



Nursing Level III

Perform Basic Nursing Care Procedures and Techniques

Learning Guide # 33

Unit of Competence: Perform Basic Nursing
Care Procedures and Techniques

Module Title: Performing Basic Nursing Care
procedures and techniques

LG Code: HTL NUR3 M06 LO7-LG 31

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LO 7: Assist and perform therapeutic and
diagnostic procedures



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

7. Assist and perform therapeutic and diagnostic procedures

- 7.1. Enemas
- 7.2. Securing IV cannula
- 7.3. Vein cut down
- 7.4. Thoracentesis
- 7.5. postural drainage
- 7.6. chest water seal drainage system
- 7.7. Suctioning the airway
- 7.8. Coughing and deep-breathing exercise
- 7.9. Steam inhalation
- 7.10. Oxygen therapy
- 7.11. Tracheotomy
- 7.12. Bronchoscopy
- 7.13. Gastric analysis
- 7.14. Endoscope examination
- 7.15. Gastric aspiration
- 7.16. Gastrostomy feeding
- 7.17. Gastric Lavage
- 7.18. Gastric gavages
- 7.19. Colostomy
- 7.20. Catheterization
- 7.21. Bladder irrigation
- 7.22. Dx procedures of, eye, ear, nose and throat

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 Basic care for patient
- Assist advance procedures
- Explain the precaution of procedures

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described
3. Read the information written in the “Information Sheet”
4. Accomplish the “Self-check
5. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check).
6. Submit your accomplished Self-check. This will form part of your training portfolio.



Information Sheet-1

Provide Enema

Enema

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

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 40-43°C and for children at 37.7 °C

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's 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.

Rectal Washout (Siphoning Enema)

(Colon irrigation or colonic flush)

- Also called enterolysis
- 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
- Tr. Asafetida in 1:1000 to relieve distention clear.



Information sheet 2

Intravenous Therapy

Passing a Flatus Tube

Purpose

- To decrease flatulence (severe abdominal distention)
- Before giving a retention enema

Intravenous Therapy; 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.

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 and so on.

4. Extend the arm in the most comfortable position.

5. Usual areas used for intravenous infusion are:

- The median basilic vein on the inner surface of the arm.
- A vein on top of the foot
- In an infant the jugular vein and the scalp vein.



Information sheet 3

Thoracentesis

Learning objectives

- Define each of the procedures
- Identify the suggested sites where the procedure is done
- Describe the nursing responsibilities during each of the procedures

Thoracentesis

surgical procedure for withdrawing fluid: a surgical procedure in which a needle is inserted through the chest wall in order to withdraw fluid, blood, or air

The pleural cavity normally contains a small amount of fluid to lubricate the lining between the lungs and pleura. Infection, inflammation and trauma may cause an increased production of fluid, which can impair ventilation

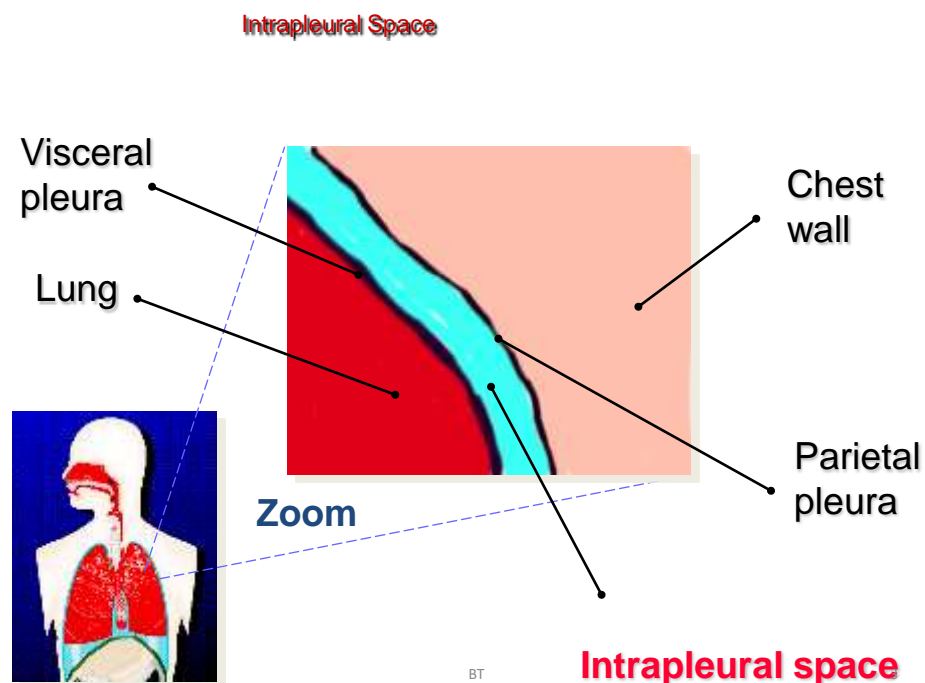


Fig 7.1

- Pneumothorax: is the accumulation of air in the pleural space causing a pressure



imbalance that prevents the lung from expanding.

- Pleural effusion: is an accumulation of pus in the intra-pleural space in the pleural cavity is called pyothorax or empyema.

.Hemothorax: is the presence of blood in the pleural cavity, which causes the lung to collapse

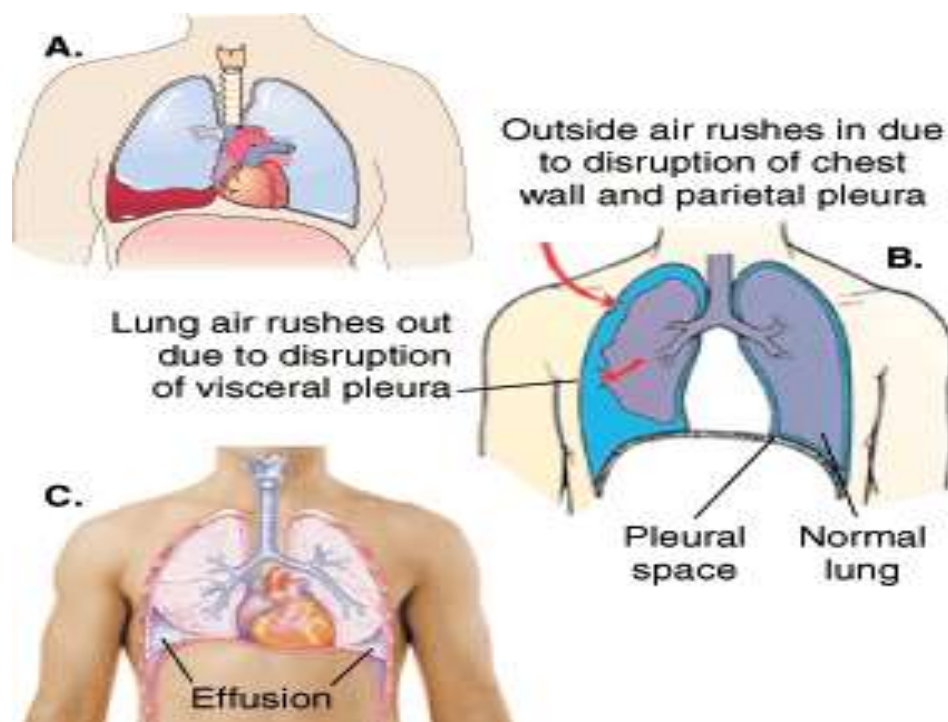


Fig 7.2

- Chest drainage system: use of a chest tube and closed drainage system to reexpand the lung and to remove excess air, fluid and blood

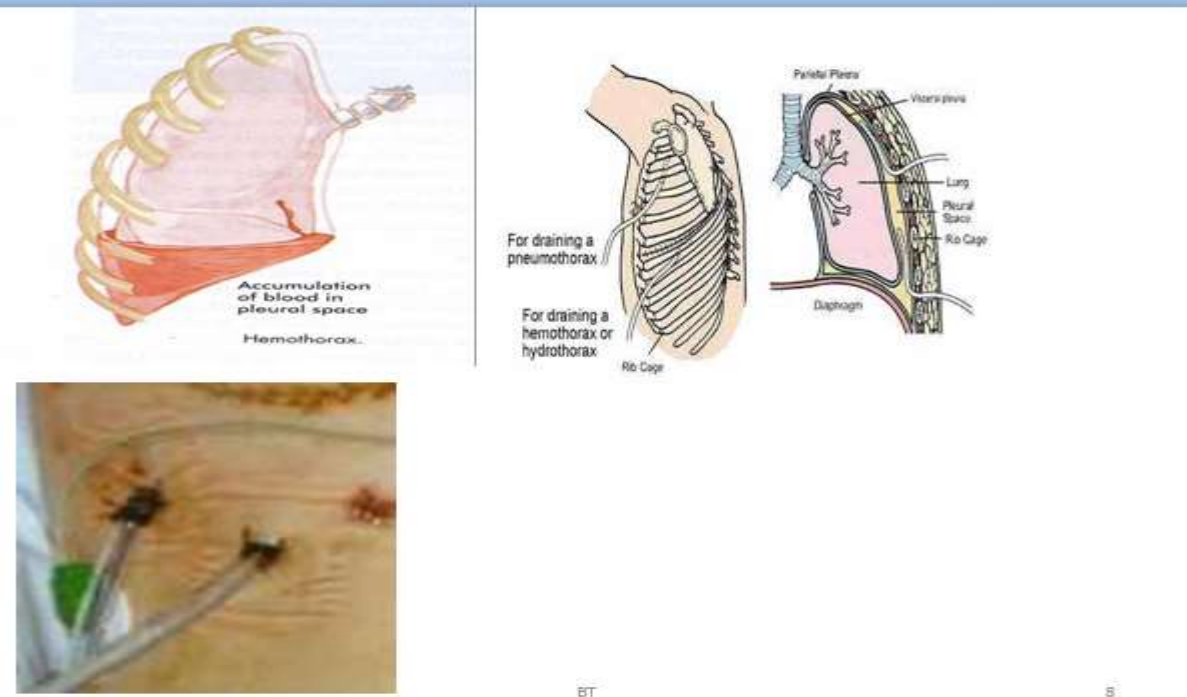


Fig 7.3

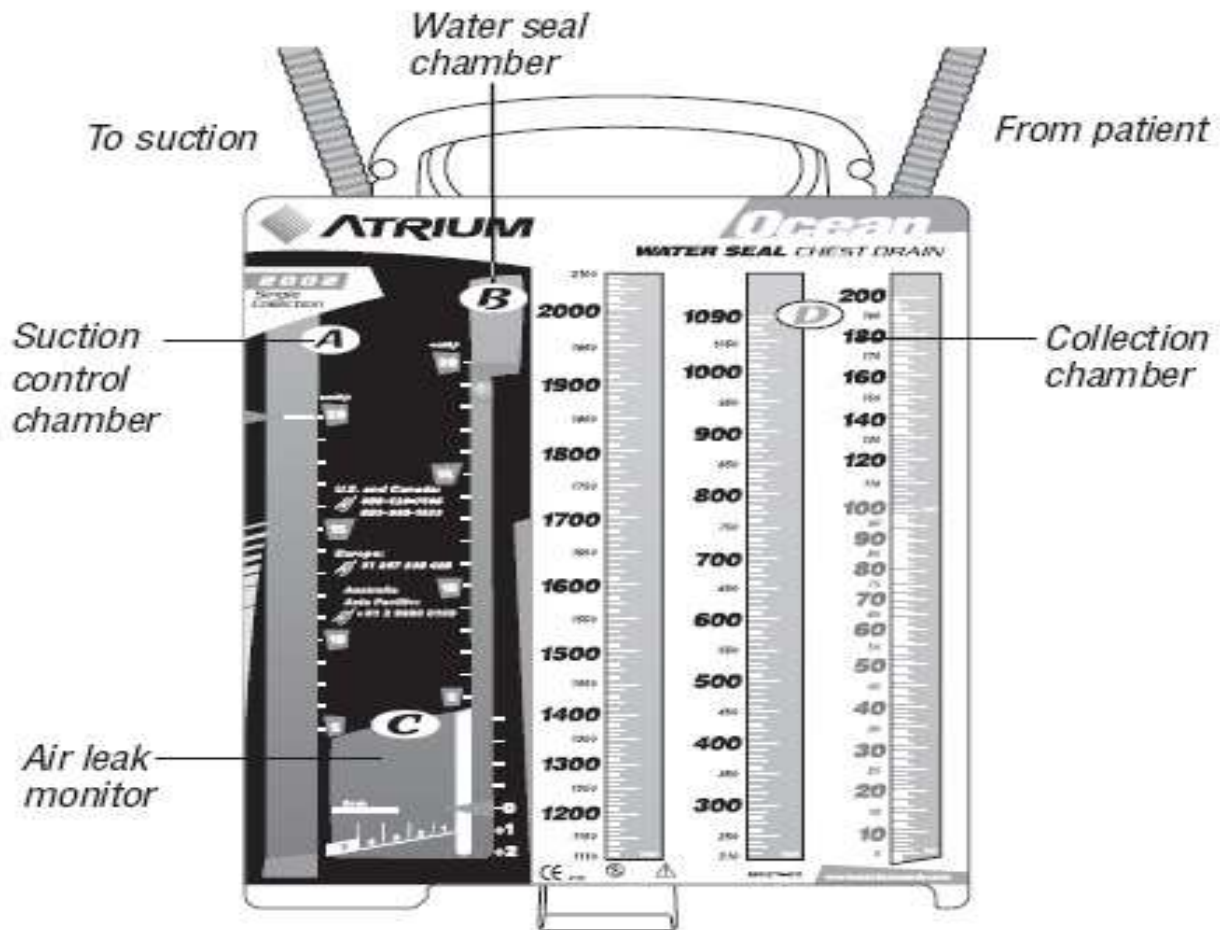


Fig 7.4

Indication of Thoracentesis

- As diagnostic or therapeutic procedure, Thoracentesis may be used for:
 - ❖ Removal of fluid and air from the pleural cavity
 - ❖ Aspiration of pleural fluid for analysis
 - ❖ Pleural biopsy
 - ❖ Instillation of medication into the pleural space

S/S suggestive of pneumothorax includes Dyspnea, pallor, tachycardia, vertigo and chest pain.

Client position During Procedures

- Position the patient in a comfortable manner;



- If possible, place the patient upright or in one of the following positions:
- Sitting on the edge of the bed with the feet supported and arms and head on a padded over-the-bed side table
- Straddling a chair with arms and head resting on the back of the chair
- Lying on the unaffected side with the bed elevated 30-45 degrees.

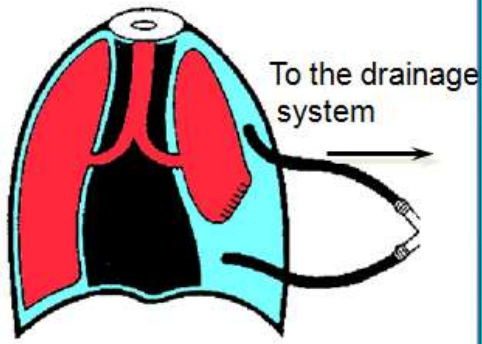
Sites Of Insertion

- For evacuation of air (pneumothorax):. 2,3,4 intercostals space are commonly used sites.
- To drain fluid (plural effusion): 5,6 intercostals space are commonly used sites anteriorly.
- Posteriorly: The needle should have to be inserted above the 9th rib
- Laterally: The needle is inserted above the 7th rib

A. The water Seal chamber

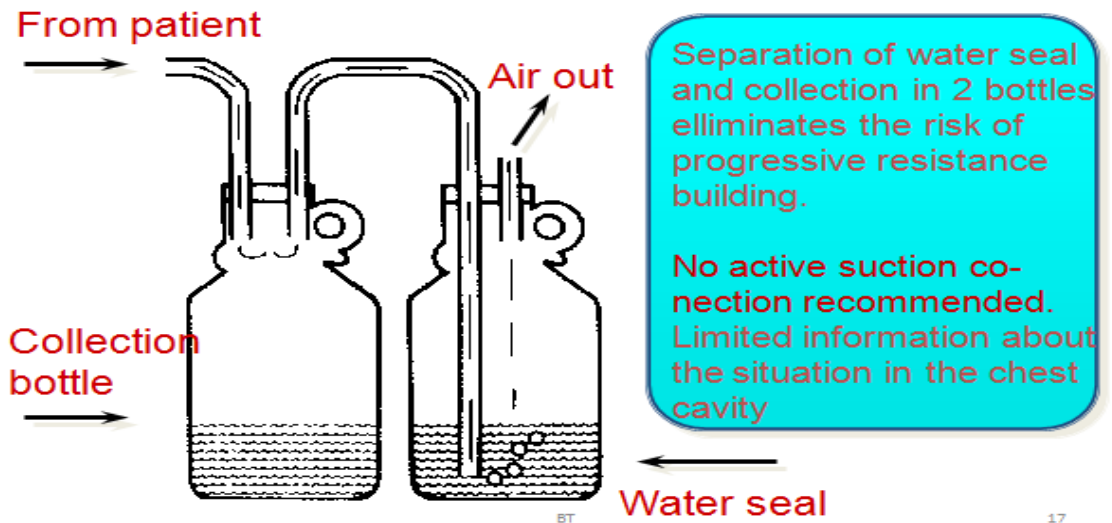
- Acts as a one way valve, allowing air to escape from the patient and never return back.
- Always 2 cm of water is used
- The distal end must be controlled.
- Air can get out and as long as the tube is long Enough, water cannot be sucked in.
- Bubbles moving through this chamber means the patient has an air leak.

Underwater Seal Chest drainage



- Provides means for air and fluid to escape the chest cavity
- Prevents air from re-entering the pleural space
- Re-establishes intrapleural negative pressure
- Re-expands the lungs

Two bottle system



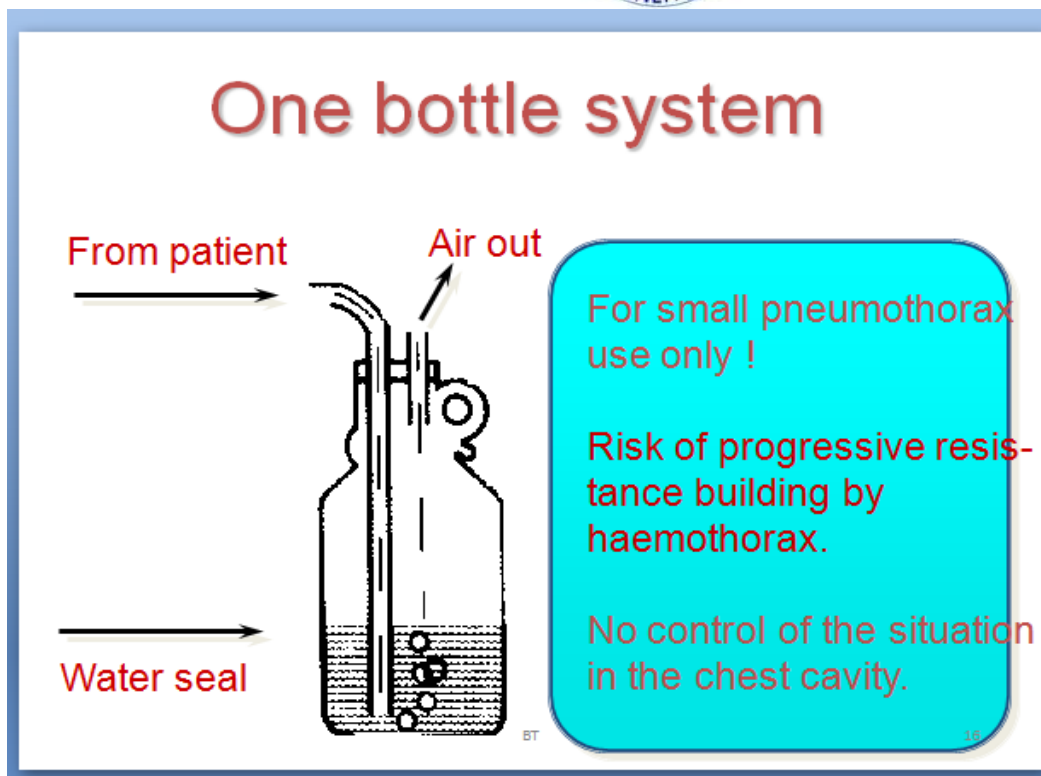


Fig 7.5

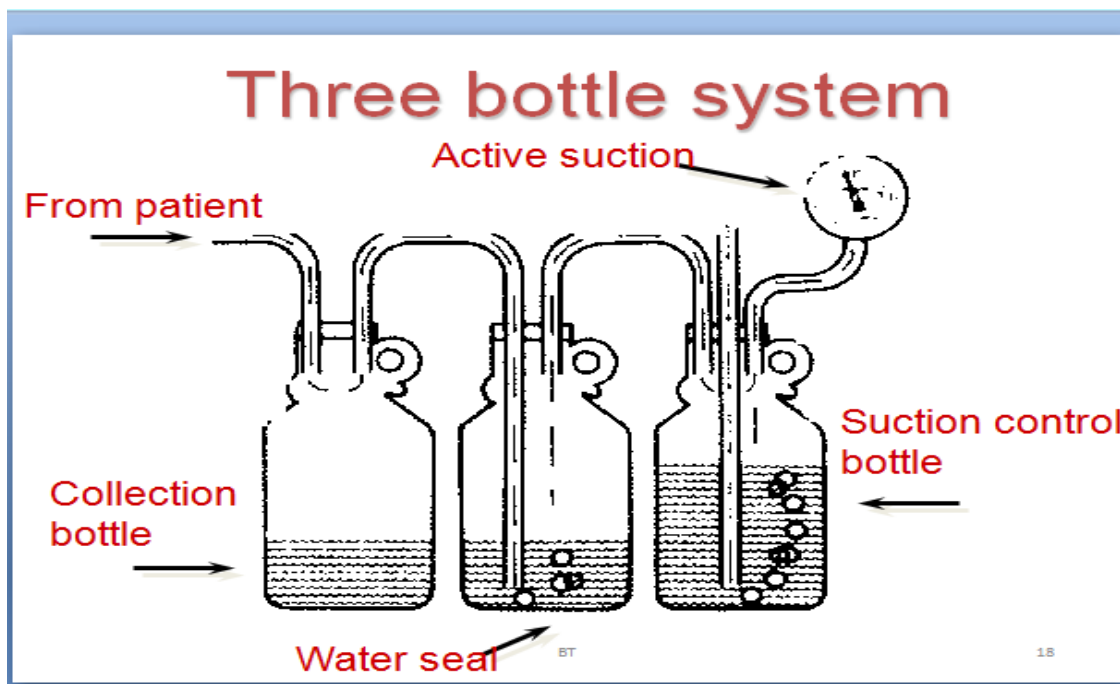


Fig 7.6

Three bottle system

- Separated collection, underwater seal and suction control bottle

- No risk of progressive resistance building
- Exact active suction control

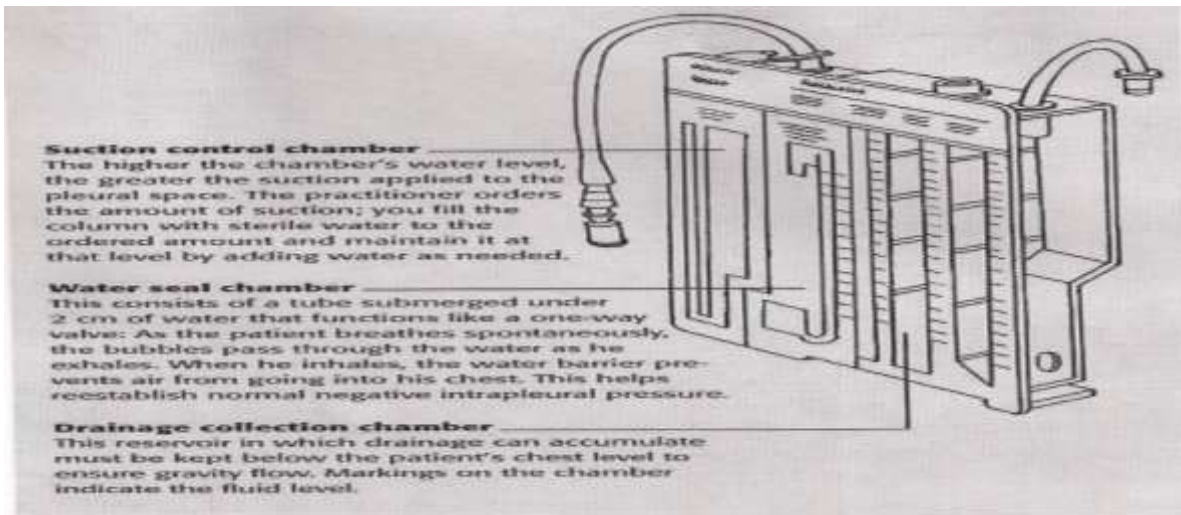


Fig7.7

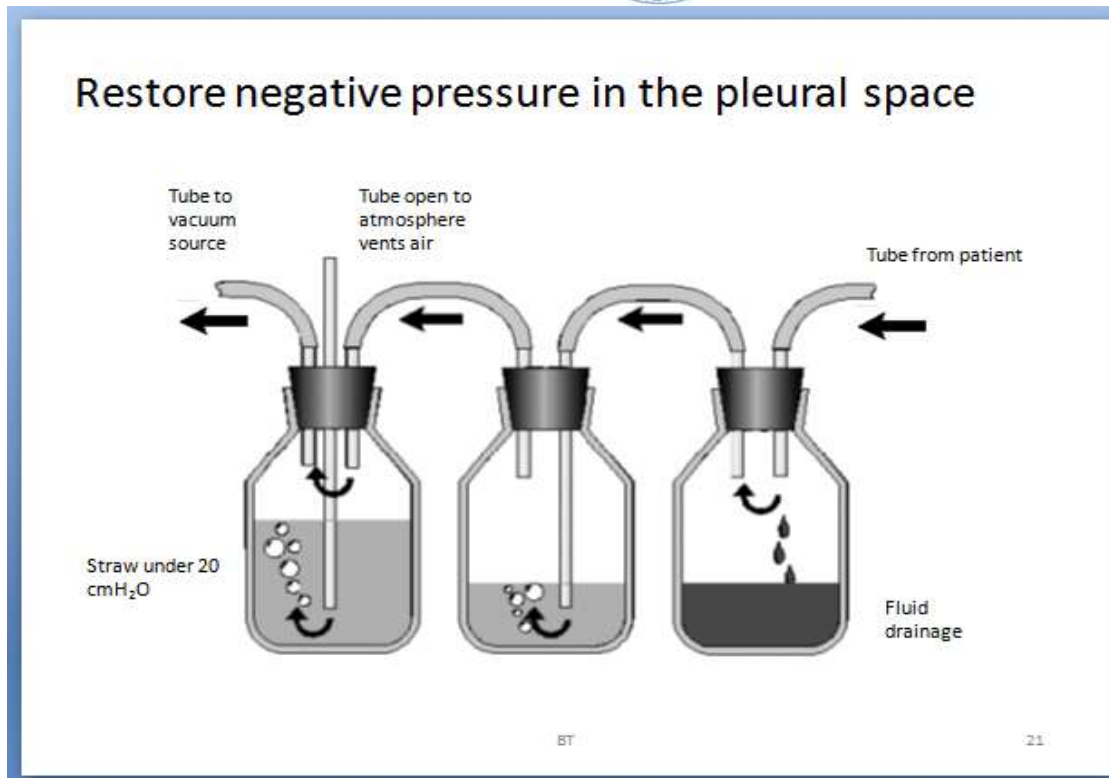


Fig 7.8

a. Fluid Collection Chamber:

- Collects fluid as it drains from the pleural space or mediastinal space

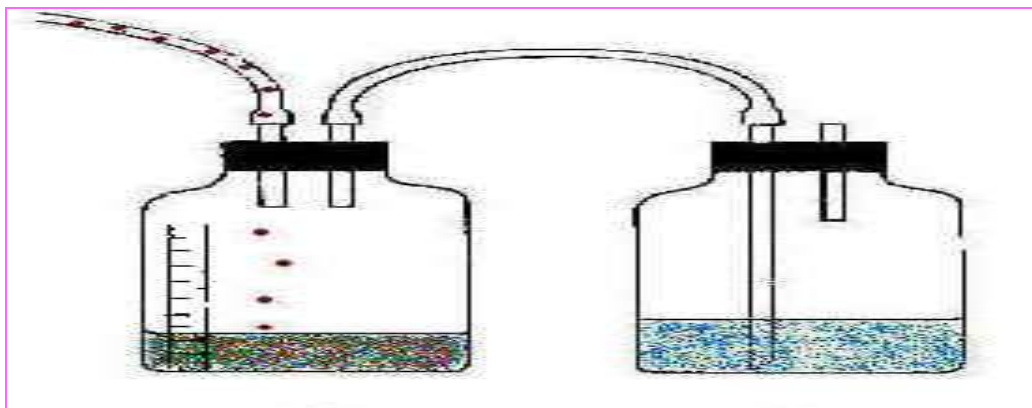


Fig 7.9

C. Suction control Bottle

- Volume of water determines amount of negative pressure in pleural space or



- Amount of suction is regulated by the depth of the water not the amount of suction applied to the system

Generally: Goal is to remove fluid or air from the pleural space, prevent re-accumulation, and allow for lung re expansion

Amount, Color and Consistency

- ❖ Sudden drainage increases could be indicative of hemorrhage
- ❖ Changes in drainage from pure liquid to red could indicate hemorrhage
- ❖ Consistency changes from thin, clear fluid to milky could be evidence of evolving infection
- ❖ Decreased drainage may be a sign of tube displacement, kinked tubing, or a clot may be obstructing the lumen of the tube

When is it Time to come out?

- ❖ When indication for insertion is no longer present (i.e. resolution of pneumothorax, hemothorax, etc...)
- ❖ No air leak evident the day before considering chest tube removal
- ❖ Drainage less than 50cc/8 hours or 150cc/day
- ❖ Patient able to tolerate chest drainage system being brought to water seal from suction
- ❖ Chest x-ray shows complete re-expansion of the lung



Operation sheet 4

Postural drainage

Postural drainage (bronchial drainage)

Postural drainage (bronchial drainage), is an intervention for airway clearance by mobilizing secretion in one or more lung segments to the central airway by placing the patient in various positions so gravity assists in the drainage process.

It is effective in cystic Fibrosis, bronchiectasis, & other pulmonary diseases.

Goals & Indication

- Prevent accumulation of secretions in patients at risk of pulmonary complications :-
 - ❖ Diseases with increased production or viscosity of mucus
 - ❖ Prolonged bed rest
 - ❖ Who has received general anaesthesia
 - ❖ Painful incision causing restricted deep breathing and coughing
- Remove accumulated secretions from Lung :-
 - ❖ Acute or chronic lung disease
 - ❖ Generally weak or elderly people
 - ❖ Patient with artificial airways

Contraindication

- Severe hemoptysis
- Untreated acute conditions
 - ❖ Severe pulmonary edema
 - ❖ Congested heart failure
 - ❖ Large pleural effusion
 - ❖ Pulmonary embolism
 - ❖ Pneumothorax
- Cardiovascular instability
 - ❖ Cardiac arrhythmias
 - ❖ Severe hypertension or hypotension
 - ❖ Recent MI



- Recent neurosurgery
 - ❖ Head down position may cause increased ICP-use modified position

Preparation

- ✚ All the patient do not require Postural drainage for all the lung segments. So the procedure must be based the clinical findings
- ✚ In postural drain age ,the person is tilted or propped at an angle to help drain secretions from the lungs
- ✚ The lower lobes require drainage most frequently because the upper lobes drain by gravity
- ✚ Before postural drainage, the client may be given a bronchodilator medication or nebuliation therapy to loosen secretions.
- ✚ Postural drainage treatments are scheduled two or three times daily, depending on the degree of lung congestion
- ✚ The best time include before breakfast ,before lunch ,in the late afternoon , andbefore bed time
- ✚ It is best to avoid hours shortly after meals because postural drainage at these times can be tiring and can induce vomiting

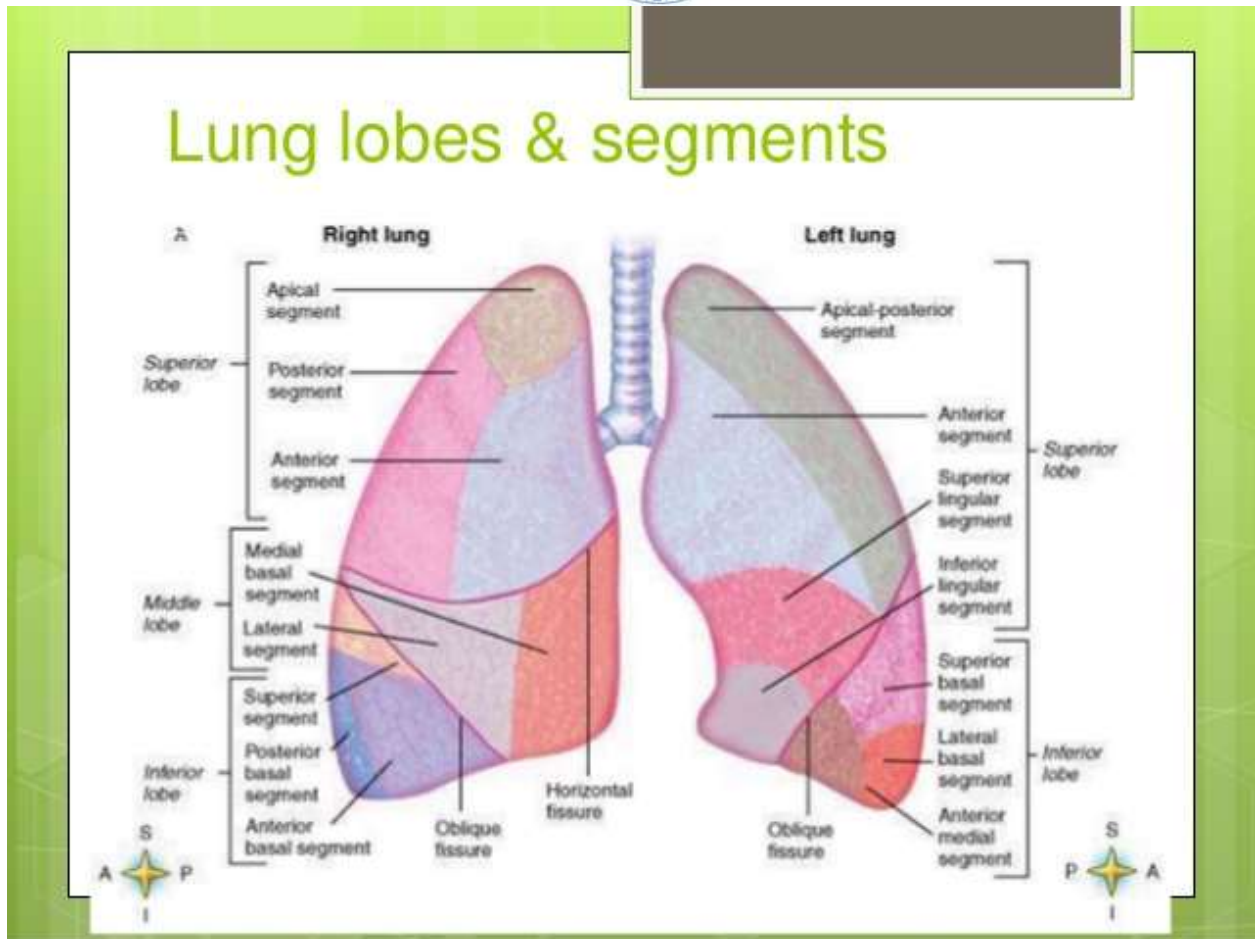


Fig 7.10

Draining the Lung Segments

The goal of PD & P is to clear mucus from each of the five lobes of the lungs by draining mucus into the larger airways so that it can be coughed out. The right lung is composed of three lobes: the upper lobe, the middle lobe and the lower lobe. The left lung is made up of only two lobes: the upper lobe and the lower lobe. The lobes are divided into smaller divisions called segments. The upper lobes on the left and right sides are each made up of three segments: apical, posterior and anterior. The left upper lobe includes the lingular, which corresponds to the middle lobe on the right. The lower lobes each include four segments: superior, anterior, basal, lateral basal and posterior basal. Each segment of the lung contains a network of air tubes, air sacs and blood vessels.



Information sheet 5

Vein Cut Down

These sacs allow for the exchange of oxygen and carbon dioxide between the blood and air. It is these segments that are being drained. Note the position of each lung segment in Figure 1 below.

Vein Cut Down (venesection)

Venesection is the surgical emergency procedure in which vein is exposed surgically and then a wide bore cannula is inserted inside the vein under the direct vision.

It is used to get vascular access in trauma and hypovolemic shock patient when peripheral veins are collapsed and peripheral cannulations is difficult or impossible.

Along cannula may be passed down the vein up to the superior venacava and central venous pressure (CVP) may be measured. If performed properly peripheral venous cut-down remains relatively rapid, technically simple and complications free means to obtain and ensure vascular access.

Indications

- ❖ Absence of peripheral sites for IV cannulations as in obese patient, IV drug users
- ❖ Hypovolaemic shock necessitating rapid large volume fluid resuscitation
- ❖ Venous access in critically ill infants and children secondary to non visible and non palpable peripheral veins
- ❖ For prolonged period of intra venous fluid therapy
- ❖ For parenteral nutrition
- ❖ For measurement of central venous pressure

Sites

- ❖ Great saphenous vein at the ankle or at the groin
- ❖ Basilic vein at the arm.
- ❖ Cephalic vein at the deltopectoral groove.
- ❖ Great saphenous vein at the ankle is the most commonly used site



Contraindication

- Coagulopathy or bleeding diathesis
- Vein thrombosis
- Overlying cellulitis
- Significant vascular or orthopedic injury to the site of cut down
- Previous operative harvesting of saphenous vein bypass graft in case of saphenous vein cut down.
- Less invasive technically or technically faster means of central or adequate peripheral access exists.

Equipment

- ❖ Mask, gloves and drape
- ❖ Sterile predatory solution
- ❖ Syringe; 5ml with a 25 gauge needle
- ❖ Scalpel No.10 or No.11
- ❖ Curved haemostat
- ❖ Scissor
- ❖ IV catheter =14 gauge
- ❖ Iv tubing
- ❖ Two silk ties 3-0
- ❖ Prolene suture, 4-0; cutting needle
- ❖ Tourniquet may be used



Information sheet 6

Steam inhalation

Inhalation

Inhalation is defined as the taking air or other vapors in to lungs through mouth or nose. It is breathing of a vapor containing medication

Types of inhalation:

1. Dry inhalation:

- The inhalation of fumes from volatile drugs, is known as dry inhalation e.g. ether, chloroform nitrous oxide, mentol, eucluptus sprite, ammonia

2. moist inhalation:

- The inhalation of plane, steam or steam impregnated with drug is known as moist inhalation
- Moist steam inhalation is defined as utilizing of moist heat to loosen lung congestion and helps to liquefy secretions. e.g. steam, tincture benzoine



Fig 7.11



Purposes

- To relieve the inflammation of mucus membrane in acute colds and sinusitis
- To relieve The irritation in bronchitis and whooping cough by moistening
- To provide the antiseptic action on the respiratory tract
- To provide warms on moist air following operations eg. Trachostomy
- To soften secretion which are thick and tenacious
- To relieve the cough

General instructions

- The temp of water should remain b/n 120-160 °F or 54.5-76.7 °c
- Water inhaler should remain just below the spout to avoid the scalding
- Spout of inhaler must placed in such away apt cannot touch it or put his face too near
- Keep the pt. warm & prevent drought before during when inhalation
- When volatile groups like methods used, keep clients eyes closed to prevent drug irritation to the conjunctiva.
- Observe the pt closely throughout the procedure

Preliminary assessment

Check:

- The DRs order for any specific instruction
- General condition and dx of pt,
- Self care ability to follow instruction
- Type duration and medication of inhalation
- Articles available in unit

Preparation of patient and environment

- Explain the procedure
- Allow the pt to empty the bladder, bowel, if necessary give bedpan or urinal to bed ridden pt.
- Provide fowlers position with backrest, cardiac table and extra pillow



- Close windows, door and put off the fans to prevent drought
- Provide sputum mug within the reach of pt
- Provide a face towel to remove sweat from face during inhalation
- Mouth piece should be boiled and cooled before use
- Arrange the articles at bed side
- Keep the clients eyes closed in case volatile drugs are used because volatile drugs may irritate the conjunctiva

Preparation of articles

- A tray containing :
 - ✓ Nelson's inhaler-used as vaporizer
 - ✓ A bowl with tissue paper or gauze peace to wipe the secretion
 - ✓ Sputum mug-to cough and collect the secretion
 - ✓ Spout of inhaler is plugged with a cotton swab-to prevent steam loss
 - ✓ Seal the mouth piece it is wrapped with gauze peace
 - ✓ A kettle with boiling water-to prepare the solution
 - ✓ A pint measure-to measure the water
 - ✓ The extra blanket or sheet-to cover the pt to prevent the loss of steam
 - ✓ A cardiac table –to give comfortable position to pt.



Information sheet 7

Coughing and deep-breathing exercise

Breathing exercise

1. 1. BREATHING

The process that moves air in and out of the lungs called breathing or pulmonary ventilation. Breathing is only one of the processes that deliver oxygen to where it is needed in the body and remove carbon dioxide.

ORGANS THAT INVOLVED IN BREATHING

- Nose
- Trachea
- Bronchi □ Bronchioles
- Lungs
- Muscles along with diaphragm

NOSE

- The beginning of the respiratory tract.
- Function :- Warm, Moisten , Filter fine particles

TRACHEA

- Tube like structure.
- Function: - Responsible for transporting air for respiration from the larynx to the bronchi.

DIAPHRAGM

- Is a sheet of internal skeletal muscle.
- It separates the thoracic cavity containing heart & lungs , from the abdominal cavity

LUNGS

- The lungs are a pair of spongy, air-filled organs located on either side of the chest (thorax).

BREATHING PROCESS



- Breathing starts at the nose. You inhale air into your nose, and it travels down the back of your throat and into your windpipe or trachea. Trachea then divides into air passages called bronchial tubes. Bronchial tubes pass through the lungs, they divided into smaller air passages called bronchioles or bronchial tree. The bronchioles end in tiny balloon-like air sacs called alveoli. The body has over 300 million alveoli. The alveoli are surrounded by a mesh of tiny blood vessels called capillaries. Here, oxygen from the inhaled air passes through the alveoli walls and into the blood and carbon dioxide passes out of the blood into the air in the alveoli.

MUSCLES OF INSPIRATION ; -Diaphragm (primary m/s of inhale) –

- Scalene (elevates 1st two ribs)
- Sternocleidomastoid (elevates sternum) □
- Serratus anterior(supporting m/s)
- External intercostal(moves upward and outward) MUSCLES OF EXPIRATION □ External oblique .
- Rectoabdominal Internal oblique
- Transverse abdominal

BREATHING EXERCISES

Breathing ex and ventilator training are the fundamental interventions for the prevention for acute and chronic pulmonary disease patients with high spinal cord lesion and who underwent thoracic and abdominal surgery and bedridden patients. Studies indicate that breathing exercise and ventilator training have affect and alter a patients rate and depth of ventilation ,so these technique is used to improve the pulmonary status and increase patients overall endurance.

GOALS OF BREATHING EXERCISE

- Improve ventilation
- Increase the effectiveness of cough and promote airway clearance
- To prevent post operative pulmonary complications
- To improve the strength endurance coordination of the muscles of ventilation
- Maintain and improve chest and thoracic spine mobility
- Promote relaxation and relive stress



- To teach the patient how to deal with episodes of dyspnea
- Assisting in removal of secretions.
- Correct abnormal breathing patterns and decrease the work of breathing. □
Aid in bronchial hygiene---Prevent accumulation of pulmonary secretions, mobilization of these secretions, and improve the cough mechanism.

Principles Area of exercises

- ✓ Explanation & Instructions to the patient
- ✓ Patients position
- ✓ Evaluate the patient
- ✓ Demonstration of exercise
- ✓ Patient practice

GUIDELINE FOR TEACHING BREATHING EXERCISES

- Choose a quiet area-to get a proper interaction with minimal distraction
- Explain the patient about the aim and how it works for his impairment
- Have the pat: in relaxed position and loosen the clothes, make him in semi-fowlers position with head and trunk elevated approx: 45° (total support to the head and trunk and flexing the hip and knees with pillow support) the abdominal muscle become relaxed.
- Other positions, such as supine, sitting, or standing, may be used as the patient progresses during treatment.
- Observe and access the patient's spontaneous breathing pattern while at rest and during activity
- Determine whether Rx is indicated or not
- If necessary teach the patient relaxation techniques, relax the muscles of upper thorax neck and shoulder to minimize the use of accessory muscle work.
- Special attention on sternocleidomastoids, upper trapezius and levator scapulae.
- Demonstrate the breathing pattern to the patient
- Have the patient practice the correct technique in verity of positions at rest and with activity.

2. PRECUATIONS



- Never allow the patient to force expiration-it may increase the turbulence in the air way which leads to bronchospasm and airway resistance.
- Avoid prolonged expiration-it cause the patient to gasp with the next inspiration and the breathing pattern become irregular and inefficient.
- Do not allow the patient to initiate inspiration with accessory muscles and upper chest ,advise him that upper chest should be quiet during breathing
- Allow the patient to perform deep breathing only for 3-4 times (inspiration and expirations) to avoid Hyperventilation

INDICATIONS

- Cystic fibrosis
- Bronchiectasis
- Atelectasis
- Lung abscess
- Pneumonias
- Acute lung disease
- For patients with a high spinal cord lesion/ spinal cord injury, myopathies etc.
-
- COPD –emphysema, chronic bronchitis
- After surgeries (thoracic or abdominal surgery)
- For patients who must remain in bed for an extended period of time.(obstruction due to retained secretions)
- As relaxation procedure.

CONTRAINDICATIONS

- Severe pain and discomfort
- Acute medical or surgical emergency
- Patients with reduced conscious level
- Increased ICP
- Unstable head or neck injury
- Active hemorrhage with hemodynamic instability or hemoptysis
- Flail chest



- Uncontrolled hypertension
- Anticoagulation
- Rib or vertebral fractures or osteoporosis
- Acute asthma or tuberculosis
- Patients who have recently experienced a heart attack.
- Patients with skin grafts or spinal fusions will have undue stress placed on areas of repair.
- Bony metastases, brittle bones, bronchial hemorrhage, and emphysema are contraindications for undue stress to the thoracic area.
- Verify that patient has not eaten for at least one hour.
- Recent (within one hour) meal or tube feed
- Untreated pneumothora

TYPES OF BREATHING EXERCISES

Diaphragmatic breathing

- + Glossopharyngeal breathing
- + Pursed lip breathing
- + Segmental breathing(costal expansion exercise) a) Apical breathing b) Lateral costal expansion c) Posterior basal expansion

DIAPHRAGMATIC BREATHING

- ❖ Diaphragm is the primary muscle for breathing (inspiration)
- ❖ Diaphragm controls breathing at an involuntary level ,
- ❖ a patient with primary pulmonary disease like COPD can be taught breathing control by optimal use of diaphragm and relaxation of accessory muscles.
- ❖ Diaphragmatic breathing ex: Is also use to mobilize lung secretion in PD



Information sheet 8

Bladder irrigation

Bladder irrigation

1. Definition -To flush out the urinary bladder with a liquid.
2. Purposes
 - ✚ To cleans the bladder from decomposed urine, bacteria, excess of mucus, pus and blood clots.
 - ✚ To prevent blood clot formation, allow free flow of urine and maintain IDC patency, by continuously irrigating the bladder with Normal Saline
 - ✚ To maintain the patency of the urinary catheter.
 - ✚ To relieve congestion and pain in case of inflammatory conditions by the application of heat.
 - ✚ To promote healing.
 - ✚ To prevent the clot formation in case of bladder surgeries.
 - ✚ To prevent and treat infections.
 - ✚ To arrest bleeding.

Solutions used

- ✚ Sterile water
- ✚ Normal saline
- ✚ Glucose solutions 5%
- ✚ Boric acid 2%
- ✚ Potassium permanganate 1:10,000
- ✚ Acriflavin 1:10,000
- ✚ Silver nitrate 1:5000
- ✚ cetic acid 1:400 to treat pseudomonas infection

General instructions

- ✓ Should not be done without written order.
- ✓ As far as possible, bladder irrigation are to be avoided.
- ✓ The safest and most effective means of irrigating the urinary system is by “internal irrigation”.
- ✓ The fluid should be instilled gently and allowed to drain back by gravity.



- ✓ If the fluid flows easily into the bladder but fails to return, there is a clot over the eye of the catheter
- ✓ In such situation no more fluid is introduced into the bladder but try to dislodge the clot by milking the tubing.
- ✓ Practice strict aseptic technique. All the articles that are used for the irrigation must be sterile.
- ✓ Wash hand before and after the procedure
- ✓ Maintain an accurate records of the amount of fluid used for irrigation and the total amount of urinary drainage. Subtract the total amount of fluid used, from the total amount of urinary drainage to find out the amount of urine secreted by the kidneys. For salt restricted patient use dextrose 5% solution instead of normal saline.
- ✓ Irrigation are carried out until the return flow is clear.
- ✓ The color of the drainage should be checked and recorded. If bleeding takes place stop the procedure and inform to the doctor.
- ✓ Record the procedure on the nurse's record with date and time. Recorded procedure should include- purposes, amount and kind of the solution used, amount and characteristics of the drainage from the bladder, result of irrigation, any complication etc.

Articles required A clean tray containing-

- Gloves
- Towel and mackintosh
- Three way retention catheter
- Sterile drainage tubing and bag in place
- Sterile antiseptic swab
- Infusion tubing
- Kidney tray IV Stand



Information Sheet 9

Gastroscopy (endoscopy)

Gastroscopy (**endoscopy**.)

. GASTROSCOPY EXAMINATION OF ESOPHAGEAL & STOMACH

1. What is a gastroscopy?—A gastroscopy is a test where an operator - a doctor or nurse - looks into the upper part of your gut (the upper gastrointestinal tract). The upper gut consists of the gullet (oesophagus), the stomach and the first part of the gut (small intestine) known as the duodenum. The operator uses an endoscope to look inside your gut. Therefore, the test is sometimes called endoscopy.
2. An endoscope is a thin, flexible telescope. It is about as thick as a little finger. The endoscope is passed through the mouth, into the oesophagus and down towards the stomach and duodenum. The tip of the endoscope contains a light and a tiny video camera so the operator can see inside your gut. The endoscope also has a side channel down which various instruments can pass. These can be manipulated by the operator. - . For example, the operator may take a small sample (biopsy) from the inside lining of the stomach by using a thin 'grabbing' instrument which is passed down a side channel
 - Who has a gastroscopy? A gastroscopy may be advised if you have symptoms such as:
 - ✚ Repeated (recurring) indigestion.
 - ✚ Recurring heartburn.
 - ✚ Pains in the upper tummy (abdomen).
 - ✚ Repeatedly being sick (vomiting).
 - ✚ Difficulty swallowing. θOther symptoms thought to be coming from the upper gut.

The sort of conditions which can be confirmed (or ruled out) include:

- ✚ Inflammation of the gullet (oesophagus), called oesophagitis
- ✚ The operator will see areas of redness on the lining of the oesophagus. Stomach and duodenal ulcers.



- ✚ An ulcer looks like a small, red crater on the inside lining of the stomach or on the first part of the gut (small intestine) known as the duodenum.
- ✚ Inflammation of the duodenum (duodenitis) and inflammation of the stomach (gastritis). } Stomach and oesophageal cancer.
- ✚ Various other rare conditions.

How is a gastroscopy performed?

- ✚ After explaining the procedure, the endoscopist will spray the back of the throat with a local anaesthetic. This is similar to the anaesthetic used by dentists. It numbs the throat and may make it difficult to swallow.
- ✚ When sedation is used, it is not a full anaesthetic and the patient will still be conscious and aware. A nurse will lie the patient on their left side and the endoscopist will then gently place the end of the instrument into the mouth and ask the patient to swallow it, which feels like swallowing a large piece of food.
- ✚ The endoscopist may need to put some air into the stomach to perform the examination effectively and this can cause discomfort or even a need to belch. This is perfectly normal.
- ✚ The endoscopist will closely examine the lining of the gullet, stomach and duodenum to identify the cause of the symptoms. It will take about 10 to 15 minutes.

What preparation do I need to do?

- You should receive instructions from the hospital department before your test.
- The sort of instructions given commonly include:
 - ✚ You should not eat for 4-6 hours before the test. The stomach needs to be empty. (Small sips of water may be allowed up to two hours before the test)
 - ✚ If you have a sedative you will need somebody to accompany you home.
 - ✚ Advice about medication which may need to be stopped before the test.



3. Why is gastroscopy useful?

- The doctor can study the mucous membrane of the stomach from the top to the bottom, and see irritation, wounds, or tumours. Gastroscopy is effective, and has now replaced the use of X-rays in many cases. It helps the doctor see any abnormalities in the gullet, the stomach and the duodenum. It is precise and safe.
- Through the gastroscope, the doctor can take samples or photographs of the mucous membrane. The most modern gastroscopes can also show the areas in the stomach on a TV screen, so that the mucous membrane can be studied thoroughly. This can be recorded on a videotape, and used for later comparison.
- Patients are often given a gastroscopic examination because of their indigestion symptoms, which can usually be treated with tablets.
- Occasionally, the cause of indigestion is an ulcer and it is now known that many ulcers are due to bacterial infection in the stomach.
- A biopsy (a small piece of the lining of the stomach) may be removed during an endoscopy and examined under the microscope in the laboratory to pinpoint an infection or any other abnormality.
- A very small number of patients with indigestion will turn out to have cancer and, again, the diagnosis can be made accurately by biopsy. Further investigation can then be planned to ensure the most effective treatment. Can gastroscopy be used to examine other parts of the body? } On the way down towards the stomach, gastroscopy can also be used to examine the mucous membrane of the gullet - there are several diseases with symptoms that are easily mistaken for diseases in the stomach. If this examination is performed independently it is called oesophagoscopy, after oesophagus, the medical name for the gullet.

How far can a gastroscope see?

- A gastroscope can only examine the lining of the oesophagus (gullet) stomach and duodenum. It will detect conditions in those organs that are causing symptoms but will not, for example, detect gallstones or pancreatic disease.



Are there other uses for gastroscopy?

- An increasing use for gastroscopy is to obtain biopsies from the top of the small bowel, mainly to rule out a condition called coeliac disease. This is usually arranged at a hospital clinic but in some areas the test may be available to local doctors.
- Why doesn't my doctor just send me for an X-ray? This is a good point. Barium meals were used for many years for the diagnosis of indigestion symptoms. However, the small disadvantages of gastroscopy - special units, day-case admission and the need for sedation - are far outweighed by the increased accuracy of diagnosis and the ability to take biopsies at gastroscopy. As a result relatively few barium meals are performed nowadays. Is gastroscopy safe? All procedures carry some risk but outpatient diagnostic gastroscopy is very safe. Minor complications are uncommon and major complications are very rare.

4. What can I expect after a gastroscopy?

- Most people are ready to go home after resting for half an hour or so.
- If you have had a sedative - you may take a bit longer to be ready to go home
- The sedative will normally make you feel quite pleasant and relaxed. However, you should not drive, operate machinery or drink alcohol for 24 hours after having the sedative.
- You will need somebody to accompany you home and to stay with you for 24 hours until the effects have fully worn off. Most people are able to resume normal activities after 24 hours.
- The operator writes a report and sends it to the doctor who requested the gastroscopy.
- The result from any sample (biopsy) may take a few days, which can delay the report being sent.
- The operator may also tell you what he/she saw before you leave. However, if you have had a sedative you may not remember afterwards what you were told.



Therefore, you may wish to have a relative or close friend with you who may be able to remember what was said.

Is gastroscopy reliable?

- Gastroscopy is a good test for seeing abnormalities in the upper gut. However, it is not foolproof.
- For example, gastroscopy may not detect a small number of cases of early ulcers or early cancer. Sometimes a repeat gastroscopy may be advised if symptoms persist or get worse, even if a previous gastroscopy was reported as normal.



Information Sheet	Suctioning the Airway
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suctioning

When a client is unable to clean respiratory tract secretions with coughing , the nurse must use suctioning to clear the airway

- Suctioning Endotracheal suctioning
- Oropharyngeal suctioning
- Nasopharyngeal suctioning
- Endotrachealsuctioning

Endotracheal suctioning

1. Removal of secretion from tracheobronchial tree through an endotracheal tube with the help of mechanical suction device
2. Oropharyngeal suctioning : It is the process of removing secretions from the oral cavity & pharynx
3. Orotracheal and nasotracheal suctioning : It is necessary when client is with pulmonary secretions is unable to cough out & does not have an artificial airway

Purposes for suctioning

- To remove secretions that obstruct the airway •
- To facilitate ventilation
- To obtain secretion for diagnosis purposes
- To prevent infection that may result from accumulated secretions



- Indications
 - ❖ “noisy” breathing
 - ❖ Patients inability to generate an effective spontaneous cough
 - ❖ Visible secretions in the airway
 - ❖ Suspected aspiration of gastric or upper airway secretions
 - ❖ Clinically apparent increased work of breathing
 - ❖ Deterioration of arterial blood gases
 - ❖ Patient requests suctioning
 - ❖ Low oxygen saturations
 - ❖ Radiological changes consistent with retention of pulmonary secretions

Articles Suction source:

- ❖ Portable suction wall suction unit
- ❖ Endotracheal suctioning Articles
 - A clean tray containing
 - ✓ Sterile suction catheter
 - ✓ Normal saline or sterile water in a container
 - ✓ Sterile gloves
 - ✓ Mask, face shield
 - ✓ Alcohol swab
 - ✓ Stethoscope A sterile tray containing: •Sterile bowl •Bowl
 - Gauze pieces
 - ✓ Suction catheter of different size with color code
 - ✓ Face mask
 - ✓ Gloves
 - ✓ Towel or waterproof pad
 - ✓ Tongue depressor
 - ✓ Nasal or oral airway



1. _ Special consideration

- Amount of negative pressure for suctioning Portable suction unit Wall suction unit Adult 8-15 mm of Hg 100-120mmHg Children 5-8 mm of Hg 50-100mm of Hg Infant 3-5 mm of Hg 40-60mm of Hg. Apply the catheter of appropriate size •
- By gentle while suctioning
- Do not suction for more than 10- 15 seconds
- During suction , if patient coughs, withdraw the catheter immediately
- Flush catheter after each suction with sterile saline



Operation sheet 1

Provide Enema

A. Cleansing enema

1. Procedure

2. Inform the patient about the procedure
3. Put bed side screen for privacy
4. Attach rubber tube with enema can with nozzle and stop cock or clamp
5. 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 colon, which are on the side)
6. Fill the enema can with 1000 cc of solution for adults
7. Lubricate about 5 cm of the rectal tube – facilitates insertion through the sphincter and minimizes trauma

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

- Place a piece of mackintosh under the bed
- 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
- Lift the upper buttock to visualize the anus
- 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
 - Raise the solution container and open the clamp to allow fluid to flow
- 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
- 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.
- Remove bed pan and clean the rectal tube



Note: if resistance is encountered at the internal sphincter, ask the clients to take a deep breath, then run a small amount of solution (relaxes the internal anus sphincter)

B. Procedure for Retention Enema

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% sodabarbonate 2-5%
6. Olive oil 100-200 cc to be retained for 6-8 hrs is given for server constipation

C. Passing Flatus tube

Procedure

- Place the patient in left. Lateral position
- Lubricate the tube about 15 cm Separate the rectum and insert 12-15 cm in to the rectum and tape it
- Connect the free end to extra tubing by the glass connector
- The end of the tube should reach the (tape H₂O) solution in the bowel
- The amount of air passed can be seen bubbling through the solution (a funnel may be connected to free end of tube and placed in an antiseptic solution in bowel)
- Teach client to avoid substances that cause flatulent
- Leave the rectal tube in place for a period or no longer than 20 minute – can affect the ability to voluntarily control the sphincter if placement is prolonged
- Reinsert the rectal tube every 2-3 hrs if the distention has been unrelieved or re accumulates –allows gas to move in the direction of the rectum.

**Operation sheet 2****Secure Intravenous annual****Preparation of the Patient**

Since an infusion therapy takes several hours to complete, the patient should first be made comfortable.

Procedure

- Take equipment to the patient's bedside
- Explain the procedure to the patient. Be sure you have right patient.
- Remove air form the tubing
- Place rubber & towel under the arm Apply tourniquet about 3 c.m. above the intended site of entry.
- Observe & palpate for suitable vein
- Cleanse the skin with alcohol swabs thoroughly & place the swab used thumb the retract down the vein & soft tissue 4c.m. below the intended site of injection.
- Hold needle at 450 angle line with the vein
- Pierce the skin and puncture the vein
- Check if you are in the vein by drawing back with the syringes.
- (blood returns if you are in the vein)
- Release the tourniquet gently
- Start the flow of solution by opening the clamp.
- Support needle with sterile gauze or sterile cotton balls If
- necessary to keep it in proper position in the vein
- Anchor the I.V. tubing with the adhesive tape to prevent pull on the needle.
- Place arm board or splint under the arm and bandage around.
- Adjust the rate of flow
- Rate of flow is regulated by the following formula.

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



Basic Clinical Nursing Skills

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

$$\frac{1000 \text{ ml.} \times 15 \text{ gtt/ml.}}{24 \times 60 \text{ min.}} = \frac{1000 \times 15 \text{ gtt.}}{24 \times 60 \text{ min.}} = 10 \text{ gtt/min}$$



Operation sheet 3

Thoracentesis

1. Nursing Responsibilities

- ❖ Conduct routine patient assessment
- ❖ Frequently assess the insertion site, tube, tubing, and drainage unit
- ❖ Monitor amount, color and consistency of the drainage
- ❖ Encourage positioning with head of bed up to 30 degrees
- ❖ Educate about the benefits of coughing, deep breathing, use of the incentive spirometer, and/or flutter valve every two hours
- ❖ Advocate ambulation and position changes
- ❖ Monitor the patient at intervals for increasing respiratory rate; asymmetry in respiratory movement; faintness; vertigo; tightness in chest; uncontrollable cough; blood-tinged, frothy mucus; a rapid pulse and signs of hypoxemia.

2. Managements of bad occurrence

- ❖ Chest tube gets dislodged: If you hear air leaking, cover site with three sided dressing.
- ❖ If no air is heard, cover with sterile dressing and notify the physician.
- ❖ Chest drainage unit breaks: change the unit, assess, and notify physician
- ❖ In emergent situations, tubing could be placed in sterile water/saline at a depth of 2-4 cm to re-establish the water seal

3. Discontinuing the Chest Tube

- ❖ Procedure is explained and appropriate pre-medication is performed
- ❖ Assumes supine position with arm above head on side of tube
- ❖ Chest drainage unit brought to water seal and the dressing is removed
- ❖ The tube is removed with one steady movement
- ❖ Site is dressed and x-ray obtained 24 hours later
- ❖ Dressing the insertion site after removing it



Draining the Lung Segments

The goal of PD & P is to clear mucus from each of the five lobes of the lungs by draining mucus into the larger airways so that it can be coughed out. The right lung is composed of three lobes: the upper lobe, the middle lobe and the lower lobe. The left lung is made up of only two lobes: the upper lobe and the lower lobe. The lobes are divided into smaller divisions called segments. The upper lobes on the left and right sides are each made up of three segments: apical, posterior and anterior. The left upper lobe includes the lingual, which corresponds to the middle lobe on the right. The lower lobes each include four segments: superior, anterior, basal, lateral basal and posterior basal. Each segment of the lung contains a network of air tubes, air sacs and blood vessels. These sacs allow for the exchange of oxygen and carbon dioxide between the blood and air. It is these segments that are being drained. Note the position of each lung segment in Figure 1 below.



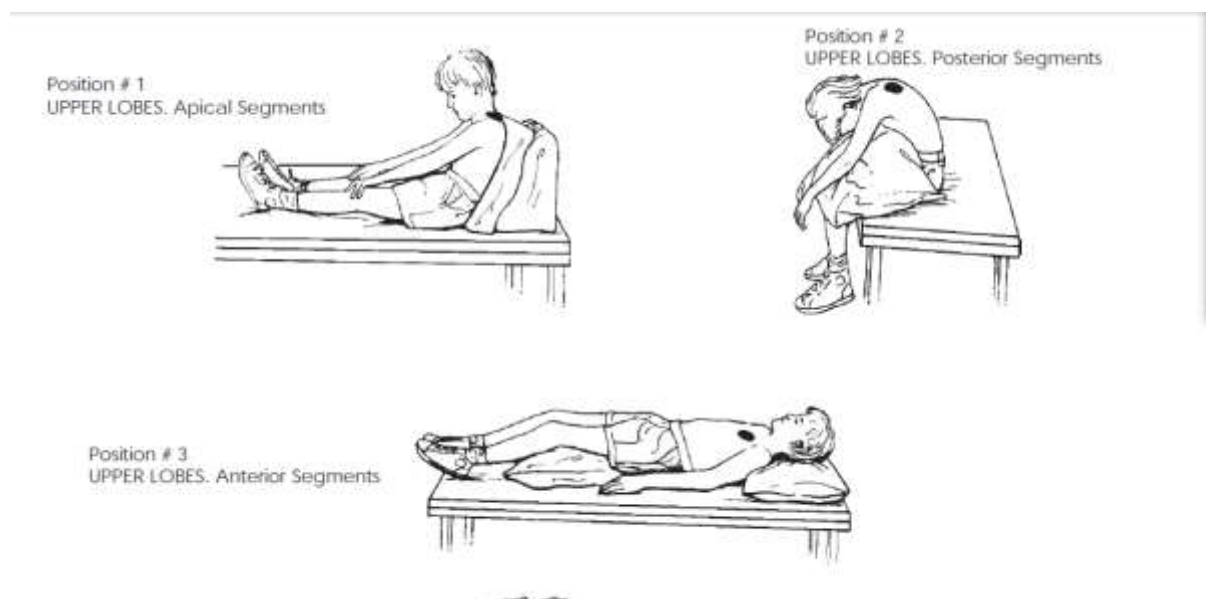
Operation sheet 4

Postural sheet

Making PD & P More Enjoyable

An additional benefit of PD & P is that it promotes a special time together. On a regular basis, PD & P offers a specific time for you to enjoy each other's company. To enhance the quality of the time you spend with your caregiver or child doing PD & P, do one of the following:

- Schedule PD & P around a favorite TV show.
- Play a favorite tape of songs or stories.
- Spend time playing, talking or singing before, during and after PD & P.
- For kids, encourage blowing or coughing games during PD & P, such as blowing pinwheels or coughing the deepest cough.
- Ask willing and capable relatives, friends, brothers and sisters to perform PD & P occasionally. This can provide a welcome break from the daily routine.
- Minimize interruptions. Identifying ways that make PD & P more enjoyable at all ages can help you keep a regular routine and get maximum health benefits.



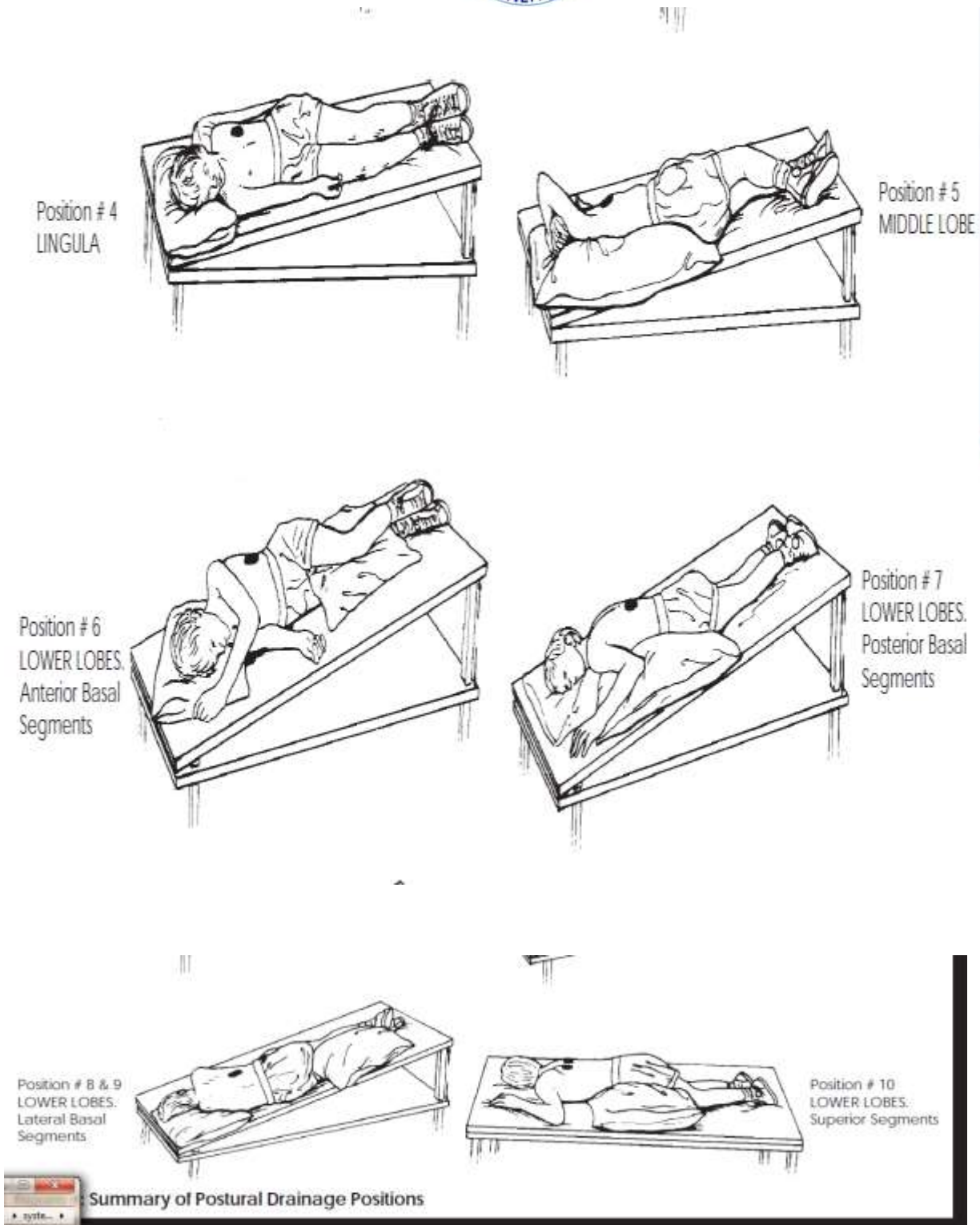


Fig7.12



Operation Sheet 5

Vein cut Down

. Procedure for the Cutdown.

- (1) Assemble the equipment and supplies.
- (2) Wash your hands.
- (3) Explain the procedure to the patient.
- (4) Prepare and stabilize the site.
- (5) Apply/inject a local anesthetic so the patient will not feel the incision.
- (6) Make a transverse cut and dissect the tissue until the vein is visible (see figure 7.13). Using a curved hemostat, gently spread the underlying tissue to fully expose the vein.

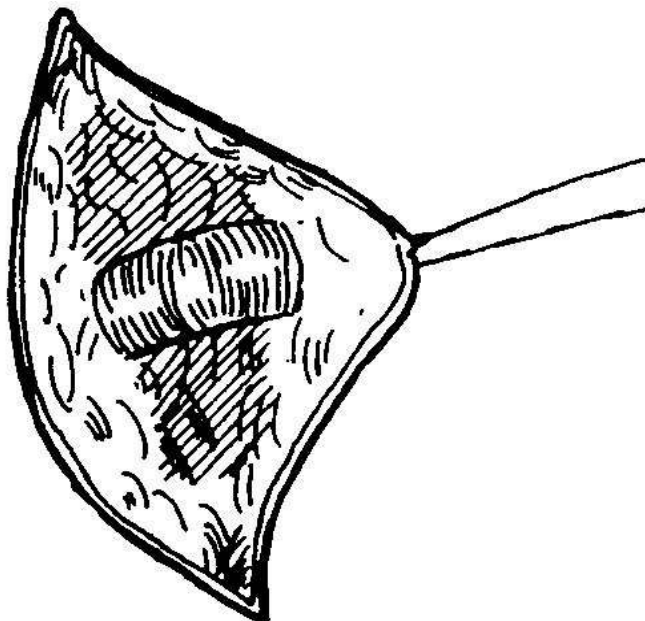


Figure 7.13 Open incision for venous cutdown.

- (7) Lift the vein and put two threads of suture under it (see figure 7.13).

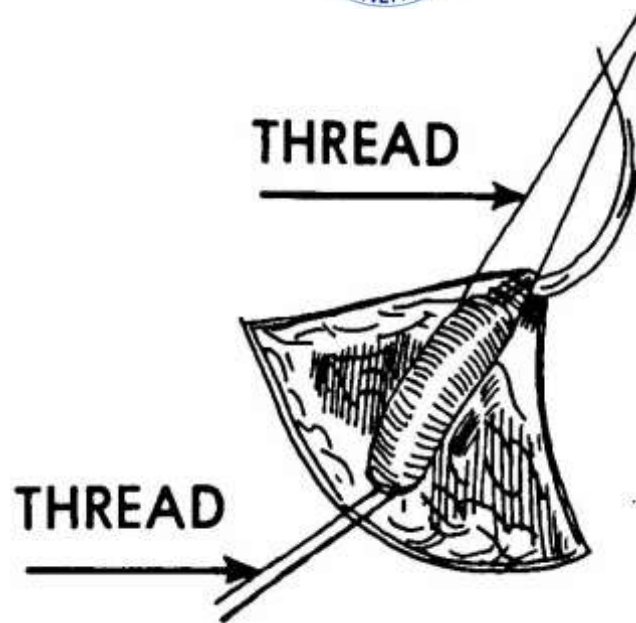


Figure 7.13 Thread under vein.

(8) Tie both threads and pull in opposite directions. Leave enough vein between the two ties to insert the catheter.

(9) Nick the vein with a scalpel (or cut with vascular scissors). (See figure 7.14.)

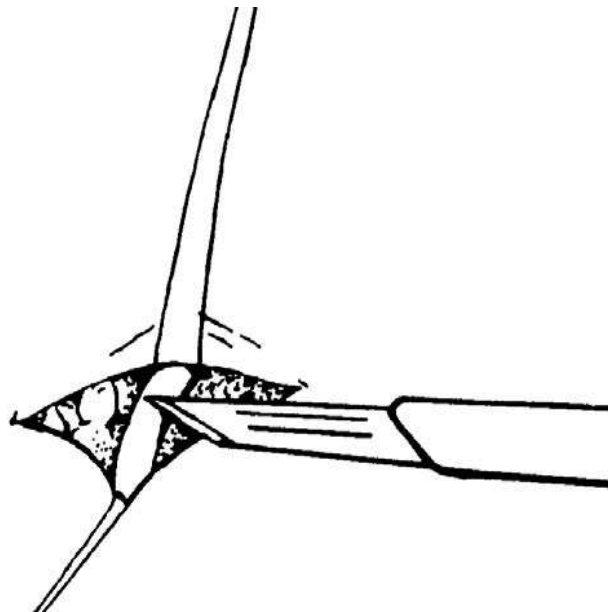


Figure 7.14 Nick vein with scalpel.



(10) Insert the proper size plastic catheter into the exposed vein (to near the catheter hub) and secure (see figure 7.15).



Figure 7.15. Insert catheter into vein.

(11) Attach catheter to previously prepared infusion set and close the wound.

(12) Suture the incision and apply an antibiotic ointment (see figure 7.16).

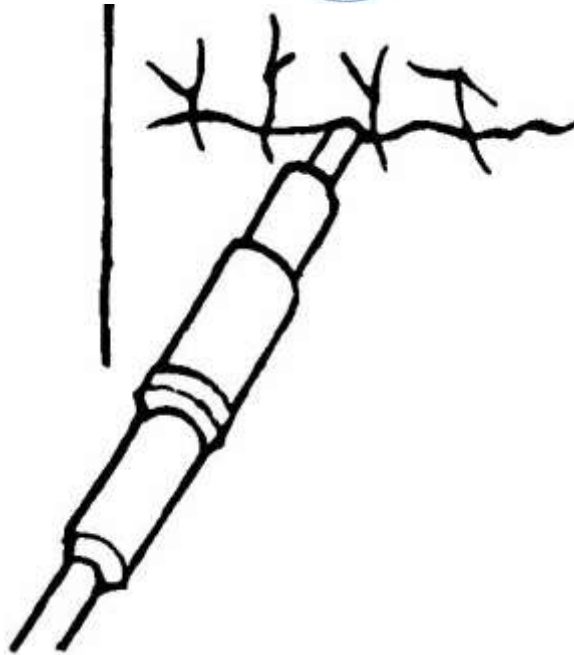


Figure 7.14. Suture incision.

(13) Apply a sterile dressing and tape the catheter in place.

(14) The procedure must be documented (usually in Nursing Notes). Physician will specify when to remove the skin sutures.

(15) Outer tape should show catheter size, date and time of insertion, and inserter's initials.

**Operation Sheet 6****Steam inhalation**

Steps of procedure

- Explain the procedure
- Wash hands
- Measure the capacity of the inhaler with cold water. Measure the capacity when it is filled half to 2/3 of full
- Warm the inhaler by pouring a little hot water in to the jug and emptying it
- Pour the record amt of inhalation in to the inhaler and fill the jug 2/3 with hot water
- If it is ordered, add tr. Benzoate
- Place the mouth piece and close the inhaler tightly ,see that the mouth piece is in the opposite direction to the spout
- Cover the mouth piece with gauze piece and plug the spout with a cotton ball
- Cover the inhaler with a towel
- Place the inhaler in the basin and take it to the bed side without losing time
- Place the apparatus conveniently in front of the pt. with spout opposite to the pt., remove the cotton plug and discard in to the paper bag.
- Instruct inhale by mouth and exhale through the nose for 15-20 min
- Keep sputum cup and a face towel near the pt and observe him /her frequently.
- Remove the inhaler, keep the pt in a comfortable position and well covered for an hour
- Record the treatment, its effectiveness and condition of the pt.
- Wash the mouth piece of the inhaler and running water and boil it for the next use
- Clean the drug glass with sprit swab sticks
- Clean all articles& replace properly



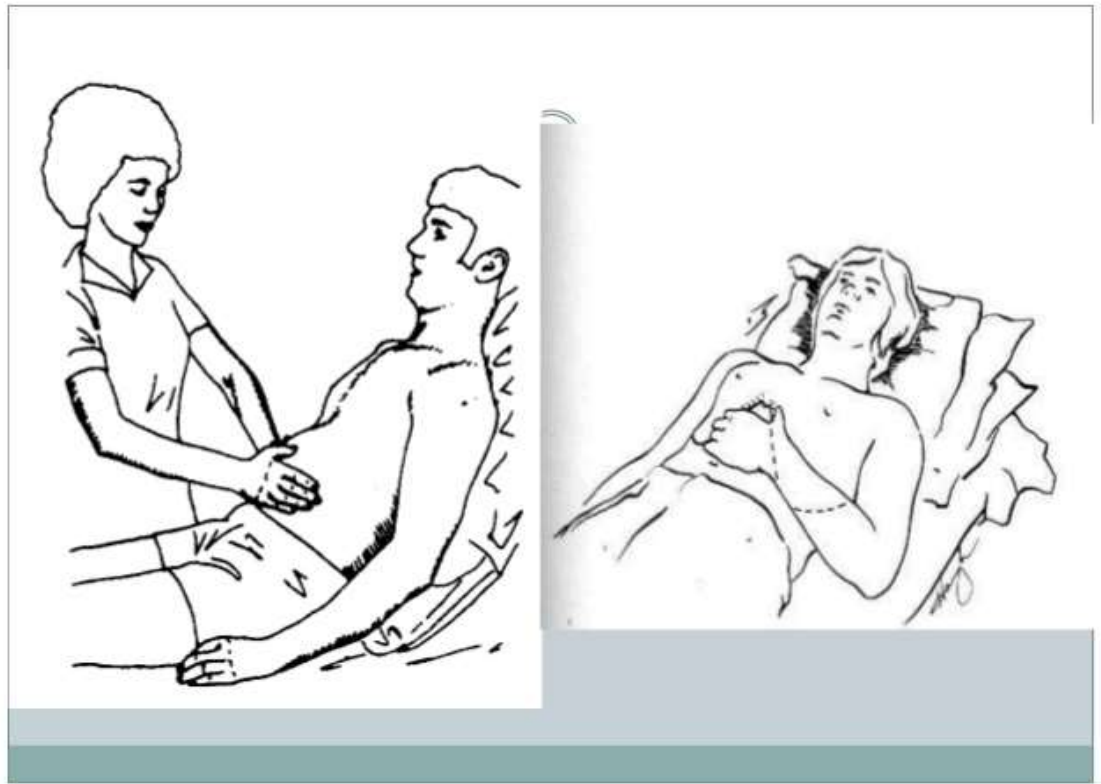
Points to remember

- Avoid spilling & scalding the pt
- Never leave pt along with an inhaler
- Avoid droughts and chilling the pt
- Check the inhaler and the mouth piece for cracks & leakage before use
- Clean the tr. benzoine drum glass with sprite
- Give treatment as ordered.

**Operation Sheet 7****Coughing and deep-breathing exercise**

PROCEDURE

- ❖ Prepare the patient in relaxed and comfortable position in which the gravity assists the diaphragm such as semifowlers position.
- ❖ If you notice any accessory muscle activation stop him and do relaxation techniques (shoulder roll or shrugs coupled with relaxation)
- ❖ Place your hands over the rectus abdomen is just below the ant: costal margin ask the patient to breath slowly and deeply via nose by keeping the shoulder relaxed and upper chest quiet allowing the abdominal to rise now ask him to slowly let all the air out using controlled expiration through mouth.
- ❖ Have him to practice this for 2-4 times if he finds any difficulty in using diaphragm have the patient inhale several times in succession through the nose by using sniffing action this facilitates the diaphragm
- ❖ For self monitor have the patients hand over the ant costal margin and feel the movement: (hand rise and fall) by placing one hand over abdomen he can also feel the contraction of abdominal muscles which occurs with controlled expiration or coughing
- ❖ After he understands and able to do the controlled breathing using a diaphragmatic pattern keep the shoulder relaxed and practice in verity of positions (supine sitting standing) and during activity (walking and climbing stair).



Resisted diaphragmatic breathing

- ❖ PT use small weight, such as sandbag to strengthen and improve the endurance of the diaphragm
- ❖ Have the patient in a head up position
- ❖ Place a small weight (1.30- 2.20 kg or 3-5 lb) over the epigastric region of his abdomen.
- ❖ Tell the patient to breath in deeply while trying to keep the upper chest quiet
- ❖ Gradually increase the time that the patient breaths against the resistance of weight
- ❖ Weight can be increased when he can sustain diaphragmatic breathing pattern without the use of any accessory muscles of inspiration for 15minuts.

Glossopharyngeal breathing



- ❖ It is a means of increasing a patient's inspiratory capacity when there is a severe weakness of the muscle of inspiration □ It is taught to patients who have difficulty in deep breathing. □ It is used primarily for ventilatory dependent patients due to absent or incomplete innervation of diaphragm because of high cervical cord injury or neuromuscular disorders. □ Glossopharyngeal breathing with inspiratory action of neck muscles can reduce ventilatory dependence or can be used as an emergency procedure for malfunctioning of ventilator.

. Procedure

- ❖ Patient take several gulp of air (6 to 10), then by closing the mouth the tongue pushes the air back and trap it in the pharynx the air is then forced to lungs when the glottis is opened.
 - ❖ This increases the depth of inspiration & patient's inspiratory & vital capacity
- #### Pursed Lip Breathing
- ❖ Pursed-lip breathing is a strategy that involves lightly pursing the lips together during controlled exhalation.
 - ❖ Taught to patients with COPD to deal with episodes of dyspnea.
 - ❖ It helps to Improves ventilation and Releases trapped air in the lungs.
 - ❖ Keeps the airways open longer and Prolonged exhalation slows the breathing rate.
 - ❖ It moves old air out of the lungs and allow new air to enter the lungs.
 - ❖ Patient in a comfortable position and relaxed, explain the patent about the expiration phase (it should be relaxed and passive). □ Abdominal muscle contraction must be avoided (therapist hand over the patients abdominal to check for contraction). □ Ask the patient to breathe in slowly and deeply through the nose and then breathe out gently through lightly pursed lips (blowing on and bending the flame of a candle). □ By providing slight resistance an increased positive pressure will generate with in the airway which helps to keep open small bronchioles that otherwise collapse. □ It can be applied as a 3-5 minutes “rescue exercise” or an Emergency Procedure to counteract



acute exacerbations or dyspnea (shortage of air or breathlessness) in COPD and asthma.

Segmental Breathing

- ❖ It is performed on a segment of lung, or a section of chest wall that needs increased ventilation or movement.



✚ Breathing Exercises and Coughing for COPD Patient

Pursed Lip Breathing Practice

1. Breath in slowly through your nose.
2. Pause.
3. As you breathe out, part your lips just enough to let a steady stream of air out
4. Your breath out should be twice as long as your breath in. Keep your lips pursed.
5. Do not try to force the air out. Do not let your cheeks relax or 'balloon out'

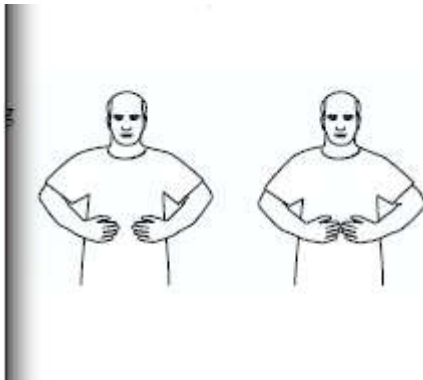
- Diaphragmatic Breathing (optional)

✓ . Practice

1. In a comfortable position, place one hand on your abdomen above your belly button. Breathe in slowly through your nose.
2. Feel your belly rise slowly as you breathe in. Let the air out through pursed lips (see below). The upper part of your chest should stay relaxed.



4. Once you are able to do this type of breathing both sitting and lying, try using it while standing and walking.



Exhale through pursed lips Diaphragm 3 Coughing and Sputum Clearance Cough and sputum are two other symptoms of your disease. Coughing is important because it helps remove sputum from your lungs. When sputum is removed you can breathe easier. It is helpful to cough early in the day to remove the sputum that has built up during the night. It is also helpful to cough well, about a half an hour before lunch and supper; it may help make your meal more enjoyable. Before going out, cough to clear any sputum. You will be less likely to cough while you are out. There are also devices that may be suitable for you. These devices help in the movement of sputum. Consult a health care professional about the use of these. Controlled Cough

✓ Technique Practice

1. Sit comfortably with your feet resting firmly on the floor, and lean forward slightly.
2. Take three to four deep diaphragmatic breaths before coughing.
3. Take a deep breath, hold your breath for three seconds, tighten your abdominal muscles and cough twice. The first cough will loosen your sputum. The second cough will move the sputum high in your throat.
4. Spit it into a piece of tissue and check the color. If it is a yellow, green or red in colour, talk to your doctor. Throw the tissue away.
5. Take a break and repeat once or twice if you do not cough up any sputum.

✓ Relaxation Positions to Reduce Shortness of Breath

When breathing is difficult, use one of these positions to help you relax and regain control of your breathing: Practice

- Lying –



- ✓ Lie on your side, leaning on three or four pillows.



- ✓ Keep your head up and your shoulder supported. .

- Sitting (1)

- Sit at a table, lean forward and rest your arms on the table.



- Rest your head on a pillow.

- Sitting (2)

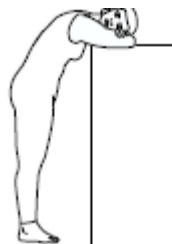
- ✓ Sit in a chair, lean forward and rest your forearms on your thighs.



- Standing (1)

- ✓ When you are not able to sit down, lean forward and support your arms on an object near shoulder level (e.g., car roof, mantle, filing cabinet)

- ✓ Rest your head on your forearms.



- Standing (2)

- ✓ Lean your back against a wall.



- ✓ Relax your shoulders and let your arms hang loosely.



- Coping with being Short of Breath
 1. Find a relaxation position that is most comfortable for you. Do not worry about how fast you are breathing.
 2. Breathe in through your mouth and out through your mouth.
 3. Begin to lengthen the time you breathe out.
 4. Try to breathe in through your mouth and out through pursed lips.
 5. Breathe in through your nose and out through pursed lips.
 6. Start diaphragmatic breathing and continue to breathe out through pursed lips.
 7. Continue until you feel more relaxed.

✚ Deep Breathing, Coughing, and Moving After Surgery

It's important to practice deep breathing and coughing so that you'll be able to do the exercises below easily after surgery. These exercises will help your breathing, clear your lungs, and lower your risk of pneumonia.

Breathe deeply and cough every hour while you're awake for the first 2 to 3 days after minor surgery, and until the pain in your incision is gone after you've had major surgery. These exercises work better if you do them sitting up.



It's also important to move and change your position often. These position changes help to make your breathing and coughing exercises work better.

Deep Breathing Exercises

Do these exercises every hour when you're awake.

1. Breathe in deeply and slowly through your nose, expanding your lower rib cage, and letting your abdomen move forward.
2. Hold for a count of 3 to 5.
3. Breathe out slowly and completely through pursed lips. Don't force your breath out.
4. Rest and repeat 10 times every hour. Rest longer if you become dizzy or



lightheaded.

Coughing Exercises

It's best to do coughing exercises when you're feeling comfortable. Your healthcare provider will tell you if you shouldn't do the coughing exercises in this handout.

1. If you're lying on your back, bend your knees (if your surgeon says you can), and rest your feet on the bed.
2. Depending on the surgery you had, support your incision firmly with your hands or a small pillow before you try to cough.



3. Breathe in deeply and cough firmly. If you cough up some mucous, clear it into a tissue. Repeat the coughing until there isn't any more mucous. If you have a lot of mucous, you may need to take a break so you don't get too tired.



Foot and Leg Exercises

Foot and leg exercises, also help you to get better sooner and prevent problems like blood clots. You may also have SCD stockings (Sequential Compression Devices) on your legs (the stockings inflate and deflate to keep good blood flow in your legs).

Do these exercises every hour while you're awake.

A. Ankle Pump

1. Pump your ankles up and down for 1 minute.
2. Relax both feet.
3. Repeat 5 times then relax.

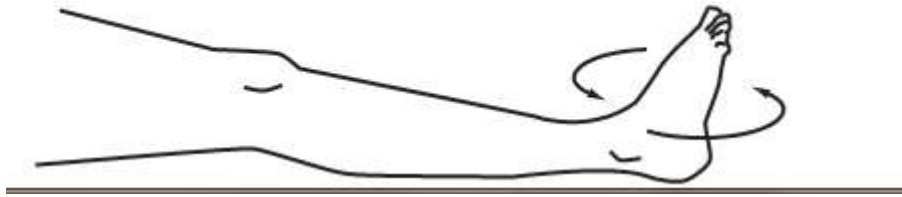


B. Ankle Circles

1. Circle both ankles; first to the right, and then to the left.



2. Repeat 5 times then relax.



If your surgeon says you can:

1. Bend each knee one at a time, sliding your foot up along the bed and then back down.
2. Repeat 5 times then relax.

Changing Positions

Change your position every hour while awake, or as directed by your nurse. It's important to move often to prevent problems like a lung infection, blood clots, and weak muscles.

Walking

- For your safety, it's important to have a nurse or physical therapist with you the first time you get up, and remember to wear proper footwear.
- At first you may need some help. As you become stronger, you'll be able to move around more on your own. You may need to take short rests in between walks.
- It's normal to feel dizzy and uncomfortable when you first get up. Remember to move slowly. If you have more pain or dizziness, please tell your nurse or physical therapist
- The goal is to be able to walk in the hall several times a day.

**Operation sheet 8****Bladder Irrigation****Bladder Irrigation**

Procedure Preliminary assessment-

- Check physician's order and nursing care plan for types, amount strength of irrigating fluid and reason for irrigation.
- Explain the procedure to the patient
- Provide privacy and drape for the patient
- Empty, measure and record the amount and appearance of urine present in the urine bag
- Arrange the articles
- Wash hands.
- one the gloving Contd..
- Connect the irrigation infusion tubing to the irrigating solution and flush the tubing with solution.
- Connect the irrigation tubing to the input port of the 3 way catheter.
- Connect the drainage bag and tubing to the urinary drainage port if not already in place.
- Instill the prescribed amount of irrigant.
- If specific amount is not ordered, fillup to 150 ml of irrigant .
- Clamp the irrigant tubing
- Wait for the prescribed length of time
- Open the clamp monitor the drainage as it flows into the drainage tube.
- Adjust the clamp on the irrigation tubing to allow the prescribed rate of irrigant to flow into the catheter and bladder
- Monitor to color, clarity debris and volume as it flows back into the drainage bag.
- Tape the catheter securely to the thigh
- Assess the patient's condition and tolerance of the procedure
- Discard all used disposable articles, clean and replace reusable articles
- Wash hands
- Record procedure in nurse's record.



Operation sheet 10

Suctioning the Airway

Endotracheal suctioning Procedure

- Assemble the equipments and check the functioning of suction apparatus.
- Explain the procedure to patient or his relatives
- Assess the base line data and respiratory status of patient i.e. breath sound, ABG value etc.
- Provide semi fowler's position to patient
- Wear the mask and wash the hand properly.
- Open the sterile tray. Place the catheter into sterile tray after removing from pack
- Wear the sterile gloves and use the dominant hand for suction
- Connect suction catheter from suction unit with other hand (clean hand).
- Disconnect the patient from oxygen source i.e. ventilator, CPAP, or any oxygen device.
- Ventilate the patient from AMBU bag
- Lubricate the catheter with sterile water or normal saline
- Turn on suction unit with clean hand
- Pinch the catheter and insert the catheter without force until patient cough or as the feeling of resistance take place.
- Apply the suction by releasing the pinch and withdraw the catheter by gentle rotating movement
- Time duration for suction should not be more than 10-15 seconds
- Hyperventilate the patient in between the suction or encourage for deep breath and coughing
- Rinse the catheter from sterile water until it become clear from secretion.
contd..
- Endotracheal suctioning Procedure
- Repeat the procedure as needed and provide rest between the suction.
- When airway becomes clear connect the oxygen delivery system to the patient



- Suction oral secretion from oropharynx
- When procedure is completed turn off the suction unit and disconnect the suction tubing from suction catheter
- Remove the gloves and discard the catheter and gloves After care
- Replace the article, clean AMBU bag and mask with alcohol
- Wash hands
- Provide comfortable position to the patient
- Auscultate the lung area
- Record the procedure with time and date, nature of secretion, and respiratory sound before and after the procedure.

2,Oropharyngealsuctioning Nasopharyngeal suctioning; Removal of the secretion from the oral cavity or nasal cavity and pharynx through the suction..

❖ Purposes

- Removing the secretion from the airway
- Facilitating the ventilation
- Obtaining the secretion for diagnostic purposes
- Preventing the infection

Articles As needed in endotracheal suctioning

❖ Procedure

- ✓ Assemble the equipments and check the functioning of suction apparatus.
- ✓ Explain the procedure to patient or his relatives
- ✓ Assess the base line data and respiratory status of patient i.e. breath sound, ABG value etc.
- ✓ Provide semi fowler's position to patient
- ✓ Wear the mask and wash the hand properly.
- ✓ Place towel or water proof pad across the patient chest
- ✓ Apply gloves
- ✓ Connect the suction catheter to suction tubing connected with suction device
- ✓ Turn on the suction
- ✓ Remove oxygen device



- ✓ Insert catheter to mouth or nasal cavity move catheter in cavity until suction are cleared
- ✓ Replace the mask or oxygen device
- ✓ Rinse the catheter with water until the secretion is cleared from suction tubing.
- ✓ Evaluate the respiratory status
- ✓ Remove the towel and gloves
- ✓ Reposition the client in comfortable position
- ✓ Wash and clean the articles used in suction
- ✓ Replace the articles
- ✓ Wash hand Document the procedure, finding and condition of patient pre and post suction.

**Self-Check****perform therapeutic and diagnostic procedures**

Instructions: Perform the following tasks. Write your answers in the answer sheet provided:

1. What are Factors used to determine amount of Enema solution?
2. Explain the classification of enema
3. Describe usual areas used for intravenous infusion?
4. Calculate drops per minutes If 2000ml of 5% D/w is prescribed to run for 12 hrs, how many drops per minutes should it run? Dfris 15 gtt/ml
5. If 1000ml of 5% D/w is to run for 24 hrs, how many drops per minutes should it run?
6. Explain Pneumothorax ,Pleural effusion and Hemothorax
7. Discuss Time to come out Thoracenthesis
8. What are indication and contraindication?
9. Explain the purpose of steam in halation
10. The physician's order states that 500 milliliters of D5W should be infused over a four-hour period. Your infusion set delivers fifteen drops per milliliter. You will set the drip rate for ____ drops per minute.
11. List the sites of vein cut down
12. Discuss what are air way suctioning (types and purposes)
13. What is endoscopy?
14. Describe indications and contraindication of Bladder irrigation



Answer Sheet

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____



10. _____

11. _____



List of Reference Materials

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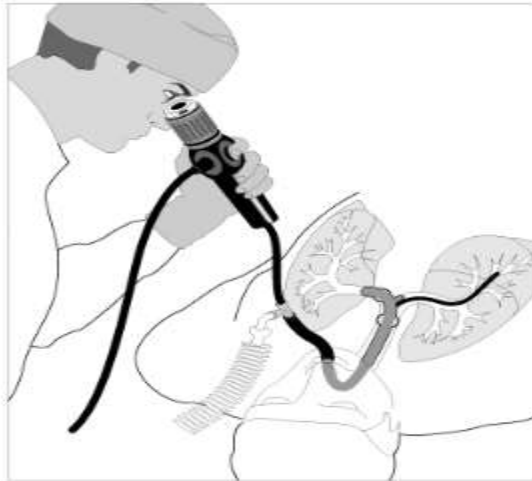
Information Sheet	Bronchoscopy
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Bronchoscopy

- ✓ is a test to look at the inside of the breathing tubes (airways) in the lungs.
- ✓ the doctor puts a narrow, flexible tube called a bronchoscope down the windpipe (trachea) and into the airways.
- ✓ test can help to diagnose lung cancer.
- ✓ is usually performed on an outpatient basis.
- ✓ It is performed with the patient lying on their back.
- ✓ The patient is sedated with MAC.
- ✓ The physician will insert the bronchoscope through your mouth and throat or through the nose, then down past the vocal cords to your windpipe and into your lungs.
- ✓ is usually done in a procedure room in a clinic or in a hospital operating room.
- ✓ the entire procedure, including prep and recovery time, typically takes about four hours.
- ✓ Bronchoscopy itself usually lasts about 30 to 60 minutes.

Reasons for doing the exam include:

- find the cause for cough or
- hoarseness
- determine presence of mucous and removal of excess mucous
- find the cause of coughing up blood
- check for the cause of abnormal chest x-ray
- get mucous samples (washings)
- take tissue biopsies
- diagnose airway injury
- diagnose tumors, tuberculosis or other infections, obstructions, or any other abnormal findings.



Nursing Responsibilities

- ✓ Provide routine preoperative care as ordered. Bronchoscopy is an invasive procedure requiring conscious sedation or anesthesia. Care provided prior to the procedure is similar to that provided before many minor surgical procedures.
- ✓ Provide mouth care just prior to bronchoscopy. Mouth care reduces oral microorganisms and the risk of introducing them into the lungs.
- ✓ Bring resuscitation and suction equipment to the bedside. Laryngospasm and respiratory distress may occur following the procedure. The anesthetic suppresses the cough and gag reflexes, and secretions may be difficult to expectorate.
- ✓ Following the procedure, closely monitor vital signs and respiratory status. Possible complications of bronchoscopy include laryngospasm, bronchospasm, bronchial perforation with possible pneumothorax or subcutaneous emphysema, hemorrhage, hypoxia, pneumonia or bacteremia, and cardiac stress.
- ✓ Instruct to avoid eating or drinking for approximately 2 hours or until fully awake with intact cough and gag reflexes. Suppression of the cough and gag reflexes by systemic and local anesthesia used during the procedure increase the risk for aspiration.
- ✓ Provide an emesis basin and tissues for expectorating sputum and saliva. Until reflexes have returned, the client may be unable to swallow sputum and saliva safely.



- ✓ Monitor color and character of respiratory secretions. Secretions normally are blood tinged for several hours following Bronchoscopy, especially if biopsy has been obtained. Notify the physician if sputum is grossly bloody. Grossly bloody sputum may indicate a complication such as perforation.
- ✓ Collect post Bronchoscopy sputum specimens for cytologic examination as ordered. Cells in the sputum may be examined if a tumor is suspected.
- **A Guide for Critical Care Patients & Their Families**
 - ✓ **Before the Exam**
 - Before the exam, a nurse will give the patient medicine through an IV. The medicines will help to relax, reduce coughing, dry the mouth and throat, and reduce discomfort. The patient may or may not have a breathing tube in place before the procedure. Sometimes the breathing tube is placed for the bronchoscopy and will be left in place for several hours after wards. If the patient does not have a breathing tube, they might also be given medicine that will help reduce coughing.
 - ✓ **During the Exam**
 - A nurse will watch the patient's comfort, blood pressure, heart rate and rhythm, and amount of oxygen in the patient's blood. Nostrils and throat will be numbed with an anesthetic jelly or spray. An oxygen tube will be placed in one nostril. A bronchoscope will be passed through the other nostril, down the throat and into the lungs. This should cause only slight discomfort or a cough. As the scope is moved, the doctor will numb the area ahead of it by spraying with an anesthetic liquid.
 - ✓ **After the Exam**
 - If biopsies were taken, the patient may cough up tiny spots of blood. This should not last longer than the next morning. If it does, let the nurse know.
 - Eating and drinking may be limited while the medicine wears off
 - The patient may have a sore throat.



Client and Family Teaching

- Fiber optic Bronchoscopy requires 30 to 45 minutes to complete. It may be done at the bedside, in a special procedure room, or in the surgical suite.
- The procedure usually causes little pain or discomfort, because an anesthetic is given. You will be able to breathe during the bronchoscopy.
- Some voice hoarseness and a sore throat are common following the procedure. Throat lozenges or warm saline gargles may help relieve discomfort.
- You may develop a mild fever within the first 24 hours following the procedure. This is a normal response.
- Persistent cough, bloody or purulent sputum, wheezing, shortness of breath, difficulty breathing, or chest pain may indicate a complication. Notify your physician if they develop.



Information Sheet	Ear, Nose And Throat (Ent) Diagnostic procedure
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Ear, Nose And Throat (Ent) Assessment

Nurse are able to manage the following ear, nose and throat conditions:

- ✓ acute otitis media in children 6 months of age and older
- ✓ pharyngitis in children 1 year of age and older

The following assessment must be completed and documented.

ASSESSMENT

History of Present Illness and Review of System

General

The following characteristics of each symptom should be elicited and explored: •

- Onset (sudden or gradual)
- Chronology
- Current situation (improving or deteriorating)
- Location
- Radiation
- Quality
- Timing (frequency, duration)
- Severity
- Precipitating and aggravating factors
- Relieving factors
- Associated symptoms
- Effects on daily activities
- Previous diagnosis of similar episodes
- Previous Trauma
- Previous treatments
- Efficacy of previous treatment

Cardinal Signs and Symptoms In addition to the general characteristics outlined above, additional characteristics of specific symptoms should be elicited, as follows:



Ears

- ✚ Recent changes in hearing
- ✚ Itching
- ✚ Earache
- ✚ Discharge
- ✚ Tinnitus
- ✚ Vertigo
- ✚ Ear trauma
- ✚ Rubbing ears
- ✚ Cotton swab use

Nose and Sinuses

- Nasal discharge or postnasal drip
- Epistaxis
- Obstruction of airflow
- Sinus pain and localized headache
- Itching
- Anosmia
- Nasal trauma
- Sneezing
- Watery eyes

Mouth and Throat

- Hoarseness or recent voice change
- Dental status
- Oral lesions
- Koplik's spots (found in oral mucosa)
- Bleeding gums
- Changes of the tongue, e.g. redness, bleeding, lesions
- Sore throat
- Uvula malalignment
- Dysphagia
- White patches on the inner cheeks, tongue, roof of the mouth, and throat



- Redness or soreness
- Cottony feeling in the mouth
- Loss of taste
- Pain while eating or swallowing
- Cracking and redness at the corners of the mouth

Neck

- Pain
- Swelling
- Enlarged lymph glands
- Increasing headache associated with flexing of the neck

Other Associated Symptoms

- ✚ Fever
- ✚ Malaise
- ✚ Nausea and vomiting

Medical History (general)

- ❖ Medical conditions and surgeries
- ❖ Allergies
- ❖ Medication currently used (prescription, oral contraceptives, over the counter)
- ❖ Herbal preparations, vitamins, minerals, supplements and traditional therapies
- ❖ Birth and prenatal history if age appropriate
- ❖ Communicable diseases: measles, chickenpox (varicella), herpes simplex
- ❖ Immunization status

Medical History (Specific to ENT)

- ✚ Frequent ear or throat infections
- ✚ Sinusitis
- ✚ Trauma to head or ENT area
- ✚ ENT surgery
- ✚ Hearing loss or audiometric screening results indicating hearing loss



- ✚ Allergies including as seasonal allergies
- ✚ Asthma

Personal and Social History (Specific to ENT)

- Family and close contacts with similar symptoms
- Smoking including tobacco, cannabis
- Exposure to vapours during “vaping”
- Alcohol use
- Illicit drug use
- Feeding methods (breast or bottle), bottle propping
- Exposure to mould
- Frequent immersion of ears in water (e.g. swimming or bathing)
- Use of foreign object to clean ear
- Insertion of foreign body in ear
- Crowded living conditions
- Sexual activity (if age appropriate)
- Personal and dental hygiene habits
- Exposure to cigarette smoke, wood smoke or other respiratory irritants
- Recent air travel
- Exposure to toxins or loud noises

Physical Assessment Of The Ears, Nose And Throat

✓ Vitals

- ✚ Temperature
- ✚ Pulse
- ✚ Respiration
- ✚ SpO2
- ✚ Blood pressure (BP)



✓ General

- Apparent state of health
- Appearance of comfort or distress
- Colour
- Nutritional status
- Hydration status
- Hygiene
- Chronological age versus apparent age
- Tripoding
- Character of cry (in infants)
- Activity level
- Mental status
- Degree of cooperation, consolability
- Emotional reaction to caregiver and examiner
- Difficulty with gait or balance • Piercings and tattoos

Safety Tip

- For examination, it may be necessary to hold and support a struggling child. For example, lay the child in a supine position and have the parent or caregiver hold the child's arms extended, in a position close to the sides of the head. This will limit side-to-side movements while you are examining ENT structures. Brace the otoscope, and guard against sudden head movements.
- NB: Never restrain a child assuming the tripod position (sitting up and leaning forward) for exam purposes. This may add to their anxiety creating severe respiratory distress.

• **Ears**

✓ Inspection

- ✚ External ear: position (in relation to eyes) low-set or small, deformed auricles may indicate associated congenital defects
- ✚ Pinna: lesions, abnormal appearance or position, include inspection of tissue behind pinna
- ✚ Canal: discharge, swelling, redness, wax, foreign bodies



- ✚ Tympanic membrane: color, light reflex, landmarks, bulging or retraction, perforation, scarring, air bubbles, fluid level. Check mobility using a pneumatic otoscope
- ✚ Estimate hearing by producing a loud noise (i.e., by clapping hands) for an infant or young child (which should elicit a blink response), or by performing a watch or whisper test for an older child

Clinical tip:

- For the best view of the eardrum in an infant or a child less than 3 yrs old, pull the outer ear upward, outward and backward

✓ **Palpation**

- Tenderness over tragus or on manipulation of the pinna
- Tenderness on tapping of mastoid process
- Size and tenderness of pre, post auricular and occipital nodes

Nose and Sinuses

✓ **Inspection**

- ✚ External: inflammation, deformity, discharge, bleeding
- ✚ Internal: color of nasal mucosa, edema, deviated or perforated septum, polyps, bleeding
- ✚ Observe nasal versus mouth breathing

✓ **Palpation**

- Sinus and nasal tenderness (only in older children who can cooperate and provide a response)

✓ **Percussion**

- ❖ Sinus and nasal tenderness (only in older children who can cooperate and provide a response)

Mouth and Throat

✓ **Inspection**

- ✚ Lips: colour, lesions, symmetry, Koplik's spots
- ✚ Oral cavity: breath odour, colour, lesions of buccal mucosa
- ✚ Teeth and gums: redness, swelling, caries, bleeding
- ✚ Tongue: colour, texture, lesions, symmetry, tenderness of floor of mouth



- ✚ Throat and pharynx: colour, exudates, uvula, tonsillar symmetry and enlargement - A tonsil grade of +2 is normal up to 12 yrs of age

Neck and lymph

✓ Inspection

- Symmetry
- Swelling
- Masses
- Active range of motion
- Thyroid enlargement

✓ Palpation

- ❖ Tenderness, enlargement, contour, mobility and consistency of nodes and masses
 - Nodes – Pre and post auricular, occipital, tonsillar, submandibular, submental, anterior and posterior cervical, supraclavicular
- ❖ Thyroid: size, consistency, contour, position, tenderness

Diagnostic Tests

The nurse may consider the following diagnostic tests to support clinical decision making:

- ✚ Swab of ear, nose or throat for Culture and Sensitivity (C&S)



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Information Sheet

Colostomy Care

Colostomy Care

Learning Objective:

At the end of this procedure the nursing student will be able to:

- ✓ Define colostomy.
- ✓ Illustrate indication for colostomy.
- ✓ Illustrate types & classification of colostomy.
- ✓ Demonstrate colostomy care procedure.
- ✓ Understanding warning signs and complication of colostomy.
- ✓ Discuss nursing management for colostomy care.

Definition of colostomy:

- Is the surgical procedure creation of an opening (ie. Stoma) into the colon intestine through the abdominal wall
- is a lifesaving surgery that enables a person to enjoy a full range of activities, including traveling, sports, family life and work, even though they have a stoma and may wear a pouching system.

Purpose of colostomy:

- It allows for drainage or evacuation of colon contents to the outside of the body

Needs for the colostomy care:

- ✓ To maintains integrity of stoma and peristomal skin (skin surrounding stoma)
- ✓ To prevents lesions ,ulcerations ,excoriation ,and other skin breakdown caused by fecal contaminants
- ✓ To prevents infection
- ✓ To promotes general comfort and positive self image/self concept
- ✓ To provides clean ostomy pouch for fecal evacuation
- ✓ To reduces odor from overuse of old pouch

**Indication:**

- Tumors of the colon & trauma to perforation of the colon.
- Inflammatory diseases of the colon as ulcerative colitis.
- Congenital anomalies of G.I.T such as , Hirsh sprung ,necrotizing enter colitis, imperforate anus.

Type of colostomy:

Type of colostomy according to site:

- A. The ascending colostomy.
- B. The transverse loop colostomy.
- C. The transverse double barreled colostomy
- D. The descending colostomy
- E. The sigmoid colostomy.

Characteristics of faeces according to the site of colostomy:

1. Ileostomy: produces liquid and frequent, contain digestive enzymes which damage the skin, and must be pouched at all time.
2. Ascending colostomy: is similar to an Ileostomy but odor is a problem requiring control.
3. Transverse colostomy: it produces mal odor, mushy (thicker) drainage because some of the liquid has been reabsorbed.
4. Descending colostomy: produces increasingly solid drainage.
5. Sigmoid colostomy emits stool almost identical to that normally passed through the rectum.

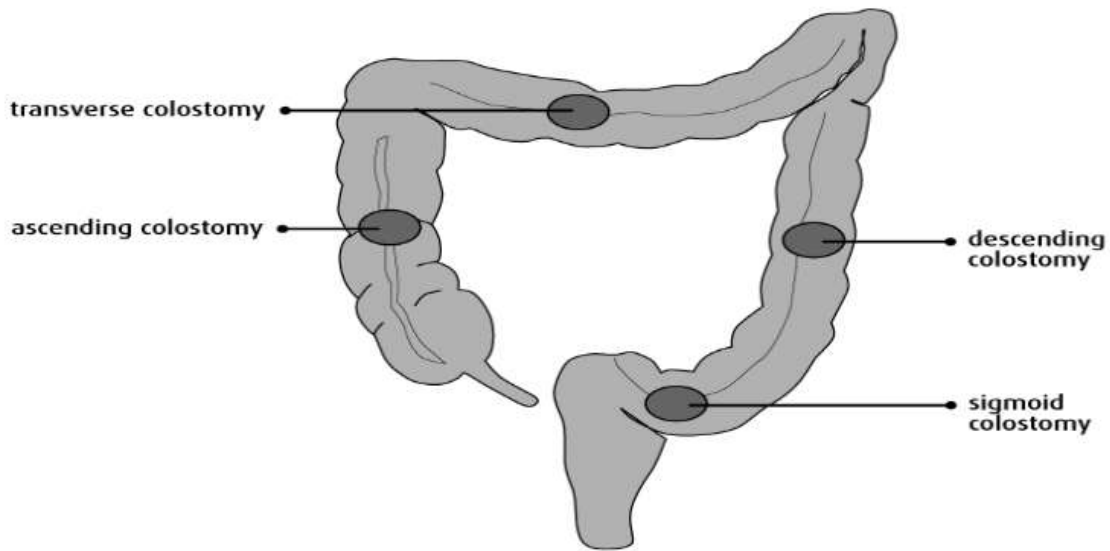


Fig. 1: colostomy site

Classification of colostomy:

Colostomy can be either temporary or permanent:

Temporary colostomy	Permanent colostomy
<ul style="list-style-type: none"> ➤ It is created for elimination when healing needs to take place in the case of trauma or inflammatory condition of the bowel. 	<ul style="list-style-type: none"> ➤ A permanent it provides a mean of elimination when the end portion of colon , rectum or anus is nonfunctional and must be totally removed.
<ul style="list-style-type: none"> ➤ It used for few weeks, months or even years. 	<ul style="list-style-type: none"> it used for long term and may be for long life.
<ul style="list-style-type: none"> ➤ It will be closed and normal bowel continuity is restored. 	<ul style="list-style-type: none"> ➤ It will not be closed at any time.

**Warning signs:**

- ✓ Bleeding from stoma.
- ✓ Bleeding from the skin around the stoma.
- ✓ Change in the bowel pattern.
- ✓ Change in the stoma size.
- ✓ Increased in the body temperature above 38

Complications:

- ✓ Leakage.
- ✓ Prolapse.
- ✓ Obstruction or stenosis.
- ✓ Stoma become edematous and enlarged.

Nursing diagnosis:

- ✓ Comfort alteration in the abdominal pain related to abdominal incision.
- ✓ Impaired skin integrity related to presence of stoma.
- ✓ Body image disturbance related to presence of stoma.
- ✓ Knowledge deficit related to stoma care and lack of experience.

Nursing management:

- ✓ Dress child with loose fitting clothe that does not press on the colostomy.
- ✓ Inform the doctor if there any bleeding from the stoma or the skin around it.
- ✓ Observe any change in the bowel pattern or size of the stoma.
- ✓ Check child temperature and report in case of fever

Equipment:

1. Pouch.
2. Clamp or pouch valve.
3. Clean gloves.
4. Gauze pads or washcloth.
5. Towel or disposable waterproof barrier.
6. Basin with warm tap water.
7. Scissors.
8. Skin barrier such as sealant wipes or wafer.



9. Stethoscope.
10. Measuring an ostomy.



Self check	Colostomy care
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1.



Score _____

Rating: _____

Answer Sheet



Name: _____ Date: _____

1.



Operation Sheet	Colostomy care
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Procedure:

Steps	Rationale
1. Assemble equipment	
2. Explain procedure to child : encourage child interaction	* Reduce microorganism transfer
3. Wash hand with soap and water , rinse and dry .	* Reduce anxiety .
4. Wear gloves .	* Prevent contamination of hand, reduce risk infection transmission.
5. Place towel or disposable waterproof under child.	*
6. Auscultate for bowel sound .	* Document presence of peristalsis .
7. Place linen saver on abdomen around and below stoma opening .	* Prevent seepage of feces onto skin.
8. Carefully remove pouch and wafer appliance and place in plastic waste bag (save tail closure for reuse) : remove wafer by gently lifting corner with finger of dominant hand while pressing skin downward with fingers of nondominant hand ;remove small sections at a time until entire wafer is removed . place 4×4- in , gauze over stoma opening.	* Avoid tearing skin ; prevents leakage while changing pouch .
9. Assess stoma and peristomal skin.	
observe existing skin barrier, and stoma for color , swelling , trauma , healing : stoma should be moist and reddish pink .	
10. Empty pouch ; measure waste in graduated container before discarding and record amount of fecal content .	* Maintains accurate records .
11. Remove and discard gloves , perform hand washing , and wear new gloves .	* Reduced microorganism transfer .
12. Remove used pouch and skin barrier gently by pushing skin away from barrier .	* Reduce skin trauma .



13. Cleans peristomal skin gently with warm tap water using gauze pads .	
14. Measure stoma for correct size of pouching system needed , using the manufacturer's measuring guide.	* Provides for accurate fit of pouch.
15. Select appropriate pouch for client based on client assessment. With a custom cut –to- fit Pouch , use an ostomy guide to cut opening on the pouch. prepare pouch by removing backing from barrier and adhesive .	* Size of pouch opening keeps drainage off skin and lessens risk of damage to stoma during peristalsis or activity.
16. Leaving intact adhesive covering of skin-barrier wafer .	
17. Remove gauze and apply stoma paste around stoma or to edges of opening in wafer .	* Prevents skin irritation of uncovered peristomal skin .
18. Remove adhesive covering of wafer ,and place wafer on skin with hole centered over stoma: hold in place for about 30 sec .	* Adheres barrier wafer to skin ;warmth of skin and fingers enhances adhesiveness once wafer makes contact with skin .
19. Center pouch over stoma and place on wafer .	* Secures pouch for collection of feces .
20. Praise the child for helping	* To gain cooperative.
21. Restore or discard all equipment appropriately .	* Reduces transfer of microorganisms .
22. Remove and discard gloves and perform hand hygiene .	
23. Spray room deodorizer , if needed	* Eliminates unpleasant odor .
24. Record type of pouch ,skin barrier, amount, appearance of faeces, condition of stoma and skin around it .	

Information Sheet	
Information sheet	Inserting a Nasogastric tube

7. Inserting a Nasogastric Tube

- **Purposes**



- ✓ To administer tube feedings and medications to clients unable to eat by mouth or swallow a sufficient diet without aspirating food or fluid into the lungs
- ✓ To establish a means for suctioning stomach contents to prevent gastric distention, and vomiting.
- ✓ To remove laboratory contents for laboratory analysis
- ✓ To lavage (wash) the stomach in case of poisoning or overdose of medication

- **Equipment**

- ✓ Large or small bore tube (plastic or rubber)
 - ✓ Solution basin filled with warm water (if plastic tube is used) or ice (if rubber tube is used)
 - ✓ Adhesive tape (2.5 cm wide)
 - ✓ Disposable gloves
 - ✓ Water soluble lubricants
 - ✓ Facial tissues
 - ✓ Glass of water and drinking straw or medication cup with water
 - ✓ 20 to 50 ml syringe with an adaptor
 - ✓ Basin
 - ✓ Stethoscope
 - ✓ Clamp (optional)
 - ✓ Suction apparatus (if required)
 - ✓ Gauze square or plastic specimen bag and elastic band
 - ✓ Safety pin and elastic band
 - ✓ Infant seat, towel, or pillow
 - ✓ Restrain or hand mitts (for infants and young children)
-
- ✓ 5-mL or 12 mL, syringes

**Operation sheet****Nasogastric tube insertion****• Procedure**

1. Explain the procedure to the patient. The passage of tube is not painful but is unpleasant.
2. Position the patient in a high fowlers position, if health permits to support head on pillow.
3. In infant, place in infant seat or with rolled towel or pillow under the head and shoulders.
4. Place the towel across the chest. A diaper can be used for an infant.
5. Ask the client to hyperextend the head, and using a flash light observe the intactness of the tissue of the nostrils.
6. Examine the nares for any obstructions or deformities by asking the client to breath through one nostril while occluding of the other.
7. Select the nostril that has the greater airflow.
8. Obstruct one of the infant's nares, and feel for air passage from the other.
9. If a rubber tube is being used, place it on ice. This stiffens the tube, facilitating the insertion. If a plastic tube is being used, place it in warm water. This makes the tube more flexible.
10. Determine how far to insert - Use the tube to mark off the distance from the tip of the client's nose to the tip of the ear lobe and from the tip of the ear lobe to the tip of the sternum. This length approximate the distance from the nares to stomach. - For infants and young children, measure from the nose to the tip of the ear lobe and then to the xiphoid process. - Mark this length with adhesive tape, if the tube does not have marking.
11. Lubricate the tip of the tube well with water solution lubricant or water to ease insertion.
12. Insert the tube with its natural curve toward the client in to the selected nostril. Ask the client to hyper extend the neck, and gently advance the tube toward the nasopharynx. Do not hyper-extend or hyper -flex an infant neck
13. Direct the tube along the floor of the nostril and toward the ear on that side.
14. If the tube meets resistance, withdraw it, rubricate it and insert it in the other nostril. (The tube should never be forced against resistance)



15. Once the tube reaches the oropharynx (throat) the client will feel the tube in the throat and may gag or retch. Ask the client to tilt the head forward and encourage the client to drink and swallow. If the client gags, stop passing the tube momentarily. Have the client rest, take a few breaths, and take sips of water to calm the gag reflex.
16. In the cooperation with the client, pass the tube 5 to 10 cm (2 to 4 in) with each swallow, until the indicated length is inserted.
17. If the client continues to gag and the tube does not advance with each swallow, withdraw it slightly, and inspect the throat by looking through the mouth. (The tube may be coiled in the throat. If so withdraw it until it is straight, and try again to insert it).
18. As certain correct placement of the tube:
 - ✓ Aspirate stomach content, and check their acidity.
 - ✓ Ascultate air insufflation's
 - ✓ If the signs do not indicate placement in the stomach, advance the tube 5cm, and repeat the test
 - ✓ For the tube that are to be placed in to the duodenum or jejunum, advance the tube 5 to 7.5 cm per hour until x-ray study confirms its placement.
19. Secure the tube by taping it to the bridge of the client's nose
 - ✓ Cut 7.5 cm of tape, and split it length wise at one end, leaving 2.5 cm tab at the end
 - ✓ Place the tape over the bridge of the client' nose and bring the split ends under the tubing and backup over the nose.
 - ✓ For infants or small children, tape the tube to the area between the end of the nares and the upper lip, as well as to the cheek.
20. Attach the tube to the suction source or feeding apparatus as ordered, or clamp the end of the tubing.
21. Secure the tube to the client's gown. Loop an elastic band around the end of the tubing, and attach the elastic band to the gown with a safety pin or attach a piece of adhesive tape to the tube, and pin the tape to the gown.



22. Document relevant information, means by which correct placement was determined and client responses.
23. Establish a plan for providing daily nasogastric tube care - Inspect the nostril for discharge and irritation - Clean the nostril and tube with moistened cotton tipped applicators - Apply water-soluble lubricant to the nostril if it appears dry or encrusted. - Change the adhesive tape as required - Give frequent mouth care
24. If suction is applied, ensure that the patency of both the nasogastric and suction tubes is maintained
25. Document all relevant information:
 - ✓ Type of tube inserted
 - ✓ Date and time of tube insertion
 - ✓ Type of suction used
 - ✓ Color and amount of gastric contents
 - ✓ Client tolerance of the procedure



- **Nasogastric Tube Feeding**

Before commencing nasogastric feeding, determine the type amount, and frequency of feedings.

- **Purposes**

- ✓ To restore or maintain nutritional status
- ✓ To administer medications

- **Equipment –**

- ✓ Correct amount of feeding solution
- ✓ Pacifier - 20 to 50 mL syringe with an adapter
- ✓ Emesis basin
- ✓ Bulb syringe (for an intermittent feeding)
- ✓ Calibrated plastic feeding bag and a drip chamber, which can be attached to the tubing or
- ✓ Pre-filled bottle with a drip chamber, tubing, and a flow regulator clamp.
- ✓ Measuring container from which to power the feeding (if using bulb syringe)
- ✓ Water (60 ml unless other wise specified) at room temperature
- ✓ Feeding pump (optional)



- **Procedure/Intervention**

1. Prepare the client and the feeding

- Explain the patient about the feeding
- Provide privacy
- Position the patient in Fowler's position in bed or sitting position in a chair
- Position a small child or infant in your lap, and provide a pacifier during feeding

2. Assess tube placement. Attach the syringe to the open end of the tube, aspirate alimentary secretions. Check the PH.

3. Assess residual feeding contents

- Aspirate all the stomach contents, and measure the amount prior to administering the feeding. If 50 mL or more undigested formula is withdrawn in adults, or 10 ml or more in infants, check with the nurse in charge before proceeding.
- Reinstill the gastric contents in to the stomach if this is the agency or physician's practice. Remove the syringe bulb or plunger, and pour the gastric contents via the syringe in to the nasogastric tube.

4. Administer the feeding Before administering feeding:

- a) Check the expiration date of the feeding
- b) Warm the feeding to room temperature

Bulb syringe

- ✓ Remove the bulb from the syringe, and connect the syringe to a pinched or clamped nasogastric tube
- ✓ Add feeding to the syringe barrel - Permit the feeding to flow in slowly at the prescribed rate. Raise or lower the syringe to adjust the flow as needed. Pinch or clamp the tubing to stop the flow for a minute if the client experiences discomfort.

Feeding Bag



- ✓ Hang the bag from an infusion pole about 30 cm above the tube's point of insertion in to the client
 - ✓ Clamp the tubing, and add the formula to the bag, if it is not pre-filled.
 - ✓ Open the damp, run the formula through the tubing, and reclamp the tube.
 - ✓ Attach the bag to the nasogastric tube and regulate the drip by adjusting the clamp to drop factor on bag.
5. Rinse the feeding tube immediately before all the formula has run through the tubing:
- ✓ Instill 60 mL of water the feeding tube
 - ✓ Be sure to add the water before the feeding solution has drained from the neck of a bulb syringe or from the tubing of an administration set. Before adding water to a feeding bag or prefilled tubing set, first clamp and disconnect both feeding and administration tubes.
6. Clamp and cover the feeding tube
- ✓ Clamp the feeding tube before all of the water is instilled
 - ✓ Cover the end of the feeding tube with gauze held by an elastic band
7. Ensure client comfort and safety
- ✓ Pin the tubing to the clients gown
 - ✓ Ask the client to remain sitting upright in Fowler's position or in slightly elevated right lateral position for at least 30 minutes.
8. Dispose of equipment appropriately
- ✓ If the equipment is to be reused, wash with soap and water so that it is ready for reuse.
 - ✓ Change the equipment every 24 hours or according to the agency's policy.
9. Document all relevant information
- ✓ Document the feeding, including amount, and kind of solution taken, duration of feeding and assessment of client.
 - ✓ Record the volume of the feeding and water administered on the client's intake and out put record.
10. Monitor the client for possible problems:



- ✓ Carefully assess clients receiving tube feeding for problems
- ✓ To prevent dehydration, give the client supplemental water in addition to the prescribe tube feeding as ordered.



Information Sheet

Gastric Lavage

- **Gastric Lavage**

- ✓ **Definition-** This is the irrigation or washing out of the stomach.

- ✓ **Purpose**

- To remove alcoholic, narcotic or any other poisoning, which has been swallowed.
- To clean the stomach before operation
- To relieve congestion, there by stimulating peristalsis
e.g. Pyloric stenosis
- For diagnostic purposes

- **Gastric Lavage Using a Simple Rubber Tube**

- ✓ **Equipment:**

1. Clean trolley.
2. Bowl containing large esophageal tube in ice (cold water)
3. Rubber tubing with screw or clip and glass connection
4. Metal or plastic funnel
5. Large Jug (5 liter)
6. Solution as prescription/usually to care for acidic poisoning. We use sodium bicarbonate 1 teaspoon to 500 cc. of water at a temperature of 37⁰c-38⁰c.)
7. Small jug to carry solution to the funnel
8. Lubricant e.g. liquid paraffin
9. Bowl for gauze swabs
10. Cape or protective material to put around the patient chest
11. Pail to receive returned fluid
12. Mackintosh or paper to protect the floor beneath the pail
13. Receiver for used esophageal tube
14. Paper bag for waste material
15. A tray for mouth wash after lavage
16. Denature cup.



17. A receiver for pt's dentures. If any, and should be labeled with the pt's name
18. A receiver containing mount gag, tongue depressor, and tongue forceps if patient is unconscious
19. Mackintosh to protect bed linen
20. Litmus paper
21. Specimen bottle. If laboratory test is required
22. Measuring jug



Operation sheet	
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Procedure 1. Explain procedure to the pt and ask him/her to remove artificial dentures, If any. 2. Protect pt with cape or towel



Information Sheet	Urinary Catheterization
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7. Urinary Catheterization

• 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
- ✓ Is strictly a sterile procedure, i.e. the nurse should always follow aseptic technique

- **Catheter:** is a tube with a hole at the tip

• Types of Catheter 1.

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

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

1. Kidney dish
2. Galipot
3. Gauze
4. Towel
5. Solution
6. Lubricant
7. Catheter
8. Syringe
9. Water
10. Specimen bottle
11. Gloves

II. Clean

1. Waste receiver
2. Rubber sheet
3. Flash light
4. Measuring jug
5. Screen



Operation sheet	Urinary catheterization
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- **Procedure**

- ✓ Prepare the client and equipment for perennial wash
- ✓ Position the patient – dorsal recumbent (pillows can be used to elevate the buttocks in females).
- ✓ Drape the patient.
- ✓ Wash the perennial area with warm water and soap
- ✓ Rinse and dry the area
- ✓ Prepare the equipment
- ✓ Create a sterile field
- ✓ Drop the client with a sterile drape
- ✓ Clean the area with antiseptic solution.
- ✓ Lubricate the insertion tip of the catheter (5-7 cm in)
- ✓ Expose the urinary meatus adequately by retracting the tissue or the labia minora in an upward direction – female
- ✓ Retract the fore skin of uncircumcised mal.
- ✓ Grasp the penis firmly behind the glans and hold straighten the downward curvature of vertical it go to the body – male hole the catheter 5 cm from the insertion tip
- ✓ Insert the catheter into the urethral orifice
- ✓ Insert 5 cm in females and 20 cm in males or until urine comes
- ✓ Collect the urine – for specimen (about 30 ml)
- ✓ Pinch previous leakage
- ✓ Empty or drain the bladder and remove the catheter
- ✓ For adults experiencing urinary retention an order is needed on the amount to urine to be expelled



Note.

- ✓ If resistance is encountered during insertion, do not force it forceful pressure can cause trauma. Ask the client to take deep breaths - relaxes the external sphincter (slight resistance is normal)
- ✓ Dorsal Recumbent Female - for a better view of the urinary meatus and reduce the risk of catheter contaminate.

Male- allows greater relaxation of the abdominal and perennial muscles and permits easier insertion of the tube. Straight Catheter: is a single lumen tube with a small eye or opening about (1.25 cm) from the insertion tip:



Information Sheet	Inserting a Retention (Indwelling) Catheter
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- **Inserting a Retention (Indwelling) Catheter**
 - ✓ Retention (Foley) Catheter Contains a second, smaller tube through out 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 out put needs to be monitored hourly



Operation Sheet	Inserting a retention Catheter
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- **Procedure**
 - ✓ Explain the procedure to the patient
 - ✓ Prepare the equipment like:
 - Retention catheter
 - Syringe
 - Sterile water
 - Tape
 - Urine collection bag and tubing
 - ✓ After catheter insertion, the balloon is inflated to hold the catheter in place with in the bladder. TM 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.
 - 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.
 - ✓ Test the catheter balloon
 - ✓ Follow steps as insertion straight catheter
 - ✓ 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)
 - ✓ Inflate the balloon with the pre filled syringe
 - ✓ 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
 - ✓ Release the resistance



- ✓ Tape the catheter with tape to the inside of a females thigh or to the thigh or a body of a male client
 - Restricts the movement of the catheter and irritation in the urethra when the client moves
 - When there is increased risk of penile scrotal excoriation
- ✓ Establish effective drainage
- ✓ The bag should be off the floor – the emptying spout does not become grossly contaminated
- ✓ Document pertinent data
- **Removal**
 - ✓ Withdraw the solution or air from the balloon using a syringe
 - ✓ And remove gently



Self Check	Written test
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1. Mention conditions that differentiate between male and female catheterization.
2. Tracheostomy Care& Management



Information Sheet

Tracheostomy Care & Management

Tracheostomy Care & Management

A **tracheostomy** is an opening (made by an incision) through the neck into the **trachea** (windpipe). A **tracheostomy** opens the airway and aids breathing. A **tracheostomy** may be done in an emergency, at the patient's bedside or in an operating room.

- **Objectives**

- ✓ Review of Evidenced-Based Guidelines in the Care & Maintenance
- ✓ Review Definition, Types of Tracheostomies & their uses
- ✓ Potential Complications
- ✓ Nursing Care Guidelines at NYGH:
 - Assessment,
 - Suctioning,
 - Dressing changes,
 - Inner cannula changes,
 - Other nursing considerations
 - Documentation in powerchart

- **Definitions**

- ✓ Tracheotomy: Incision made below the cricoid cartilage through the 2nd-4th tracheal ring
- ✓ Tracheostomy: the opening or stoma made by this incision
- ✓ Tracheostomy Tube: Artificial airway inserted into the trachea

Why does your patient have a tracheostomy?

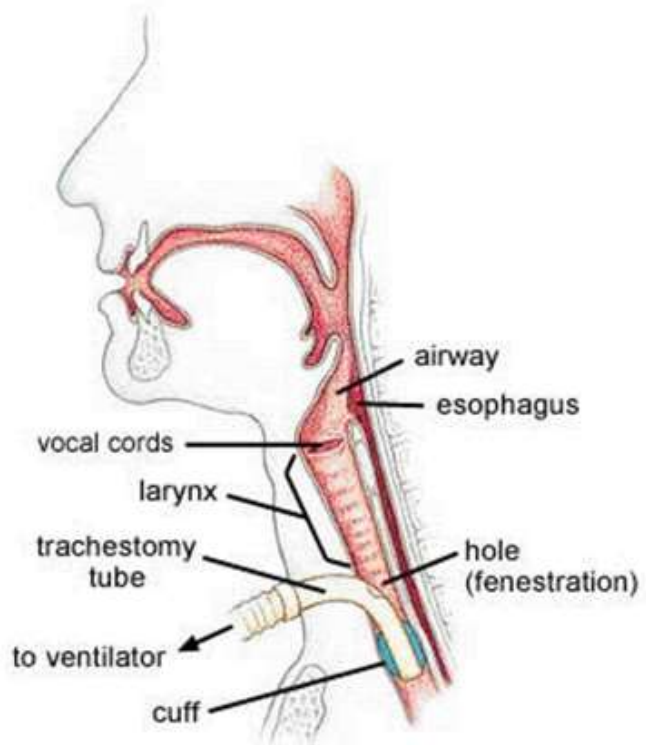
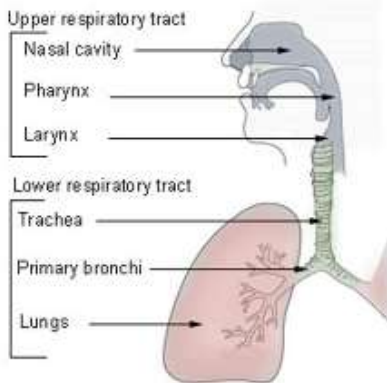
- ✓ To maintain a patent airway when the ability to do this is temporarily or permanently compromised
- ✓ Bypass Obstructed airway
- ✓ Tumor
- ✓ Laryngeal edema
- ✓ Foreign body obstruction



- ✓ Facilitate removal of secretions
- ✓ Permit long-term ventilation/prevent aspiration with prolonged coma
- ✓ Decrease work of breathing---severe COPD

Anatomy

Conducting Passages



- **Types**

- ✓ Cuffed or Un-cuffed
- ✓ Fenestrated or Non-fenestrated
- ✓ Disposable or Non-disposable inner cannula

- **Parts of a Trach**

1. Flange-secured with trachties, stabilizes the trach
2. Outer Cannula-tube connected to flange
3. Inner Cannula-removable for cleaning
4. Obturator-a plastic guide with a smooth rounded tip that is used to guide the outer cannula during insertion
5. Cuff-Soft balloon around the end of the trach that can be inflated to allow for mechanical ventilation



- **Purpose:**
 - ✓ Increase or improve ventilation/oxygenation
 - ✓ Prevent aspiration with feeding tubes, decreased gag reflex, gastro-esophageal reflux
- **Cuff Complications**
 - ✓ Pressure from the cuff can cause damage the trachea
 - ✓ Necrosis
 - ✓ Low pressure cuffs are used
 - ✓ RT will inflate/deflate and monitor pressure
- **Un-cuffed**
 - ✓ Plastic or metal
 - ✓ Allows air to flow freely around the tracheostomy tube through the larynx
 - ✓ Reduces the risk of tracheal damage
- **Fenestration**
 - ✓ Permits speech through the upper airway when the external opening is corked and the cuff is deflated
 - ✓ Restores more of a normal airflow by allowing air to pass up and down the airway from the nose & mouth
 - ✓ Allows secretions to be coughed out through mouth
- **Inner Cannula**
 - ✓ Allows maintenance of tube patency
 - ✓ Changing or cleaning the inner cannula helps to clear secretions
 - ✓ Can be non-disposable or disposable
 - ✓ disposable cannula come in a box of 10 will be changed Q8 hours & PRN
- **Tracheostomy Information**
 - ✓ What should I know about my patient's trach:
 - ✓ What type is it?
 - ✓ What number?
 - ✓ Cuffed or cuff less—balloon inflated or deflated
 - ✓ Fenestrated/non-fenestrated?
 - ✓ Inner cannula disposable or reusable
 - ✓ Corked? For how long? What is the goal?



- **Potential Complications**

- ✚ Hemorrhage
- ✚ Pneumothorax
- ✚ Subcutaneous emphysema
- ✚ Dislodged tube
- ✚ Airway obstructions
- ✚ Infection and Aspiration
- ✚ Tracheal damage

- **Prevention is Key**

- ✓ Trachpatients are at high risk for airway obstructions, impaired ventilation, and infection as well as other complications
- ✓ Altered body image, requiring emotional/psychological support
- ✓ Skilled and timely nursing assessment and care can prevent these complications

Goals in care will include maintaining a patent airway as well as ventilation/oxygenation:

- ✓ Suctioning
- ✓ Humidity
- ✓ Trachcare & maintenance

- **Nursing Assessment**

- Beginning of each shift and prn
- Look and listen
- Vital signs & SpO₂ –pulse oximetry
- Oxygen/Humidity
- Respiratory assessment = breath sounds
- Secretions-amount, color, consistency
- Cough, ability to clear own secretions
- Trachsite



- **Equipment in Room**

- ✓ ****emergency equipment****

Each Shift the nurse responsible for the pt must check and document that equipment is present and in working order

- Functioning Suction & O2/Air for humidity
- Ambubag with trach adaptor/connector
- Trach set of same size and type—VISIBLE TO ALL
- Trach Info sheet with pt info.
- Obturator
- Box of disposable Inner Cannulas or trach tray for cleaning non-disposable
- Suction catheters
- Normal saline bottle
- Hydrogen peroxide (for non-disposable inner cannulas cleaning)
- Small ampules of normal saline for suctioning
- Mouth swab
- Occlusive drsg—tegaderm
- Trach 4X4 sponges for dressing changes

- **Trach Care Guidelines**

- ✓ Trach care to be entered in power chart by nurse
- ✓ Q 8 hours (0600-1400-2200) & PRN
- ✓ Suction pt prior to trach care
- ✓ Assess skin around trach for redness, drainage, secretions, bleeding, maceration or excoriation and skin breakdown caused by flange pressure
- ✓ Clean around stoma & flange with Q-tips/ 2X2 moistened with NS
- ✓ dry stoma area if needed and apply 4X4 gauze
- ✓ With newly established trach—are sutures still in place? Can they be removed?
- ✓ trach ties secure?? Should be able to fit one finger under the tie



Self check	Written
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List of Reference Materials

1. Basic Nursing Care, Lecture note for Nurse students, 2005

Answer Sheet