step 1: Do the ABC of the procedure**.**

Step 2: Prepare tray & take it to the patien's room

Step 3: Prepare the medication

Step 4: Draw the medicine

Step 5: Expel the air from the syringe

Step 6: Choose the site of injection (the site for intra- muscular)

Step 7: Using the iliac crest as the upper boundary divided the buttock into four. Clean the upper outer quadrant with alcohol swab:

Step 8: Stretch the skin and inject the medicine

Step 9: Draw back the piston (plunger) to check whether or not you are in the blood vessel (if blood returns, withdraw and get a new needle & reinject in a different spot)

Step 10: Push the drug slowly into the muscle

Step 11: When completed, withdraw the needle and massage the area with swab gently to and absorption.

Step 12: Place the patient comfortably

Step 13: Take care of the equipment you have used & return to their places

Step 14: Chart the amount, time route and type of the medicine

Step 15: Check the patient's reaction

Operation Sheet 14	**IV injection**

Step 1: Prepare your tray & the medication

Step 2: Explain the procedure to the patient

Step 3: Position the patient properly

Step 4: Place rubber and towel under his arm(to protect the bed linen)

Step 5: Expose the arm and apply tourniquet

Step 6: Ask pt to open and close his fist.

Step 7: Palpate the vein and clean with alcohol swab the site of the injection (Which is mainly the mid cubital vein of the arm)

Step 8: Clean with a circular motion; proceed from center of the site outward.

Step 9: Hold the needle at about 450 angles in line with the veins.

Step 10: Puncture the vein and draw back to check whether you are in the vein or not. (Blood return should be seen if you are in the vein)

Step 11: Once you know that you are in the vein, release the tourniquet and gently lower the angle of the needle

Step 12: When it is nearly paralleled to the vein and instills the medications. Give very slowly unless there is an order to give it fast (Normally 40-60 drops is given in 1 minute).

Step 13: Check the pt's pulse in between. Any complaint from the patient should not be ignored.

Step 14: Apply pressure over the site after removing the needle to prevent bleeding. Tell patient to flex his elbow.

Step 15: Watch the patient for few minutes before leaving him.

Step 16: Remove your equipment

Step 17: Put the pt. In a comfortable position

Step 18: Wash, sterilize and place the equipment in order.

Step 19: Chart the medication given the amount, time & the reaction of the pt.

Operation Sheet 15	Intravenous Therapy

Step 1: Take equipment to the patient's bedside

Step 2: Explain the procedure to the patient. Be sure you have right patient.

Step3: Remove air form the tubing

Step 4: Place rubber & towel under the arm

Step 5: Apply tourniquet about 3 c.m. above the intended site of entry.

Step 6: Observe & palpate for suitable vein

Step 7: Cleanse the skin with alcohol swabs thoroughly & place the swab used thumb the retract down the vein & soft tissue 4 c.m. below the intended site of injection.

Step 8: Hold needle at 450 angle line with the vein

Step 9: Pierce the skin and puncture the vein

Step 10: Check if you are in the vein by drawing back with the syringes. (blood returns if you are in the vein)

Step 11: Release the tourniquet gently

Step 12: Start the flow of solution by opening the clamp.

Step 13: Support needle with sterile gauze or sterile cotton balls If necessary to keep it in proper position in the vein

Step 14: Anchor the I.V. tubing with the adhesive tape to prevent pull on the needle.

Step 15: Place arm board or splint under the arm and bandage around.

Step 16: Adjust the rate of flow

Step 17: Rate of flow is regulated by the following formula.

Operation Sheet 16	Blood Transfusion

Step 1: Explain procedure to patient

Step 2: Before blood transfusion is administered, the nurse has to

Step 3: check the blood group & RH- factor if cross match of thevdonor's & the recipient's blood is done and is compatible. And also check for HIV other blood born pathoges.

Step 4: Prepare the tray with necessary items

Step 5: Before taking it to the patient's room, check the patient's name, hospital number, bed number, blood group, Rh. Factor and the expiry date with a 2nd nurse or a doctor.

Step 6: Blood should be used within 21 days of its withdrawal date, if sodium citrate is used it can be used until 36 days.

- Take it to the pt's room
- Hang the bottle & remove the air from the tubing
- Put pt. in a comfortable position.
- Place rubber & towel under the arm
- Check the vital signs before administering
- Choose the vein
- Apply tourniquet
- Clean the skin & feel for a distended vein & clean again.
- Puncture the vein with the needle (the needle here should be short and wide so that it does not cause occlusion easily)
- After you make sure that you are in the vein release tourniquet & open the clamp.

The drop/minute at the beginning should be very slo

Step 7: Watch patient closely for any reaction

Step 8: If there is no reaction from the patient regulate the rate of flow according to the patient's conditions & the order.

- Splint the arm & position it comfortably.
- Remove the equipment you have used, wash and return to its proper place.
- Record the time you started the blood & any other pertinent information.
- Check pt. frequently.

Operation Sheet 17	**Cut Down**

Step 1: Bring equipment to the bedside of the patient

Step 2: Explain procedure to the patient

Step 3: Shave the area, if needed

Step 4: Position the patient properly

Step 5: The nurse will then open the set and pour the cleaning lotion in to the galipot for the doctor

Step 6: The doctor then scrub his hands, put on gloves, clean and drape the area, he will insert the I.V

Step 7: The channel is securely tied with silk and skin is closed

Step 8: The nurse dresses the site and secure it with adhesive plaster

Step 9: Remove all equipment, wash and send for sterilization.

Operation Sheet 18	**Administering Vaginal Medications**

Step1. Check medication order.

Step. Wash hands.

Step 3. Prepare equipment and supplies.

Step 4. Identify client.

Step 5. Inspect client's external genitalia and vaginal canal.

Step 6. Assess client's ability to manipulate applicator and position herself.

Step 7. Explain procedure to client.

Step 8. Arrange supplies at client's bedside.

Step 9. Provide privacy.

Step 10. Assist client to dorsal recumbent position.

Step 11. Keep client's abdomen and lower extremities draped.

Step 12. Apply disposable gloves.

Step 13. Provide adequate lighting.

Step 14. Insert suppository:

A. Take suppository from wrapper and lubricate smooth or rounded end.

B. Lubricate gloved finger of dominant hand.

Offer client perineal pad.

Step 15. Apply cream or foam:

A. Fill applicator as directed.

B. Retract client's labial folds with nondomi-nant gloved hand.

C. With dominant gloved hand, insert applicator 5 to 7.5 cm; push plunger.

D. Withdraw applicator and place it on paper towel. Wipe away lubricant from client's ori-fice and labia.

E. Wash applicator and store for future use.

Step 16. Remove and discard gloves.

Step 17. Wash hands.

Step 18. Instruct client to remain flat on her back for at least 10 minutes.

Step 20. Inspect condition of client's vaginal canal and external genitalia between applications.

Step 21. Record medication administration.

Step 22. Retract client's labial. folds with nondomi-nant gloved hand.

Step 23. Insert rounded end of suppository 7.5 to 10 cm along posterior wall of vaginal canal.

Step24, . Withdraw finger and wipe away lubricant from client's orifice and labia.

Operation Sheet 19	**Administering Ophthalmic Medications**

Step 1. Review prescriber's medication order.

Step 2. Assess condition of client's external eye structures.

Step 3. Determine whether client has any known allergies to eye medications. Ask if client is allergic to latex.

Step 4. Determine whether client has any symptoms of visual alterations.

Step 5. Assess client's level of consciousness and ability to follow directions.

Step 6. Assess client's knowledge regarding drug therapy and desire to self-administer medication.

Step 7. Assess client's ability to manipulate and hold eye dropper.

Step 8. Explain procedure to client.

Step 9. Wash hands.

Step 10. Arrange supplies at client's bedside.

Step 11. Apply clean gloves.

Step 12. Ask client to lie supine or to sit back in chair with head slightly hyper extended.

Step 13. Wash away any crusts or drainage along client's eyelid margins or inner canthus. Soak any crusts that are dried and difficult to remove by applying a damp washcloth or cotton ball over eye for a few minutes.

Step 14. Hold cotton ball or clean tissue in nondominant hand on client's cheekbone just below lower eyelid.

Step 15. With tissue or cotton ball resting below lower lid, gently press downward with thumb or fore-finger against bony orbit.

Step 16. Ask client to look at ceiling.

Step 17. Instill eye drops while explaining steps to client:

A. With dominant had resting on client's forehead, hold filled medication eye dropper or ophthalmic solution approximately 1 to 2 cm above conjunctival sac.

B. Drop prescribed number of medication drops into conjunctival sac.

C. If client blinks or closes eye or if drops land on out lid margins, repeat procedure.

D. For drugs that cause systemic effects, with a clean tissue apply gentle pressure with your finger and clean tissue on the client's nasolacrimal duct for 30 to 60 seconds.

E. After instilling drops, ask client to close eye gently.

Step 18. Instill eye ointment

A. Ask client to look at ceiling.

B. Holding ointment applicator above lower lid margin, apply thin stream of ointment evenly along inner edge of lower eyelid on conjunc-tiva from inner canthus to outer canthus.

C. Have client close eye and rub lid gently in circular motion with cotton ball, if rubbing is not contraindicated.

Step 19. Intraocular disk procedures:

A. Application:

(1) Wash hands.

(2) Put on gloves.

(3) Open package containing disk. Gently press fingertip against disk so it adheres to finger. Position convex side of disk on fingertip.

(4) With other hand, gently pull client's lower eyelid away from the eye. Ask client to look up.

(5) Place disk in the conjunctival sac so that it floats on the sclera between the iris and lower eyelid.

(6) Pull client's lower eyelid out and over disk.

B. Removal:

(1) Wash hands.

(2) Put on gloves.

(3) Explain procedure to client.

(4) Gently pull on client's lower eyelid to expose disk.

(5) Using forefinger and thumb of opposite hand, pinch disk and lift it out of client's eye.

Step 20. If excess medication is on eyelid, gently wipe eyelid from inner to outer canthus.

Step 21. If client had an eye patch, apply clean patch by placing it over affected eye so entire eye is covered. Tape securely without applying pressure to eye.

Step 22. Remove gloves.

Step 23. Dispose of soiled supplies in proper receptacle.

Step 24. Wash hands.

Step 25. Note client's response to instillation. Ask if any discomfort was felt.

Step 26. Observe client's response to medication by assessing visual changes and noting any side effects.

Step 27. Ask client to discuss drug's purpose, action, side effect, and technique of administration.

Step 28. Have client demonstrate self-administration of next dose.

Step 29. Record drug administration and appearance of client's eye.

Step 30. Record and report and undesirable side effects.

Operation Sheet 20	**Administering Ear Medications**

Step 1. Check the medication order against the original physician's order.

Step 2. Wash hands carefully.

Step 3. Prepare the medication following the "five rights."

Step 4. Proceed to the client's bed side and identify the client.

Step 5. Put on gloves

Step 6. Ask the client to lie on the side of unaffected ear.

Step 7. Remove excess drainage with a dry wipe.

Step 8. Expose the external ear canal by properly adjusting the client's ear lobe. For adults, pull the lobe up, back, and outward. For children, pull the lobe down and back.

Step 9. (a) Hold the dropper or the tip of the squeeze bottle above the opening of the external auditory canal. Allow the prescribed number of drops to fall on the side of the canal.

(b) Do not touch any part of the ear with the dropper or squeeze bottle during administration.

Step 10. Instruct the client to remain the side-lying position for 5-10 minutes with the affect ear upward.

Step 11. If the procedure is ordered for both ears, allow 5-10 minutes between instillation. Report the above steps for the other ear.

Step 12. Dispose of gloves and wash hands.

Step 13. Document the procedure.

Operation Sheet 21	**Oxygen Administration:**

Step 1. The adjustment is turned on before bringing the cylinder to the bedside.

Step 2. Explain treatment to pt.

Step 3. Bring equipment to the bedside

Step 4. Ask him to clean his nostril to avoid obstruction (if well enough)

Step 5. Connect the mask to tubing and open the fine adjustment to the required rate of flow. Then apply the mask to the patient's face making sure that it rests comfortably on the pt's face. See that the tubing is secured to the bed linen by means of safety pin. Stay with the patient till he is reassured if it is his first time to be on oxygen therapy.

Operation Sheet 22	**Giving oxygen by nasal catheter**

Step 1. Procedure is the same as giving oxygen by mask: (Procedure 1-4)

Step 2. Connect the fine catheter with the pressure tubing. Turn on the fine adjustment to the required rate of flow the maximum liter flow being 6-7 litter /minute.

Step 3. Catheter is lubricated preferably with water and passed backward into pharynx till the tip of the catheter is opposite the uvula. The catheter can also be inserted by measuring the distance from the patient's nose to his ear lobe. It is then taped in place. Never force catheter against an obstruction.

Operation Sheet 23	**Giving oxygen by Oxygen tent**

Step 1. Remove all electrical appliances from the room as this may produce sparks.

Step 2. Post sign of no smoking on many places in the unit

Step 3. Prepare and check if the applicator is working properly.

Step 4. Bring the oxygen unit to the bedside and fix the tent on the hanger.

Step 5. Close all appliances of the tent: place ice if the apparatus is without refrigeration device.

Step 6. Tuck the side of the hold of tent under the mattress as far as they will go.

Step 7. Fill the tent with 12-15 liters of oxygen 40-60% concentration for the first half hour.

Step 8. After the first half hour regulate the flow of oxygen to 6-10 liters or as ordered by the doctor until the treatment is completed.

Step 9. Check temperature indicator frequently and adjust to 180C- 220C.

Step 10. Record state of patient and time started and the flow of the oxygen.

Operation Sheet 24	**Steam Inhalation**

Step 1: Inhaler should be warmed and glass mouthpiece boiled

Step 2: Measure the drug as ordered. Either point in the graduate measure 90 cc of cold water and 500 cc of boiled water to bring the temperate 820c or half by half or pour half point (300cc) of boiling water into the inhaler than 5 cc of tincture of benzene or any other drug ordered.

Step 3: Then add 300 cc water making sure that the temperature of water in the inhaler comes to 820C. This is done in order to have a good mixture of the drug. The level of the fluid should not be above the spout.

Step 4: Fix the mouthpiece firmly in the inhaler in direction opposite to the air inlet and cover the inhaler with blanket or towel

Step 5: Close windows.

Step 6: Prepare the patient usually in a sitting - up position making sure that he/she is well supported.

Step 7: Then put inhaler on a saucepan on the tray.

Step 8: Place the tray on the over- bed table or on his knees in such a way that he can bend over the inhaler easily.

Step 9: Put the spout for the escape of steam away from him.

Step 10: Cover his head with blanket.

Step 11: Tell the patient to breath in by putting his lip to the mouth piece which may be protected by a piece of gauze, and breath out by removing his lips for a moment from the mouth piece.

Step 12: The treatment can take from 5-10 minutes after which the patient should be kept warm and comfortable for some time.

LAP Test	Practical Demonstration

Name: _____ Date: _____

Time started: _____ Time finished: _____

Instructions: Given necessary templates, tools and materials you are required to perform the following tasks within 3 hours.

1. Administer oral medication
2. Provide Suppository medication
3. Administer Intradermal Injection
4. Provide subcutaneous injection
5. Administer Intera- Muscular Injection
6. Provide IV injection
7. Administer Intravenous Therapy
8. Provide blood transfusion
9. Perform G. Cut Down
10. Administering Vaginal Medications
11. Administering Ophthalmic Medications
12. Administering Ear Medications
13. Administer oxygen by nasal catheter
14. Administer oxygen by Oxygen tent
15. Provide Steam Inhalation

Information Sheet 7	**Body mechanics and patient transport**

1.1 Introduction: *Body Mechanics*: is the effort; coordinated, and safe use of the body to produce motion and maintain balance during activity.

Proper Body Mechanics

Use of safest and most efficient methods of moving and lifting is called body mechanics. This means applying mechanical principles of movements to the human body.

1.2 Basic Principles of Body Mechanics

1. It is easier to pull, push, or roll an object than to lift it. The movement should be smooth and continuous, rather than jerky.

2. Often less energy or force is required to keep an object moving than it is to start and stop it.

3. It takes less effort to lift an object if the nurse works as close to it as possible. Use the strong leg and arm muscles as much as possible. Use back muscles, which are not as strong, as little as possible. Avoid reaching.

4. The nurse rocks backward or forward on the feet and with his or her body as a force for pulling or pushing. Principles under lying proper body mechanics involve three major factors: center of gravity, base of support, and line of gravity.

1.3 Center of Gravity

The person's center of gravity located in the pelvic area. This means that approximately half the body weight is distributed above this area, half below it, when thinking of the body divided horizontally. In addition, half the body weight is to each side, when thinking the body divided vertically. When lifting an object, bend at knees and hips, and keep the back straight. By doing so, the center of gravity remains over the feet, giving extra stability. It is thus easier to maintain balance.

1.4 Base of Support

A person's feet provide the base of support. The wider the base of support, the more stable the object with in limits. The feet are spread side wise when lifting, to give side-to side stability. One foot is placed slightly in front of the other for back-to-front stability. The weight is distributed

evenly between both feet. The knees are flexed slightly to absorb jolts. The feet are moved to turn the object being moved.

1.5 Line of Gravity

Draw an imaginary vertical (up and down) line through the top of the head, the center of gravity, and the base of support. This becomes the line of gravity, or the gravity plane. This is the direction of gravitational pull (from the top of the head to the feet). For highest efficiency, this line should be straight from the top of the head to the base of support, with equal weight on each side. Therefore, if a person stands with the back straight and the head erect, the line of gravity will be approximately through the center of the body, and proper body mechanics will be in place.

1.6 Body Alignment

When lifting, walking, or per forming any activity, proper body alignment is essential to maintain balance. When a person's body is in correct alignment, all the muscles work together for the safest and most efficient movement, without muscle strain. Stretching the body as tall as possible produces proper alignment. This can be accomplished through proper posture. When standing, the weight is slightly forward and is supported on the out side part of the feet.

Again the head is erect, the back is straight, and the abdomen is in (remember that the client in bed should be in approximately the same position as if he/she were standing).

1.7 Positioning the client

Encouraging clients to move in bed, get out of bed, or walk serves several positive purposes. Prolonged immobility can cause a number of disorders, among which are pressure ulcer, constipation, and muscle weakness, pneumonia and joint deformities. By assisting clients to maintain or regain mobility, you promote self-care practices and help to prevent deformities.

1.8 Moving and Positioning Clients

Moving and positioning promote comfort, restore body function, prevent deformities, relieving pressure, prevent muscle strain, and stimulate proper respiration and circulation.

1.9 Purpose:

- To increase muscle strength and social mobility

- To prevent some potential problems of immobility
- To stimulate circulation
- To increase the patient sense of independence and selfesteem
- To assist a patient who is unable to move by himself
- To prevent fatigue and injury
- To maintain good body alignment

1.10 Practice Guideline

- Maintain functional client body alignment. (Alignment is similar whether client is standing or in bed.)
- Maintain client safety.
- Reassure the client to promote comfort and cooperation.
- Properly handle the client's body to prevent pain or injury.
- Follow proper body mechanics.
- Obtain assistance, if needed, to move heavy or immobile clients.
- Follow specific physician orders.
- Do not use special devices (e.g. splints, traction unless ordered)

Turning the Patient to a Side-lying Position

Supplies and Equipment

- Pillows
- Side rails
- Cotton blanket or towels, rolled for support

1.11 Joint Mobility and Range of Motion

Every body joint has a specific but limited opening and closing motion that is called its range of motion (ROM). The limit of the joint's range is between the points of resistance at which the joint will neither open nor close any further. Generally all people have a similar ROM for their major joints.

1.12 Passive Range of Motion

If a client is unable to move, the nurse helps by performing passive range of motion (PROM) exercise.

1.13 Controlling Postural Hypotension

- Sleep with the head of the bed elevated (8-12 inches).

This makes the person's position change on rising less severe.

- Avoid sudden changes of position. Arise from bed in three steps:

⇒ Sit on the side of the bed with legs dangling for 1 minute

⇒ Stand with core holding on to the edge or the bed or another non mobile object for 1 minute

⇒ Sit up in the bed for one minute

Gradual change in position stimulates renin, kidney enzyme that has a role in regulating BP and which prevents a dramatic drop in BP

- Balance is maintained with minimal effort when the base of support is enlarged in the direction in which the movement will occur
- Contracting muscles before moving an object lessens the energy required to move it
- The synchronized use of as many large muscles groups as possible during an activity increases overall strength and prevents muscle fatigue and injury
- The closer the line of gravity to the center of the base of support, the greater the stability
- The greater the friction against the surface beneath an object the greater the force required moving the object. (Pulling creates less friction than pushing)
- The heavier the object, the greater the force needed to move the object
- Moving an object along a level surface required less energy than moving an object up an inclined surface or lifting it against gravity
- Continuous muscle exertion can result in muscle stretch and injury

1.14 Body Positioning

- Positioning client in various positions is done for diagnostic and
- therapeutic purposes. Some of the reasons include promoting
- comfort, restoring body function, preventing deformities, relieving

- pressure, preventing muscle strain, restoring proper respiration and
- circulation and giving nursing treatment

1.15 Guideline for Positioning the Client

Positioning the Client for Comfort

- Maintain functional client body alignment. (Alignment is Similar whether the client is standing or in bed.)
- Maintain client safety.
- Reassure the client to promote comfort and cooperation.
- Properly handle the client's body to prevent pain or injury.
- Follow proper body mechanics.
- Obtain assistance, if needed to move heavy or immobile clients.
- Follow specific orders.
- Do not use special devices (e.g. Splints, traction) unless ordered client positioning for examination and treatment.

Client Positioning for Examination and Treatment

1. **Horizontal Recumbent Position**

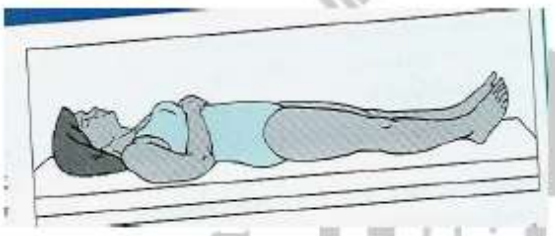


Figure 3 Horizontal Recumbent position

This position is required for most of the physical examinations. The client lies on the back with the legs extended. The arms are placed, folded on the chest, or along side the body. One small pillow may be used. Cover the client with bath blanket for privacy.
Caution: This position may be uncomfortable for a person with a back problem

Figure 4 Dorsal recumbent position

2. Dorsal recumbent position -used for variety of examinations and procedures. The client lies on the back, with the knees flexed and the soles of the feet flat on the bed. Cover the client with a sheet or a bath blanket folded once across the chest. The second sheet should be cross wise over the client thighs and legs. Wrap the lower ends of this sheet around the client's legs and feet. Fold the sheet so the genital area is easily exposed. Keep the client covered as much as possible

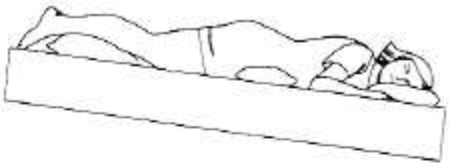


Figure 5 Prone position

3. Prone Position: - is used to examine the spine and back. The client lies on the abdomen with head turned to the side for comfort. The arms are held above the head or along side the body. Cover the client with a bath blanket for privacy. Caution: Unconscious clients, pregnant women, clients with abdominal incisions, and clients with breathing difficulties cannot lie in this position.

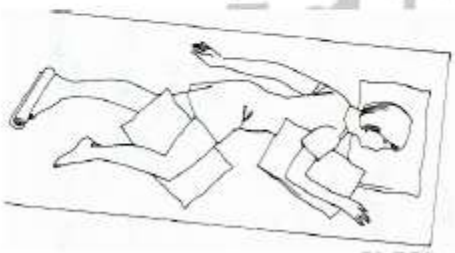


Figure 6 Sim's position

4. Sims' Position: - This position is used for rectal examination. The client rests on the left side, usually with a small pillow under the head. The right knee is flexed against the abdomen, the left knee is flexed slightly, the left arm is behind the body, and the right arm is in a comfortable position. Cover the client with a bath blanket. Caution: The client with leg injuries or arthritis often cannot assume this position

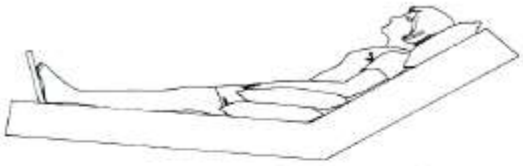


Figure 7 Fowler's position

5. Fowler's Position: - this position is used to promote drainage or to make breathing easier. Adjust the head rest to the desired height, and raise the bed section (Gatch bed) under the client's knees. Place a rolled pillow between the client's feet and use the foot of the bed as a brace, if desired. Caution: Observe for signs of dizziness or faintness when you raise the head of the bed.

Figure 8 Knee –Chest position

6. Knee-chest Position: - is used for rectal and vaginal examinations and as treatment to bring the uterus into normal position. The client is on the knees with the chest resting on the bed and the elbow rested on the bed, or with the arms above the head, the client's head is turned to the side. The thighs are straight up and down, and the lower legs are flat on the bed. Caution: The client may become dizzy or faint and fall. Do not leave the client alone.

Figure 9 Lithotomy position

7. Dorsal Lithotomy Position: - is used for examination of pelvic organs. It is similar to dorsal recumbent position, except that the client's legs are well separated and the knees are a cutely flexed. The nurse will usually place the client's feet in stirrups. Keep the client covered as much as possible for privacy.

1.16 Crutch Walking

Crutches: - are walking aids made of wood or metal in the form of a shaft. They reach from the ground to the client's axillae.

Application of Nursing Process

Assessment

- Assess physical ability to use crutches and strength of the client's arm back, and leg muscle.
- Observe client's ability to balance self.
- Note any unilateral or unusual weakness or dizziness.
- Assess which gait is appropriate for client.
- Assess client's understanding of crutch-waking technique.

1.17 Planning/Objective

- To improve client's ability to ambulate when he/she has lower extremity injury.
- To increase muscle strength, especially in arms and legs.
- To increase feeling of well-being when client can ambulate.
- To promote joint mobility

1.18 Implementation/Procedure

- Teaching muscle- strengthening exercises
- Measuring client for crutches
- Teaching crutch walking: Four-point gait, Three-point gait, two-point gait.
- Teaching Swing-To-Gait and Swing-Through Gait
- Teaching upstairs and downstairs ambulation with crutches.

1.19 Evaluation/Expected Outcomes

- Client's ability to ambulate is improved.
- Muscle strength of client's arms and legs is improved
- Client experiences a feeling of well-being

1.20 Teaching Techniques of Crutch Walking

A. Four-Point Gait

Equipment

- Properly fitted crutches
- Regular, hard soled street shoes
- Safety belt, if needed

Self-Check 7	Written Test

1. State the principle underlying proper body mechanics and relate a nursing consideration. (3 point)
2. State the purposes of range of motion exercise. (3 point)
3. Identify principles related to safe movement of clients in and out of bed. (3 point)
4. Demonstrate the ability to move a partially mobile client safely from bed to chair and back. (4 point)
5. Demonstrate the ability to teach each of the crutch walking gaits to a client. (4 point)
6. Mention different positions used for various examination and treatment. (3 point)

Note: **Satisfactory rating - 12 points Unsatisfactory - below 10 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____
Rating: _____
Name: _____ Date: _____

Short Answer Questions

1. _____

_____

_____

_____

2_____

. _____

_____

_____

3._____

_____

_____

_____

4. _____

_____

_____

_____

5. _____

_____

_____

_____

_____

6_____

Information Sheet 8	**Cold Compress**

1.1 Cold Application

Purpose

• To relieve pain: cold decrease prostaglandin's, 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 oc)

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

Systemic effects of Hot – produce a drop in blood pressure – excessive peripheral vasodilatation

1.2 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 o

- For normal adults,40.5 – 46 oc– for debilitated (unconscious patients).

40.5-46 oc 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.

1.3 Local Application of Cold

Application of Cold

• Has systemic and local effect

• Can be applied to the body in two ways

1. Moist

2. Dry

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

Self-Check 8	Written Test

Instruction: Say True if the statement is correct and False if it was Wrong

1. cold decrease prostaglandin's, which intensify the sensitivity of pain receptors (3 Point)
2. Systemic effects of Hot will produce a drop in blood pressure which predispose to excessive peripheral vasodilatation. (3 Point)
3. Being pale or cyanotic or shivers is an indication to discontinue cold compress, (3 Point)
4. Cold compress be applied to the body in moist way only. (3 Point)
5. A cloth (padded gauze) is immersed in cold water and applied in area where we get large superficial vessels (3 Point)

Note: **Satisfactory rating - 8 points Unsatisfactory - below 8 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____
Rating: _____

Name: _____ Date: _____

Short Answer Questions

1. _____

2. _____

3. _____

4. _____

5. _____

Information Sheet 9	Basic patent care: Cold Compress

1.1 Mouth Care

Purpose

- To remove food particles from around and between the teeth
- To remove dental plaque to prevent dental caries
- To increase appetite
- To enhance the client's feelings of well-being
- To prevent sores and infections of the oral tissue
- To prevent bad odor or halitosis

Equipments

- Toothbrush (use the person's private item. If patient has none use of cotton tipped applicator and plain water)
- Tooth paste (use the person's private item. If patient has none of use cotton tipped applicator and plain water)
- Cup of water
- Emesis basin
- Towel
- Denture bowel (if required)
- Cotton tipped applicator, padded applicator
- Vaseline if necessary

Mouth care for unconscious patient

Position

- Side lying with the head of the bed lowered, the saliva automatically runs out by gravity rather than being aspirated by the lungs or if patient's head can not be lowered, turn it to one side: the fluid will readily run out of the mouth, where it can be suctioned
- Rinse the patient's mouth by drawing about 10 ml of water or mouth wash in to the syringe and injecting it gently in to each side of the mouth
- If injected with force, some of it may flow down the clients throat and be aspirated into the lung

Bath (Bathing and Skin Care)

It is a bath or wash given to a patient in the bed who is unable to care for himself/herself.

1. Cleansing bath: Is given chiefly for cleansing or hygiene purposes and includes:

- Complete bed bath: the nurse washes the entire body of a dependent patient in bed
- Self-help bed bath: clients confined to bed are able tobath themselves with help from the nurse for washing the back and perhaps the face
- Partial bath (abbreviated bath): only the parts of the client's body that might cause discomfort or odor, if neglected are washed the face, hands, axilla, perineum and back (the nurse can assist by washing the back) omitted are the arms, chest, and abdomen.
- Tub bath: preferred to bed baths because it is easier to wash and rinse in a tub. Also used for therapeutic baths
- Shower: many ambulatory clients are able to use shower
- The water should feel comfortably warm for the client
- People vary in their sensitivity to heat generally it should be 43-46 oc (110-115of)
- The water for a bed bath should be changed at least once

Before bathing a patient, determine

a. The type of bath the client needs

b. What assistance the client needs

c. Other care the client is receiving – to prevent undue fatigue

d. The bed linen required

Note: *when bathing a client with infection, the caregiver should wear gloves in the presence of body fluids or open lesion.*

Principles

- Close doors and windows: air current increases loss of heat from the body by convection
- Provide privacy – hygiene is a personal matter & the patient will be more comfortable
- The client will be more comfortable after voiding and voiding before cleansing the perineum is advisable
- Place the bed in the high position: avoids undue strain on the nurses back
- Assist the client to move near you – facilitates access which avoids undue reaching and straining
- Make a bath mitt with the washcloth. It retains water and heat better than a cloth loosely held
- Clean the eye from the inner canthus to the outer using separate corners of the wash cloth – prevents transmitting micro organisms, prevents secretions from entering the nasolacrmal duct
- Firm strokes from distal to proximal parts of the extremities increases venous blood return

Purpose:

- To remove transient moist, body secretions and excretions, and dead skin cell
- To stimulate circulation
- To produce a sense of well being
- To promote relaxation, comfort and cleanliness
- To prevent or eliminate unpleasant body odors
- To give an opportunity for the nurse to assess ill clients
- To prevent pressure sores

Two categories of baths given to clients

- Cleansing
- Therapeutic

A. Bed Bath

Equipment

- Trolley
- Bed protecting materials such as rubber sheet and towels
- Bath blanket (or use top linen)
- Two bath towels
- Wash cloth
- Clean pajamas or gown
- Additional bed linens
- Hamper for soiled cloths
- Basin with warm water (43-460c for adult and 38-400c for children)
- Soap on a soap dish
- Hygienic supplies, such as, lotion, powder or deodorants (if required)
- Screen
- Disposable gloves
- Lotion thermometer (if available)

Tub Bath

Typically, bathtubs are low in height to ease the process of getting in and out of the tub. Guide rails are essential. Be sure to assist the client as necessary.

Equipment

- Bath blanket
- Bath mat
- Bath towel
- Soap
- Clean gown or pajama
- Clean bed linen
- Bath thermometer if available
- Disinfectant for cleansing the tub

Back care

Back Care (massage): includes the area from the back and shoulder to the lower buttocks

Purpose

- To relieve muscle tension
- To promote physical and mental relaxation
- To improve muscle and skin functioning
- To relieve insomnia
- To relax patient
- To provide a relieve from pain
- To prevent pressure sores (decubitus)
- To enhance circulation

Three Types of Massage Strokes

1. Effleurage: stroking the body

2. Light, circular friction and straight, dup, firm, strokes

3. Petrissape: kneading and making large quick pinches of the skin, tissue, and muscle

- Clean the back first
- Warm the massage lotion or oil before use by pouring over your hands: cold lotion may startle the client and increase discomfort

1. Effleurage the entire back: has a relaxing sedative effect if slow movement and light pressure re used

2. Petrissape first up the vertebral column and them over the entire back: is stimulating if done quickly with firm presuree

• Assess: signs of relaxation and /or decreased pain (relaxed breathing, decreased muscles tension, drowsiness, and peaceful affect)

⇒ Verbalizations of freedom from pain and tension

⇒ Areas or redness, broken skin, bruises, or other sings of skin breakdown

Note

• *The duration of a massage ranges from 5-20 minutes*

• *Remember the location of bony prominence to avoid direct pressure over this areas*

• *Frequent positioning is preferable to back massage as massaging the back could possibly lead to subcutaneous tissue degeneration.*

NB. Backrub requires special skills as it might cause subcutaneous tissue degeneration; mainly in elderly.

Equipment

- Basin of warm water
- Washcloth
- Towel
- Soap
- Skin care lotion

Information Sheet 10	**Wound care**

1.1 Introduction: wound is any disruption in the skins intactness. It may b accidental or intentional such as abrasion (rubbing off the skin's surface); a puncture wound (stab wound); or laceration (a wound with torn, ragged edges). A wound may be intentional, such as surgical incision (a wound with clean edges). A wound that occurs accidentally is contaminated; intentional wounds are made under sterile condition.

1.2 Wound healing

Wound healing differs according to how much tissue has been damaged. It occurs by first, second, and third intention.

First intention healing occurs in wounds with minimal tissue loss, such as surgical incisions or sutured wounds. Edges are approximated (close to each other); thus they seal together rapidly. Scaring and infection rate with first intention healing are low.

Second intention healing occurs with tissue loss, such as in deep laceration, burns, and pressure ulcers. Because edges don't approximate, openings fill with granulation tissue that is soft and pinkish. Later, epithelial cells grow over the granulation greater than that for first intention healing.

Third intention healing occurs when there is a delay in the time between the injury and closure of the wound. For example, a wound may be left open temporarily to allow for drainage or removal of infectious materials. This type of healing some times occurs after surgery, when the wound closes later. In the mean time, wound surfaces start to granulate. Scaring is common.

1. Dressing of a Clean Wound

Purpose

- To keep wound clean
- To prevent the wound from injury and contamination
- To keep in position drugs applied locally
- To keep edges of the wound together by immobilization
- To apply pressure

Equipment

- Pick up forceps in a container
- Sterile bowl or kidney dish
- Sterile cotton balls
- Sterile galipot
- Sterile gauze
- Three sterile forceps
- Rubber sheet with its cover
- Antiseptic solution as ordered
- Adhesive tape or bandages
- Scissors
- Ointment or other types of drugs as needed
- Receiver
- Spatula if needed
- Benzene or ether.

2. Dressing of Septic Wound

The purpose is to

- Absorb materials being discharge from the wound
- Apply pressure to the area
- Apply local medication
- Prevent pain, swelling and injury

Equipment

- Sterile galipot
- Sterile kidney dish
- Sterile gauze
- Sterile forceps 3
- Sterile test tube or slide
- Sterile cotton- tipped application
- Sterile pair of gloves, if needed, in case of gas gangrene rabies etc.
- Rubber sheet and its cover
- Local medication if ordered
- Spatula
- Receiver with strong disinfectant to immerse used instrument
- Probe and director if required
- Scissors
- Benzene or ether
- Bandages or adhesive tape
- Bucket to put in soiled dressing

N.B.

- If sterile forceps are not available, use sterile gloves
- Immerse used forceps, scissors and other instrument in strong antiseptic solution before cleansing and discard soiled dressing properly.
- In a big ward it is best to give priorities to clean wounds and then to septic wounds, when changing dressings, as this night lessen the risk of cross infection.

- Consideration should be given to provide privacy for the patient while dressing the wound.
- Wounds should not be too tightly packed in effort to absorb discharge as this may delay healing.

4. Dressing with Drainage Tube

Purpose

- Aids to prevent haematoma or collection of fluid in the affected area.

Equipment

- Sterile kidney dish
- Sterile gallipot
- Sterile Scissors
- 3 Sterile forceps
- Sterile cotton balls
- Sterile gauze
- Anti septic solution as ordered
- Sterile safety pins if needed
- Cotton wool or absorbent
- Receiver
- Rubber sheet and its cover
- Adhesive tape or bandage
- Dressing scissors
- Ointment paste or paraffin gauze
- Spatulas if needed
- One pair sterile gloves if available.

Note.

- Safe method should be used for disposing old dressing.
- Gauze and cotton used for cleaning wound.
- Take preventive measures to avoid skin irritation and excoriation.

- If drainage tube is attached to the bottle precaution must be taken to secure the tube in place and avoid the risk of cross infection.

1.3 Wound Irrigation

Purpose

• To cleans and maintain. Free drainage of infected wounds.

Equipment

- Sterile galipot or kidney dish
- Sterile cotton balls
- Sterile gauze
- 3 Sterile forceps
- Sterile catheter
- Sterile syringe 20 cc
- 2 receiver
- Rubber sheet and its cover
- Rubber sheet and its cover
- Solutions (H2O2 or normal saline are commonly used)
- Adhesive tape or bandage
- Bandage scissors
- Receiver for soiled dressings

Note:

• Keep patient in a convinent position. According to the need so that solution will flow from wound down to the receiver.

• Use sterile technique and warn solution for irrigating the wound.

1.4 Suturing

- ***Definition***: The application of stitch on body tissues with the surgical needle & thread.

Purpose

- To approximate wound edges until healing occurs
- To speed up healing of wound

- To minimize the chance of infection
- For esthetic purpose

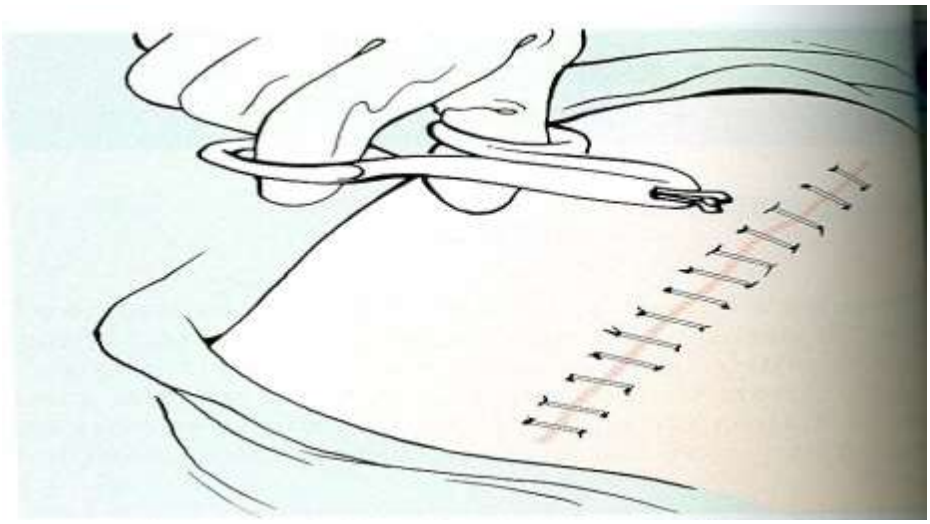
Equipment

- Tray or trolley covered with a sterile towel
- Sterile needle holder
- Sterile round needle (2)
- Sterile cutting needle (2)
- Sterile silk
- Sterile cat- gut
- Sterile tissue forceps
- Sterile suture scissors
- Sterile cotton swabs in a galipots
- Sterile solution for cleaning
- Sterile dressing forceps
- Sterile receiver
- Sterile gauze
- Sterile plaster
- Dressing scissors
- Local anesthesia
- Sterile needle & syringes
- Sterile gloves
- Sterile hole- towel (Fenestrated towel)

Note:

- Do not suture wounds that are over 12 hrs old. How ever, such wounds have to be seen by a doctor since excision of all dead & devitalized tissue and eventual suturing may be required.
- Check that the patient gets his order for T.A.T before he leaves the hospital.
- Do not suture deep wound.

- Before you suture any wound, make sure it is free of any foreign bodies.



Fug 1: Suturing

1.5 Removal of the Stitch

Principles

- Sutures may be removed all at a time or may be removed alternatively.
- Do not cut stitches in more than one place as a part of it may be left behind and may cause infection.
- Suture is lifted slightly by the knot to allow scissors to go under and one part of the suturing from the cleanest part of the wound to the most contaminated part.
- Cleanse the skin around with antiseptic. Remove – gum with benzene or ether and discard the forceps
- Place sterile gauze to receive stitches.
- Take a pair of scissors in the right hand.
- Take a dissecting forceps in the left hand.
- Pull-up gently the knot resting against the skin with the forceps, pass the point of the scissors under the knot then cut the stitch on one side and remove.
- Receive pieces of stitches on a sterile gauze

- Inspect the scar for wound healing and apply iodine on the skin punctures if patient is not sensitive to iodine.
- Apply dressing
- Keep patient comfortable and tide
- Record the state of the wound
- Clean and return equipment to their proper places.

1.6 Clips

Definition: Metal suture used to stitch the skin

Purpose

- Some *as suturing with stitch*

Equipment

- Michel clip applier
- Clip
- Tissue forceps (toothed dissecting forceps)
- Cleaning material- same as stuttering with stitch.

Procedure

The first part of procedure is the same as for suturing with stitch *Except* that instead of suturing the skin with thread and needle you would apply clips with the applier.

Removal of Clips

Technique

Use aseptic technique

Equipment

- Sterile gauze
- Sterile cotton balls
- Sterile kidney dish
- Sterile forceps 3
- Sterile clip removal forceps
- Antiseptic solution (Savalon 1% and iodine)

- Receiver
- Benzene or ether
- Adhesive tape or bandage

Self-Check 9	**Written Test**

1. Identify different types of wound care. (4 Point)
2. Mention three types of wound healing intentions. (4 Point)
3. Mention the purposes of septic wound dressing. (4 Point)
4. Describe suturing. (4 Point)
5. What is clip? (4 Point)

Note: **Satisfactory rating - 12 points Unsatisfactory - below 10 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____
Rating: _____
Name: _____ Date: _____

Short Answer Questions

1. _____

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Information Sheet 11	Perineal Care (Perineal – Genital Care)

1.1 Perineal Area:

• Is located between the thighs and extends from the symphysis pubis of the pelvic bone (anterior) to the anus (posterior).

• Contains sensitive anatomic structures related to sexuality, elimination and reproduction

1.2 Perineal Care (Hygiene)

• Is cleaning of the external genitalia and surrounding area

• Always done in conjunction with general bathing

1.3 Patients in special needs of perineal care

- Post partum and surgical patients (surgery of the perineal area)

- Non surgical patients who unable to care for themselves
- Patients with catheter (particularly indwelling catheter)

***Other indications for perineal care are*:**

1. Genito- urinary inflammation
2. Incontinence of urine and feces
3. Excessive secretions or concentrated urine, causing skin irritation or excoriation

1.4 Purpose

- To remove normal perineal secretions and odors
- To prevent infection (e.g. when an indwelling catheter is in place)
- To promote the patient's comfort
- To facilitate wound healing process

Equipments

- Bath towel
- Cotton balls and gauze squares
- Pitcher with worm water or/and prescribed solution in container
- Gloves
- Bed pan
- Bed protecting materials
- Perineal pad or dressing (if needed)

1.5 Male Perineum

- The penis contains pathways for urination and ejaculation through the urethral orifice (meatus)
- At the end of the penis is the glans covered by a skin flap (fore skin or prepuce)
- The urethral orifice is located in the center of the penis and opens at the tip

Note

- *Following genital or rectal surgery, sterile supplies may be required for cleaning the operative site, E.g. Sterile cotton balls*
- *The operative site and perineal area may be washed with an antiseptic solution – apply by squirting them on the perineum from a squeeze bottle*

1.6 Care

- Hold the shaft of the penis firmly with one hand and the wash cloth with the other – to prevent erection – embarrassment
- Use a circular motion, cleaning from the center to theperiphery
- Use a separate section of the wash cloth

1.7 Position

- Lying in bed with knee flexed to clean the perineal part andside lying cleaning the perineal area

N.B: The urethral orifice is the cleanest area and the anal orifice isthe dirtiest area – always stroke from front to back to wash from 'clean' to 'dirty' parts

Note: *Entry of organisms into the urethral orifice can cause UTI*

1.8 Caring for fingernails and toenails

- **Definition:** Nail cutting that one of nursing care and general care for personal hygiene is to cut nails on hands and foots.

Purpose:

1. To keep nails clean
2. To make neatness
3. To prevent the client's skin from scratching
4. To avoid infection caused by dirty nail

Equipment required

1. Nail Cutter (1)
2. Gallipot with water (1): for cotton
3. Kidney tray (1)
4. Sponge cloth (1)
5. Middle towel (1)
6. Mackintosh (1)
7. Plastic bowl in small size (1)
8. Soap with soap dish (1).

1.9 Hair Care

- Hair care usually done after the bath and as daily hygienic activities in a daily base. Hair care includes combing (brushing of hair), washing/shampooing of hair and pediculosis treatment.

1.10 Combing/Brushing of Hair

- A patient hair should be combed and brushed daily most patients do this themselves if the required materials provided and others may need nurse's help (assistance)

Purpose

- Stimulates the blood circulation to the scalp
- Distribute hair oils evenly and provide a healthy sheem
- Increase the patient's sense of well-being.

Equipments

- Comb (which is large with open and long toothed)
- Hand mirror
- Towel
- Lubricant/oils (if required)

Self-Check 10	**Written Test**

1. Define perinal care (3 point)
2. Mention the function of perinal care (3 point)
3. List the importance of hair care (3 point)
4. Describe method of finger and toe nail care (3 point)
5. List the function of combing/Brushing of Hair (3 point)

Note: **Satisfactory rating - 12 points Unsatisfactory - below 10 points**

You can ask you teacher for the copy of the correct answers

Answer Sheet

Score = _____
Rating: _____
Name: _____ Date: _____

Short Answer Questions

1. _____

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Information Sheet 12	Advanced patient care

1.1 Colostomy: A colostomy is an operation to divert one end of the colon (part of the bowel) through an opening in the tummy.

The opening is called a stoma. A pouch can be placed over the stoma to collect your poo (stools).

A colostomy can be permanent or temporary.

When a colostomy is needed

A colostomy may be needed if, as the result of an illness, injury or problem with your digestive system, you can't pass stools through your anus.

You may have a colostomy to treat:

- bowel cancer
- Crohn's disease
- diverticulitis
- anal cancer
- vaginal cancer or cervical cancer
- bowel incontinence
- Hirschsprung's disease

A colostomy is often used after a section of the colon has been removed and the bowel can't be joined back together.

This may be temporary and followed by another operation to reverse the colostomy at a later date, or it may be permanent.

How a colostomy is carried out

A colostomy is carried out under general anaesthetic using either:

- **open surgery (laparotomy)** – where a long cut (incision) is made in the tummy to access the colon, or
- **laparoscopic (keyhole surgery)** – where the surgeon makes several smaller incisions and uses a tiny camera and surgical instruments to access the colon

Generally, keyhole surgery is the preferred option because recovery is quicker and the risk of complications is lower.

There are two main types of colostomy: a loop colostomy and an end colostomy. The specific technique used will depend on your circumstances.

A loop colostomy is often used if the colostomy is temporary as it's easier to reverse.

1.2 Loop colostomy

In a loop colostomy, a loop of colon is pulled out through a cut in your tummy. The loop is opened up and stitched to your skin to form an opening called a stoma.

The stoma has two openings that are close together. One is connected to the functioning part of your bowel, where waste leaves your body after the operation.

The other opening is connected to the "inactive" part of your bowel, leading to your rectum.

In some cases, a support device (a rod or bridge) may be used to hold the loop of colon in place while it heals. It's usually removed after a few days.

1.3 End colostomy

With an end colostomy, one end of the colon is pulled out through a cut in your tummy and stitched to the skin to create a stoma.

An end colostomy is often permanent, but temporary end colostomies are sometimes used in emergencies to treat bowel obstructions, colon injuries or bowel cancer.

1.4 The stoma

The position of the stoma will depend on the section of your colon that's diverted, but it's usually on the left-hand side of your tummy, below your waist.

If the operation is planned in advance, you'll meet a specialist stoma nurse to discuss the positioning of the stoma.

The stoma will be red and moist and may bleed slightly, particularly in the beginning – this is normal. It shouldn't be painful as it doesn't have a nerve supply.

Stomas can vary in shape and size – some are fairly flat, while others protrude slightly.

1.5 Recovering from a colostomy

After having a colostomy, you'll need to recover in hospital for a few days.

You may have:

- a drip in your vein to provide fluids
- a catheter to drain urine from your bladder
- an oxygen mask to help you breathe

A clear colostomy bag will be placed over the stoma so it can be easily monitored and drained. The first bag is often quite large – it'll usually be replaced with a smaller bag before you go home.

1.6 Going home

Most people are well enough to leave hospital 3 to 10 days after having a colostomy.

Once home, avoid strenuous activities that could place a strain on your abdomen, such as lifting heavy objects.

Your stoma nurse will give you advice about how soon you can go back to normal activities.

In the first few weeks after your operation, you may have more wind than usual (flatulence), and a discharge from your stoma.

This should start to improve as your bowel recovers from the effects of the operation.

1.7 Tracheotomy

1.7.1 Introduction: Airway access for mechanical ventilation can be provided either by a trans laryngeal endotracheal or tracheostomy tube.

During episodes of acute respiratory failure, patients are generally ventilated through an endotracheal tube.

Changing to a tracheostomy tube is often considered when the need for mechanical ventilation is expected to be prolonged.

Tracheostomy is a utilitarian surgical procedure of access; therefore, it should be discussed in light of the problem it addresses: access to the tracheobronchial tree.

The trachea is a conduit between the upper airway and the lungs that delivers moist warm air and expels carbon dioxide and sputum.

Failure or blockage at any point along that conduit can be most readily corrected with the provision of access for mechanical ventilators and suction equipment.

In the case of upper airway obstruction, tracheostomy provides a path of low resistance for air exchange.

1.7.2 Indications:

General indications include the following:

- Congenital anomaly (eg, laryngeal hypoplasia, vascular web)
- Upper airway foreign body that cannot be dislodged with Heimlich and basic cardiac life support maneuvers

- Supraglottic or glottic pathologic condition (eg, infection, neoplasm, bilateral vocal cord paralysis)
- Neck trauma that results in severe injury to the thyroid or cricoid cartilages, hyoid bone, or great vessels
- Subcutaneous emphysema
- Facial fractures that may lead to upper airway obstruction (eg, comminuted fractures of the mid face and mandible)
- Upper airway edema from trauma, burns, infection, or anaphylaxis
- Prophylaxis (as in preparation for extensive head and neck procedures and the convalescent period)
- Severe sleep apnea not amendable to continuous positive airway pressure devices or other less invasive surgery

Tracheostomy may also be performed to provide a long-term route for mechanical ventilation in cases of respiratory failure or to provide pulmonary toilet in the following cases:

- Inadequate cough due to chronic pain or weakness
- Aspiration and the inability to handle secretions

1.7.3 Contraindications

No absolute contraindications exist for tracheostomy.

A strong relative contraindication to discrete surgical access to the airway is the anticipation that the blockage is a laryngeal carcinoma.

The definitive procedure (usually a laryngectomy) is planned, and prior manipulation of the tumor is avoided because it may lead to increased incidence of stomal recurrence.

The following patients are commonly recognized to be unfavorable candidates:

- Patients with obesity
- Patients with abnormal or poorly palpable midline neck anatomy
- Patients who need emergency airways
- Patients with coagulopathy
- Pediatric patients

- Patients with enlarged thyroids

1.7.4 Complication prevention

Potential complications are due to direct injury.

Bedside ultrasound is often used to survey the tracheostomy site during the planning stage, especially for percutaneous tracheostomies.

This is to identify vessels that may be under the intended incision and to help avoid injury.

1.8 Lumbar puncture

1.8.1 Introduction

Lumbar puncture is a procedure that is often performed in the emergency department to obtain information about the cerebrospinal fluid (CSF).

Although usually used for diagnostic purposes to rule out potential life-threatening conditions (eg, bacterial meningitis or subarachnoid hemorrhage), it is also sometimes used for therapeutic purposes (eg, treatment of pseudotumor cerebri).

CSF fluid analysis can also aid in the diagnosis of various other conditions (eg, demyelinating diseases and carcinomatous meningitis).

Lumbar puncture should be performed only after a neurologic examination but should never delay potentially life-saving interventions, such as the administration of antibiotics and steroids to patients with suspected bacterial meningitis.

Relevant Anatomy

The lumbar spine consists of 5 moveable vertebrae numbered L1-L5.The lumbar vertebrae have a vertical height that is less than their horizontal diameter. They are composed of the following 3 functional parts:

- The vertebral body, designed to bear weight
- The vertebral (neural) arch, designed to protect the neural elements
- The bony processes (spinous and transverse), which function to increase the efficiency of muscle action

The lumbar vertebral bodies are distinguished from the thoracic bodies by the absence of rib facets. The lumbar vertebral bodies (vertebrae) are the heaviest components, connected together

by the intervertebral discs. The size of the vertebral body increases from L1 to L5, indicative of the increasing loads that each lower lumbar vertebra absorbs. Of note, the L5 vertebra has the heaviest body, smallest spinous process, and thickest transverse process.

For more information about the relevant anatomy, see Lumbar Spine Anatomy.

1.8.2 Indications

Lumbar puncture should be performed for the following indications:

- Suspicion of meningitis
- Suspicion of subarachnoid hemorrhage (SAH)
- Suspicion of central nervous system (CNS) diseases such as Guillain-Barré syndrome [6] and carcinomatous meningitis
- Therapeutic relief of pseudotumor cerebri [7]

1.8.3 Contraindications

Absolute contraindications for lumbar puncture are the presence of infected skin over the needle entry site and the presence of unequal pressures between the supratentorial and infratentorial compartments. The latter is usually inferred from the following characteristic findings on computed tomography (CT) of the brain:

- Midline shift
- Loss of suprachiasmatic and basilar cisterns
- Posterior fossa mass
- Loss of the superior cerebellar cistern
- Loss of the quadrigeminal plate cistern

Relative contraindications for lumbar puncture include the following:

- Increased intracranial pressure (ICP)
- Coagulopathy
- Brain abscess

Indications for performing brain CT scanning before lumbar puncture in patients with suspected meningitis include the following

- Patients who are older than 60 years

- Patients who are immunocompromised
- Patients with known CNS lesions
- Patients who have had a seizure within 1 week of presentation
- Patients with an abnormal level of consciousness
- Patients with focal findings on neurologic examination
- Patients with papilledema seen on physical examination, with clinical suspicion of an elevated ICP

Cranial CT scanning should be obtained before lumbar puncture in all patients with suspected SAH in order to diagnose obvious intracranial bleeding or any significant intracranial mass effect that might be present in awake and alert SAH patients with a normal neurologic examination.

1.8.4 Complication prevention

The following measures should be taken to help minimize complications of lumbar puncture:

- Explain the procedure, benefits, risks, complications, and alternative options to the patient or the patient's representative, and obtain a signed informed consent
- Before performing the lumbar puncture, ensure that patients are hydrated so as to avoid a dry tap
- Never allow a lumbar puncture or a pre–lumbar puncture CT scan to delay administration of intravenous (IV) antibiotics; meningitis can usually be inferred from the cell count, antigen detection, or both
- Avoid lumbar puncture in patients in whom the disease process has progressed to the neurologic findings associated with impending cerebral herniation (ie, deteriorating level of consciousness and brainstem signs that include pupillary changes, posturing, irregular respirations, and very recent seizure)

1.8.5 Equipment

A spinal or lumbar puncture tray (see the image below) should include the following items:

- Sterile dressing
- Sterile gloves
- Sterile drape

- Antiseptic solution with skin swabs
- Lidocaine 1% without epinephrine
- Syringe, 3 mL
- Needles, 20 and 25 gauge
- Spinal needles, 20 and 22 gauge
- Three-way stopcock
- Manometer
- Four plastic test tubes, numbered 1-4, with caps
- Syringe, 10 mL (optional)

1.8.6 Patient Preparation

Local anesthesia is employed for lumbar puncture (see Technique and Local Anesthetic Agents, Infiltrative Administration).

The patient is placed in the lateral recumbent position (see the image below) with the hips, knees, and chin flexed toward the chest so as to open the interlaminar spaces. A pillow may be used to support the head. In a single-center prospective study, performance of lumbar puncture in the

extended rather than the flexed lateral recumbent position yielded a statistically significant decrease in the cerebrospinal fluid (CSF) opening pressure, but the difference (mean, 0.6 ± 2.2 cm water) was small and of doubtful clinical significance.

The sitting position (see the image below) may be a helpful alternative, especially in obese patients, because it makes it easier to confirm the midline. In order to open the interlaminar spaces, the patient should lean forward and be supported by a Mayo stand with a pillow on it, by the back of a stool, or by another person.

If the procedure is performed with the patient in the sitting position and an opening pressure is required (as in the case of pseudotumor cerebri), replace the stylet and have an assistant help the patient into the left lateral recumbent position. There are no data suggesting that a position change will increase the risk of spinal headache or transection of the spinal nerves. Take care, however, not to change the orientation of the spinal needle during this maneuver.

Lumbar Puncture

Wearing nonsterile gloves, locate the L3-L4 interspace by palpating the right and left posterior superior iliac crests and moving the fingers medially toward the spine (see the image below).

Palpate that interspace (L3-L4), the interspace above (L2-L3), and the interspace below (L4-L5) to find the widest space. Mark the entry site with a thumbnail or a marker. To help open the interlaminar spaces, ask the patient to practice pushing the entry site area out toward the practitioner.

Open the spinal tray, change to sterile gloves, and prepare the equipment. Open the numbered plastic tubes, and place them upright (see the image below). Assemble the stopcock on the manometer, and draw the lidocaine into the 10-mL syringe.

CSF collection tubes. Image courtesy of Gil Z Shlamovitz, MD.

Use the skin swabs and antiseptic solution to clean the skin in a circular fashion, starting at the L3-L4 interspace and moving outward to include at least 1 interspace above and 1 below (see the video below). Just before applying the skin swabs, warn the patient that the solution is very cold; application of an unexpectedly cold solution can be unnerving for the patient.\

1.9 Postural Drainage

1.9.1 What is postural drainage?

Postural drainage sounds complicated, but it's really just a way to use gravity to drain mucus out of your lungs by changing positions. It's used to treat a variety of conditions, including chronic diseases such as cystic fibrosis and bronchiectasis, as well as temporary infections, such as pneumonia.

The goal is to move mucus into the central airway, where it can be coughed up. It's safe for people of all ages and can be done either at home or in a hospital or nursing facility.

Postural drainage is often done at the same time as percussion, sometimes called clapping, which involves someone clapping on back, chest, or sides with a cupped hand in order to shake mucus loose from the lungs.

These techniques, along with vibration, deep breathing, and huffing and coughing, are referred to as chest physiotherapy, chest physical therapy, or airway clearance therapy.

1.9.2 General guidelines

- Each position should be held for a minimum of five minutes.
- Positions can be done on a bed or on the floor.
- In each position, your chest should be lower than your hips to allow mucus to drain.
- Use pillows, foam wedges, and other devices to make yourself as comfortable as possible.
- While in the positions, try to breathe in through your nose and out through your mouth for longer than you breathe in for maximum effectiveness.
- Do these positions in the morning to clear mucus that's built up overnight or right before bed to prevent coughing during the night.

1.9.3 Does postural drainage work

- Several studies have been done on general chest physiotherapy, but very few specifically address postural drainage.
- A review of published studies found that chest physiotherapy techniques provided short-term relief for people with cystic fibrosis but didn't have any long-term effects.
- Another study found that the active cycle of breathing techniques may be more effective than postural drainage for people with bronchiectasis.
- For people with pneumonia, a review of studies suggested that postural drainage isn't an effective treatment method. However, the authors noted that most of the available studies were done 10 to 30 years ago, and chest physiotherapy techniques have come a long way since then.
- More research is needed to know how effective postural drainage really is. In the meantime, your doctor may be able to suggest postural drainage positions or other chest physiotherapy techniques that may work for you. They can also refer you to a respiratory therapist or physical therapist who specializes in chest physiotherapy.

1.9.4 Are there any risks associated with postural drainage?

- Vomiting if postural drainage performed right after eating.
- Try to do the positions before eating or 1 1/2 to 2 hours after a meal.
- If left untreated, mucus in the lungs can turn into a serious condition, so make sure to follow up to doctor if decide to try postural drainage. It may need additional treatment.
- Mucus in the lungs can also be a sign of an underlying condition that needs medical treatment, such as chronic pulmonary obstructive disease (COPD).

1.9.5 When to call a doctor

Get emergency treatment if you have any of the following symptoms during or after postural drainage:

- shortness of breath
- trouble breathing
- confusion
- skin that turns blue
- coughing up blood
- severe pain

1.10 Thoracentesis

1.10.1 What is a thoracentesis?

Thoracentesis, also known as a pleural tap, is a procedure done when there's too much fluid in the pleural space.

This allows a pleural fluid analysis to be performed in the lab to figure out the cause of fluid accumulation around one or both of the lungs.

The pleural space is the small space between the lungs and the chest wall.

This space typically contains approximately 4 teaspoons of fluid. Some conditions can cause more fluid to enter this space.

These conditions include:

- cancer tumors
- pneumonia or other lung infection
- congestive heart failure

- chronic lung diseases

This is called pleural effusion. If there's excess fluid, it can compress the lungs and cause difficulty breathing.

The goal of a thoracentesis is to drain the fluid and make it easier for you to breathe again.

In some cases, the procedure will also help your doctor discover the cause of the pleural effusion.

The amount of fluid drained varies depending on the reasons for performing the procedure.

It typically takes 10 to 15 minutes, but it can take longer if there's a lot of fluid in the pleural space.

It may also perform a pleural biopsy at the same time, to get a piece of tissue from the lining of your inner chest wall.

Abnormal results on a pleural biopsy can indicate certain causes for the effusion, including:

- the presence of cancer cells, such as lung cancer
- mesothelioma, which is an asbestos-related cancer of the tissues that cover the lungs
- collagen vascular disease
- viral or fungal diseases
- parasitic disease

1.10.2 Preparing for a thoracentesis

There's no special preparation for a thoracentesis. However, you should talk to your doctor if you have any questions or concerns about the procedure. You should also tell your doctor if you:

- are currently taking medications, including blood thinners like aspirin, clopidogrel (Plavix), or warfarin (Coumadin)
- are allergic to any medications
- have any bleeding problems
- may be pregnant
- have lung scarring from previous procedures
- currently have any lung diseases like lung cancer or emphysema

1.10.3 What is the procedure for a thoracentesis?

Thoracentesis can be done in a doctor's office or in a hospital. It's typically done while patents awake, but he may be sedated.

After sitting in a chair or lying on a table, patents will be positioned in a way that allows the doctor to access the pleural space.

An ultrasound may be done to ascertain the correct area where the needle will go.

The selected area will be cleaned and injected with a numbing agent.

Your doctor will insert the needle or tube below your ribs into the pleural space.

You might feel an uncomfortable pressure during this process, but you should keep very still. The excess fluid will then be drained out.

Once all the fluid is drained, a bandage will be put on the insertion site.

To ensure there are no complications, patents may be asked to stay overnight in the hospital to be monitored.

A follow-up X-ray may be performed right after the thoracentesis.

1.10.4 What are the risks of the procedure?

Every invasive procedure has risks, but side effects are uncommon with thoracentesis. Possible risks include:

- pain
- bleeding
- air accumulation (pneumothorax) pushing on the lung causing a collapsed lung
- infection

Your doctor will go over the risks before the procedure.

Thoracentesis is not an appropriate procedure for everyone. Your doctor will determine if you're a good candidate for thoracentesis. People who've had recent lung surgery may have scarring, which can make the procedure difficult.

People who should not undergo thoracentesis include people:

- with a bleeding disorder
- taking blood thinners
- with heart failure or enlargement of the heart with trapped lung

1.10.5 Following up after the procedure

After the procedure is over, patents vitals will be monitored, and he may have an X-ray of patents lungs taken. Patents will allow go home if his breathing rate, oxygen saturation, blood pressure, and pulse are all good.

Most people who have a thoracentesis can go home the same day.

Patents will be able to return to most of his normal activities soon after the procedure. However, doctor may recommend that patents avoid physical activity for several days after the procedure.

Doctor will explain how to take care of the puncture site.

Make sure to call doctor if patents begin to have any signs of infection.

Symptoms of infection include:

- trouble breathing
- coughing up blood
- fever or chills
- pain when you take deep breaths
- redness, pain, or bleeding around the needle site

1.11 Paracentesis

1.11.1 Background

Paracentesis is a procedure in which a needle or catheter is inserted into the peritoneal cavity to obtain ascitic fluid for diagnostic or therapeutic purposes.

Ascitic fluid may be used to help determine the etiology of ascites, as well as to evaluate for infection or presence of cancer.

Causes of transudative ascites include the following:

- Hepatic cirrhosis
- Alcoholic hepatitis
- Heart failure

- Fulminant hepatic failure
- Nephrotic syndrome
- Portal vein thrombosis

Causes of exudative ascites include the following:

- Peritoneal carcinomatosis
- Inflammation of the pancreas or biliary system
- Peritonitis
- Ischemic or obstructed bowel

An alternative way of differentiating ascites due to portal hypertension from that due to other causes is to measure ascitic fluid viscosity with a cutoff of 1.65.

1.12.2 Spontaneous bacterial peritonitis

Infection of ascitic fluid without intra-abdominal infection usually occurs in patients with chronic liver disease due to translocation of enteric bacteria.

Common pathogens include *Escherichia coli, Klebsiella pneumoniae,* enterococcal species, and *Streptococcus pneumoniae*.

1.12.3 Indications

Diagnostic tap is used for the following:

- New-onset ascites - Fluid evaluation helps to determine etiology, differentiate transudate versus exudate, detect the presence of cancerous cells, or address other considerations
- Suspected spontaneous or secondary bacterial peritonitis
- Refractory ascites

Therapeutic tap is used for the following:

- Respiratory compromise secondary to ascites
- Abdominal pain or pressure secondary to ascites (including abdominal compartment syndrome)

1.12.4 Contraindications

An acute abdomen that requires surgery is an absolute contraindication.

Other relative contraindications include the following:

- Pregnancy
- Distended urinary bladder
- Abdominal wall cellulitis
- Distended bowel
- Intra-abdominal adhesions

1.12.5 Patient Education and Consent

Explain the procedure, benefits, risks, complications, and alternative options to the patient or the patient's representative, and obtain signed informed consent.

Equipment

The equipment required can be found in a disposable paracentesis/thoracocentesis kit (see the image below).

Fig 1 Paracentesis/thoracocentesis tray.

Equipment includes the following:

- Antiseptic swab sticks
- Fenestrated drape
- Lidocaine 1%, 5-mL ampule
- Syringe, 10 mL
- Injection needles, 22-gauge (two)
- Injection needle, 25-gauge

- Scalpel, No. 11 blade
- Catheter, 8 French, over 18-gauge × 7.5-in. needle with three-way stopcock, self-sealing valve, and a 5-mL Luer-Lok syringe
- Syringe, 60 mL
- Introducer needle, 20-gauge
- Tubing set with roller clamp
- Drainage bag or vacuum container
- Specimen vials or collection bottles (three)
- Gauze, 4 × 4 in.
- Adhesive dressing

1.12.6 Patient Preparation

Anesthesia

Local anesthesia with injection of lidocaine is employed.

Positioning

Patients with severe ascites can be positioned supine. Patients with mild ascites may need to be positioned in the lateral decubitus position, with the skin entry site near the gurney. The lateral decubitus position is advantageous because air-filled loops of bowel tend to float in a distended abdominal cavity.

The two recommended areas of abdominal wall entry for paracentesis are as follows (see the image below):

- 2 cm below the umbilicus in the midline (through the linea alba)
- 5 cm superior and medial to the anterior superior iliac spines on either side

1.12.7 Paracentesis Technique

Ensure that the patient's bladder is empty, either through voluntary emptying on the part of the patient or through the use of a Foley catheter.

Position the patient, and prepare the skin around the entry site with an antiseptic solution (see the first image below). Apply a sterile fenestrated drape to create a sterile field

Ensure that the patient's bladder is empty, either through voluntary emptying on the part of the patient or through the use of a Foley catheter.

Position the patient, and prepare the skin around the entry site with an antiseptic solution (see the first image below). Apply a sterile fenestrated drape to create a sterile field (see the second image below).

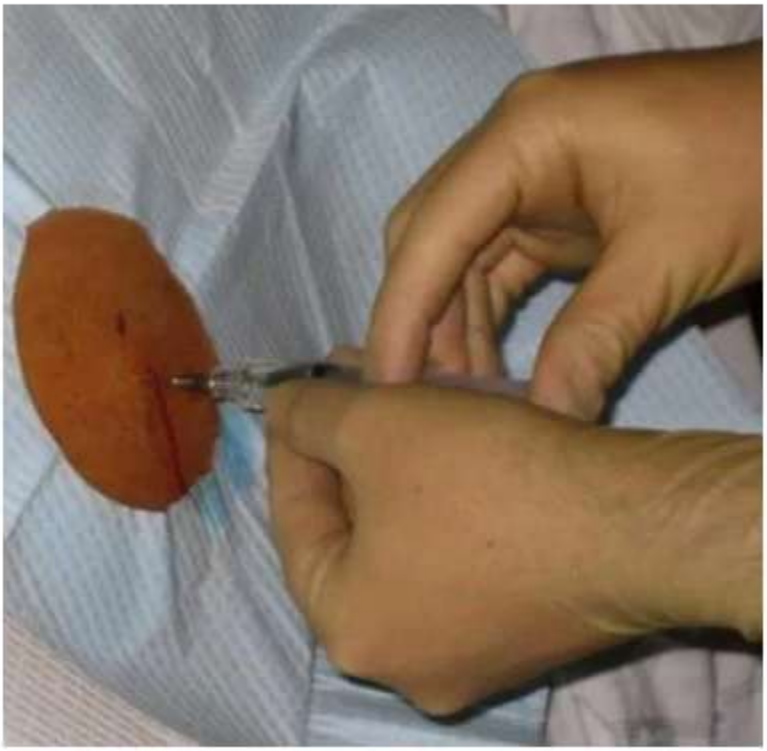
Paracentesis. Application of antiseptic solution.

Paracentesis. Draping.

Use the 5-mL syringe and the 25-gauge needle to raise a small lidocaine skin wheal around the skin entry site (see the image below).

Paracentesis. Local anesthesia: skin wheal.

Switch to the longer 20-gauge needle, and administer 4-5 mL of lidocaine along the catheter insertion tract (see the image below). Make sure to anesthetize all the way down to the peritoneum. The authors recommend alternating injection and intermittent aspiration down the tract until ascitic fluid is noticed in the syringe. Note the depth at which the peritoneum is entered. In obese patients, reaching the peritoneum may involve passing through a significant amount of adipose tissue.



Paracentesis. Local anesthesia: deeper injection.

Use the No. 11 scalpel blade to make a small nick in the skin to allow easier passage of the catheter (see the image below).

Paracentesis. Skin nick for passage of catheter.

Insert the needle directly perpendicular to the selected skin entry point (see the image below). Slow insertion in increments of 5 mm is preferred to minimize the ris of inadvertent vascular entry or puncture of the small bowel.

Paracentesis. Insertion of needle into selected skin entry point.

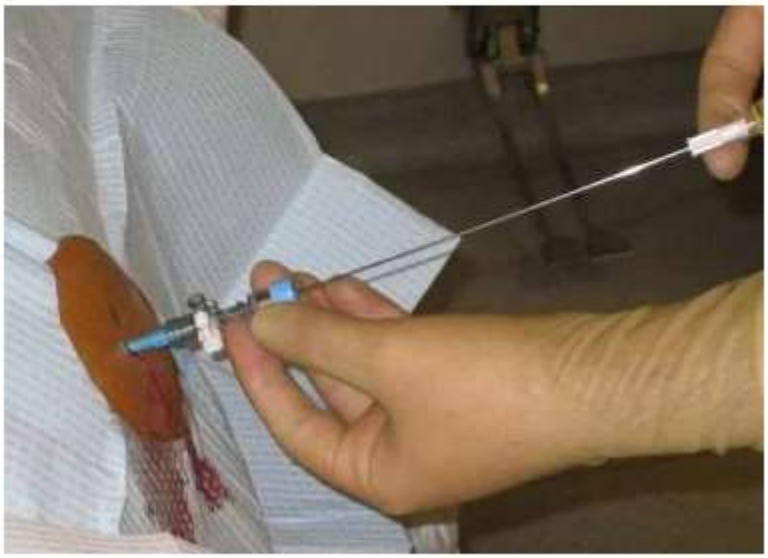
Continuously apply negative pressure to the syringe as the needle is advanced. Upon entry into the peritoneal cavity, loss of resistance is felt, and ascitic fluid can be seen filling the syringe (see the image below). At this point, advance the device 2-5 mm into the peritoneal cavity to prevent misplacement during catheter advancement. In general, avoid advancing the needle deeper than the safety mark present on most commercially available catheters or deeper than 1 cm beyond the depth at which ascitic fluid was noticed in the lidocaine syringe.

Paracentesis. Filling of syringe with ascitic fluid upon peritoneal entry.

Use one hand to firmly anchor the needle and syringe securely in place to prevent the needle from entering further into the peritoneal cavity (see the image below).

Paracentesis. Stabilization of needle and syringe.

Use the other hand to hold the stopcock and catheter and advance the catheter over the needle and into the peritoneal cavity all the way to the skin (see the image and video below). If any resistance is noticed, the catheter was probably misplaced into the subcutaneous tissue. If this is the case, withdraw the device completely and reattempt insertion. When withdrawing the device, always remove the needle and catheter together as a unit in order to prevent the bevel from cutting the catheter.



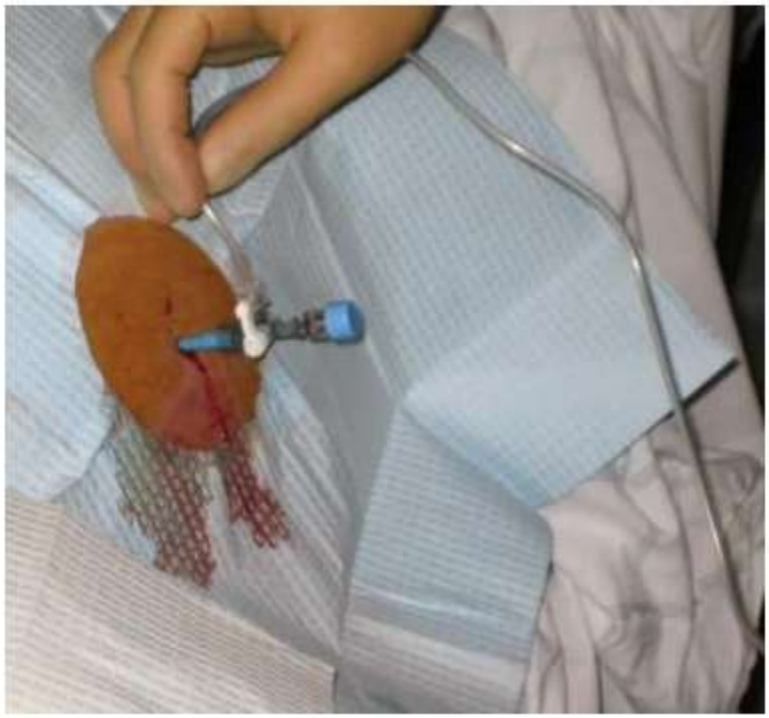
Paracentesis. Advancing catheter over needle.

While holding the stopcock, pull the needle out. The self-sealing valve prevents fluid leak.

Attach the 60-mL syringe to the three-way stopcock and aspirate to obtain ascitic fluid, and distribute it to the specimen vials (see the images and video below). Use the three-way valve as needed to control fluid flow and prevent leakage when no syringe or tubing is attached.

Paracentesis. Sample collection.

Connect one end of the fluid collection tubing to the stopcock and the other end to a vacuum bottle or a drainage bag (see the images below).



Paracentesis. Connection of collecting tube.

Paracentesis. Drainage of ascitic fluid into vacuum bottle.

A study by Kelil et al demonstrated that the use of wall suction and plastic canisters to drain and collect fluid during image-guided therapeutic paracenteses was a safe alternative to the use of evacuated glass bottles and reduced per-procedure costs. [25]

The catheter can become occluded by a loop of bowel or omentum. If the flow stops, kink or clasp the tubing to avert loss of suction, then break the seal and manipulate the catheter slightly, and finally reconnect and see if flow resumes. Rotating the catheter about the long axis can sometimes reinstitute flow in models with side ports.

After the desired amount of ascitic fluid has been drained, remove the catheter (see the image below). Apply firm pressure to stop bleeding, if present. Place a bandage over the skin puncture site.

1.12.8 Complications

Complications from paracentesis may include the following:

- Failed attempt to collect peritoneal fluid
- Persistent leak from the puncture site
- Wound infection

- Abdominal wall hematoma
- Spontaneous hemoperitoneum - This rare complication is due to mesenteric variceal bleeding after removal of a large amount of ascitic fluid (>4 L).
- Hollow viscus perforation (small or large bowel, stomach, bladder)
- Catheter laceration and loss in abdominal cavity
- Laceration of major blood vessel (aorta, mesenteric artery, iliac artery)
- Postparacentesis hypotension
- Dilutional hyponatremia
- Hepatorenal syndrome

Self-Check 11	Written Test

1. What is colostomy? (2 Point)
2. What are the indications for colostomy? (4 Point)
3. What are the contraindications for colostomy? (4 Point)
4. What is tracheostomy? (2 Point)
5. What are the indications for tracheostomy? (4 Point)
6. What are the contraindications for tracheostomy? (4 Point)
7. What is Lumbar puncture? (2 Point)
8. What are the indications for Lumbar puncture? (4 Point)
9. What are the contraindications for Lumbar puncture? (4 Point)
10. What is postural drainage? (2 Point)
11. What are the indications for postural drainage? (4 Point)
12. What are the contraindications for postural drainage? (4 Point)
13. What is Thoracentesis? (2 Point)
14. What are the indications for postural drainage? (4 Point)
15. What are the contraindications for postural drainage? (4 Point)
16. What is paracentesis? (2 Point)
17. What are the indications paracentesis? (4 Point)
18. What are the contraindications for paracentesis? (4 Point)
19. What are possible complications of paracentesis? (4 Point)
20. What is the major complication rate of paracentesis? (4 Point)

Note: **Satisfactory rating - 40 points Unsatisfactory - below 40 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____
Rating: _____
Name: _____ Date: _____

Short Answer Questions

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11. Basic Clinical Nursing Skills LECTURE NOTES (2002) For Nursing Students Abraham Alano,

Pripared By

No	Name	Educational Back grund	LEVEL	Region	College	Email	Phaone Number
1	Middega Jbril	Nursing	B	oromia	Nagelle HSC	midhagadhangago@gmail.com	0091318425
2	Biratu Ebessa	Nursing	A	BGRS	Pawi HSC	biratuebs004@gmail.com	0915926607
3	Ali Adan Mohamed	Nursing	A	Somali	Jigjiga HSC	alishide120@gmail.com	0912866022
4	Tariku Abebe	Nursing	A	oromia	Mettu HSC	gessessetariku@gmail.com	0917831032
5	Birhanu Tessisa	Nursing	B	oromia	Nekemte HSC	birhanutessisa3@gmail.com	0913327601
6	Eskender Birhanu	Nursing	B	Harari	Harar HSC	amenaesender@gmail.com	0933259187
7	Ferhan Abubeker	Nursing	A	Harari	Harar HSC	Feru_ab@yahoo.com	0915742083