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PROCEDURE MANUAL

for PCL course



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I. Basic Nursing Care/ Skill

Bed making

a. Making an Un-occupied Bed

Definition:

A bed prepared to receive a new patient is an un-occupied bed.



Fig.1. Un-occupied bed

Purpose

1. To provide clean and comfortable bed for the patient
2. To reduce the risk of infection by maintaining a clean environment
3. To prevent bed sores by ensuring there are no wrinkles to cause pressure points

Equipment required:

1. Mattress (1)
2. Bed sheets(2): Bottom sheet (1)
   Top sheet (1)
3. Pillow (1)
4. Pillow cover (1)
5. Mackintosh (1)
6. Draw sheet (1)
7. Blanket (1)
8. Savlon water or Dettol water in basin
9. Sponge cloth (4): to wipe with solution (1)
   to dry (1)
   ✻ When bed make is done by two nurses, sponge cloth is needed two each.
10. Kidney tray or paper bag (1)
11. Laundry bag or Bucket (1)
12. Trolley(1)



Fig. 2. Equipment required on a trolley

Procedure: **by one nurse**

Care Action	Rationale
1. Explain the purpose and procedure to the client.	• Providing information fosters cooperation.
2. Perform hand hygiene.	• To prevent the spread of infection.
3. Prepare all required equipments and bring the articles to the bedside.	• Organization facilitates accurate skill performance
4. Move the chair and bed side locker	• It makes space for bed making and helps effective action.
5. **Clean Bed-side locker:** Wipe with wet and dry.	• To maintain the cleanliness
6. **Clean the mattress:** 1) Stand in right side. 2) Start wet wiping from top to center and from center to bottom in right side of mattress. 3) Gather the dust and debris to the bottom. 4) Collect them into kidney tray. 5) Give dry wiping as same as procedure 2). 6) Move to left side. 7) Wipe with wet and dry the left side.	• To prevent the spread of infection
7. Move to right side. **Bottom sheet:** 1) Place and slide the bottom sheet upward over the top of the bed leaving the bottom edge of the sheet. 2) Open it lengthwise with the center fold along the bed center. 3) Fold back the upper layer of the sheet toward the opposite side of the bed. 4) Tuck the bottom sheet securely under the head of the mattress(approximately 20-30cm). (Fig.3) Make a mitered corner. ①Pick up the selvage edge with your hand nearest the hand of the bed. ②Lay a triangle over the side of the bed (Fig.4) ③Tuck the hanging part of the sheet under the mattress.(Fig. 5) ④ Drop the triangle over the side of the bed. (Fig. 6ⓐ→ 6ⓑ) ⑤Tuck the sheet under the entire side of bed.(Fig. 7) 5) Repeat the same procedure at the end of the corner of the bed 6) Tuck the remainder in along the side	•Unfolding the sheet in this manner allows you to make the bed on one side. •A mitered corner has a neat appearance and keeps the sheet securely under the mattress. • Tucking the bottom sheet will be done by turn, the corner of top firstly and the corner of the bottom later. • To secure the bottom sheet on one side of the bed.
8. **Mackintosh and draw sheet:** 1) Place a mackintosh at the middle of the bed (if used), folded half, with the fold in the center of the bed. used), folded half, with the fold in the center of the bed. 2) Lift the right half and spread it forward the near Side.	• Mackintosh and draw sheet are additional protection for the bed and serves as a lifting or turning sheet for an immobile client.



Fig.3 Tuck the bottom sheet under the mattress

⇩



Fig.4 Picking the selvage and laying a triangle on the bed

⇩



Fig.5 Tucking the hanging part of the sheet under the mattress

⇩



Fig.6a Putting and holding the sheet bedside the mattress at the level of top

⇩



Fig.6b Dropping the triangle over the side of the bed

⇩



Fig.7 Tucking the sheet under the entire side of the bed

Care Action	Rationale
3) Tuck the mackintosh under the mattress. 4) Place the draw sheet on the mackintosh. Spread and tuck as same as procedure 1)-3).	
9.Move to the left side of the bed. **Bottom sheet , mackintosh and draw sheet:** 1) Fold and tuck the bottom sheet as in the above procedure 7. 2) Fold and tuck both the mackintosh and the draw sheet under the mattress as in the above procedure 8.	• Secure the bottom sheet, mackintosh and draw sheet on one side of the bed
10. Return to the right side. **Top sheet and blanket:** 1) Place the top sheet evenly on the bed, centering it in the below 20-30cm from the top of the mattress. 2) Spread it downward. 3) Cover the top sheet with blanket in the below 1 feet from the top of the mattress and spread downward. 4) Fold the cuff (approximately 1 feet) in the neck part 5) Tuck all these together under the bottom of mattress. Miter the corner. 6) Tuck the remainder in along the side	• A blanket provides warmth. • Making the cuff at the neck part prevents irritation from blanket edge. • Tucking all these pieces together saves time and provides a neat appearance.
11. Repeat the same as in the above procedure 10 in left side.	• To save time in this manner
12. Return to the right side. **Pillow and pillow cover:** 1) Put a clean pillow cover on the pillow. 2) Place a pillow at the top of the bed in the center with the open end away from the door.	• A pillow is a comfortable measure. • Pillow cover keeps cleanliness of the pillow and neat. • The open end may collect dust or organisms. • The open end away from the door also makes neat.
13. Return the bed, the chair and bed-side table to their proper place.	• Bedside necessities will be within easy reach for the client .
14. Replace all equipments in proper place. Discard lines appropriately.	• It makes well-setting for the next. • Proper line disposal prevents the spread of infection.
15. Perform hand hygiene	• To prevent the spread of infection.

❖Nursing Alert ❖

- Do not let your uniform touch the bed and the floor not to contaminate yourself.
- Never throw soiled lines on the floor not to contaminate the floor.
- Staying one side of the bed until one step completely made saves steps and time to do effectively and save the time.

Bed making

b. Changing an Occupied Bed

Definition

The procedure that used lines are changed to a hospitalized patient is an occupied bed.



Fig. 8 Occupied bed

Purpose:

1. To provide clean and comfortable bed for the patient
2. T reduce the risk of infection by maintaining a clean environment
3. To prevent bed sores by ensuring there are no wrinkles to cause pressure points

Equipment required:

1. Bed sheets(2) : Bottom sheet(or bed cover) (1)
   Top sheet (1)
2. Draw sheet (1)
3. Mackintosh (1) (if contaminated or needed to change)
4. Blanket (1) (if contaminated or needed to change)
5. Pillow cover (1)
6. Savlon water or Dettol water in bucket
7. Sponge cloth (2): to wipe with solution (1)
   to dry (1)

   ✻When the procedure is done by two nurses, sponge cloth is needed two each.
8. Kidney tray or paper bag (1)
9. Laundry bag or bucket (1)
10. Trolley (1)

Procedure: by one nurse

Care Action	Rationale
1. Check the client's identification and condition.	• To assess necessity and sufficient condition
2. **Explain the purpose and procedure to the client**	•Providing information fosters cooperation
3. Perform hand hygiene	•To prevent the spread of infection.
4. Prepare all required equipments and bring the articles to the bedside.	•Organization facilitates accurate skill performance
5. Close the curtain or door to the room. Put screen.	•To maintain the client's privacy.
6. Remove the client's personal belongings from bed-side and put then into the bed-side locker or safe place.	•To prevent personal belongings from damage and loss.
7. Lift the client's head and move pillow from center to the left side.	•The pillow is comfortable measure for the client.
8. **Assist the client to turn toward left side of the bed.** Adjust the pillow. Leaves top sheet in place.	•Moving the client as close to the other side of the bed as possible gives you more room to make the bed. •Top sheet keeps the client warm and protect his or her privacy.
9.**Stand in right side:** **Loose bottom bed linens. Fanfold (or roll) soiled linens from the side of the bed** and wedge them close to the client.	•Placing folded (or rolled) soiled linen close to the client allows more space to place the clean bottom sheets.
10. **Wipe the surface of mattress** by sponge cloth with wet and dry.	•To prevent the spread of infection.
11. **Bottom sheet, mackintosh and draw sheet:** 1) Place the clean bottom sheet evenly on the bed folded lengthwise with the center fold as close to the client's back as possible. 2) Adjust and tuck the sheet tightly under the head of the mattress, making mitered the upper corner. 3) Tighten the sheet under the end of the mattress and make mitered the lower corner. 4) Tuck in along side. 5) Place the mackintosh and the draw sheet on the bottom sheet and tuck in them together.	•Soiled linens can easily be removed and clean linens are positioned to make the other side of the bed.
12. Assist the client to roll over the folded (rolled) linen to right side of the bed. Readjust the pillow and top sheet.	•Moving the client to the bed's other side allows you to make the bed on that side.
13. **Move to left side:** **Discard the soiled linens appropriately.** Hold them away from your uniform. Place them in the laundry bag (or bucket).	•Soiled linens can contaminate your uniform, which may come into contact with other clients.
14. **Wipe the surface of the mattress** by sponge cloth with wet and dry.	•To prevent the spread of infection.
15. **Bottom sheet, mackintosh and draw sheet:** 1) Grasp clean linens and gently pull them out from under the client. 2) Spread them over the bed's unmade side. Pull the linens taut	•Wrinkled linens can cause skin irritation.

Care Action	Rationale
3) Tuck the bottom sheet tightly under the head of the mattress and miter the corner. 4) Tighten the sheet under the end of the mattress and make mitered the lower corner. 5) Tuck in along side. 6) Tuck the mackintosh and the draw sheet under the mattress.	
16. **Assist the client back to the center of the bed.** Adjust the pillow.	•The pillow is comfort measure for the client.
17. **Return to right side:** **Clean top sheet, blanket:** 1) Place the clean top sheet at the top side of the soiled top sheet. 2) Ask the client to hold the upper edge of the clean top sheet. 3) Hold both the top of the soiled sheet and the end of the clean sheet with right hand and withdraw to downward. Remove the soiled top sheet and put it into a laundry bag (or a bucket). 4) Place the blanket over the top sheet. Fold top sheet back over the blanket over the client. 5) Tuck the lower ends securely under the mattress. Miter corners. 6) After finishing the right side, repeat the left side.	• Tucking these pieces together saves time and provides neat, tight corners.
18. **Remove the pillow and replace the pillow cover with clean one** and reposition the pillow to the bed under the client's head.	• The pillow is a comfortable measures for a client
19. Replace personal belongings back. Return the bed-side locker and the bed as usual.	• To prevent personal belongings from loss and provide safe surroundings
20. Return all equipments to proper place.	• To prepare for the next procedure
21. Discard linens appropriately. Perform hand hygiene.	•To prevent the spread of infection.

Bed making

c. Making a Post-operative Bed

Definition:

It is a special bed prepared to receive and take care of a patient returning from surgery.



Fig.9 Post-operative bed

Purpose:

1. To receive the post-operative client from surgery and transfer him/her from a stretcher to a bed
2. To arrange client's convenience and safety

Equipment required:

1. Bed sheets: Bottom sheet (1)
   Top sheet (1)
2. Draw sheet (1-2)
3. Mackintosh or rubber sheet (1-2)
   ✻ According to the type of operation, the number required of mackintosh and draw sheet is different.
4. Blanket (1)
5. Hot water bag with hot water (104- 140 ℉) if needed (1)
6. Tray1(1)
7. Thermometer, stethoscope, sphygmomanometer: 1 each
8. Spirit swab
9. Artery forceps (1)
10. Gauze pieces
11. Adhesive tape (1)
12. Kidney tray (1)
13. Trolley (1)
14. IV stand
15. Client's chart
16. Client's kardex
17. According to doctor's orders:
    - Oxygen cylinder with flow meter
    - O_2 cannula or simple mask
    - Suction machine with suction tube
    - Airway
    - Tongue depressor
    - SpO_2 monitor
    - ECG
    - Infusion pump, syringe pump

Procedure: **by one nurse**

Care Action	Rationale
1. Perform hand hygiene	• To prevent the spread of infection
2.Assemble equipments and bring bed-side	• Organization facilitates accurate skill performance
3. Strip bed. **Make foundation bed** as usual with a large mackintosh, and cotton draw sheet.	• Mackintosh prevents bottom sheet from wetting or soiled by sweat, drain or excrement. • Place mackintosh according to operative technique. • Cotton draw sheet makes the client felt dry or comfortable without touching the mackintosh directly.
4. **Place top bedding** as for closed bed but **do not tuck at foot**	• Tuck at foot may hamper the client to enter the bed from a stretcher
5. **Fold back top bedding at the foot of bed**. (Fig.10)	• To make the client 's transfer smooth
6. **Tuck the top bedding on one side only.** (Fig. 11)	• Tucking the top bedding on one side stops the bed linens from slipping out of place and
7. On the other side, do not tuck the top sheet. 1) Bring head and foot corners of it at the center of bed and form right angles. (Fig.12) 2) Fold back suspending portion in 1/3 (Fig. 13)and repeat folding top bedding twice to opposite side of bed(Fig.14, 15)	• The open side of bed is more convenient for receiving client than the other closed side.
8. **Remove the pillow.**	• To maintain the airway
9 **Place a kidney-tray on bed-side.**	• To receive secretion
10. **Place IV stand near the bed**.	• To prepare it to hang I/V soon
11. Check locked wheel of the bed.	• To prevent moving the bed accidentally when the client is shifted from a stretcher to the bed.
12.Place hot water bags(or hot bottles) in the middle of the bed and cover with fanfolded top if needed	• Hot water bags (or hot bottles) prevent the client from taking hypothermia
13.When the patient comes, remove hot water bags if put before	• To prepare enough space for receiving the client
14. Transfer the client: 1) Help lifting the client into the bed 2) Cover the client by the top sheet and blanket immediately 3) Tuck top bedding and miter a corner in the end of the bed.	• To prevent the client from chilling and /or having hypothermia



Fig. 10 Folding back top bedding at the foot

⇩



Fig. 11 Tucking the top bedding on left side

⇩



Fig. 12 Bringing both head and foot corners to the center and forming right angles

⇩



Fig. 13 Folding 1/3 side of top bedding at right side

⇩



Fig.14 Rolling top bedding again

⇩



Fig. 15 Folding it again and complete top bedding

Performing Oral Care

Definition:

Mouth care is defined as the scientific care of the teeth and mouth.

Purpose:

1. To keep the mucosa clean, soft, moist and intact
2. To keep the lips clean, soft, moist and intact
3. To prevent oral infections
4. To remove food debris as well as dental plaque without damaging the gum
5. To alleviate pain, discomfort and enhance oral intake with appetite
6. To prevent halitosis or relieve it and freshen the mouth

Equipment required:

1. Tray (1)
2. Gauze-padded tongue depressor (1): to suppress tongue
3. Torch(1)
4. Appropriate equipments for cleaning:
   - Tooth brush
   - Foam swabs
   - Gauze-padded tongue depressor
   - Cotton ball with artery forceps (1) and dissecting forceps (1)
5. Oral care agents:
   Tooth paste/ antiseptic solution

   ❖NURSING ALERT❖
   You should consider nursing assessment, hospital policy and doctor's prescription if there is, when you select oral care agent. Refer to Table 1. on the next page

6. If you need to prepare antiseptic solution as oral care agent:
   Gallipot (2): to make antiseptic solution(1)
   to set up cotton ball after squeezed (1)
7. Cotton ball
8. Kidney tray (1)
9. Mackintosh (1): small size
10. Middle towel (1)
11. Jug with tap water (1)
12. Paper bag(2): for cotton balls (1)
    for dirt(1)
13. Gauze pieces as required: to apply a lubricant
14. Lubricants: Vaseline/ Glycerin/ soft white paraffin gel/ lip cream (1)
15. Suction catheter with suction apparatus (1): if available
16. Disposable gloves(1 pair): if available

NOTE:

Table 1. Various oral care agents for oral hygiene

The choice of an oral care agent is dependent on the aim of care. The various agents are available and should be determined by the individual needs of the client.

Agents	Potential benefits	Potential harms
Tap water	• To refresh • be available	• Short lasting • not contain a bactericide
Tooth paste	• Not specified • To remove debris • To refresh	• It can dry the oral cavity if not adequately rinsed *1
Nystatin	• To treat fungal infections	• Tastes unpleasant
Chlorhexidine gluconate: a compound with broad-spectrum anti-microbial activity *2	• To suppress the growing of bacteria in doses of 0.01-0.2 % solution *2	• not be significant to prevent chemotherapy- induced mucositis *2 • Tastes unpleasant • be stainable teeth with prolonged use
Sodium bicarbonate:	• To dissolve viscous mucous*3	• Tastes unpleasant • may bring burn if not diluted adequately • can alter oral pH allowing bacteria to multiply *1
Fluconazole: an orally absorbed antifungal azole, soluble in water	• for the treatment of candidosis of the oropharynx, oesophagus and variety of deep tissue sites *3	• not reported
Sucralfate: a mouth-coating agent	Initially for the clients under radiotherapy and chemotherapy • To reduce pain of mucositis	• not reported
Fluoride	• To prevent and arrest tooth decay • especially radiation caries, demineralization and decalcification	• To show toxicity in high density
Glycerine an thymol	• To refresh	• Refreshing lasts only 20-30 seconds *1 • Can over-stimulate the salivary glands leading to reflex action and exhaustion *1

Another solutions for oral care such as Potasium permanganate(1:5000), Sodium chloride(I teaspoon to a pint of water), Potasium chroride(4 to 6 %), Hydrogen perpxide(1: 8 solution) are used commonly*4.

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a. Assisting the client with Oral care

Procedure:

Care Action	Rationale
1.Explain the procedures	• Providing information fosters cooperation, understanding and participation in care
2. Collect all instruments required	• Organization facilitates accurate skill performance
3. Close door and /or put screen	• To maintain privacy
4. Perform hand hygiene and wear disposable gloves if possible	• To prevent the spread of infection
5. If you use solutions such as sodium bicarbonate, prepare solutions required.	• Solutions must be prepared each time before use to maximize their efficacy
6. Assist the client a comfortable upright position or sitting position	• To promote his/her comfort and safety and effectiveness of the care including oral inspection and assessment
7. **Inspect oral cavity** 1) Inspect whole the oral cavity ,such as teeth, gums, mucosa and tongue, with the aid of gauze-padded tongue depressor and torch 2) Take notes if you find any abnormalities, e.g., bleeding, swollen, ulcers, sores, etc.	• Comprehensive assessment is essential to determine individual needs • Some clients with anemia, immunosuppression, diabetes, renal impairment epilepsy and taking steroids should be paid attention to oral condition. They may have complication in oral cavity.
8. Place face towel over the client chest or on the thigh with mackintosh (Fig. 16)	• To prevent the clothing form wetting and not to give uncomfortable condition
9. Put kidney tray in hand or assist the client holding a kidney tray	• To receive disposal surely



Fig16 Setting the kidney tray up with face towel covered mackintosh

Care Action	Rationale
10. **Instruct the client to brush teeth** Points of instruction 1) Client places a soft toothbrush at a 45 ° angle to the teeth. 2) Client brushes in direction of the tips of the bristles under the gum line with tooth paste. Rotate the bristles using vibrating or jiggling motion until all outer and inner surfaces of the teeth and gums are clean. 3) Client brushes biting surfaces of the teeth 4) Client clean tongue from inner to outer and avoid posterior direction.	• Effective in dislodging debris and dental plaque from teeth and gingival margin • Cleansing posterior direction of the tongue may cause the gag reflex
11. If the client cannot tolerate toothbrush (or cannot be available toothbrush), form swabs or cotton balls can be used	• When the client is prone to bleeding and/or pain, tooth brush is not advisable
12. **Rinse oral cavity** 1) Ask the client to rinse with fresh water and void contents into the kidney tray. 2) Advise him/her not to swallow water. If needed, suction equipment is used to remove any excess.	• To make comfort and not to remain any fluid and debris • To reduce potential for infection and
13. Ask the client to wipe mouth and around it.	• To make comfort and provide the well-appearance
14. Confirm the condition of client's teeth, gums and tongue. Apply lubricant to lips.	• To moisturize lips and reduce risk for cracking
15. Rinse and dry tooth brush thoroughly. Return the proper place for personal belongings after drying up.	• To prevent the growth of microorganisms
16. Replace all instruments	• To prepare equipments for the next procedure
17. Discard dirt properly and safety	• To maintain standard precautions
18. Remove gloves and wash your hands	• To prevent the spread of infection
19. Document the care and sign on the records.	• Documentation provides ongoing data collection and coordination of care • Giving signature maintains professional accountability
20. Report any findings to senior staffs	• To provide continuity of care

b. Providing oral care for dependent client



Fig. 17 Equipments required for oral care in depending client

Procedure: The procedure with cotton balls soaked sodium bicarbonate is showed here.

Care Action	Rationale
1. Check client's identification and condition	• Providing nursing care for the correct client with appropriate way.
2. Explain the purpose and procedure to the client	• Providing information fosters cooperation and understanding
3.Perform hand hygiene and wear disposable gloves	• To prevent the spread of infection.
4. Prepare equipments: 1) Collect all required equipments and bring the articles to the bedside. 2) Prepare sodium bicarbonate solutions in gallipot. ❖Nursing Alert❖ If the client is unconscious, use plain tap water. 3) Soak the cotton ball in sodium bicarbonates solution(3 pinches / 2/3 water in gallipot) with artery forceps. 4) Squeeze all cotton balls excess solution by artery forceps and dissecting forceps and put into another gallipot	• Organization facilitates accurate skill performance • Solutions must be prepared each time before use to maximize their efficacy • To reduce potential infection • Cleaning solutions aids in removing residue on the client's teeth and softening encrusted areas. • To avoid inspiration of the solution
5. Close the curtain or door to the room. Put screen.	• It maintains the client's privacy
6. Keep the client in a side lying or in comfortable position.	• Proper positioning prevents back strain • Tilting the head downward encourages fluid to drain out of the client's mort and it prevents aspiration.

Care Action	Rationale
7. Place the mackintosh and towel on the neck to chest.	• The towel and mackintosh protect the client and bed from soakage.
8. Put the kidney tray over the towel and mackintosh under the chin.(Fig. 18)	• It facilitates drainage from the client's mouth.
9. **Inspect oral cavity**: 1) Inspect whole the oral cavity, such as teeth, gums, mucosa and tongue, with the aid of gauze-padded tongue depressor and torch. 2) Take notes if you find any abnormalities, e.g., bleeding, swollen, ulcers, etc.	• Comprehensive assessment is essential to determine individual needs. • Some clients with anemia, immunosuppression, diabetes, renal impairment, epilepsy and taking steroids should be paid attention to oral condition. They may have complication in oral cavity.
10. **Clean oral surfaces:** (Fig.19) 1) Ask the client to open the mouth and insert the padded tong depressor gently from the angle of mouth toward the back molar area. You never use your fingers to open the client's mouth.	• The tong depressor assists in keeping the client's mouth open. As a reflex mechanism, the client may bite your fingers.
2) Clean the client's teeth from incisors to molars using up and down movements from gums to crown.	• Friction cleanses the teeth.
3) Clean oral cavity from proximal to distal, outer to inner parts, using cotton ball for each stroke.	• Friction cleanses the teeth.
11. Discard used cotton ball into small kidney tray.	• To prevent the spread of infection.
12. Clean tongue from inner to outer aspect.	• Microorganisms collect and grow on tongue surface and contribute to bad breath.



Fig.18 Placing a kidney tray on the mackintosh covered a face towel



Fig. 19 Cleansing teeth with supporting padded tongue depressor

Care Action	Rationale
13. **Rinse oral cavity:** 1) Provide tap water to gargle mouth and position kidney tray. 2) If the client cannot gargle by him/herself, a) rinse the areas using moistened cotton balls or b) insert of rubber tip of irrigating syringe into the client's mouth and rinse gently with a small amount of water. 3) Assist to void the contents into kidney tray. If the client cannot spit up, especially in the case of unconscious client, suction any solution.	• To remove debris and make refresh • Rinsing or suctioning removes cleaning solution and debris. • Solution that is forcefully irrigated may cause aspiration • To avoid aspiration of the solution
14. Confirm the condition of client's teeth, gums, mucosa and tongue.	• To assess the efficacy of oral care and determine any abnormalities
15. Wipe mouth and around it. Apply lubricant to lips by using foam swab or gauze piece with artery forceps	• Lubricant prevents lips from drying and cracking.
16. Reposition the client in comfortable position.	• To provides for the client's comfort and safety.
17. Replace all equipments in proper place.	• To prepare equipments for the next care
18. Discard dirt properly and safety	• To maintain standard precautions
19. Remove gloves and perform hand hygiene	• To prevent the spread of infection
20. Document the care and sign on the records.	• Documentation provides ongoing data collection and coordination of care. • Giving signature maintains professional accountability
21. Report any findings to the senior staff.	• To provide continuity of care

❖Nursing Alert❖

Oral care for the unconscious clients

1. Special precautions while the procedure
   - ➢ The client should be positioned in the lateral position with the head turned toward the side. (Rationale: It can not only provide for drainage but also prevent accidental aspiration.)
   - ➢ Suction apparatus is required. (Rationale: It prevents aspiration.)
   - ➢ To use plain water for cleaning of oral cavity of unconscious clients may be advisable.(Rationale: Potential infection may be reduced by using plain water when the solution flows into the respiratory tract by accident.)
2. Frequency of care

   Oral care should be performed at least every four hours. (Rationale: Four hourly care will reduce the potential for infection from microorganisms. by http://www.heris.nhs.uk/RMCNP/contant/mars32.htm The Royal Marsden Hospital Manual of Clinical Nursing Procedures 6th edition.)

Performing Bed Bath

Definition:

A bath given to client who is in the bed (unable to bath itself)

Purpose:

1. To prevent bacteria spreading on skin
2. To clean the client's body
3. To stimulate the circulation
4. To improve general muscular tone and joint
5. To make client comfort and help to induce sleep
6. To observe skin condition and objective symptoms

Equipments required:

1. Basin (2): for without soap (1)
   for with soap (1)
2. Bucket (2): for clean hot water (1)
   for waste (1)
3. Jug (1)
4. Soap with soap dish (1)
5. Sponge cloth (2): for wash with soap (1)
   for rinse (1)
6. Face towel (1)
7. Bath towel (2) : Ⓐ for covering over mackintosh (1)
   Ⓑ for covering over client's body (1)
8. Gauze piece (2-3)
9. Mackintosh (1)
10. Trolley (1)
11. Thermometer (1)
12. Old newspaper
13. Paper bag(2): for clean gauze (1)
    for waste (1)

Procedure: **complete bed bath**

Care Action	Rationale
1. Confirm Dr.'s order. Check client identification and condition.	•The bath order may have changed. •In some instances a bed bath may be harmful for a client, who is in pain, hemorrhaging, or weak. Ns need to defer the bath.
2. Explain the purpose and procedure to the client. If he or she is alert or oriented, question the client about personal hygiene preferences and ability to assist with the bath.	•Providing information fosters cooperation. • Encourage the client to assist with care and to promote independence.
3. Gather all required equipments.	•Organization facilitates accurate skill performance
4. Wash your hands and put on gloves.	•To prevent the spread of organisms. Gloves are optional but you must wear them if you are giving perineal and anal care.
5.Bring all equipments to bed-side.	• Organization facilitates accurate skill performance
6. Close the curtain or the door.	•To ensure that the room is warm. •To maintain the client's privacy.
7.Put the screen or curtain.	•To protect the client's privacy.
8.Prepare hot water (60℃).	•Water will cool during the procedure.
9. Remove the client's cloth. Cover the client's body with a top sheet or blanket. If an IV is present on the client's upper extremity, thread the IV tubing and bag through the sleeve of the soiled cloth. Rehang the IV solution. Check the IV flow rate.	•Removing the cloth permits easier access when washing the client's upper body. •Be sure that IV delivery is uninterrupted and that you maintain the sterility of the setup.
10.Fill two basins about two-thirds full with warm water(43-46℃or 110–115F).	•Water at proper temperature relaxes him/her and provides warmth. Water will cool during the procedure.
11.Assist the client to move toward the side of the bed where you will be working. Usually you will do most work with your dominant hand.	•Keep the client near you to limit reaching across the bed.
12. **Face, neck, ears:** 1) Put mackintosh and big towel Ⓐunder the client's body from the head to shoulders. Place face towel under the chin which is also covered the top sheet. 2) Make a mitt with the sponge towel and moisten with plain water. 3) Wash the client's eyes. Cleanse from inner to outer corner. Use a different section of the mitt to wash each eye. 4) Wash the client's face, neck, and ears. Use soap on these areas only if the client prefers. Rinse and dry carefully.	•To prevent the bottom sheet from making wet. •Soap irritates the eyes. •Washing from inner to outer corner prevents sweeping debris into the client's eyes. Using a separate portion of the mitt for each eye prevents the spread of infection. •Soap is particularly drying to the face.

Care Action	Rationale
13. **Upper extremities:** 1) Move the mackintosh and big towel Ⓐ to under the client's far arm. 2) Uncover the far arm. 3) Fold the sponge cloth and moisten. 4) Wash the far arm with soap and rinse. Use long strokes: wrist to elbow→ elbow to shoulder→ axilla→ hand 5) Dry by face towel 6) Move the mackintosh and big towel Ⓐ to under the near arm and uncover it 7) Wash, rise, and dry the near arm as same as procedure 4).	• To prevent sheet from making wet • Washing the far side first prevents dripping bath water onto a clean area. • Long strokes improve circulation be facilitating venous return
14. **Chest and abdomen:** 1) Move the mackintosh and bath towel Ⓐ to under the upper trunk 2) Put another bath towel Ⓑ to over the chest 3) Fold the sponge towel and moisten 4) Wash breasts with soap and rinse. Dry by the big towel covering. 5) Move the bath towel Ⓑ covering the chest to abdomen. 6)Fold the sponge cloth and moisten. 7) Wash abdomen with soap, rinse and dry 8) Cover the trunk with top sheet and remove the bath towel Ⓑ from the abdomen.	• Mackintosh and bath towel Ⓐ prevent sheet from wetting • Bath towel Ⓑ provides warmth and privacy
15. Exchange the warm water.	• Cool bath water is uncomfortable. The water is probably unclean. You may change water earlier if necessary to maintain the proper temperature.
16. **Lower extremities:** 1) Move the mackintosh and bath towel Ⓐ to under the far leg. Put pillow or cushion under the bending knee. Cover the near legg with bath towel Ⓑ. 2) Fold the sponge cloth and moisten. 3) Wash with soap, rinse and dry. Direction to wash: from foot joint to knee→ from knee to hip joint 4) Repeat the same procedure as 16.1)- 3) on the near side. 5) Cover the lower extremities with top sheet Remove the cushion, mackintosh and big towel Ⓐ.	• Pillow or cushion can support the lower leg and makes the client comfort.
17. Turn the client on left lateral position with back towards you.	• To provide clear visualization and easier contact to back and buttocks care

Care Action	Action
18.**Back and buttocks:** 1) Move the mackintosh and big towel Ⓐ under the trunk. 2) Cover the back with big towel Ⓑ. 3) Fold the towel and moisten. Uncover the back. 4) Wash with soap and rinse. Dry with big towel Ⓑ. 5) Back rub if needed ✻ See our nursing manual "Back Care" 6) Remove the mackintosh and big towel Ⓐ	• Skin breakdown usually occurs over bony prominences. Carefully observe the sacral area and back for any indications.
19. Return the client to the supine position.	• To make sustainable position for perineal care
20. Perineal care: ✻See our nursing manual "Perineal care"	• Clean the perineal area to prevent skin irritation and breakdown and to decrease the potential odor.
21. Assist the client to wear clean cloth.	• To provide for warmth and comfort
22. After bed bath: 1) Make the bed tidy and keep the client in comfortable position. 2) Check the IV flow and maintain it with the speed prescribed if the client is given IV.	• These measures provide for comfort and safety • To confirm IV system is going properly and safely
23. Document on the chart with your signature and report any findings to senior staff.	• Documentation provides coordination of care • Giving signature maintains professional accountability

Performing Back Care

Definition:

Back care means cleaning and massaging back, paying special attention to pressure points. Especially back massage provides comfort and relaxes the client, thereby it facilitates the physical stimulation to the skin and the emotional relaxation.

Purpose:

1. To improve circulation to the back
2. To refresh the mode and feeling
3. To relieve from fatigue, pain and stress
4. To induce sleep

Equipments required:

1. Basin with warm water (2)
2. Bucket for waste water (1)
3. Gauze pieces (2)
4. Soap with soap dish (1)
5. Face towel (1)
6. Sponge cloth (2): 1 for with soap
   1 for rinse
7. Big Towel (2): 1 for covering a mackintosh
   1 for covering the body
8. Mackintosh (1)
9. Oil/ Lotion/ Powder (1): according to skin condition and favor
10. Tray (1)
11. Trolley (1)
12. Screen (1)

Procedure:

Care Action	Rationale
1. Perform hand hygiene	• To prevent spread of infection
2. Assemble all equipments required.	• Organization facilitates accurate skill performance
3. Check the client's identification and condition.	• To assess sufficient condition on the client
4.Explain to the client about the purpose and the procedure.	• Providing information fosters cooperation
5.Put all required equipments to the bed-side and set up.	• Appropriate setting can make the time of the procedure minimum and effective.
6.Close all windows and doors, and put the screen or / and utilize the curtain if there is.	• To ensure that the room is warm. • To maintain the privacy.
7. Placing the appropriate position: 1) Move the client near towards you. 2) Turn the client to her/ his side and put the mackintosh covered by big towel under the client's body.	• To make him/her more comfortable and provide the care easily. • Mackintosh can avoid the sheet from wetting.
8.Expose the client's back fully and observe it whether if there are any abnormalities.	• To find any abnormalities soon is important to that you prevent more complication and/ or provide proper medication and/or as soon as possible. • If you find out some redness, heat or sores, you cannot give any massage to that place. • If the client has already some red sore or broken-down area, you need to report to the senior staff and /or doctor.
9. Lather soap by sponge towel. Wipe with soap and rinse with plain warm water.	• To make clean the back before we give massage with oil/ lotion/ powder.
10. Put some lotion or oil into your palm. Apply the oil or the lotion and massage at least 3-5 minutes by placing the palms: 1) from sacral region to neck 2)from upper shoulder to the lowest parts of buttocks	• Don't apply oil or lotion directly to the back skin. Too much apply may bring irritation and discomfort
11. Help for the client to put on the clothes and return the client to comfortable position.	• To provide for warmth and comfort
12. Replace all equipments in proper place.	• To prepare for the next procedure
13. Perform hand hygiene.	• To prevent the spread of infection
14. Document on the chart with your signature, including date, time and the skin condition. Report any findings to senior staff.	• Documentation provides coordination of care • Giving signature maintains professional accountability

Performing Hair Washing

Definition:

Hair washing defines that is one of general care provided to a client who cannot clean the hair by himself/ herself.

Purpose:

1. To maintain personal hygiene of the client
2. To increase circulation to the scalp and hair and promote growing of hair
3. To make him/her feel refreshed

Equipments required:

1. Mackintosh(2): to prevent wet (1)
   to make Kelly pad (1)
2. Big towel(2): to cover mackintosh (1)
   to round the neck (1)
3. Middle towel (1)
4. Shampoo or soap (1)
5. Hair oil (1): if necessary
6. Brush, comb: (1)
7. Paper bag (2): for clean (1)
   for dirty (1)
8. Cotton boll with oil or non-refined cotton
9. Bucket (2): for hot water (1)
   for wasted water (1)
10. Plastic jug (1)
11. Clothpin or clips (2)
12. Steel Tray (1)
13. Kidney tray (1)
14. Cushion or pillow (1)
15. Clean cloth if necessary
16. Old newspaper
17. Trolley (1)

Procedure:

Care Action	Rationale
1. Perform hand hygiene	• To prevents the spread of infection
2.Gather all equipments	• Organization facilitates accurate skill performance
3.Check the condition of client. Explain the purpose and the procedure to the client.	• Proper explanation may allay his/her anxiety and foster cooperation
4. Bring and set up all equipments to the bed-side	• To save the time and promote effective care
5. Help the client move his/her head towards edge of the bed and remove the pillow from the head.	• To arrange appropriate position with considering your body mechanics
6.Put another pillow or a cushion under the bending knee. Make him/her comfortable position.	• Putting a pillow or a cushion could prevents from having some pain while the hair washing process
7. Setting mackintosh and towel to the client: 1) Place a mackintosh covered a big towel under the upwards from the client head to the shoulders of client 2) Have a big towel around his/her neck 3) Roll another mackintosh to make the shape of a funnel, by using the way to hold from both sides in a slanting way. The narrow end should be folded and put under the client's neck and the free end should be put into the bucket to drain for the waste water. 4) Put the folding mackintosh under the client's neck.	• To prevent the sheet from soiling • To prevent the cloth and the body from soling • To induce water drainage
8. Washing: 1) Brush the hair. 2) Insert the cotton balls into the ears 3) Wet the hair by warm water and wash it roughly 4) Apply soap or shampoo and massage the scalp well while washing the hair using fingernails 5) Rinse the hair and reapply shampoo for a second washing, if indicated 6) Rinse the hair thoroughly 7) Apply conditioner if requested or if the scalp appears dry	• To remove dandruff and fallen hairs, and make the hair easier washing • To prevent water from entering into the ears
9. Wrapping the hair: 1)Remove the cotton balls from the ears into the paper bag and mackintosh with the towel from the client's neck. 2) Wrap the hairs in the big towel which are used to cover the client's neck part.	

Care Action	Rationale
10. Drying the hair: 1) Wipe the face and neck if needed 2) Dry the hair as quick as possible 3) Massage the scalp with oil as required 4) Comb the hair and arrange the hair according to the client's preference 5) Make the client tidy and provide comfortable position	• To prevent him/her from becoming chilled • To increase circulation of the scalp and promote sense of well-being • To raise self-esteem
10. Clean the equipments and replace them to proper place. Discard dirty.	• To prepare for the next procedure
11. Perform hand hygiene	• To prevent the spread of infection
12. Document the condition of the scalp, hair and any abnormalities on the chart with your signature. Report any abnormalities to senior staff.	• Documentation provides coordination of care • Giving signature maintains professional accountability

Caring for fingernails and toenails

Definition:

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

Purpose:

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

Equipments required:

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



Fig.20 Equipments required for nail cutting

Procedure: **Caring for Fingernails**

Care Action	Rationale
1. Perform hand hygiene	• To prevent the spread of infection
2. Gather all the required equipments.	• Organization facilitates accurate skill performance
3. Check the client's identification.	• To assess needs
4. Explain to the client about the purpose and the procedure.	• Providing explanation fosters cooperation
5. Put all the required equipments to the bed-side and set up it.	• To save the time an promote effective care
6. Assist the client to a comfortable upright position.	• To provide for comfort
7.In sitting position: 1) Soaking ①Put a mackintosh with covering towel on the bed. ②Put the basin with warm water over the mackintosh. ③Soak the client's fingers in a basin of warm water and mild soap. ④Scrub and wash them up. ⑤Dry the client's hands thoroughly by using the middle towel covering the mackintosh.	• Mackintosh can prevent the sheet from wetting • To make nails soft, thereby you can cut nails easily and safety
2) Cutting ①Trim the client's nails with nail clippers. ②Wipe all fingernails from thumb to 5th nail side by side by wet cotton ball. One cotton ball is used for one nail finger. ③Shape the fingernails with a file, rounding the corners and wipe both hands by a sponge towel.	•Special orders are required before cutting the nails or cuticles of a client with diabetes to avoid accidental injury to soft tissues.
8. Replace equipments and discard dirty.	• To prepare equipments for the next procedure
9. Perform hand hygiene.	• To prevent the spread of infection

Procedure: **Caring for Toenails**

Follow the same procedure as for the fingernails with some exceptions:

Care Action	Rationale
7. 2) Cutting ①Cut toenails straight across and do not round off the corners ②Do not shape corners	• Cutting into the corners may cause ingrown nails. If the nails tend to grow inward at the corners, place a wisp of cotton under the nail to prevent toe pressure. • A notch cut in the center will pull in edges and corners. Sometimes, very thick, hard toenails require surgical removal.

❖ **NURSING ALERT**❖

Never cut the toenails of the clients with diabetes or hemophilia. These clients are particularly susceptible to injury.

Performing Perineal Care

Definition:

Perineal care is bathing the genitalia and surrounding area. Proper assessment and care of the perineal area will need professional clinical judgment.

Purpose:

1. To keep cleanliness and prevent from infection in perineal area
2. To make him/her comfortable

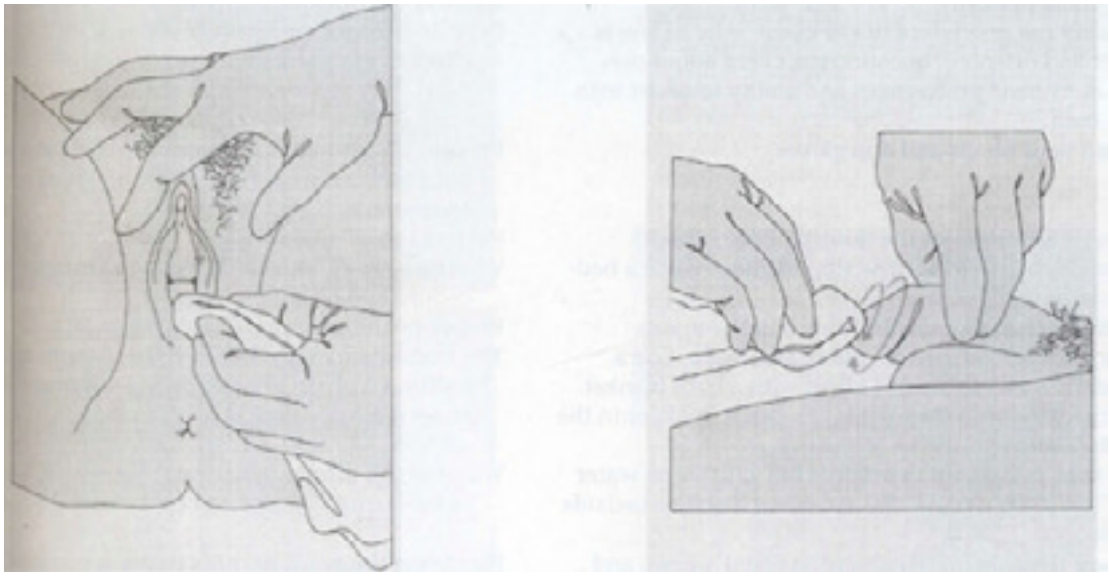
Equipments required:

1. Gloves(non- sterile) (1 pair)
2. Sponge cloth (1)
3. Basin with warm water (1)
4. Waterproof pad or gauze
5. Towels (1)
6. Mackintosh (1)
7. Soap with soap dish (1)
8. Toilet paper
9. Bed pan (1): as required

Procedure: For general case (without urinary catheter)

Care Action	Rationale
1. Gather all required equipments.	• Organization facilitates accurate skill performance
2. Explain the procedure to the client.	• Providing information fosters cooperation.
3. Perform hand hygiene and wear on gloves if available.	• To prevent the spread of infection
4. Close the door to the room and place the screen.	• To protect the client's privacy.
5.Raise the bed to a comfortable height if possible.	• Proper positioning prevents back strain.
6. Preparation the position: 1) Uncover the client's perineal area. 2) Place a mackintosh and towel (or waterproof pad) under the client's hips.	• A towel or pad protects the bed. You can use the towel to dry the client's perineal and rectal area.
7. Cleanse the thighs and groin: 1) Make a mitt with the sponge cloth. 2) Cleanse the client's upper thighs and groin area with soap and water. 3) Rinse and dry. 4) Wash the genital area next.	

Care Action	Rationale
Female client: (Fig.21) ①Use a separate portion of the sponge towel for each stroke ②Change sponge towel as necessary. ③Separate the labia and cleanse downward from the pubic to anal area. ④Wash between the labia including the urethral meatus and vaginal area. ⑤Rinse well and pat dry.	• Cleanse from the pubis toward the anus to wash from a clean to a dirty area. Prevent contaminating the vaginal area and urinary meatus with organisms from the anus.
Male Client: (Fig.22) ①Gently grasp the client's penis. ②Cleanse in a circular motion moving from the tip of the penis backwards toward the pubic area ③In an uncircumcised male, carefully retract the foreskin prior to washing the penis. ④Return the foreskin to its former position. ⑤Wash, rinse, and dry the scrotum carefully.	• Cleanse from the tip of the client's penis backward to prevent transferring organisms from the anus to the urethra. • Secretions that collect under the foreskin can cause irritation and odor. Return the foreskin to its normal position to prevent injury to the tissue.
8. Assist the client to turn on the side. Separate the client's buttocks and use toilet paper, if necessary, to remove fecal materials.	• Removing fecal material provides for easier cleaning.
9.Cleanse the anal area, rinse thoroughly, and dry with a towel. Change sponge towel as necessary.	• Keep the anal area clean to minimize the risk of skin irritation and breakdown.
10.Apply skin care products to the area according to need or doctor's order.	• Lotions may be prescribed to treat skin irritation.
11. Return the client to a comfortable position.	• To provide for comfort and safety.
12. Remove gloves and perform hand hygiene.	• To prevent the spread of infection
13. Document the procedure, describing the client's skin condition. Sign the chart.	• To provide continuity of care • Giving signature maintains professional accountability



(from Caroline Bunker Rosdabl: Textbook of Basic Nursing, 1999, p.591)

Fig.21 Female client　　Fig. 22 Male client

Taking Vital Signs :

Temperature, Pulse, Respiration, Blood pressure

Definition:

Taking vital signs are defined as the procedure that takes the sign of basic physiology that includes temperature , pulse, respiration and blood pressure. If any abnormality occurs in the body, vital signs change immediately.

Purpose:

1. To assess the client's condition
2. To determine the baseline values for future comparisons
3. To detect changes and abnormalities in the condition of the client

Equipments required:

1. Oral/ axilla / rectal thermometer (1)
2. Stethoscope (1)
3. Sphygmomanometer with appropriate cuff size (1)
4. Watch with a second hand (1)
5. Spirit swab or cotton (1)
6. Sponge towel (1)
7. Paper bag (2): for clean (1)
   for discard (1)
8. Record form
9. Ball- point pen: blue (1)
   black (1)
   red (1)
10. Steel tray (1): to set all materials



Fig.23 Equipments required of taking a vital signs



Fig.24 Stethoscope

A stethoscope consists of : **ear pieces, tubing, two heads such as the bell and the diaphragm.**



Fig.25 **The bell** of head of stethoscope

The bell has cup-shaped and is used to correct low-frequency sounds, such as abnormal heart sounds.



Fig. 26 **The diaphragm** of head of stethoscope

The diaphragm is flat side of the head and is used to test high-frequency sounds: breath, normal breath, and bowel sounds.



Fig. 27 **Aneroid manometer**

Aneroid manometer is a kind of sphygmomanometer. Sphygmomanometer consists of: **an inflatable bladder, attached to a bulb and a diameter, enclosed in a cuff, with a deflating mechanism**

a. Taking axillary temperature by glass thermometer

Definition:

Measuring/ monitoring patient's body temperature using clinical thermometer

Purpose:

1. To determine body temperature
2. To assist in diagnosis
3. To evaluate patient's recovery from illness
4. To determine if immediate measures should be implemented to reduce dangerously elevated body temperature or converse body heat when body temperature is dangerous low
5. To evaluate patient's response once heat conserving or heal reducing measures have been implemented

Procedure:

Care Action	Rationale
1. Wash your hands.	• Handwashing prevents the spread of infection
2. Prepare all required equipments	• Organization facilitates accurate skill performance.
3. Check the client's identification.	• To confirm the necessity
4. Explain the purpose and the procedure to the client.	• Providing information fasters cooperation and understanding
5. Close doors and/or use a screen.	• Maintains client's privacy and minimize embarrassment.
6. Take the thermometer and wipe it with cotton swab from bulb towards the tube.	• Wipe from the area where few organisms are present to the area where more organisms are present to limit spread of infection
7.Shake the thermometer with strong wrist movements until the mercury line falls to at least 95 ℉ (35 ℃).	• Lower the mercury level within the stem so that it is less than the client's potential body temperature
8. Assist the client to a supine or sitting position.	• To provide easy access to axilla.
9. Move clothing away from shoulder and arm	• To expose axilla for correct thermometer bulb placement
10. **Be sure the client's axilla is dry**. If it is moist, pat it dry gently before inserting the thermometer.	• Moisture will alter the reading. Under the condition moistening, temperature is generally measured lower than the real.
11. **Place the bulb of thermometer in hollow of axilla** at anteriorinferior with 45 degree or horizontally. (Fig.28)	• To maintain proper position of bulb against blood vessels in axilla.
12. **Keep the arm flexed across the chest, close to the side of the body** (Fig. 29)	• Close contact of the bulb of the thermometer with the superficial blood vessels in the axilla ensures a more accurate temperature registration.
13.Hold the glass thermometer in place for 3 minutes.	• To ensure an accurate reading

Care Action	Rationale
14.Remove and read the level of mercury of thermometer at eye level.	• To ensure an accurate reading
15. Shake mercury down carefully and wipe the thermometer from the stem to bulb with spirit swab.	• To prevent the spread of infection
16. Explain the result and instruct him/her if he/she has fever or hypothermia.	• To share his/her data and provide care needed immediately
17. Dispose of the equipment properly. Wash your hands.	• To prevent the spread of infection
18. Replace all equipments in proper place.	• To prepare for the next procedure
19. Record in the client's chart and give signature on the chart.	• Axillary temperature readings usually are lower than oral readings. • Giving signature maintains professional accountability
20. Report an abnormal reading to the senior staff.	• Documentation provides ongoing data collection



Fig.28 Placing the glass thermometer into the axilla



Fig. 29 Keeping the forearm across the chest

b. Measuring a Radial Pulse

Definition: Checking presence, rate, rhythm and volume of throbbing of artery.

Purpose:

1. To determine number of heart beats occurring per minute(rate)
2. To gather information about heart rhythm and pattern of beats
3. To evaluate strength of pulse
4. To assess heart's ability to deliver blood to distant areas of the blood viz. fingers and lower extremities
5. To assess response of heart to cardiac medications, activity, blood volume and gas exchange
6. To assess vascular status of limbs

Procedure:

Care Action	Rationale
1. Wash hands.	• Handwashing prevents the spread of infection
2. Prepare all equipments required on tray.	• Organization facilitates accurate skill problems
3. Check the client's identification	• To confirm the necessity
4. Explain the procedure and purpose to the client.	• Providing information fosters cooperation and understanding
5. **Assist the client in assuming a supine or sitting position.** 1) If supine, place client's forearm straight alongside body with extended straight (Fig.30ⓐ) or upper abdomen with extended straight(Fig.30ⓑ) 2) If sitting, bend client's elbow 90 degrees and support lower arm on chair (Fig.31ⓐ) or on nurse's arm slightly flex the wrist (Fig. 31ⓑ)	• To provide easy access to pulse sites • Relaxed position of forearm and slight flexion of wrist promotes exposure of artery to palpation without restriction.
6. **Count and examine the pulse** 1) Place the tips of your first, index, and third finger over the client's radial artery on the inside of the wrist on the thumb side.	• The fingertips are sensitive and better able to feel the pulse. Do not use your thumb because it has a strong pulse of its own.
2) Apply only enough pressure to radial pulse	• Moderate pressure facilitates palpation of the pulsations. Too much pressure obliterates the pulse, whereas the pulse is imperceptible with too little pressure
3) Using watch, count the pulse beats for a full minute.	• Counting a full minute permits a more accurate reading and allows assessment of pulse strength • and rhythm.
4) Examine the rhythm and the strength of the pulse.	• Strength reflects volume of blood ejected against arterial wall with each heart contraction.
7.Record the rate on the client's chart. Sign on the chart.	• Documentation provides ongoing data collection • To maintain professional accountability
8. Wash your hands.	• Handwashing prevents the spread of infection
9. Report to the senior staff if you find any abnormalities.	• To provide nursing care and medication properly and continuously



Fig. 30 ⓐ Care Action 5. 1) → 6.
Placing the client's forearm straight alongside body and putting the fingertips over the radial pulse



Fig. 30 ⓑ 5.1) →6.
Placing the client's forearm straight of across upper abdomen and putting the fingertips over the radial pulse



Fig. 31 ⓐ Care Action 5. 2) → 6.
Placing the client's forearm on the armrest of chair and putting your the fingertips over the radial pulse



Fig. 31 ⓑ 5.2) →6.
Supporting the client's forearm by nurse's palm with extended straight and your putting three fingertips

c. Counting Respiration

Definition: Monitoring the involuntary process of inspiration and expiration in a patient

Purposes:

1. To determine number of respiration occurring per minute
2. To gather information about rhythm and depth
3. To assess response of patient to any related therapy/ medication

Procedure:

Care Action	Rationale
1. Close the door and/or use screen.	• To maintain privacy
2. Make the client's position comfortable, preferably sitting or lying with the head of the elevated 45 to 60 degrees.	• To ensure clear view of chest wall and abdominal movements. If necessary, move the bed linen.
3. Prepare count respirations by keeping your fingertips on the client's pulse.	• A client who knows are counting respirations may not breathe naturally.
4. **Counting respiration:** 1) Observe the rise and fall of the client's (one inspiration and one expiration). 2) Count respirations for one full minute. 3) Examine the depth, rhythm, facial expression, cyanosis, cough and movement accessory.	• One full cycle consists of an inspiration and an expiration. • Allow sufficient time to assess respirations, especially when the rate is with an irregular • Children normally have an irregular, more rapid rate. Adults with an irregular rate require more careful assessment including depth and rhythm of respirations.
5. Replace bed linens if necessary. Record the rate on the client's chart. Sign the chart	• Documentation provides ongoing data collection. • Giving signature maintains professional accountability
6. Perform hand hygiene	• To prevent the spread of infection
7. Report any irregular findings to the senior staff.	• To provide continuity of care

d. Measuring Blood Pressure

Definition: Monitoring blood pressure using palpation and/or sphygmomanometer

Purpose:

1. To obtain baseline data for diagnosis and treatment
2. To compare with subsequent changes that may occur during care of patient
3. To assist in evaluating status of patient's blood volume, cardiac output and vascular system
4. To evaluate patient's response to changes in physical condition as a result of treatment with fluids or medications

Procedure: by palpation and aneroid manometer

Care Action	Rationale
1. Wash your hands.	• Handwashing prevents the spread of infection
2. Gather all equipments. Cleanse the stethoscope 's ear pieces and diaphragm with a spirit swab wipe.	• Organization facilitates performance of the skill. • Cleansing the stethoscope prevents spread of infection.
3. Check the client's identification. Explain the purpose and procedure to the client.	• Providing information fosters the client's cooperation and understanding.
4. Have the client rest at least 5 minutes before measurement.	• Allow the client to relax and helps to avoid falsely elevate readings.
5. Determine the previous baseline blood pressure , if available, from the client's record.	• To avoid misreading of the client's blood pressure and find any changes his/her blood pressure from the usual
6. Identify factors likely to interfere which accuracy of blood pressure measurement：exercise, coffee and smoking	• Exercise and smoking can cause false elevations in blood pressure.
7. **Setting the position:** 1) Assist the client to a comfortable position. Be sure room is warm, quiet and relaxing. 2) Support the selected arm. Turn the palm upward. (Fig. 32) 3) Remove any constrictive clothing.	• The client's perceptions that the physical or interpersonal environment is stressful affect the blood pressure measurement. • Ideally, the arm is at heart level for accurate measurement. Rotate the arm so the brachial pulse is easily accessible. • Not constricted by clothing is allowed to access the brachial pulse easily and measure accurately. Do not use an arm where circulation is compromised in any way.



Fig. 32 Care Action 7. 2)
Placing the selected arm on the bed and turn the palm upward

Care Action	Rationale
8. **Checking brachial artery and wrapping the cuff:** 1) Palpate brachial artery. 2) Center the cuff's bladder approximately 2.5 cm (1 inch) above the site where you palpated the brachial pulse 3) Wrap the cuff snugly around the client's arm and secure the end approximately(Fig. 33) 4) Check the manometer whether if it is at level with the client's heart (Fig. 34).	• Center the bladder to ensure even cuff inflation over the brachial artery • Loose-fitting cuff causes false high readings. Appropriate way to wrap is that you can put only 2 fingers between the arm and cuff. (Fig. 33) • Improper height can alter perception of reading.



Fig. 33 Care Action 8. 3)
Wrapping the cuff with appropriate way



Fig. 34 Care Action 8. 4)
Placing manometer at the level of heart

Care Action	Rationale
9.**Meausre blood pressure by two step method:** **(A) Palpatory method** 1) Palpate brachial pulse distal to the cuff with fingertips of nondominant hand. 2) Close the screw clamp on the bulb. 3) Inflate the cuff while still checking the pulse with other hand. (Fig. 35) 4) Observe the point where pulse is not longer palpable. 5) Inflate cuff to pressure 20-30 mmHg above point at which pulse disappears. 6) Open the screw clamp, deflate the cuff fully and wait 30 seconds.	• Palpation identifies the approximate systolic reading. Estimating prevents false low readings, which may result in the presence of an auscultory gap. • Maximal inflation point for accurate reading can be determined by palpation. • Short interval eases any venous congestion that may have occurred.
(B) Auscultation 1) Position the stethoscope's earpieces comfortably in your ears(turn tips slightly forward). Be sure sounds are clear, not muffled. 2) Place the diaphragm over the client's brachial artery. Do not allow chestpiece to touch cuff or clothing. (Fig. 36)	• Each earpiece should follow angle of ear canal to facilitate hearing. • Proper stethoscope placement ensures optimal sound reception. • Stethoscope improperly positioned sounds that often result in false low systolic and high diastolic readings.

Care Action	Rationale
9. (B) 3) Close the screw clamp on the bulb and inflate the cuff to a pressure30 mmHg above the point where the pulse had disappeared	• Ensure that the systolic reading is not underestimated.
4) Open the clamp and allow the aneroid dial to fall at rate of 2 to 3 mmHg per second.	• If deflation occurs too rapidly, reading may be inaccurate.
5) Note the point on the dial when first clear sound is heard. The sound will slowly increase in intensity.	• This first sound heard represents the systolic pressure or the point where the heart is able to force blood into the brachial artery.
6) Continue deflating the cuff and note the point where the sound disappears. Listen for 10 to 20 mmHg after the last sound.	• This is the adult diastolic pressure. It represents the pressure that the artery walls exert on the blood at rest.
7) Release any remaining air quickly in the cuff and remove it.	• Continuous cuff inflation causes arterial occlusion, resulting in numbness and tingling of client's arm.
8) If you must recheck the reading for any reason, allow a 1 minute interval before taking blood pressure again.	• The interval eases any venous congestion and provides for an accurate reading when you repeat the measurement.
10. Assist the client to a comfortable position. Advise the client of the reading.	• Indicate your interest in the client's well-being and allow him/her to participate in care.
11. Wash your hands.	• Handwashing prevents the spread of infection.
12. Record blood pressure on the client's chart. Sign on the chart. Report any findings to senior staffs.	• Documentation provides ongoing data collection. • Giving signature maintains professional acountability
13. Replace the instruments to proper place and discard.	• To prepare for the next procedure.



Fig. 35 Care Action 9. (A) 3) : Palpatory method
Inflating the cuff while checking brachial artery



Fig. 36 Care Action 9. (B) 2) : Auscultation
Placing the diaphragm without touching the cuff

Performing Physical Examination

Definition :

Physical examination is an important tool in assessing the client's health status. Approximate 15 % of the information used in the assessment comes from the physical examination. It is performed to collect objective data and to correlate it with subjective data.

Purpose:

1. To collect objective data from the client
2. To detect the abnormalities with systematic technique early
3. To diagnose diseases
4. To determine the status of present health in health check-up and refer the client for consultation if needed

Principles of Physical Examination:

A systematic approach should be used while doing physical examination. This helps avoiding any duplication or omission. Generally a cephalocaudal approach (head to toe) is used, but in the case of infant, examination of heart and lung function should be done before the examination of other body parts, because when the infant starts crying , his/her breath and heart rate may change.

Methods of Physical Examination:

- *Inspection*
- *Palpation*
- *Percussion*
- *Auscultation*

1. Inspection

Inspection means looking at the client carefully to discover any signs of illness. Inspection gives more information than other method and is therefore the most useful method of physical examination.

2. Palpation

Palpation means using hands to touch and feel. Different parts of hands are used for different sensations such as temperature, texture of skin, vibration, tenderness, and etc. For examples, finger tips are used for fine tactile surfaces, the back of fingers for feeling temperature and the flat of the palm and fingers for feeling vibrations.

3. Percussion

Percussion determines the density of various parts of the body from the sound produced by them, when they are tapped with fingers. Percussion helps to find out abnormal solid masses, fluid and gas in the body and to map out the size and borders of the certain organ like the heart. Methods of percussion are:

① Put the middle fingers of his/her hand of the left hand against the body part to be percussed
② Tap the end joint of this finger with the middle finger of the right hand
③ Give two or three taps at each area to be percussed
④ Compare the sound produced at different areas

4. Auscultation

Auscultation means listening the sounds transmitted by a stethoscope which is used to listen to the heart , lungs and bowel sounds.

Equipments required:

1. Tray (1)
2. Watch with a seconds hand (1)
3. Height scale (1)
4. Weight scale (1)
5. Thermometer (1)
6.. Stethoscope (1)
7. Sphygmomanometer (1)
8. Measuring tape (1)
9. Scale (1)
10.Tourch light or penlight (1)
11. Spatula (1)
12 Reflex hammer (1)
13. Otoscope if available (1 set)
14. Disposable gloves (1 pair)
15. Cotton swabs and cotton gauze pad
16. Examination table
17. Record form
18. Ballpoint pen, pencils

Procedure:

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
1. Explain the purpose and procedure (✻ Providing information fosters his/her cooperation and allays anxiety)		
2. Close doors and put screen.(✻ To provide privacy)		
3. Encourage the client to empty bladder(✻ A full bladder makes him/her uncomfortable)		
4. Perform physical examination **A. General examination** Assess overall body appearance and mental status <u>Inspection</u> Observe the client's ability to respond to verbal commands.(✻ Responses indicate the client's speech and cognitive function.)	• The client responds appropriately to commands	• The client confused, disoriented, or inappropriate responses

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
Observe the client's **level of consciousness(; LOC)** and orientation. Ask the client to state his/her own name, current location, and approximate day, month, or year.(✻Responses indicate the client's brain function. LOC is the degree of awareness of environmental stimuli. It varies from full wakefulness and alertness to coma. Orientation is a measure of cognitive function or the ability to think and reason.)	• The client is fully awake and alert: eyes are open and follow people or objects. The client is attentive to questions and responds promptly and accurately to commands. • If he/she is sleeping, he/she responds readily to verbal or physical stimuli and demonstrates wakefulness and alertness. • The client is aware of who he/she is(orientation to person), where he/she is (orientation to place), and when it is(orientation to time).	• Client has lowered LOC and shows irritability, short attention span, or dulled perceptions. • He/she is uncooperative or unable to follow simple commands or answer simple questions. • At a lowered LOC, he/she may respond to physical stimuli only. The lowest extreme is coma, when the eyes are closed and the client fails to respond to verbal or physical stimuli, when no voluntary movement. • If LOC is between full awareness and coma, objectively note the client's eye movement: voluntary, withdrawal to stimuli or withdrawal to noxious stimuli(pain) only.
Observe the client's ability to think, remember, process information, and communicate.(✻ These processes indicate cognitive functioning.) Inspect articulation on speech, style and contents of speacking	• The client is able to follow commands and repeat and remember information. • smooth/ appropriate native language	• Dysphasia • Dysarthria • Memory loss • Disorientation • Hallucinations • not clear/ not smooth/ inappropriate contents
Observe the client's ability to see, hear, smell and distinguish tactile sensations.	• The client can hear even though the speaker turns away. • He/she can identify objects or reads a clock in the room and distinguish between sharp and soft objects.	• The client cannnot hear low tones and must look directly at the speaker. • He/she cannot read a clock or distinguish sharp from soft.
Observe signs of distress(✻ Alert the examiner to immediate concerns. If you note distress, the client may require healthcare interventions before you continue the exam.)		The client shows labored breathing, wheezing, coughing, wincing, sweating, guarding of body part (suggests pain), anxious facial expression, of fidgety movements.

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
Observe facial expression and mood (✻ These could be effected by disease or ill condition)	• Eyes are alert and in contact with you. • The client is relaxed, smiles or frowns appropriately and has a calm demeanor.	• Eyes are closed or averted. • The client is frowning or grimacing. • He/she is unable to answer questions
Observe general appearance: posture, gait, and movement(✻ To identify obvious changes)	• Posture is upright • Gait is smooth and equal for the client's age and development. Limb movements are bilateral.	• Posture is stopped or twisted. • Limbs movements are uneven or unilateral.
Observe grooming, personal hygiene, and dress(✻ Personal appearance can indicate self-comfort. Grooming suggests his/her ability to perform self-care.)	• Clothing reflects gender, age, climate. • Hair, skin , and clothing are clean, well-groomed, and appropriate for the occasion.	• He/she wears unusual clothing for gender, age, or climate. • Hair is poor groomed, lack of cleanliness • Excessive oil is on the skin. • Body odor is present.
<u>Measurement</u> • Height 1) Ask the client to remove shoes and stand with his/her back and heels touching the wall. 2) Place a pencil flat on his/her head so that it makes a mark on the wall. 3) This shows his/her height measured with cm tape from the floor to the mark on the wall(or if available, measure the height with measuring scale)	>140(or 145)cm in female	<140(or 145) cm in female

<table>
<tr><th>Action (✻Rationale)</th><th>Normal findings</th><th>Abnormal findings/
Changes from normal</th></tr>
<tr><td>• Weight
Weigh him/her without shoes and much clothing.</td><td colspan="2">Body Mass index (;BMI) is used to assess the status of nutrition using weight and height in the world.
Formula for BMI = weight(kg)/ height (m)^2

Table 2 BMI
<table><tr><th>In Adults</th><th>Women</th><th>Men</th></tr><tr><td>anorexia</td><td colspan="2">〈 17.5</td></tr><tr><td>underweight
in normal range
marginally overweight
overweight
obese</td><td>〈 19.1
19.1-25.8
25.8-27.3
27.3-32.3
〉 32.3</td><td>〈 20.7
20.7-26.4
26.4-27.8
27.8-31.1
〉 31.1</td></tr><tr><td>severely obese</td><td colspan="2">35-40</td></tr><tr><td>morbidity obese</td><td colspan="2">40-50</td></tr><tr><td>super obese</td><td colspan="2">50-60</td></tr></table></td></tr>
<tr><td>Take vital signs(✻ Vital signs provide baseline data)
• Temperature</td><td>36-37 ℃</td><td>hypothermia 〈35 ℃
pyrexia 38-40 ℃
hyperpyrexia 〉40.1 ℃</td></tr>
<tr><td>• Pulse(rate/minute)
Tale the pulse rate and check the beats</td><td>• rate/minute in adult 60-80 / min.
• regular and steady</td><td>• rate/ minute in adult
bradycardia
tachycardia
• pulse deficit, arrhythmia</td></tr>
<tr><td>• Respiration
Count the breaths without giving notice</td><td>• Breaths /minute 16-20/ min.
• clear sound of breaths
• regular and steady</td><td>• Breaths /minute
bradypnea 〈10/ min.
tachypnea 〉20/min.
Biot's
Cheyne-Stokes
Kussmaul's (Fig.37 -41)
• wheeze, stridor</td></tr>
</table>

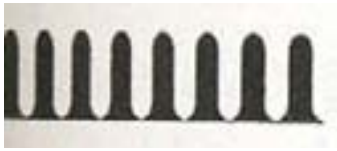


Fig.37 Bradypnea

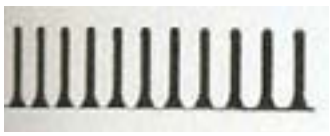


Fig. 38 Tachypnea

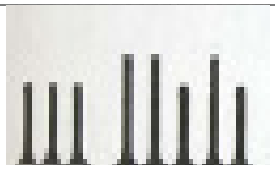


Fig. 39 Biot's

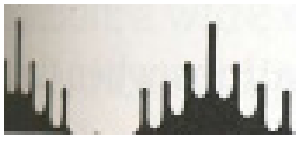


Fig. 40 Cheyne-Stokes

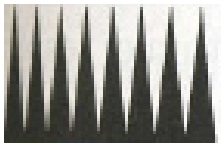


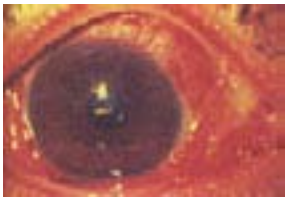
Fig. 41 Kussmaul's

(from Caroline Bunker Rosdabl, p.509)

<table>
<tr><th>Action (✻Rationale)</th><th>Normal findings</th><th>Abnormal findings/
Changes from normal</th></tr>
<tr><td>• Blood pressure
Take blood pressure under quiet and warm room.</td><td colspan="2">• Hypotension: In normal adults 〈 95/60
• Hypertension
Table 3 WHO/ ISH classification of Hypertension(1999)
<table>
<tr><th>Classification</th><th>SBP(mmHg)</th><th>DBP(mmHg)</th></tr>
<tr><td>Normal</td><td>〈120</td><td>〈80</td></tr>
<tr><td>Pre-hypertension</td><td>120-139</td><td>80-89</td></tr>
<tr><td>Grade 1</td><td>140-159</td><td>90-99</td></tr>
<tr><td>Grade 2</td><td>160-179</td><td>100-109</td></tr>
<tr><td>Grade 3</td><td>〉/= 180</td><td>〉/= 110</td></tr>
</table>
SBP: Systolic Blood Pressure, DBP: Diastolic Blood pressure</td></tr>
<tr><td>B. Skin Assessment
Assess integumentary structures(skin, hair, nails) and function
Skin
<u>Inspection and palpation</u>
1) Inspect the back and palms of the client's hands for skin color. Compare the right and left sides. Make a similar inspection of the feet and toes, comparing the right and left sides. (✻ Extremities indicate peripheral cardiovascular function)</td><td>• The color varying from black brown or fair depending upon the genetic factors
• Color variations on dark pigmented skin may be best seen in the mucous membranes, nail beds, sclera, or lips.</td><td>• erythema
• loss of pigmentation
• cyanosis
• pallor
• jaundice</td></tr>
<tr><td>1) Palpate the skin on the back and palms of the client's hands for moisture, texture.
a. moisture
b. texture</td><td>• slight moist, no excessive moisture or dryness
• firm, smooth, soft, elastic skin</td><td>• Excessive dryness indicates hypothyreidision
• Oiliness in acne.
• Roughness in hypothyroidism
• Velvety texture in hyperthyroidism
• flaking
• perspiration (diaphoresis)</td></tr>
<tr><td>3)Palpate the skin's temperature with the back of your hand.</td><td>• warmth</td><td>• Generalized warmth in fever local warmth
• Coolness in hypothyroidism</td></tr>
<tr><td>4) Pinch and release the skin on the back of the client's hand. (✻ This palpation indicates the skin's degree of hydration and turgor.)</td><td>Pinched skin that promptly or gently returns to its previous stste when released signifies normal turgor.</td><td>Pinched skin is very slow to return to normal position.</td></tr>
</table>

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
5) Press suspected edematous areas with the edge of your fingers for 10 seconds, and observe for the depression	Depression recovers quickly	Depression recovers slowly or remains. Edema indicates fluid retention, a sign of circulatory disorders.
	 Fig. 42 Pitting edema (from Carolyn Jarvis, p.547)	
6) Inspect the skin for lesions. Note the appearance, size, location, presence and appearance of drainage.(✻ Locate abnormal cell, growths, or trauma that suggest abnormal physiologic processes.)	Skin is intact, without reddened areas but with variations in pigmentation and texture, depending on the area's location and exposure to light and pressure. Freckles, moles, warts are normal.	• Erythema • Eccymosis • Lesions includes rashes, macules, papules, vesicles, wheals, nodules, pustules, tumors, or ulcers. • Wounds include incisions, abrasions, lacerations, pressure ulcers.
Nail 1) Inspect and palpate the fingernails and toenails. Note color, shape and any lesions.	• Pink color • Logitadional bands of pigment may be seen in the nails of normal people.	• Cyanosis and marked pallor • Club being nails • Koilonychia(spoon nail) • Onycholysis(fungal infection)
2) Check capillary refill by pressing the nail edge to blanch and then release pressure quickly, noting the return of color.	• Normally color return is instant(<3 seconds) • Nails should have no discoloration, ridges, pitting, thickening, or separation from the edge.	• Cyanosis nail beds or sluggish color return consider cardiovascular or respiratory dysfunction.
Hair and scalp 1) Inspect the hair for color, texture, growth, distribution	• Color may vary from pale blonde to total black. • Texture varies fine to coarse and looks straight to curly.	• Hair is excessively dry or oily • Excessive hair loss(alopecia) or coarse hair in hypothyroidism • fine silky hair in hyperthyroidism • pediculosis • dandruff

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
2) Inspect the scaly, lumps, nevi, or other lesions.	• All area should be clean and free of any lesions, scaly, lumps, and nevi.	• redness and scaling in seborrheic dermatitis • psoriasis
C. Head and Neck Assessment Assess central neurologic function, vision, hearing, and mouth structures. ***Skull*** 1) Observe for the size, shape, and symmetry. 2) Palpate and note any deformities, depressions, lumps, or tenderness.	• Head is symmetrical, round, and erect in the midline.	• Enlarged skull in hydrocephalus, Paget's diseases of bone. • Redness after trauma
Face Inspect the client's facial expression, asymmetry, involuntary movements, edema, and masses	• relaxed facial expression • He/she doesn't have involuntary movement	• Moon face with red cheeks in Cushing's syndrome • Edematous face around the eyes (in the morning) and pale in nephritic syndrome • Decreased facial mobility and blunt expression in Parkinson's disease
Eyes 1) Position and alimentation: Stand in front of the client and inspect the both eyes for position and alignment. 2) Eyebrows: Inspect the eyebrows , noting their quantity and distribution and any scaliness 3) Eyelids: Inspect the position, presence of edema, lesions, condition and direction of the eyelashes, and adequacy with eyelids doze.	• No deviation and abnormal profusion	• Inward and outward deviation • Abnormal profusion in disease or ocular tumors • Scaliness in seborrheic dermatitis • Lateral sparseness in hypothyroidism • Ptosis • Entropian • Ectropion • Lid riraction • Chalazion • Sty • Dacryocystitis • Red inflamed lid margin • Inwards direction • Failure of the eyelids to close exposes the corneas to serious damage

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
4) Lacrimal apparatus Inspect the region of the lacrimal gland and lacrimal sac for swelling.	• No lumps and swelling around the eyes	• Lumps and swelling
Look for excessive tearing or dryness of the eye		• Excessive tearing may be due to increased production, drainage of tear and infection (such as conjunctiva inflammation and corneal irritation)
5) Conjunctiva and sclera ① Expose the sclera and conjunctiva ② Inspect the color of palpebral conjunction, vascular pattern against the white scleral background and any nodules or swelling.	• Transparent white color of sclera • Dark pink color of conjunctiva • No paleness • No nodules or swelling and redness	• A yellow sclera indicates jaundice • Paleness in palpebral conjunctiva indicates the anaemia. • Local redness due to infection
 Fig.43 Inspection conjunctiva and sclera(from Carolyn Jarvis, p.311)		 Fig. 44 Conjunctiviis (from Carolyn Jarvis, p.335)
6) Cornea and Lens With oblique lighting, inspect the cornea of each eye for opacities and note any opacities in the lens.	• Transparent, no abrasions and white spots	• Opacities in the lens due to cataract • A superficial grayish veiled opacity in the cornea due to old injury or to inflammation
7) Pupils (✻ Pupillary size, shape, and accomonation indicate the status od intracranial pressure) Inspect the size, shapes and compare symmetry. If the pupils are larger(>5 mm), small(<3 mm) or unequal, measure them.	• Pupils are equal, round, and symmetry.	• Pupils are unequal. • Miosis refers to constriction of the pupils • Mydriasis to dilation

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
8) Pupillary response to light ①Ask the client to look into the distance and light a torch from the side of the eye ②Remove it on the other side to and observe how pupil reacts ③ Repeat other side with same procedure Fig.45 Papillary response (from Carolyne Jarvis, p.703)	• As the torch approaches the eye, the pupil constricts. And as the torch removed, the pupil dilates. 	• Unresponsive to light • Pupil remains dilated even after torch removed due to oculomotior nerve paralysis. • Small irregular pupils seen as central nervous system syphilis.
9)Coordination of eye movements (✻Coordination of eye movements indicates brain function and muscular attachments to eyes.) ①Hold as object at a distance from the client ②Ask him/her to keep his/her head still and follow the object with the eyes only ③Move the object towards his/her right and left eye ,then towards the ceiling and floor. ④Repeat it on the other side to	• Both eyes move together while following the objects: coordination	• Eyes do not move together when the object moves in paralysis of the cranial nerve. • Strabismus(cross-eyed or wall-eyed) • Client reports diplopia(double-vision)
10) Convergence test ①Ask the client to follow your finger or a pencil as you move it in toward the bridge of the nose. ② The converging eyes normally follows the object to within 5 cm to 8 cm of the eyes	• Good convergence	• Poor convergence in hypothyroism
11) Snellen eye chart test (✻ To check visual acuity) ①Use the Snellen eye chart, which includes objects, letters, or numbers of different sizes in rows, under well-light ② Position the client 20 feet from the chart and ask the client to identify the items. ③ Compares visual acuity of the client with normal vision	• 20/20 vision as normal	• Myopia(near-sightedness) • Hyperopia(far-sightedness) is impaired in middle and elder people. • Legal blindness

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
Ears Inspect and palpate the external ears. 1) Inspect location of ears	• The top of the pinnae meet or crosses the eye-occiput line (imaginary line drawn from the outer canthus of the ear to the occipital protuberance)	• The top of the pinnae don't meet or cross the eye – occiput line.
2) Inspect the shape and measure the size.	• Equal size bilaterally • No swelling or thickening • Unusual size and shape may be familial trail without clinical significance	• Microtia(:ears smaller than 4 cm vertically) • Macrotia(: ears larger than 10 cm vertically) • Edema • Asymmetry shape due to trauma
 Fig. 46 Auricle(from Carolyne Jarvis, p.342)		
3) Tenderness ①Move the pinna and push on the tragus ② Palpate the mastoid process	• No pain while moving the pinna, pushing the tragus, and palpating mastoid process	• Pain with movement occurs with otitis externa and • Pain at the mastoid process may indicate mastoiditis or lymphadenitis of the posterior auricular node.
4) External auditory meatus Inspect the external auditory canal (by touch or otoscope) (✻ To inspect swelling, redness, discharge, foreign body or cerumen.)		• Atresia(:absence or closure of the ear canal) • Clear blood of the brain haemorrhage • A sticky yellow discharge accompanies otitis externa or otitis media. • Impacted cerumen is a common cause of conductive hearing loss

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
5) Voice test (✻ Whispered is a high frequency sound and is used to detect high tone loss) ①Test one ear at a time. ②Stay 30-60 cm from client's ear. ③Exhale and whisper slowly some two syllable words (such as Tuesday, Baseball and fourteen.)	• Normally the client repeats each word correctly after you said it.	• The client is unable to hear • High tone loss
Nose 1) Inspect the anterior and inferior surface of the nose. ① Give gentle pressure in the tip of the nose with your thumb to widen the nostrils ②with the aid of penlight, you can get a partial view of each nasal vestibule.	• No pain • Symmetry in size	• Tenderness of nasal tip or ala suggests local infection • Asymmetry in size
③ Observe symmetry, deformity, size, and flaring. ④ If indicated by pressing on each ala nasi in turn and ask the client to breath in. (✻To test for nasal obstruction)	• Nostril uniform in size • No flare • no obstruction in both vestibule	• Asymmetrical in size • Flaring nostrils • Obstruction in right vestibule by polyp.
2) Inspect the inside of the nose Inspect the inside with otoscope or penlight cafefully. (✻ To detect any deformities or abnormalities in nasal mucosa, nasal septum.)	• Asymmetry of two sides' shape is normal. • No deviation • No polyp • Nasal mucosa redder than the oral mucosa • No bleeding, swelling or exudates in nasal mucosa • no bleeding, perforation or deviation of the septum • No polyps, ulcers or foreign bodies	• Deviation of the lower septum is common and may be easily visible above deviation, seldom obstructs air flow. • In viral rhinitis, the mucosa is reddened and swollen • In allergic rhinitis, it may be pale bluish or red. • Fresh blood or crusting may be seen causes of septal perforation includes trauma, surgery, and the intranasal use of cocaine.

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
		• Polyps are pale translucent masses that usually come from the middle meatus • Ulcers may result from nasal use of cocaine
3) Palpate for sinus tenderness ① Press up on the frontal sinuses from under the bony brows, avoiding pressure on the eyes. ② Press upon the maxillary sinuses Fig. 47 Pressing over the frontal sinuses→ Fig.48 Pressing over the maxillary sinuses (from Carolyne Jarvis, p.382) →	 	• Local tenderness, together with symptoms such as pain, fever and nasal discharge, suggest acute sinusitis involving the frontal or maxillary sinuses.
Mouth If the client wears dentures, offer a piece of paper towel and ask to remove it so that you can see the mucosa underneath. 1) Lips ① Observe the color, moisture ② Note any lumps, ulcers, cracking or scaliness. 2) Oral mucosa/ gums/teeth ① Inspect the color, presence of ulcers, swelling, white patches and nodules in mucosa and gums	• Pink, moist and intact skin • No bluish, discoloration, cracks and ulcers. • Pink color in both oral mucosa and gums • Patches brownness may be present, especially in black people.	• Lips bluish(: cyanosis) and pallor • Cracks, ulcer • Aphthous ulcer • Yelloish spots • Koplik's spots • Small red spots(: petechiae) • Thickened white patch(: Leuloplakia) • Redness of gingivitis • Black line of lead poisoning • Swollen interdental papillae in gingivitis • Ulcerative gingivitis • Gums enlargements

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
② Inspect the teeth for missing, discolored, misshapen or abnormally positioned. Palpate them for check looseness with gloved thumb and index finger.		• Missing or looseness of teeth • Dental caries • Attrition of teeth • Erosion of teeth • Abrasion of teeth with notching
③ Inspect the color of roof of the mouth and architecture of the harelip.	• No lesions, white plaque and extra bony growth	• Thrush on the palpate(: thick, white plaques) • Kaposi's sarcoma(: deep purple color of lesions) in AIDs • Torus palatinus (: midline bony growth in the hard palate)
3) Tongue and floor of the mouth Inspect the tongue for color, texture of dorsum, papillae symmetry	• Pink, moist and papillae • Midline fissure presents and be symmetrical.	• Hairy tongue • Fissured tongue • Smooth tongue • Whitening coating tongue • Red or pale, dry papillae fissure absent • Asymmetric protrusion suggests a lesion of cranial nerve XII
4) Inspect the sides and undersurface of the tongue and the floor of the mouth.	• No whit or reddened areas No nodules or ulcerations	• Any persistent nodule or ulcer • Red or white area must be suspected the cancer
Pharynx 1)Ask the client to open the mouth and say "ah". This actions help to see the pharynx well. If not press the tongue, press spatula firmly down upon the midpoint of the arched tongue.		
2) Inspect soft palate anterior and posterior pillars, uvula, tonsils, and pharynx(✻ To detect color, symmetry, presence of exudates, swelling, ulceration or tonsillar enlargement, and tenderness.)	• Pink throat • Pink and small tonsils • No swelling, exudates, and ulceration • No difficulty in swallowing	• Exudative tonsillitis(: red and enlarged tonsils) • Throat with white exudates • Redness and varcularity of the pillars and uvula in pharyngitis

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
		• Throat is dull red and gray exudates is present in uvula, pharynx and tongue, which cause airway obstruction • Difficulty in swallowing • In CN X paralysis, the soft palate fails to rise and the uvula deviates to the opposite site.
Neck 1) Inspect the neck (✻To detect its symmetry and any masses or scars, enlargment of the parotid or submandibular glands, and condition of any visible lymph nodes)	• (Head lift occurs with muscle spasm.) Head positions centered in the midline and the head should be held erect • Lymph nodes are neither visible or redness	• Rigid head and neck occurs with arthritis • Scar at thyroid site • Enlargement of lymph nodes • Redness of lymph nodes
2) Range of Motion(; ROM) ①Ask the client to touch the chin to the chest turn the head to the right and left ② Try to touch each ear to the shoulder without elevating shoulders ③ Extend the head backward		• Pain at any particular movement, limited movement due to cervical arthritis or inflammation on of the neck muscles • Rigid neck with arthritis

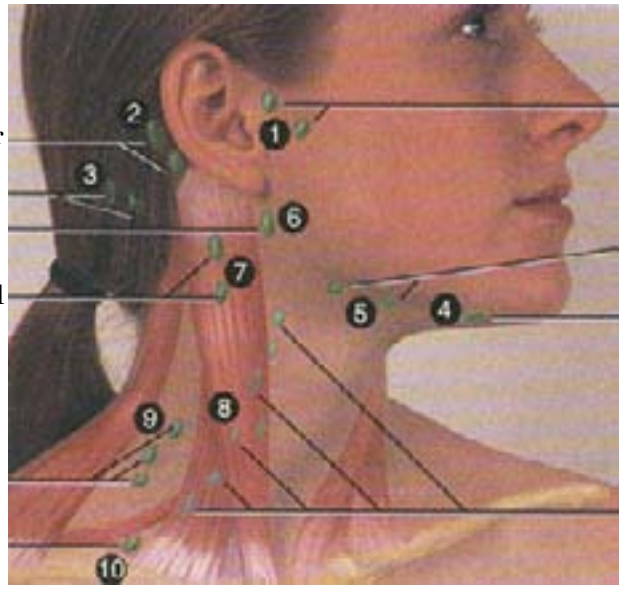


Fig. 49 Lymph nodes (from Carolyne Jarvis, p. 281)

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
Lymph nodes 1)Palpate the lymph nodes by using the pads of your index and middle fingers 2)Move the underlying tissues in each area 3)Examine both sides at once 4)Feel in sequence for the following nodes: (Fig. 49) ① preauicular ② posturiaduricular ③ occipital ④ tonsillar ⑤ submandibular ⑥ submental ⑦ superficial cervical ⑧ posterior cervical ⑨ deep cervical chain ⑩ supracravicular (✻To detect any palpable nodes with location, size, shape, delimitation, mobility, consistency, and tenderness.)	• Cervical nodes often are palpate in healthy person, although this palpability decrease with age • Normal nodes feel movable, discrete, soft, non-tender	• Parotid is swollen with mumps • Tender nodes suggest inflammation • Hard or fixed nodes suggest malignancy • Lymphadenopathy is enlargement of the lymph nodes(> 1 cm) due to infection, allergy or neoplasm • Enlargement of a supraclavicular node, especially on the left, suggests possible metastasis from a thorax or an abdominal malignancy • Diffuse lymphadenopathy raises the suspicious of HIV/AIDs
Trachea 1) Inspect the trachea (✻To detect any deviation from its usual midline position) 2) Palpate for any trachea shift. Place your index finger on the trachea in the sternal notch and slip it off to each side(✻ To detect any abnormalities)	• Normally trachea is in midline. • The space should be symmetry on both sides • No deviation from the midline	• Masses in the neck may push the trachea to one side. • Tracheal deviation may also signify important problems in thorax, such as a mediastinal mass, atelectasis or large pneumothorax
Thyroid gland 1) Inspect thyroid gland: ① Ask the client to sip some water, to extend the neck, and swallow. ② Observe for upward movement of the thyroid gland, noting its contour and symmetry. ③You must confirm that thyroid gland rise with swallowing and then fall to their resting position.	• Normally trachea is in midline • The space should be symmetry in both sides • No deviation from the midline	• Goiter as a general tern for an enlarged thyroid gland

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
2) Palpate the thyroid gland: ① move behind the client ② Ask the client to flex the neck slightly forward to relax the sternomastoid muscles. ③ Place the fingers of both hands on the client's neck so that your index fingers are just below the cranial cartilage. ④ Ask the client to sip as swallow water as before. Feel for the thyroid isthmus rising up tender your fingers pads. ⑤ Displace the trachea to the right with the fingers of the left hand, with the right hand fingers, palpate laterally for the right lobe of the thyroid in the space between the displaced trachea and the relaxed sternomastoid. Find the lateral margin. Examine the left lobe in same way.	• Normally you cannot palpate the thyroid gland • No enlargement, presence of nodules, and tenderness	• Diffuse enlargement in endemic goiter • Soft in Graves disease • Firm in malignancy • Tenderness in thyroiditis • Multinodular goiter is additional risk factors for malignancy

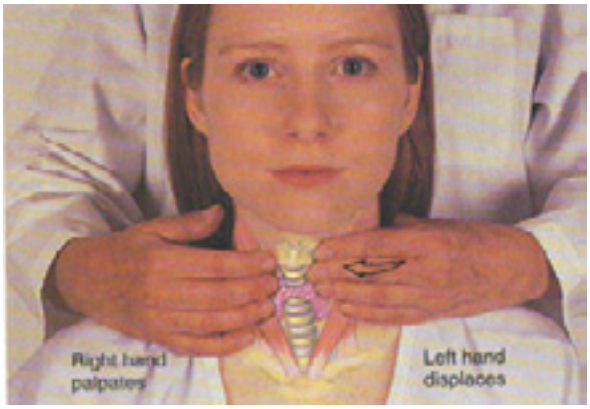


Fig. 50 Posterior approach to Thyroid gland
(from Carolyne Jarvis, p.284)

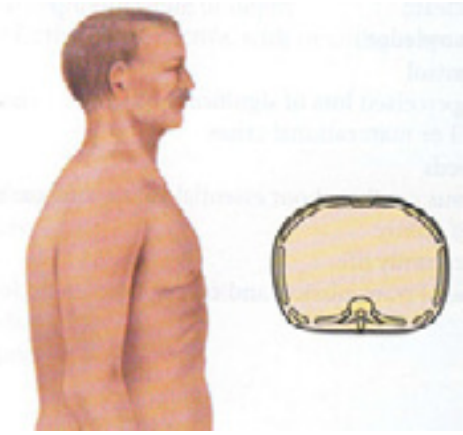


Fig. 51 Anterior approach to thyroid gland
(from Carolyne Jarvis, p.284)

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
D. Chest and Lungs Initial survey of respiration and the thorax 1)Remove or open the client's clothing. 2)Have the client sit on the side of examining table or bed. When examine in supine position, the client should lie comfortably with arms somewhat abducted. A client who is having difficulty breathing should be examined is the sitting position or with head of the bed elevated to a comfort level. ***Examination of the posterior chest*** <u>Inspection:</u> Observe the shape and movement of the posterior chest. Compare one side with other.(✻To identify asymmetrical shape or movement; assess respiratory movement.) Note: ① deformities or asymmetry ② abnormal retraction of the lower interspaces ③ impairment in respiratory movement	• Shoulders are level; breast, lower rib margin are symmetrical. • Chest wall rises and falls slightly with inspiration and expiration. • equal respiratory movement • no retraction or bulging of the interspaces should occur on inspiration • Thorax in normal adult is wider that it is deep, its lateral diameter is larger than in anterioposterior(;AP) • AP diameter may increase with age.	• Movement of the chest wall is asymmetrical on respiration; shoulders are uneven; rib cage, or breasts are asymmetrical: funnel chest(:depression in the lower portioning sternum) barrel chest(: increased AP diameter) • Client has supraclavicular retractions or contractions of accessory muscles during inspiration: • AP diameter may increase in chronic obstructive pulmonary disease
<u>Palpation</u> Palpate the posterior wall over areas.(✻ To distinguish between normal and abnormal structures: tender, masses, swelling or painful area)	• No tenderness, superficial lumps or masses, normal skin mobility and turgor	• Tender pectoral muscles or costal cartilage • Pain • Masses
<u>Inspection</u> Stand behind the client and observe the posterior chest for shape and movement. (✻To identify shape or movement; assess respiratory movement)	• Shoulders are even; scapulae are at the same level; spine is midline and straight. • Posterior chest slightly rises and falls on respiration.	• Structural deformities or asymmetry are present: Scoliosis(:lateral curvature) Lordosis(: pronounced lumbar curvature) Kyphosis(: abnormal spinal curvature and vertebral rotation deform the chest)



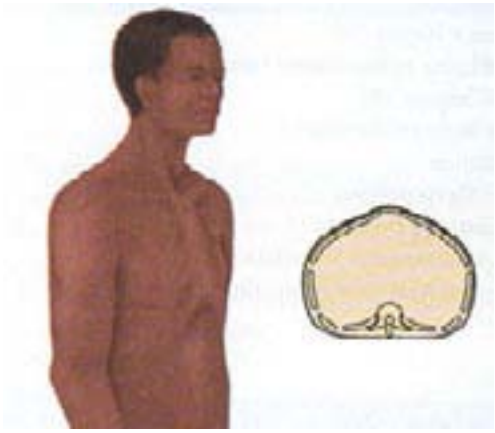
Normal adult thorax



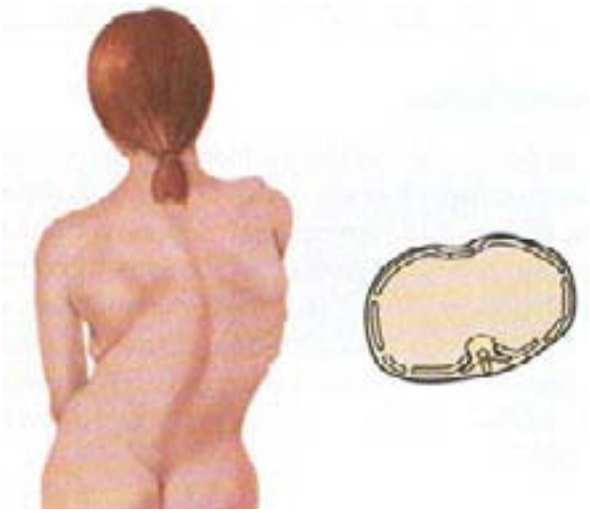
Barrel thorax



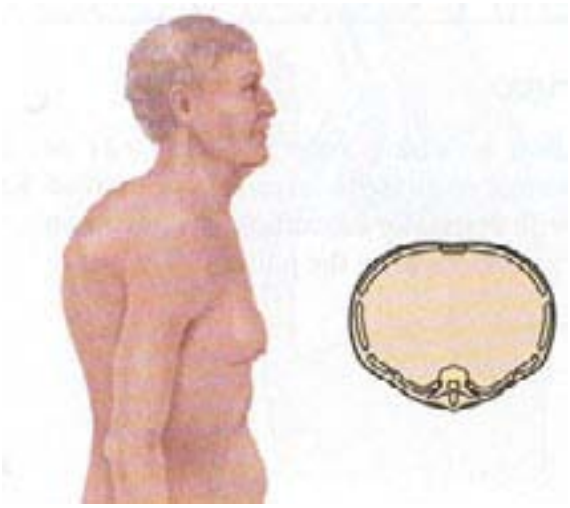
Funnel breast



Pigeon breast



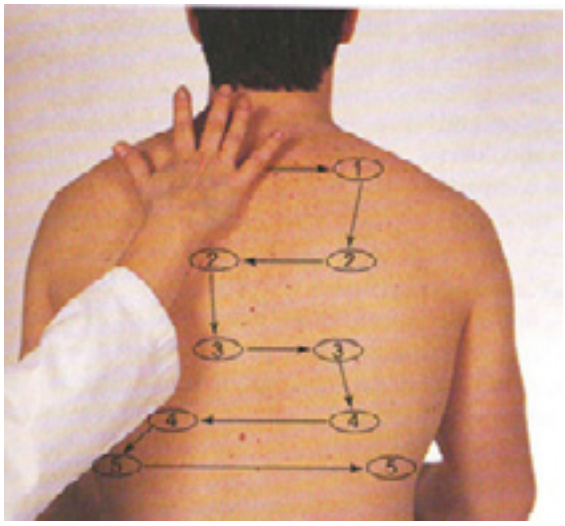
Scoliosis



Kyphosis

Fig. 52 Abnoramal thorax
(from Carolyne Jarvis, p.470-471)

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
Inspection and palpation: 1) Assess chest expansion on the posterior chest: Symmetric expansion (Fig.53) ① Place your hands in the posterolateral chest wall with thumbs at the level of T9 or T10 ② Slide your hands medially to pinch up a small fold of skin between your thumbs ③Ask the client to take a deep breath. ④Watch your thumbs' move apart symmetrically and not smooth chest expansion with your finger	• Chest expansion is symmetric.	• An abnormally wide costal angle with little inspiratory variation occurs with emphysema. • A lag in expansion occurs with atelectasis and pneumonia • Pain accompanied deep breathing when the pleurae are inflamed
2) Assess tactile(vocal) fremitus (Fig. 54) ①Begin palpating by using the ball or ulnar surface of your hand from the lung apices ② Touch the client's chest while he/sherepeats the words "ninety-nine" or " blue moon" ③ Compare vibration from one side to the other	• Vibrations should feel the same in the corresponding area on each side	• A palpable grating sensation with breathing indicates pleural friction fremitus • Decreased fremitus occurs when anything obstructs transmission of vibration, e.g., obstructed bronchus, pleural effusion, pneumothorax, or emphysema. • Increased fremitus occurs with compression or consolidation of lung tissue, e.g., lobar pneumonia. • Rhonchal fremitus is palpable with thick bronchial secretions • Pleural friction fremitus is palpable with inflammation of the pleura.

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
 Fig.53 Palpation symmetric expansion in the posterior chest (from Carolyne Jarvis, p.450)  Fig. 54 Palpation tactile fremitus in the posterior chest (from Carolyne Jarvis, p.450		
Percussion ***Lung Fields*** Percuss the posterior chest comparing both sides.(✻ To identify and locate any area with an abnormal percussion).(✻ To enhance percussion) (Fig. 55) 1) Percuss the posterior chest from the apices and then to interspaces with a -5 cm intervals. 2) Note any abnormal findings	• Resonance is normal lung sound: except heart area because heart normally produces dullness bound, liver produces dullness stomach produces tympany, muscles and bone produces flat	• Dullness replaces resonance when fluid or solid tissue replaces air containing lung or accupies the pleural space, i.g., pneumonia, pleural effusion, atelectasis, or tumor. • Hyperresonance is found in COPD and asthma • Hyperresonant or tympanitic in pneumothorax
Diaphragm excursion (✻To map out the lower lung border, both in expiration and inspiration) (Fig. 56) 1) Ask the client to exhale and hold it briefly while you percuss down the scapular line	• The diaphragm excursion should be equal bilaterally and measure about 3 to 5 cm in adults	• An abnormal high level of dullness or absence of excursion occurs with pleural effusion or atelectasis of the lower lobes

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
2) Continue percussion until the sounds changes from resonant to dull on each side 3) Mark the spot		

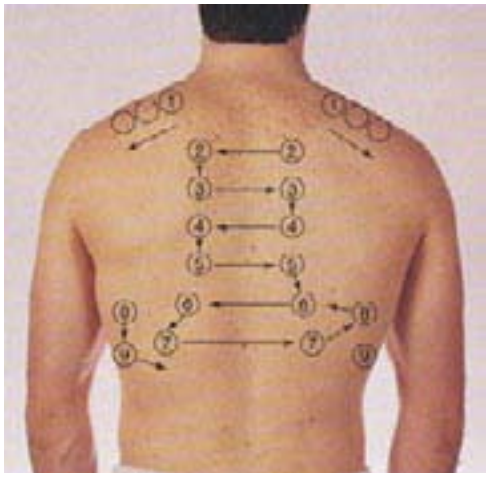
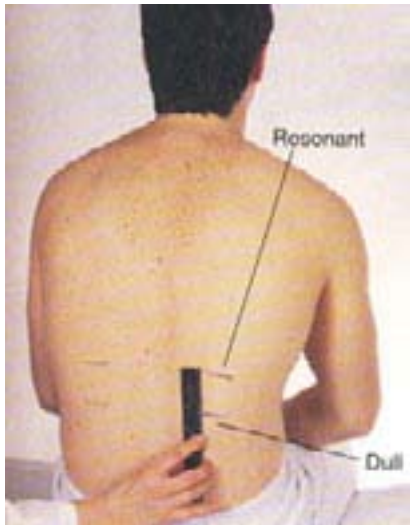


Fig. 55 Sequence for percussion(from Carolyne Jarvis, p.452)



Fig. 56 A. Determine diaphragm excursion



B. Measuring the differences (from Carolyne Jarvis, p. 452-453)

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
<u>Auscultation</u> 1)Listen to the breath posteriorilly with mouth open and more deeply than the normal (✻ To note intensity, identify any variation and any adventitious sounds) 2) Repeat auscultation in the posterior chest.	• Breath sounds are usually louder in upper anterior lung fields • Bronchial, bronchovesicular, vesicular sounds are normal breath sounds • None adventitious sounds	• Decreased or abscent breath sounds occur i.g., atelectasis, pleural effusion, pneumothorax, chironic obstructd pulmonary disease(; COPD) • Increased breath sounds occur when consolidation or compression yields a dense lung area, i.g., pneumonia, fluid in the intrapleural space
 Fig. 57 Auscultation the posterior chest using the sequence (from Carolyne Jarvis, p.455)		
Examination of the anterior chest <u>Palpate the anterior chest</u> 1) Assess symmetric expansion ① Place your hands on the anterolateral wall with your thumbs along the costal margins and pointing toward the xiphoid process ② Ask the client to take a deep breath ③ Watch your hand move apart Symmetrically	• Symmetrical expansion • Smooth chest expansion	• An abnormal wide costal angle with little inspiratory variation occurs with emphysema • A lag expansion occurs with atelectasis or pneumonia • A palpable grating sensation with breathing indicates pleural fremitus

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
2) Assess tactile fremitus ① Begin palpating over the lung apices in the supraclavicular areas ② Compare vibrations from one side to other side while repeating "ninety-nine" ③Avoid palpating over female breast tissue because breast tissue normally clamps the sound. 3) Palpate the anterior chest wall (✻To note any tenderness, and detect any superficial lumps or masses) Note skin mobility, turgor, skin temperature and moisture <u>Percuss the anterior chest</u> 1) Begin percussing the apices in the supraclavicular areas 2) Percuss the interspaces and compare one side to the other 3) Move down the anterior chest <u>Auscultation</u> 1) Auscultate the lungs fields over the anterior chest from the apices in the supraclavicular areas down to the 6th rib 2) Progress from side to side and listen to one full respiration in each location 3) Evaluate normal breath sounds and note abnormal breath sounds	(Refer to the posterior chest)	(Refer to the posterior chest) • Lungs with chronic emphysema result in hyperresonnance

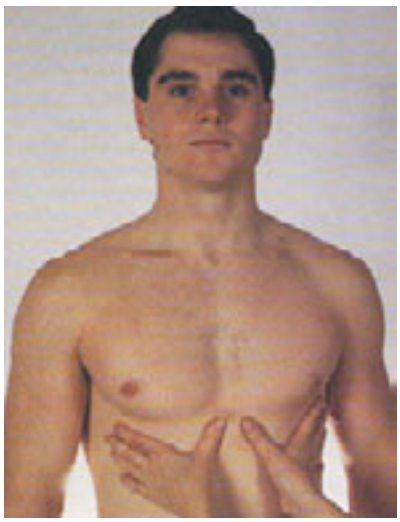


Fig.58 Palpate anterior expansion

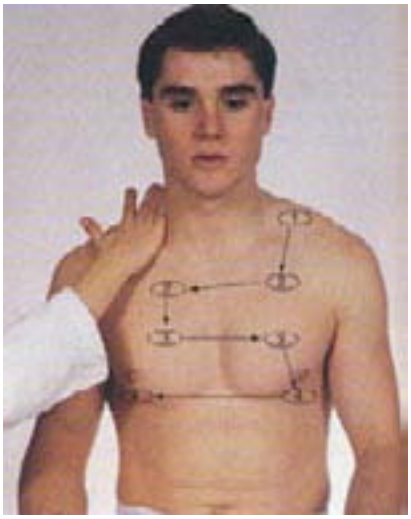


Fig. 59 Assess tactile fremitus

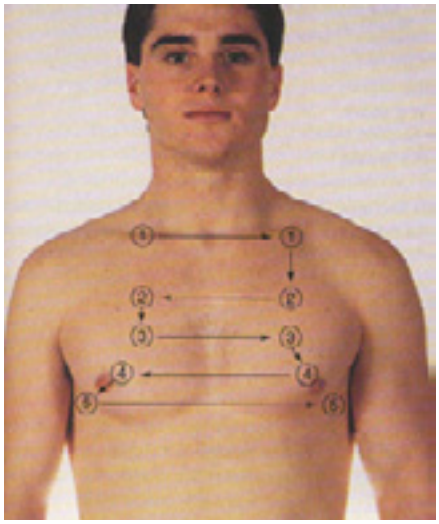
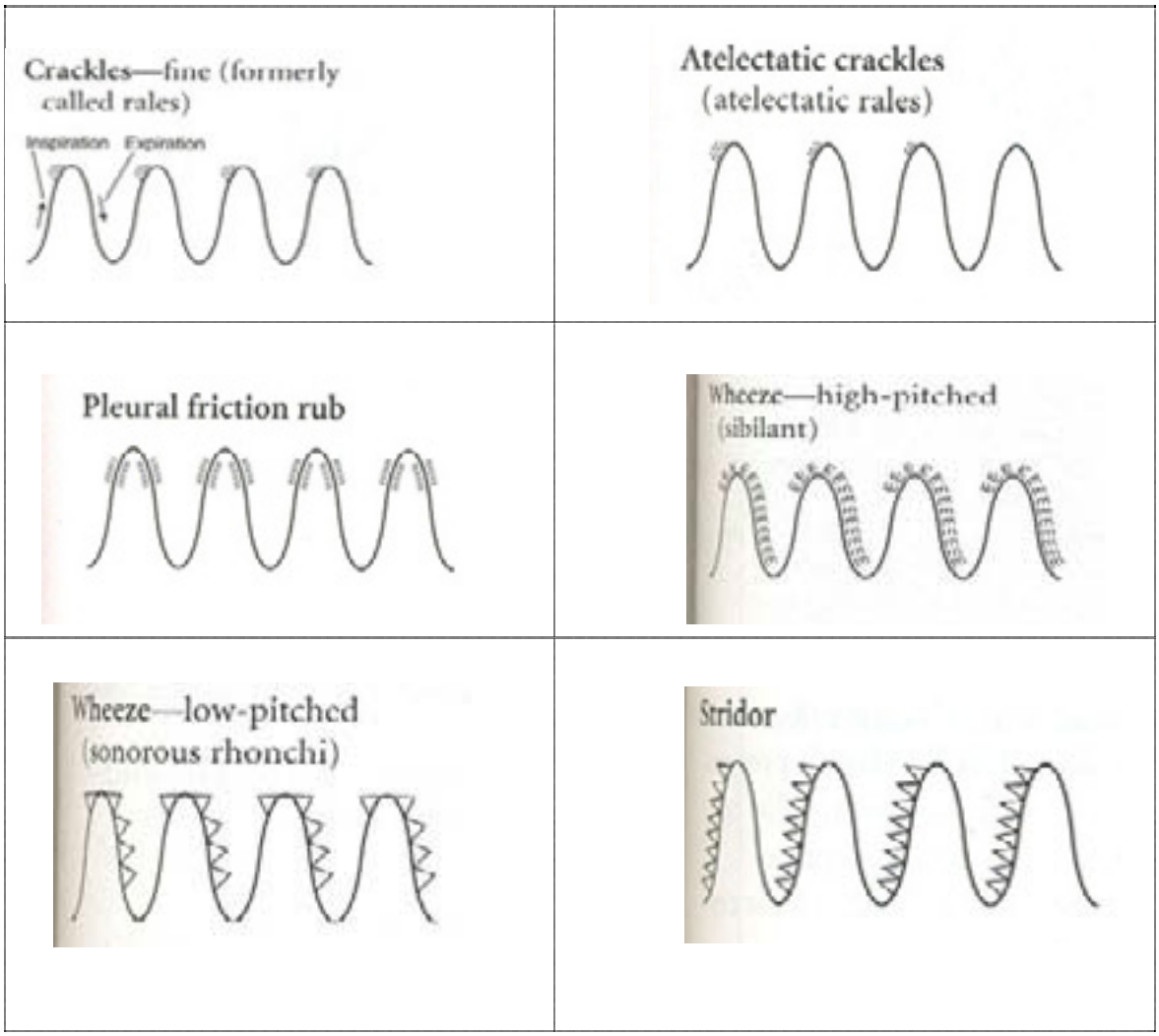


Fig. 60 Sequence of percussion and auscultation

(from Carolyne Jarvis, p.40-461)

Table 4 Abnormal/ adventitious lung sounds
(from Carolyne Jarvis, p.474)



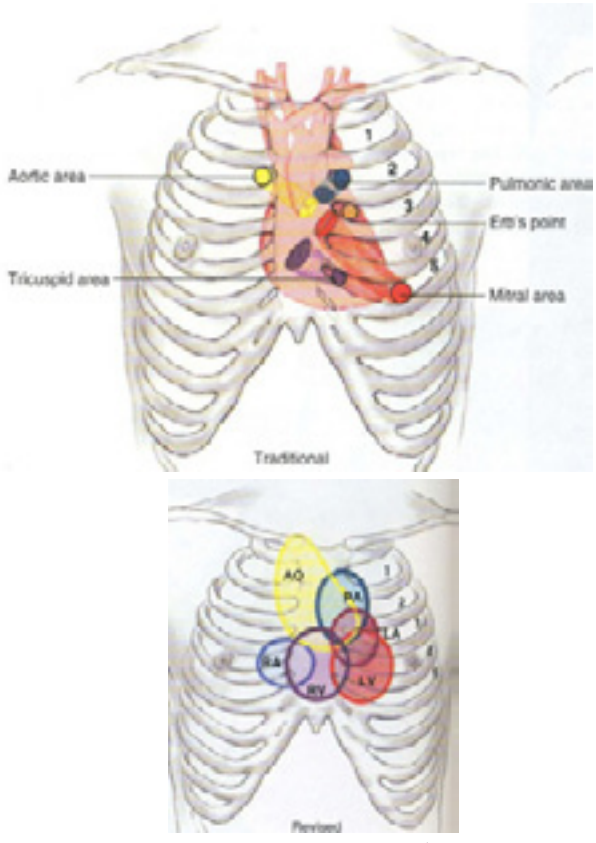
Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
E. Heart/ Precordium For most of the cardiac examination, the client should be supine with the head elevated 30° . Two other position are also needed, a. turning to the left side, b. leaning forward. the examiner should stand at the client's right.		
Inspection Inspect the anterior chest for pulsation, you may or may not see the apical impulse.	. • It is easier to see in children and in those with thinner chest	• A heave or lift is a sustained forceful thrusting of the ventricle during systole. it occurs with ventricular hypertrophy; A right ventricular heave is seen at the sternal border. A left ventricular heave is seen at the apex
Palpate the Apical impulse (✻ To detect some abnormal conditions) 1) Localize the apical impulse by using one finger pad 2) Asking the client to "exhale and then hold it "aids the examiner in locating the pulsation. 3) Ask the client to roll midway to the left to find 4) Note location, size, amplitude, and duration	• The apical impulse is palpable in about half of adult • Not palpable in obese clients with thick chest walls • Location: the apical impulse should occupy only one interspace, the fourth or fifth, and be at or medial to the midclavicular line • Size: Normally 1cm×2cm • Amplitude: normally a short, gentle tap • Duration: Short, normally occupies only firsthalf of systole	Cardiac enlargement: • Left ventricular dilatation displaces impulse down and to left , and increases size more than one space • Increased fore and duration occurs with left ventricular hypertrophy • Not palpable with pulmonary emphysema due to overriding lungs



Fig. 61 Localizing the apical impulse



Displacing the apical impulse (from Carolyne Jarvis, p.504)

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
<u>Palpate across the precordium</u> 1)Using the palmer aspects of your four fingers, gently palpate the apex, the left sternal border, and the base 2)Searching for any other pulsations 3) If any present, note the timing	• None occur	• A thrill is a palpable vibration. The thrill signifies turbulent blood flow and accompanies loud murmurs
<u>Percussion</u> (✻To outline the heart's borders and detect heart enlargement) 1) Place your stationary finger in the client's fifth intercostals space over on the left side of the chest near the anterior axillary line 2) Slide your stationary finger toward yourself, percussing as you go 3) Note the change of sound from resonance over the lung to dull(over the heart)	• The left border of cardiac dullness is at the midclavicular line in the fifth interspace, and by the second interspace the border of dullness concides with the left sternal border. • The right border of dullness matches the sternal border • Percussion sounds doesn't enlarge	• Cardiac enlargement is due to increased ventrivular volumeor wall thickness: it occurs with hypertension, heart failure and cardiomyopathy
<u>Auscultation</u> Identify the auscultatory areas where you listen. These include the four traditional valve areas. They are: • Second right interspace – aortic valve area • Second left interspace- pulmonic valve area • Leftlower sternal border- tricuspid valve area • Fifth interspace at around left midclavicular line- mitral valve area	 Fig. 62 Auscultatory areas (from Carolyne Jarvis, p.506)	

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
(continued from the former) 1) Place the stethoscope 2) Try closing eyes briefly to tune out any distractions. Concentrate, and listen selectively to one sound at a time		
3) Note the rate and rhythm: ① When you notice any irregularity, check for a pulse deficit by auscultating the apical beat while simultaneously palpating the radial pulse ② Count a serial measurement(one after the other) of apical beat and radial pulse	• Rate ranges normally from 60 -100 beats/ minute • The rhythm should be regular, although sinus arrhythmia occurs normally is young adult and children	• Premature beat; an isolated beat is early • Irregularly irregular; no pattern to the sounds • Pulse deficit signals a wear contraction of the ventricules; it occurs with atrial fibrillation and heart failure
4) Identify S_1 and S_2 ①First heart sound is S_1(lub) caused by closure of the AV valves. S_1 signals the beginning of systole	• S_1 is loudest at the apex	Both heart sounds are diminished in emphysema, obesity and pericardial fluid.
② Second heart sound is S_2(dup) is associated with closure of the aortic and pulmonic valves.	• S_2 is loudest at the base • Lub-dup is the normal heart sound	
5) Listen S_1 and S_2 ① Focus on systole, then diastole ②Listen for any extra heart sounds to note its timing and characteristics	• S_3 occurs immediately after S_2 and S_4 occurs just before S_1	• A pathologic S_3 (ventricular gallop) occurs until heart failure • A pathologic S_4 (atrial gallop) occurs with CAD
6) Listen for murmurs If you hear a murmur, describe it by indicating these characteristics: timing, loudness(Grade i- vi), pitch, pattern, quality, location. radiation, and posture	• Some clients may have innocent murmurs	• A systolic murmur may occur with a normal heart or with heart disease • A diastolic murmur always indicates heart diseases

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
F. Breasts and Axillae General appearance Note symmetry of size and shape	• Symmetry or a slight asymmetry in size • Often the left breast is slightly larger than the right	• A sudden increase in the size of one breast signifies inflammation or new growth
Skin Inspect color, textile, bulging, dimpling, any skin lesions or edema.	• The skin normally is smooth and of even color • A fine blue vascular network is visible normally during pregnancy • Pale linear striae, or stretch marks, often follow pregnancy • No edema	• Hyperpigmentation • Redness and heat with inflammation • Unilateral dilated superficial veins in a nonpregnant woman • Edema
Lymphatic drainage areas Observe the axillary and supraclavcular regions. Note any bulging, discoloration, or edema		
Nipple Inspect symmetry, shape, any dry scaling, any fissure or ulceration, and bleeding or other discharge.	• The nipples should be symmetrically placed on the same plane on the two breasts • Nipples usually protrude • A normal variation in about 1 % o men and women is a supernumerary nipple	• Deviation in pointing • Recent nipple retraction signifies acquired disease • Explore any discharge, especially in the presence of a breasts mass • Rarely, glandular tissue, a supermumerary breast, or polymastia is present



Fig. 63 Paget's disease
(from Carolyne Jarvis, p.433)



Fig.64 Mastitis



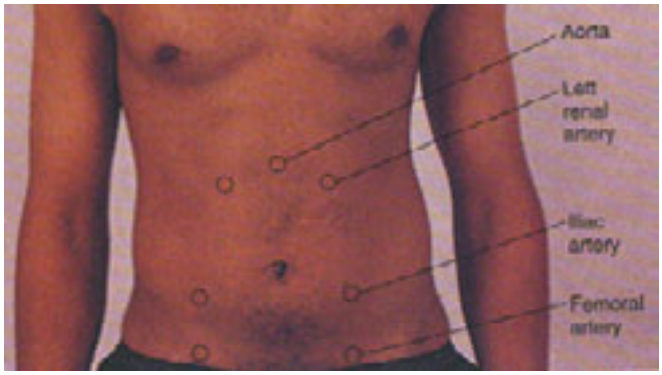
Fig.65 Breast abscess

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
Maneuvers to screen (✻To inspect skin retraction signs due to fibrosis in the breasts tissue) 1) Direct the woman to change position while you check the breasts for skin retraction sings		
2) First ask her to lift the arms slowly over the head 3) Next ask her to push her hands onto her hips and to push her two palms together	• Both breasts should move up symmetrically • A slight lifting of both breast will occur	• A lag in movement of one breast • A dimpling or a pucker(, which indicates skin retraction)
4) Ask the woman with large pendulous breasts to lean forward while you support her forearms	• Both breast show the symmetric free-forward movement	• Fixation to chest wall or skin retraction
Inspect and palpate the axillae 1) Ask the woman to have sitting position 2) Inspect the skin, noting any rash or infection 3) Lift the woman's arm and support it yourself ① use your right hand to palpate the left axilla ② Reach your fingers high into axilla ③ Move them firmly down in four directions: down the chest wall in a line from the middle of the axxila, along the anterior border of the axilla, along te posterior border, and along the inner aspect of the upper arm ④ Move the woman's arm through ROM to increase the surface area you can reach	• Usually nodes are not palpable • Any enlarged and tender lymph nodes	• Nodes enlarge with any local infection of the breast, arm, or hand, and with breast cancer metastases
Palpate the breasts 1) Help her to a supine position 2) Tuck a small pad or towel under the side to be palpated and raise her arm over her head		• Any significant lumps

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
3) Use the pads of your three fingers and make a gentle rotary motion on the breast ① Start at the nipple and palpate out to the periphery as if "Spokes-on- a- wheel pattern of palpation", or ② Start at the nipple and palpate in "Concentric-circles pattern of palpation", increasing out to the periphery ③ Move in a clockwise direction, taking care to examine every square inch of the breast ④ If you feel a lump or mass, note these characteristics: Location, shape, consistency, movable, distinctness, nipple(; is it displaced or retracted?), skin over the lump, tenderness, lymphadenopahy	• In nulliparous women, normal breast tissue feels firm, smooth, and elastic • After pregnancy, the tissue feels softer and looser • Premenstrual enlargement is normal • Inflammary ridge(; a firm transverse ridge of compresses tissue in the lower quadrants)	• Heat, redness, and swelling in nonlactating and nonpostpartum breasts indicate inflammation
4) Palpate the nipple, noting any induration or subareolar mass ① Use your thumbs and forefinger to apply gentle pressure or stripping action to the nipple ② Start at the outside of the areola, "milk" your fingers toward the nipple, repeat from a few different directions ③ if any discharge appears, note its color and consistency		• Except in pregnancy and lactation, discharge is abnormal
<u>The male breast</u> 1) Inspect the chest wall, noting the skin surface and any lumps or swelling 2) Palpate the nipple area for any lump or tissue enlargement	• The normal male breast has flat disk of undeveloped breast tissue • Gynecomastia; an enlargement of breast tissue occurs normally during puberty on only one side and is temporary	• Gynecomastia also occurs with use of anabolic steroids, some medications, and some disease states.

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
		 Fig. 66 Gynemastia (from Carolyne Jarvis, p.434)
G. Abdomen <u>Preparation</u> • Expose the abdomen to be visible fully • The client should be emptied the bladder(✻ To prevent discomfort) • Keep the room warm. The stethoscope endpiece , your hands must be warm(✻ To avoid chilling and tensing of muscles) • Position the client supine, with the head on a pillow, the knees bent or on pillow, and arms at the sides or across the chest(✻ To enhance abdominal wall relaxation) • Inquire about any painful areas and examine such an area last(✻To avoid any muscle guarding) ***Inspect the abdomen*** <u>Contour</u> 1) Stand on the client's right side and look down on the abdomen 2) Stoop or sit to gaze across the abdomen. Your head should be slightly higher than the abdomen 3) Determine the profile from the rib margin to the pubic bone	• Normally ranges from flat to rounded	• Scaphoid abdomen • Protuberant abdomen • Abdominal distension
<u>Symmetry</u> 1) Shine a light across the abdomen toward you or shine it lengthwise across the client	• The abdomen should be symmentric bilaterally	• Bulges, masses • Hernia; protrusion of abdominal viscera through abnormal opening in muscle wall

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
2) Note any localized bulging, visible mass, or asymmetric shape while the client takes a deep breath	• The abdomen should be smooth and symmetric	• Localized bulges in the abdominal wall due to hernia • Bulging flanks of ascites, suprapubic bulge of a distended bladder or pregnant uterus • Lower abdominal mass of an ovarium or uterine tumor • Asymmetry from an enlarged organ or mass
<u>Skin</u>		
1) Inspect the skin(✻To detect abnormalities, i.g., pigmentation) 2)Note striae, scars, lesions, rashes, dilated veins, and turgor	• The surface is smooth and even, with homogenous color • Old silver striae or stretch marks is normal after pregnancy or gained excessive weight • Recent striae are pink or blue • Good turgor	• Redness with localized inflammation • Jaundice • Skin glistening, taut, and striae in ascites • Pink-purple striae with Cushing's syndrome • Prominent, dilated veins of hepatic cirrhosis or of inferior vena caval obstruction • Lesions, rashes • Poor turgor occurs with dehydration
<u>Umbilicus</u>		
Observe its contour, location, inflammation or bulges	• Normally it is midline and inverted, with no sign of discoloration, inflammation, or hernia • It becomes everted and pushed upward with pregnancy	• Everted with ascites, or underlying mass • Enlarged and everted with umbilical hernia • Bluish periumbilical color occurs with intraabdominal bleeind
<u>Pulsation or movement</u>		
1)Observe the pulsations from the aorta beneath the skin in the epigastric area	• Normally, aortic pulsations is visible in epigastrium	• Marked pulsation of the aorta occurs with widened pulse pressure; i.g., hypertension, aortic insufficiency, thyrotoxicosis
2) Observe for peristlsis waves	• Waves of peristalsis sometimes are visible in very thin persons	• Increased peristalsis waves with a distended abdomen indicates intestinal obstruction

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
Auscultate Bowel sounds and Vascular sounds		
Bowel sounds		
1) Listen to the abdomen before performing percussion or palpation(✻ Not to alter the frequency of the bowel sounds) 2) Place the diaphragm of your stethoscope gently in the abdomen 3) Listen for the sounds, and noting the character and frequency of bowel sounds 4) If suspected the absence of bowel sounds, you must listen for 5 minutes by your watch before deciding bowel sounds are completely absent	• Normal sounds consist of clicks and gurgles, occurring at estimated frequency of 5 to 30 (-34) times per minute	Two distinct patterns of abnormal bowel sounds occur: • Hyperactive sounds: loud, highpitched, rushing, tinkling sounds that signal increased motility • Hypoactive or absent sounds: abdominal surgery or with inflammation of the peritoneum, paralytic ileus
Vascular sounds		
1) Listen to the abdomen , noting the presence of any vascular sounds or bruits 2) Using firmer pressure, check over the aorta, renal arteries, iliac, and femoral arteries, especially in person with hypertension 3) Note location, pitch, and timing of a vascular sound	• Usually no such sounds is present	• A systolic bruit(; a pulsatile blowing sound) occurs with stenosis or occlusion of an artery
4)Listen over the liver and spleen for friction rubs		• Friction rubs in liver tumor or abscess, gonococcal infection around liver , splenic infection
 Fig. 67 Vascular sounds (from Carolyne Jarvis, p.574)		

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
Percussion general tympany, liver span, and splenic dullness (✻To assess the amount and distribution gas in the abdomen and to identify possible masses that are solid or liquid filled, also to estimate the size of the liver and spleen)		
1) Percuss the abdomen lightly in all four quadrants(✻ To assess the distribution of tympany and dullness) 2) Note any large dull areas that might indicate an underlying mass or enlarged organ 3) On each of side of a protuberant abdomen, not where abdominal tympany changes to the dullness of solid posterior structure	• Tympany should predominate because of gas in gastrointestinal tract • Scattered area of dullness from fluid and feces • Normal dullness in the liver and spleen	• A protuberant abdomen that is tympanitic throughout suggests intestinal obstruction • Large dullness in pregnant uterus, ovarian tumor, distended • Bladder, large liver or spleen • Dullness in both flanks indicates further assessment for ascites • Absence of tympany

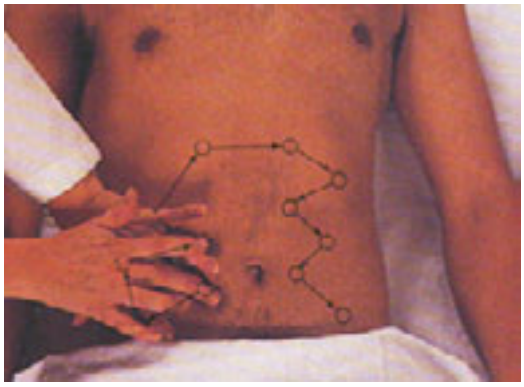


Fig. 68 Percussing for general tympany

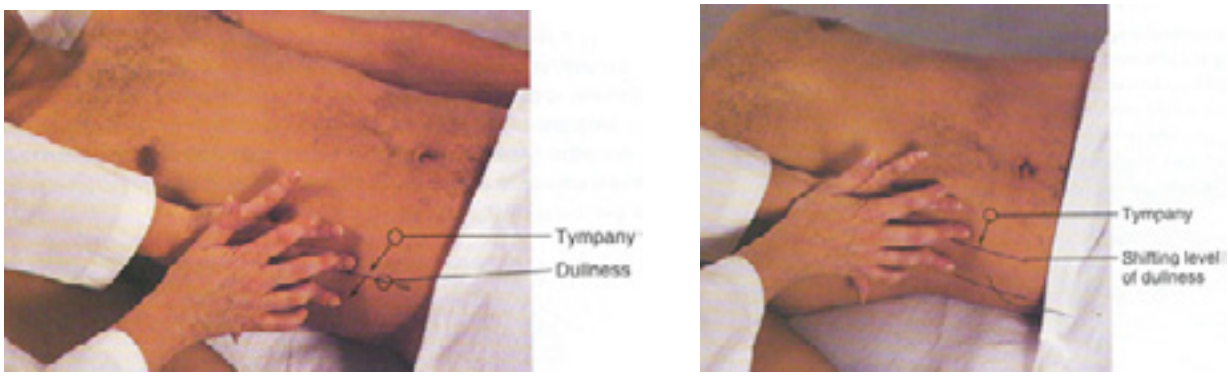


Fig. 69 Shifting dullness A: in supine position B: in right lateral position
(from Carolyne Jarvis, p. 574 and p.578)

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
Palpate surface and deep areas Perform palpation(✻To judge the size, location, and consistency of certain organs, mobility of any palpable organs and to screen for any abnormal enlargement, masses or tenderness) <u>Light palpation</u> (✻To from an overall impression of the skin surface and superficial musculature) 1) Place the client is the supine position, keeping your hand and forearm on a horizontal plane with the first four fingers close together and flat on the abdominal surface 2)Ask him/her to relax his/her abdomen 3) Depress the abdominal surface about 1 cm 2) Make a light and gentle rotary motion, sliding the fingers and skin together 3) Lift the fingers and move clockwise to the next location around the abdomen 4) Palpate in all quadrants <u>Deep palpation</u> Perform deep palpation (Fig. 70 A. –B.)	• No abdominal mass • No tenderness	• Muscle guarding • Mass • Tenderness • Involuntary rigidity indicates acute peritoneal inflammation



Fig.70 Deep palpation (from Carolyne Jarvis, p.578)
A. with Single hand B. Bimanual technique

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
1) Perform deep palpation using the same technique described earlier, but push down 5 to 8 cm (2 to 3 inches) 2) Moving clockwise, explore the entire abdomen 3) To over come the resistance of a very large or obese abdomen, use a bimanual technique ① The top hand does the pushing ② The bottom hand is relaxed and can concentrate on the sense of palpation	• Normally palpable structure: xiphoid process, normal liver edge, right kidney, pulsatile aorta, rectus muscles, sacral promontory, cecum ascending colon, sigmoid colon, uterus, full bladder • Mild tenderness is normally present when palpating the sigmoid colon	• Tenderness occurs with local inflammation, with inflammation of the peritoneum or underlying organ, and with an enlarged organ whose capsule is stretched
Liver 1) Stand on the client's right side 2) Place your left hand under the client's back parallel to the 11th and 12th ribs 3) Lift up to support the abdominal contents 4) Place your right hand on the RUQ, with fingers parallel to the midline(Fig. 71) 5) Push deeply down and under the right costal margin 6) Ask the client to take a deep breath 7) Feel for liver sliding over the fingers as the client inspires 8) Note any enlargement or tenderness.	• Liver is not usually palpable • People may be palpable the edge of the liver bump immediately below the costal margin as the diaphragm pushes it down during inhalation: a smooth structure with a regular contour, firm and sharp edge	• Liver palpable as soft hedge or irregular contour • Except with a depressed diaphragm, a liver palpated more than 1 to 2 cm below the right costal margin is enlarged • If enlarged, estimate the amount of enlargement beyond the right costal margin. Express it in centimeters with its consistency and tenderness



Fig. 71 Palpation the liver in the RUQ
(from Carolyne Jarvis, p.582)

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
Spleen In supine position: 1) Reach your left hand over the abdomen and behind the left side at the 11th and 12th ribs (Fig. 72 A.) 2) Lift up for support 3) Place your right hand obliquely on the LUQ with the fingers pointing toward the left axilla and just inferior to the rib margin 4) Push your hand deeply down and under the left costal margin 5) Ask the client to take a deep breath In right lateral position: 1) Roll the client onto his/her right side to displace the spleen more forward and downward(Fig. 72 B.) 2) Palpate as described earlier	• Normally spleen is not palpable • No enlargement and tenderness	• The spleen must be enlarged three times its normal size to be felt • The enlarged spleen is palpable about 2 cm below the left costal margin on deep inspiration





Fig. 72 A. Palpation the spleen in supine position B. Palpation the spleen in right lateral position
(from Carolyne Jarvis, p.583)

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
Kidneys Palpation in the right kidney: 1) Place the client in the supine position 2) Place your left hand on the client between lowest rib and the pelvic bone 3) Place your right hand on the client's side below the lowest rib or in the RUQ. Your hands are placed together in a "duck-bill" position at the client's right flank (Fig.73 A.) 4) Ask the client to take a deep breath. 5) At the peak of inspiration, press your right hand and deeply into the RUQ, just below the coastal margin 6) Try to capture the kidney between two hands 7) Note the enlargement or tenderness. Palpation in the left kidney: 1) Search for the left kidney by reaching your left hand across the abdomen and behind the left flank for support(Fig. 73 B.) 2) push your right hand deep into the abdomen 3) Ask the client to take a deep breath 4) Feel the change while inspiring	• Both kidneys are not usually palpable • A normal right kidney may be palpable in well-relaxed women • No change while breathing deeply on both sides • Normally no change	• Enlarged kidney • Tenderness • Kidney mass • Causes of kidney enlargement include hydronephrosis, cyst or tumors • Bilateral enlargement suggests polycystic kidney disease



Fig. 73 Palpation the kidney A. Right kidney B. Left kidney
(from Carolyne Jarvis, p.584)

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
Percussion in the kidney: (✻To assess the tenderness in the kidney) 1) Place the ball of one hand in the costovertebral angle 2) Strike it with the ulnar surface of your fist, using enough force to cause a perceptible	• Painless jar in fist percussion	• Pain with fist percussion suggests pyelonephritis, but may also have a musculoskeletal cause
Rebound tenderness (Bulumberg's sign) (✻To test rebound tenderness when the client feels abdominal pain or when you elicit tenderness during palpation) 1) Choose a site away from the painful area 2) Hold your hand 90 degrees, or perpendicular, to the abdomen 3) Push down slowly and deeply and then lift up suddenly (Fig. 74 A.,B.)	• As a normal or negative, no pain on release of pressure	• Pain in release of pressure confirms rebound tenderness, which is a reliable sign of peritoneal inflammation. Peritoneal inflammation accompanies appendicitis



Fig. 74 Rebound tendernessn(from Carolyne Jarvis, p.585)

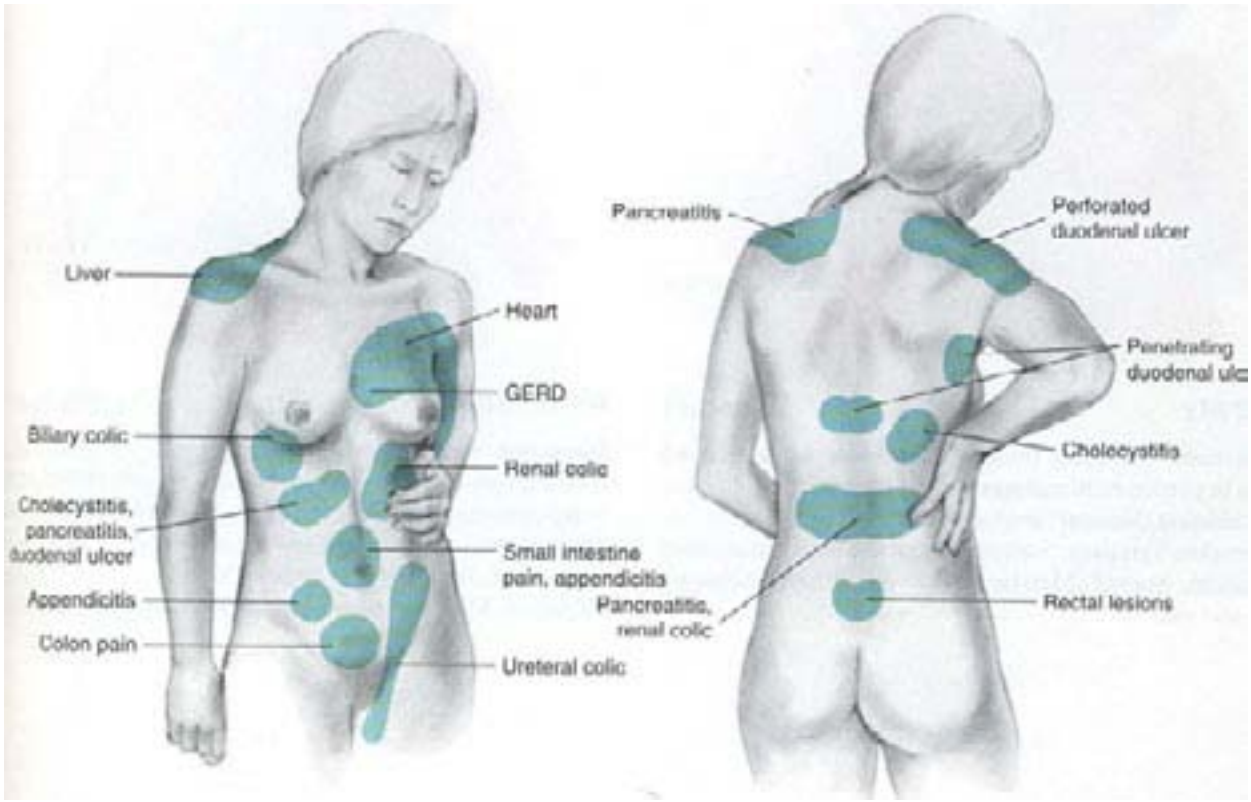
A. Pushing down the abdomen slowly B. Lift your hand up quickly

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
Inguinal area 1) Lift the drape or cloth to expose the inguinal area and legs 2) Inspect and palpate each groin for the femoral pulse and the inguinal nodes	Normally no palpable nodules	• Palpable nodes • Swollen, tenderness

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
Bladder 1) The bladder normally cannot be examined unless it is distended above the symphysis pubis on palpation. 2) Check for tenderness 3) Use percussion to check for dullness and to determine how high the bladder rises above the symphysis pubis	• Normally not palpable and tenderness • The dome of distended bladder feels smooth and round	• Bladder distension from outlet obstruction • Suprapubic tenderness in bladder infection

NOTE:

Table 5 Common sites of referred abdominal pain
(from Carolyne Jarvis, p.593)



Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
H. Musculoskeletal system Inspection the muscle and joints 1) Ask the client to stand 2) Inspect his/her neck , shoulder, arms, hands, hips, knees, legs, ankle and feet. 3) Compare one side with other side 4) Note the size and contour of the joint, skin and tissues over the joints for color, swelling, and any masses or deformities	• No bone or joint deformities • No redness or swelling of joints • No muscle wasting	• Presence of bone deformities or joint deformities • Redness or swelling is significant and signals joint irritation • Muscle wasting • Swelling may be due to excess joint fluid, thickening of the synovial lining, inflammation of surrounding soft tissue or bony enlargement • Deformities include dislocation, subluxation, contracture, or ankylosis
Range of motion(; ROM) (✻To inspect the client's ability to move musculoskeletal system) 1) Ask the client to move his/her neck, shoulders, elbows, wrists, fingers, hip, knees, ankles and toes one by one in all possible directions 2) Note the range of motion and watch for the signs of pain	• Able to move joins freely • No sign of pain while moving joints	• Limited movement of the joints • Sign of pain when moving the joints
Supine 1)Ask the client to stand 2) Place yourself far enough back 3) Inspect and note the line and the equal horizontal positions for the shoulders, scapulae, iliac crests, gluteal folds, and equal spaces between arm and lateral thorax on the two sides.	• The kneel and feet should be aligned with the trunk and should be pointing forward	• A difference of shoulder elevation and in level of scapulae and iliac crest occur with scoliosis
4) From the side, note the normal convex thorax curve and concave lumbar curve.	• An enhanced thorax curve, or kyplosis , is common in aging people • A pronounced lumbar curve, or lordosis, is common in obese people	• Lateral tilting and forward bending occur with a herniated nucleus pulposus

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
Palpation		
1) Palpate each joint, including its skin for tenderness, its muscles, bony articulations, and area of joint capsule 2) Note any heat, tenderness, swelling or masses. 3) If any tenderness occur, try to localize it to specific anatomic structure(skin, muscle, ligaments, tendons, fat pads or joint capsule)	• No swelling, tenderness or redness in joint • Normal temperature • The synovial membrane normally is not palpable • A small amount of fluids is present in the normal joint, but not palpable	• Redness, swelling or tenderness Limited joint movement • Hard muscle with muscle spasm • Inoreased, temperature over the joint • Palpable fluid
4) Holding the each joint one by one, ask the client to move these areas. note the range of motion and for any rough sensation at the joint	• Full range of joint movement • Smooth joint movement	• Limited joint movement • Rough sensation(crepitation) in moving a joint
Peripheral vascular examination		
<u>Inspection and palpation</u>		
1) Inspect the arms for color, size, any lesion and skin changes	• Symmetrical in size and shape • No edema • No lesion • No changes in skin colors	• Edema of upper extremitis
2) Palpate pulses: radial and brachial pulse	• Normal pulse rate	• Increased or decreased pulse
3) Inspect legs for color, size, any lesions, trophic skin changes or swelling	• Symmetrical in size and shape • No edema • No lesion • No changes in skin colors	• Pallor with vasoconstriction Cyanosis • Varicose vein
4) Palpate temperature of feet and legs	• Warm and equal bilaterally	• A unilateral cool foot or leg occurs
5) Palpate inguinal nodes	• Not palpable nodes and non tenderness	• With arterial deficit • Enlarged nodes, tender or fixed
6) Palpate pulses: femoral, popliteal, posterior tibial, dorsalis pedis	• Normal pulse	• A bruit occurs with turbulent blood flow indicating partial occlusion

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
<u>Palpation</u> 1) Press the skin gently and firmly at the arms, hands over the skin of the tibia, ankles and feet for 5 seconds, and then release . 2) Note whether the finger leaves an impression on the skin indication edema 3) Ask the client to stand so that you assess the venous system 4) Note any visible dilated and tortuous veins **Muscles strengthen** 1) Push against the client's hands, and then feet 2) Ask him/her to resist the push	• No impression left on the skin when pressed • Pit edema commonly is seen if the person has been standing all day or during pregnancy • Equal strengthen is both hands and feet • No muscular weakness	• Bilateral pitting edema occurs with heart failure, diabetic neuropathy, or hepatic cirrhosis • Unilateral edema occurs with occlusion of a deep vein • Uni- or bilateral edema occurs with lymphatic obstruction • Varicosities occur in the saphenous veins • Muscular weakness on one or both hands and feet
I. Nervous system ***For sensation*** 1) Ask the client to close the eyes 2) Select areas on face , arms, hands, legs and feet 3) Give a superficial pain, light touch and vibration to each site by turn 4) Note the client's ability of sensation on each site ***Test for Cranial nerves*** Cranial nerve I: Olfactory nerve (✻To test the sense of smell) 1)Ask the client to close his/her eyes 2) Ask him/her the source of smell using familiar, conveniently obtainable, and non-noxious smell such as coffee or tooth paste	• Feels pain, light touch and vibration • Equally in both side of his/her body	• Decreased pain sensation or touch sensation • Unable to feel vibration • One can not test smell when upper respiratory infection or with sinusitis decreases or loss of smell with tobacco smoking or cocaine use

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
Test stereognosis		
1) Ask the client to close his/ her eyes 2) Place a familiar object(i.g., clip, key or coin) in the client's hand 3) Ask the client to identify it	• Normal client can identify the familiar object	• Inability to identify object correctly, especially in brain stroke
Test for the cerebellar function of the upper extremities		
Use finger-to- nose test or rapid-altering –movement test	• Coordinated, smooth movement	• Uncoordinated movement
Test for the cerebellar function of the lower extremities		
1) Ask the client to reach heel down the opposite shin or 2) Ask the client to stand and walk across the room in his/her regular walk back ward, and then turn toward you	• Straight and balanced walk	• Limping, unbalanced walk, uncoordinated or unsteady gait
Deep tendon reflex		
(✻To elicit the intactness of the arc at specific spinal level)		• Hyperreflexia • Hyporeflexia
<u>Biceps reflex(C5 to C6)</u>		
1) Support the client's forearm on yours 2) Place your thumb on the biceps tendon and strike a blow on your thumb 3) Observe the response	• Normal response is contraction of the biceps muscle and flexion of the forearm	
<u>Triceps reflex(C7 to C8)</u> 1) Tell the client to let the arm "just go dead" as you suspend it by holding the upper arm 2) Strike the triceps tendon directly just above the elbow 3) Observe the response	• Normal response is extension of the forearm	
<u>Brachioradialis reflex(C5 to C6)</u> 1) Hold the client's thumb to suspend the forearms in relaxation	• Normal response is flexion and supination of the forearm	

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
2) Strike the forearm directly, about 2 to 3 cm above the radial styloid process 3) Observe the response <u>Quadriceps reflex("Knee jerk") (L2 to L4)</u> 1) Let the lower legs dangle freely to flex the knee stretch the tendons 2) Strike the tendon directly just below the patella 3) Observe the response and palpate contraction of the quadriceps <u>Achilles reflex("Ankle jerk") (L5 to S2)</u> 1) Position the client with the knee flexed and hip externally rotated 2) Hold the foot in dorsiflexion 3) Strike the Achilles tendon directly 4) Feel the response ***Superficial reflex*** <u>Planter reflex (L4 to S2)</u> 1) Position the thigh in slight external rotation 2) With the reflex hammer, draw a light stroke up the lateral side of the sole of the foot and inward across the ball of the foot 3) Observe the response	• Normal response is extension of the lower leg • Normal response is the foot planter flexes against your hand • Normal response is planter flexion of all the toes and inversion and flexion of the forefoot	• Babinski sign: this occurs with upper motor neuron disease



Fig. 75 Biceps reflex

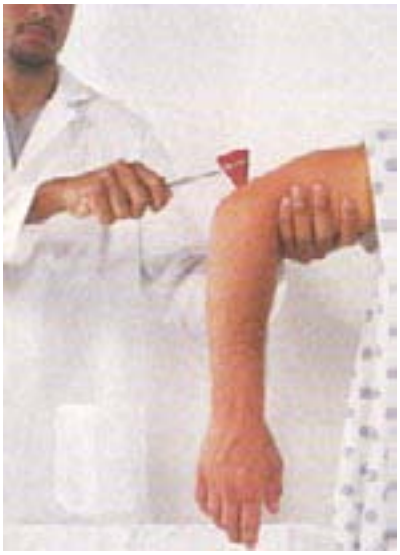


Fig. 76 Triceps reflex



Fig. 77 Brachioradilis reflex



Fig. 78 Quadriceps reflex



Fig. 79 Achilles reflex

(from Carolyne Jarvis, p.687, 688, 689)

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
J. Anus Inspect the perineal area for any irritation, cracks, fissure or enlarged vessels	• No irritation, fissure, cracks • No enlarged blood vessels in anus	• Presence of anal irritation, anal fissure, enlarged and blood vessels
K. Male Genitalia ***Inspect and palpate the penis*** 1) Inspect the skin, glans, and urethral meatus 2) If you note urethral discharge, collect a smear for microscopic examination and a culture 3) Palpate the shaft of penis between your thumb and first two fingers	• The skin normally looks wrinkled, hairless, and without lesions. The dorsal vein may be apparent • The glans looks smooth without lesions • Foreskin easily retractable • The urethral meatus is positioned just about centrally • Normally the penis feels smooth, semifirm, and non-tender	• Inflammation • Lesions • Presence of sore or lump • Phimosis: unable to retract the foreskin • Edges that are red, everted, edematous, along with purulent discharge, suggested urethritis • Nodule or induration, tenderness on the penis
Inspect and palpate the scrotum 1) Inspect the scrotum 2) Palpate gently each scrotal half between your thumb and first two fingers	• Asymmetry is normal, with the left scrotal half usually lower than the right • No scrotal lesions • The skin of scrotum is thin and loose • No lump, no tenderness • Testes are equal in size	• Scrotal swelling occurs with heart failure, renal failure, or local inflammation • Lesions • Thick or swollen scrotal skin • Abnormalities in the scrotum: hernia, tumor, orchitis, epididymitis, hydrocele, spermatocele, varicocele
L. Female genitals For inspection of female genitals place the client in the supine position with the knee flexed and feet resting on the examination table. ***External genitalia*** <u>Inspection</u> 1)Note skin color, hair distribution, labia majora, any lesions, clitoris, labia minora, urethral opening, vaginal opening, perineum, and anus.	• Labia are of the same color and size • no redness or swelling in labia • Urethral opening appears stellate and in midline	• Excoriation, nodules, rash, or lesions • Inflammation • Polyp in urethral opening • Foul-smelling, white, yellow, green discharge from vagina

Action (✻Rationale)	Normal findings	Abnormal findings/ Changes from normal
2) Look for any discharge or bleeding, prolapse, from the vagina	• Vaginal opening may appear as a vertical slit • Perineum is smooth • Anus has coarse skin increased pigmentation • No usual discharge from the vagina • No prolapse • No bleeding from the vagina except during mensturation	• Bleeding

Care for Nasal-Gastric Tube

a. Inserting a Nassal-Gastric Tube

Definition:

Method of introducing a tube through nose into stomach

Purpose:

1. To feed client with fluids when oral intake is not possible
2. To dilute and remove consumed poison
3. To instill ice cold solution to control gastric bleeding
4. To prevent stress on operated site by decompressing stomach of secretions and gas
5. To relieve vomiting and distention

Equipments required:

1. Nasogastric tube in appropriate size (1)
2. Syringe 10 ml (1)
3. Lubricant
4. Cotton balls
5. Kidney tray (1)
6. Adhesive tape
7. Stethoscope (1)
8. Clamp (1)
9. Marker pen (1)
10. Steel Tray (1)
11. Disposable gloves if available (1 pair)

Procedure:

Care Action	Rationale
1. Check the Doctor's order for insertion of Nasal-gastric tube.	• This clarifies procedure and type of equipment required.
2.Explain the procedure to the client.	• Explanation facilitates client cooperation.
3. Gather the equipments.	• Organization provides accurate skill performance.
4. Assess client's abdomen	• Assessment determines presence of bowel sounds and amount of abdominal distention.
5. Perform hand hygiene. Wear disposable gloves if available.	• Hand hygiene deters the spread of microorganisms. But sterile technique is not needed because the digestive tract is not sterile. • Gloves protect from exposure to blood or body fluids.
6.Assist the client to high Fowler's position, or 45 degrees, if unable to maintain upright position.	• Upright position is more natural for swallowing and protects against aspiration, if the client should vomit.
7. Checking the nostril: 1) Check the nares for patency by asking the client to occlude one nostril and breathe normally through the other. 2) Clean the nares by using cotton balls 3) Select the nostril through which air passes more easily.	• Tube passes more easily through the nostril with the largest opening.
8. Measure the distance to insert the tube by placing: 1) Place the tip of tube at client's nostril extending to tip of earlobe 2) Extend it to the tip of xiphoid process 3) Mark tube with a marker pen or a piece of tape	• Measurement ensures that the tube will be long enough to enter the client's stomach.
9. Lubricant the tip of the tube (at least 1-2 inches) with a water soluble lubricant	• Lubricant reduces friction and facilitates passage of the tube into the stomach. • Xylocaine jelly may not be recommended to use as a lubricant due to the risk of xylocaine shock. • Water–soluble lubricant will not cause pneumonia if tube accidentally enters the lungs.
10. Inserting the tube: 1) Insert the tube into the nostril while directing the tube downward and backward. 2) The client may gag when the tube reaches the pharynx. 3) Instruct the client to touch his chin to his chest. 4) Encourage him/her to swallow even if no fluids are permitted.	• Following the normal contour of the nasal passage while inserting the tube reduces irritation and the likelihood of mucosal injury • The gag reflex stimulated by the tube • Swallowing helps advance the tube, causes the epiglottis to cover the opening of the trachea, and helps to eliminate gagging and coughing

Care Action	Rationale
5) Advance the tube in a downward and backward direction when the client swallow. 6) Stop when the client breathes 7) If gagging and coughing persist, check placement of tube with a tongue depressor and flashlight if necessary. 8) Keep advancing the tube until the marking or the tape marking is reached. ❖Nursing Alert❖ ➢ Do not use force. Rotate the tube if it meets resistance. ➢ Discontinue the procedure and remove the tube if the tube are signs of distress, such as gasping, coughing, cyanosis, and the inability to speak or hum.	• Excessive coughing and gagging may occur if the tube has curled in the back of throat. • Forcing the tube may injure mucous membranes. • The tube is not in the esophagus if the client shows signs of distress and is unable to speak or hum.
11. While keeping one hand on the tube, verify the tube's placement in the stomach. a. Aspiration of a small amount of stomach contents: Attach the syringe to the end of the tube and aspirate small amount of stomach contents. Visualize aspirated contents, checking for color and consistency. b. Auscultation: Inject a small amount of air(10- 15 ml)into the nasogastric tube while you listen with a stethoscope approximately 3 inches (about 8 cm) below the sternum. c. Obtain radiograph of placement of tube(as ordered by doctor.)	• The tube is in the stomach if its contents can be aspirated. • If the tube is in the stomach, you will be able to hear the air enter (a whooshing sound) If the tube is in the esophagus, injecting the air will be difficult or impossible. In addition, injection of air often causes the client to belch immediately. If the tube is in the larynx, the client usually is unable to speak.
12. Secure the tube with tape to the client's nose. ❖Nursing Alert❖ Be careful not to pull the tube too tightly against the nose.	• Constant pressure of the tube against the skin and mucous membranes causes tissue injury.
13. Clamp the end of nasal-gastric tube while you bend the tube by fingers not to open	• Bending tube prevents the inducing of secretion
14. Putt off and dispose the gloves, Perform hand hygiene	• To prevent the spread of infection
16. Replace and properly dispose of equipment.	• To prepare for the next procedure
17. Record the date and time, the size of the nasal-gastric tube, the amount and color of drainage aspirated and relevant client reactions. Sign the chart.	• Documentation provides coordination of care
18. Report to the senior staff.	• To provide continuity of care

b. Removal a Nasal-Gastric Tube

Procedure:

Care action	Rationale
1. Assemble the appropriate equipment, such as kidney tray, tissues or gauze and disposable gloves, at the client's bedside.	• Organization facilitates accurate skill performance
2. Explain the client what your are going to do.	• Providing explanation fosters cooperation
3. Put on the gloves	• To prevent spread of infection
4. Remove the tube 1) Take out the adhesive tape which holding the nasal-gastric tube to the client's nose 2) Remove the tube by deflating any balloons 3) Simply pulling it out, slowly at first and then rapidly when the client begins to cough. 4) Conceal the tube . 5) Be sure to remove any tapes from the client's face. Acetone may be necessary.	 • Do not remove the tube if you encounter any resistance not to harm any membranes or organs. Do another attempts in an hour. • Continuous slow pulling it out can lead coughing or discomfort • Acetone helps any adhesive substances from the face. You should also wipe acetone out after removed tapes because acetone remained on the skin may irritate.
6. Provide mouth care if needed.	• To provide comfort
7. Put off gloves and perform hand hygiene.	• To prevent the spread of infection
8. Record the date, time and the client's condition on the chart. And be alert for complains of discomfort, distension, or nausea after removal. Sign the signature.	• Documentation provides coordination of care • Giving signature maintains professional accountability
9. Dispose the equipments and replace them.	• To prepare for the next procedure
10.Report to the senior staff.	• To provide continuity of care

Administering a Nasal- gastric Tube Feeding

Definition:

A nasal-gastric tube feeding is a means of providing liquid nourishment through a tube into the intestinal tract, when client is unable to take food or any nutrients orally

Purpose:

1. To provide adequate nutrition
2. To give large amounts of fluids for therapeutic purpose
3. To provide alternative manner to some specific clients who has potential or acquired swallowing difficulties

Equipments required:

1. Disposable gloves (1)
2. Feeding solution as prescribed
3. Feeding bag with tubing (1)
4. Water in jug
5. Large catheter tip syringe (30 mL or larger than it) (1)
6. Measuring cup (1)
7. Clamp if available (1)
8. Paper towel as required
9. Dr.'s prescription
10. Stethoscope (1)

Procedure:

Care Action	Rationale
1. Assemble all equipments and supplies after checking the Dr.'s prescription for tube feeding	• Organization facilitates accurate skill performance • Checking the prescription confirms the type of feeding solution, route, and prescribed delivery time.
2. Prepare formula: a. in the type of can: Shake the can thoroughly. Check expiration date b. in the type of powder: Mix according to the instructions on the package, prepare enough for 24 hours only and refrigerate unused formula. Label and date the container. Allow formula to reach room temperature before using. c. in the type of liquid which prepare by hospital or family at a time: Make formula at a time and allow formula to reach room temperature before using.	• Feeding solution may settle and requires mixing before administration. • Outdated formula may be contaminated or have lessened nutritional value. • Formula loses its nutritional value and can harbor microorganisms if kept over 24 hours. • Cold formula cause abdominal discomfort or sometimes diarrhea.
3. Explain the procedure to the client	• Providing explanation fosters client's cooperation and understanding
4. Perform hand hygiene and put on disposable gloves if available	• To prevent the spread of infection
5. Position the client with the head of the bed elevated at least 30 degree angle to 45 degree angle	• This position helps avoiding aspiration of feeding solution into lungs
6. Determine placement of feeding tube by: a. Aspiration of stomach secretions ① Attach the syringe to the end of feeding tube ② Gently pull back on plunger ③ Measure amount of residual fluid ④ Return residual fluid to stomach via tube and proceed to feeding. ❖Nursing Alert❖ If amount of the residual exceed hospital protocol or Dr.'s order, refer to these order.	• Aspiration of gastric fluid indicates that the tube is correctly placed in the stomach • The amount of residual reflects gastric emptying time and indicates whether the feeding should continue. • Residual contents are returned to the stomach because they contain valuable electrolytes and digestive enzymes. • In the case of non present of residual, you should check placement carefully. • Residual over 120 mL may be caused by feeding too fast or taking time more to digest. Hold feeding for 2 hours, and recheck residual.
b. Injecting 10- 20 mL of air into tube: ① Attach syringe filled with air to tube ② Inject air while listening with stethoscope over left upper quadrant	• Inject 3-5 mL of air for children • A whooshing or gurgling sound usually indicates that the tube is in the stomach

Care Action	Rationale
c. Taking an x-ray or ultrasound	• It may be needed to determine the tube's placement





Fig. 79

a. Aspiration of stomach secretion

b. Injecting 10-20 mL air into Tube

(from Caroline : Textbook of Basic Nursing, 1999, p.355)

Care Action	Rationale
Intermittent or Bolus feeding	
Using a feeding bag:	
7. Feeding the following	
1) Hang the feeding bag set-up 12 to 18 inches above the stomach. Clamp the tubing.	
2) Fill the bag with prescribed formula and prepare the tubing by opening the clamp. Allow the feeding to flow through the tubing . Reclamp the tube.	
3) Attach the end of the set-up to the gastric tube. Open the clamp and adjust flow according to the Dr.'s order.	• Rapid feeding may cause nausea and abdominal cramping.
4) Add 30-60 mL of water to the feeding bag as feeding is completed. Allow the flow into basin.	• Water clears the tube, keeping it patent.
5) Clamp the tube and disconnect the feeding set-up.	• Clamping when feeding is completed prevents air from entering the stomach
Using the syringe:	
7. Feeding the following	
1) Clamp the tube. Insert the tip of the large syringe with plunger, or bulb removed into the gastric tube.	
2) Pour feeding into the syringe	

Care Action	Rationale
3) Raise the syringe 12 to 18 inches above the stomach. Open the clamp. 4) Allow feeding to flow slowly into the stomach. Raise and lower the syringe to control the rate of flow. 5)Add additional formula to the syringe as it empties until feeding is complete	• Gravity promotes movement of feeding into the stomach • Controlling administration and flow rate of feeding prevents air from entering the stomach and nausea and abdominal cramping from developing
8. Termination feeding: 1) Terminate feeding when completed. 2) Instill prescribed amount of water 3) Keep the client's head elevated for 20-30 minutes.	• To maintain patency of the tube • Elevated position discourages aspiration of feeding solution into the lung
9. Mouth care: 1) Provide mouth care by brushing teeth 2) Offer mouthwash 3) Keep the lips moist	• Mouth care promotes oral hygiene and provide comfort
10. Clean and replace equipments to proper place	• To prevent contamination of equipment and prepare for the next procedure
11. Remove gloves and perform hand hygiene	• To prevent the spread of infection
12. Document date, time, amount of residual, amount of feeding, and client's reaction to feeding. Sign the chart	• Documentation provides continuity of care • Giving signature maintains professional accountability

Performing Surgical Dressing:

Cleaning a Wound and Applying a Sterile Dressing

Definition:

Sterile protective covering applied to a wound/incision, using aseptic technique with or without medication

Purpose:

1. To promote wound granulation and healing
2. To prevent micro-organisms from entering wound
3. To decrease purulent wound drainage
4. To absorb fluid and provide dry environment
5. To immobilize and support wound
6. To assist in removal of necrotic tissue
7. To apply medication to wound
8. To provide comfort

Equipments required:

1. Sterile gloves (1)
2. Gauze dressing set containing scissors and forceps (1)
3. Cleaning disposable gloves if available (1)

4 Cleaning basin(optional) (1) as required

5. Plastic bag for soiled dressings or bucket (1)
6. Waterproof pad or mackintosh (1)
7. Tape (1)
8. Surgical pads as required
9. Additional dressing supplies as ordered, e.g. antiseptic ointments, extra dressings
10. Acetone or adhesive remover (optional)
11. Sterile normal saline (Optional)

Procedure:

Care Action	Rationale
1. Explain the procedure to the client	• Providing information fosters his/her cooperation and allays anxiety.
2. Assemble equipments	• Organization facilitates accurate skill performance
3. Perform hand hygiene	• To prevent the spread of infection
4.Check Dr's order for dressing change. Note whether drain is present.	• The order clarifies type of dressing
5. Close door and put screen or pull curtains.	• To provide privacy
6. Position waterproof pad or mackintosh under the client if desired	• To prevent bed sheets from wetting body substances and disinfectant
7.Assist client to comfortable position that provides easy access to wound area.	• Proper positioning provides for comfort.
8.Place opened, cuffed plastic bag near working area.	• Soiled dressings may be placed in disposal bag without contamination outside surfaces of bag.
9. Loosen tape on dressing . Use adhesive remover if necessary. If tape is soiled, put on gloves.	It is easier to loosen tape before putting in gloves.
10. 1) Put on disposable gloves 2) Removed soiled dressings carefully in a clean to less clean direction. 3) Do not reach over wound. 4) If dressing is adhering to skin surface, it may be moistened by pouring a small amount of sterile saline or NS onto it. 5) Keep soiled side of dressing away from client's view.	• Using clean gloves protect the nurse when handling contaminated dressings. • Cautious removal of dressing(s) is more comfortable for client and ensures that drain is not removed if it is present. • Sterile saline provides for easier removal of dressing.
11. Assess amount, type, and odor of drainage.	• Wound healing process or presence of infection should be documented.
12. 1) Discard dressings in plastic disposable bag. 2) Pull off gloves inside out and drop it in the bag when your gloves were contaminated extremely by drainage.	• Proper disposal dressings prevent the spread of microorganisms by contaminated dressings.
13.Cleaning wound: a. <u>When you clean wearing sterile gloves:</u> 1) Open sterile dressings and supplies on work area using aseptic technique. 2) Open sterile cleaning solution 3) Pour over gauze sponges in place container or over sponges placed in sterile basin. 4) Put on gloves. 5) Clean wound or surgical incision ① Clean from top to bottom or from center outward	 • Supplies are within easy reach, and sterility is maintained. • Sterility of dressings and solution is maintained. • Cleaning is done from least to most contaminated area.

Care Action	Rationale
5) ② Use one gauze square for each wipe, discarding each square by dropping into plastic bag. Do not touch bag with gloves. ③Clean around drain if present, moving from center outward in a circular motion. ④ Use one gauze square for each circular motion.	• Previously cleaned area is re-contaminated.
b. When you clean using sterile forceps: 1) Open sterile dressings and supplies on work area using aseptic technique. 2) Open sterile cleaning solution 3) Pour over gauze sponges or cottons in place container or over sponges or cottons placed in sterile basin. 4) Clean wound or surgical incision: Follow the former procedure using sterile gloves.	• Do not touch bag with sterile forceps to prevent contamination
14. Dry wound or surgical incision using gauze sponge and same motion.	• Moisture provides medium for growth of microorganisms.
15. Apply antiseptic ointment by forceps if ordered.	• Growth of microorganisms may be retarded and healing process improved.
16. Apply a layer of dry, sterile dressing over wound using sterile forceps.	• Primary dressing serves as a wick for drainage.
17. If drainage is present: Use sterile scissors to cut sterile 4 X 4 gauze square to place under and around drain.	• Drainage is absorbed, and surrounding skin area is protected.
18. Apply second gauze layer to wound site.	• Additional layers provide for increased absorption of drainage.
19. Place surgical pad over wound as outer most layer if available.	• Wound is protected from microorganisms in environment.
20. Remove gloves from inside out and discard them in plastic bag if you worn.	• To prevent cross-infection
21. Apply tape or existing tape to secure dressings	• Tape is easier to apply after gloves have been removed.
22. 1) Perform hand hygiene. 2) Remove all equipments and disinfect them as needed. Make him./her comfortable.	• To prevent the spread of infection
23. Document the following: 1) Record the dressing change 2) Note appearance of wound or surgical incision including drainage, odor, redness, and presence of pus and any complication. 3) Sign the chart	• Documentation provides coordination of care. • Giving signature maintains professional accountability
24. Check dressing and wound site every shift.	• Close observation can find any complication as soon as possible.

Supplying Oxygen Inhalation

Definition:

Method by which oxygen is supplemented at higher percentages than what is available in atmospheric air.

Purpose:

1. To relieve dyspnoea
2. To reduce or prevent hypoxemia and hypoxia
3. To alleviate associated with struggle to breathe

Sources of Oxygen:

Therapeutic oxygen is available from two sources

1. Wall Outlets(; Central supply)
2. Oxygen cylinders

❖Nursing Alert❖

- Explain to the client the dangers of lighting matches or smoking cigarettes, cigars, pipes. Be sure the client has no matches, cigarettes, or smoking materials in the bedside table.
- Make sure that warning signs (OXYGEN- NO SMOKING) are posted on the client's door and above the client's bed.
- Do not use oil on oxygen equipment.(Rationale: Oil can ignite if exposed to oxygen.)
- With all oxygen delivery systems, the oxygen is turned on before the mask is applied to the client.
- Make sure the tubing is patent at all times and that the equipment is working properly.
- Maintain a constant oxygen concentration for the client to breathe; monitor equipment at regular intervals.
- Give pain medications as needed, prevent chilling and try to ensure that the client gets needed rest. Be alert to cues about hunger and elimination.(Rationale: The client's physical comfort is important.)
- Watch for respiratory depression or distress.
- Encourage or assist the client to move about in bed. (Rationale: To prevent hypostatic pneumonia or circulatory difficulties.) Many clients are reluctant to move because they are afraid of the oxygen apparatus.
- Provide frequent mouth care. Make sure the oxygen contains proper humidification.(Rationale: Oxygen can be drying to mucous membrane.)
- Discontinue oxygen only after a physician has evaluated the client. Generally, you should not abruptly discontinue oxygen given in medium-to-high concentrations(above 30%). Gradually decrease it in stages, and monitor the client's arterial blood gases or oxygen saturation level. (Rationale: These steps determine whether the client needs continued support.)
- Always be careful when you give high levels of oxygen to a client with COPD. The elevated levels of oxygen in the patient's body can depress their stimulus to breathe.
- Never use oxygen in the hyperventilation patient.
- Wear gloves any time you might come into contact with the client's respiratory secretions.(Rationale: To prevent the spread of infection).

Equipments required:

1. Client's chart and Kardex
2. Oxygen connecting tube (1)
3. Flow meter (1)
4. Humidifier filled with sterile water (1)
5. Oxygen source: Wall Outlets or Oxygen cylinder
6. Tray with nasal cannula of appropriate size or oxygen mask (1)
7. Kidney tray (1)
8. Adhassive tape
9. Scissors (1)
10. Oxygen stand (1)
11. Gauze pieces, Cotton swabs if needed
12. "No smoking" sign board
13. Globes if available (1)

NOTE:

Table 6 Characteristics of low flow system of oxygen administration

Method	Flow rate (L/ min.)	Oxygen concentration delivered	Advantages	Disadvantages
Nasal cannula	1	22-24 %	• Convenient • Comfortable more than face mask • bring less anxiety • Allows client to talk and eat • Mouth breathing does not affect the concentration of delivered oxygen	• Assumes an adequate breathing pattern • Unable to deliver concentrations above 44 %
	2	26-28 %		
	3	28-30 %		
	4	32-36 %		
	5	36-40 %		
	6	40-44 %		
Simple face mask	5-6	40 %	• Can deliver high concentration of oxygen more than nasal cannula	• May cause anxiety • able to lead hotness and claustrophobic • may cause dirty easier, so cleansing is needed frequently • should be removed while eating and talking • Tight seal or long wearing can cause skin irritation on face
	6-7	50 %		
	7-8(-10)	60 %		

There are another high flow devices such as venture mask, oxygen hood and tracheostomy mask. You should choose appropriate method of oxygen administration with Dr's prescription and nursing assessment.

Procedure: **a. Nasal Cannula Method**

Care Action	Rationale
1. Check doctor's prescription including date, time, flow liter/minute and methods	• To avoid medical error
2. Perform hand hygiene and wear gloves if available	• To prevent the spread of infection
3.Explain the purpose and procedures to the patient	• Providing information fosters the client's cooperation and allays his/her anxiety
4. Assemble equipments	• Organization facilitates accurate skill performance
5.Prepare the oxygen equipment: 1)Attach the flow meter into the wall outlet or oxygen cylinder 2)Fill humidifier about 1/3 with sterile water or boiled water 3)Blow out dusts from the oxygen cylinder 4)Attach the cannula with the connecting tubing to the adapter on the humidifier	• Humidification prevents drying of the nasal mucosa • To prevent entering dust from exist of cylinder to the nostril
6. Test flow by setting flow meter at 2-3L/ minute and check the flow on the hand.	• Testing flow before use is needed to provide prescribed oxygen to the client
7. Adjust the flow meter's setting to the ordered flow rate.	• The flow rate via the cannula should not exceed 6L/m. Higher rates may cause excess drying of nasal mucosa.
8. Insert the nasal cannula into client's nostrils, adjust the tubing behinds the client's ears and slide the plastic adapter under the client's chin until he or she is comfortable.	• Proper position allows unobstructed oxygen flow and eases the client's respirations
9. Maintain sufficient slack in oxygen tubing	• To prevent the tubing from getting out of place accidentally
10.Encourage the client to breathe through the nose rather than the mouth and expire from the mouth	• Breathing through the nose inhales more oxygen into the trachea, which is less likely to be exhaled through the mouth
11. Initiate oxygen flow	• To maintain doctor's prescription and avoid oxygen toxicity
12. Assess the patient's response to oxygen and comfort level.	• Anxiety increases the demand for oxygen
13. Dispose of gloves if you wore and perform hand hygiene	• To prevent the spread of infection
14.Place "No Smoking" signboard at entry into the room	• The sign warns the client and visitors that smoking is prohibited because oxygen is combustible
15.Document the following: Date, time, method, flow rate, respiratory condition and response to oxygen	• Documentation provides coordination of care • Sometimes oxygen inhalation can bring oxygen intoxication.
16. Sign the chart	• To maintain professional accountability

Care Action	Rationale
17. Report to the senior staff	• To provide continuity of care and confirm the client's condition
18. Check the oxygen setup including the water level in the humidifier. Clean the cannula and assess the client's nares at least every 8 hours.	• Sterile water needs to be added when the level falls below the line on the humidification container. • Nares may become dry and irritated and required the use of a water-soluble lubricant. • In long use cases, evaluate for pressure sores over ears, cheeks and nares.

❖Nursing Alert❖

After used the nasal cannula, you should cleanse it as follows:

1. Soak the cannula in salvon water for an hour
2. Dry it properly
3. Cleanse the tip of cannula by spirit swab before applying to client

Procedure: **b. Oxygen Mask Method; Simple face mask**

Care action	Rationale
1.Perform hands hygiene and put on gloves if available	• To prevent the spread of infection
2.Explain the procedure and the need for oxygen to the client.	• The client has a right to know what is happening and why. • Providing explanations alley his/her anxiety
3.Prepare the oxygen equipment: 1)Attach the humidifier to the threaded outlet of the flowmeter or regulator. 2)Connect the tubing from the simple mask to the nipple outlet on the humidifier 3)Set the oxygen at the prescribed flow rate.	• To maintain the proper setting • The oxygen must be flowing before you apply the mask to the client
4.To apply the mask, guide the elastic strap over the top of the client's head. Bring the strap down to just below the client's ears.	• This position will hold the mask most firmly
5.Gently, but firmly, pull the strap extensions to center the mask on the client's face with a tight seal.	• The seal prevents leaks as mush as possible
6.Make sure that the client is comfortable.	• Comfort helps relieve apprehension, and lowers oxygen need
7.Remove and properly dispose of gloves. Wash your hands	• Respiratory secretions are considered contaminated
8.Document the procedure and record the client's reactions.	• Documentation provides for coordination of care
9.Sign the chart and report the senior staffs	• To maintain professional accountability
10.Check periodically for depresses respirations or increased pulse.	• To assess the respiratory condition and find out any abnormalities as soon as possible
11.Check for reddened pressure areas under the straps	• The straps, when snug, place pressure on the underlying skin areas

❖Nursing Alert❖

The Simple mask is a low-flow device that providers an oxygen concentration in the 40-60% range, with a liter flow 6 to 10 L/m. **BUT! The simple mask requires a minimum oxygen flow rate of 6 L/m to prevent carbon dioxide buildup**

II. Administration of Medications

Our responsibilities for administration of medication

Step the principle procedure for safety and the best-efficacy based on 5 Rights: Right drug, Right dose, Right route, Right time, Right client(,Right form)

- Perform hand hygiene. (Rationale: to prevent the spread of infection)
- Collect prescription and ensure that the client is available and understandable to take the medication.(Rationale: to secure informed-consent)
- Check the medicine as the points: name, components, dose, expiry date(Rationale: to provide safe and efficient medication)
- Prior to administration ensure you are knowledgeable about the drug(s) to be administered. This should include: therapeutic use, normal dosage, routes/forms, potential side effects, contra-indications.(Rationale: to ensure safety and well-being of client and enable you to identify any errors in prescribing)
- Confirm identity of client verbally and with chart, prescription, checking full name, age, date of birth: Right client.(Rationale: to ensure that the correct drug is being administered to the correct client)
- Ensure that the medication has not been given till that time(Rationale: to ensure right dose)

Administering Oral Medications

Definition:

Oral medication is defined as the administration of medication by mouth.

Purposes:

1. To prevent the disease and take supplement in order to maintain health
2. To cure the disease
3. To promote the health
4. To give palliative treatment
5. To give as a symptomatic treatment

Equipments required:

1. Steel tray (1)
2. Drinking water in jug (1)
3. Dr's prescription
4. Medicine prescribed
5. Medicine cup (1)
6. Pill crusher/ tablet cutter if needed
7. Kidney tray/ paper bag (to discard the waste) (1)

Procedure:

Care Action	Rationale
1. Perform hand hygiene	• To prevent the spread of infection
2. Assemble all equipments	• Organization facilitates accurate skill performances
3. Verify the medication order using the client's kardex. Check any inconsistencies with Dr. before administration	• To reduce the chance of medication errors
4. Prepare one client's medication at a time	• Lessen the chances for medication errors
5. Proceed from top to bottom of the kardex when preparing medications	• This ensures that you do not miss any medication orders
6. Select the correct medication from the shelf or drawer and compare the label to the medication order on the kardex	• Comparing medication to the written order is a check that helps to prevent errors
a. <u>From the multidose bottle</u>: Pour a pill from the multidose bottle into the container lid and transfer the correct amount to a medicine cup.	• Pouring medication into the lid eliminates handling it.
b. <u>In the case of unit packing</u>: Leave unit dose medication in wrappers and place them in a medication cup	• Unit dose wrappers keep medications clean and safe.
c. <u>Liquid medications</u>: Measure liquid medications by holding the medicine cup at eye level and reading the level at the bottom of the meniscus. Pour from the bottle with the label uppermost and wipe the neck if necessary	• Holding a cup at eye level to pour a liquid gives the most accurate measurement. • Pouring away from the label and wiping the lip helps keep the label readable
7. Recheck each medication with the Kardex	• To ensure preparation of the correct dose
8. When you have prepared all medications on a tray, compare each one again to the medication order.	• To check all medications three times to prevent errors
9. Crush pills if the client is unable to swallow them:	
1) Place the pill in a pill crusher and crush the pill until it is in powder form	• Crushed medications are often easier to swallow
❖Nursing Alert❖ Do not crush time-release capsules or enteric-coated tablets	• Enteric-coated tablets that are crushed may irritate the stomach's mucosal lining. Opening and crushing the contents of a time-release capsule may interfere with its absorption
2) Dissolve substance in water or juice, or mix with applesauce to mask the taste	
3) If no need to crush, cut tablets at score mark only	
10.Bring medication to the client you have prepared.	• Hospital/ Agency policy considers 30 minutes before or after the ordered time as an acceptable variation

Care Action	Rationale
11. Identify the client before giving the medication: a. Ask the client his/her name b. Ask a staff member to identify the client c. Check the name on the identification bracelet if available	• To abide by Five rights to prevent medication errors • Checking the identification bracelet is the most reliable
12. Complete necessary assessments before giving medications	• Additional checking includes taking vital signs and allergies to medications, depending on the medication's action
13. Assist the client to a comfortable position to take medications	• Sitting as upright as possible makes swallowing medication easier and less likely to cause aspiration
14. Administer the medication: 1) Offer water or fluids with the medication 2) Open unit dose medication package and give the medication to the medicine cup 3) Review the medication's name and purpose 4) Discard any medication that falls on the floor 5) Mix powder medications with fluids at the bedside if needed 6) Record fluid intake on the balance sheet	• You should be aware of any fluid restrictions that exist • Powdered forms of drugs may thicken when mixed with fluid. You should give them immediately • Recording fluid taken with medications maintains accurate documentation
15. Remain with the client until he/she has taken all medication. Confirm the client's mouth if needed.	• Be sure that the client takes the medication. Leaving medication at the bedside is unsafe.
16.Perform hand hygiene	• To prevent the spread of infection
17. Record medication administration on the appropriate form: 1) Sign after you have given the medication	• Documentation provides coordination of care and giving signature maintains professional accountability
2) If a client refused the medication, record according to your hospital/agency policy on the record.	• To verifies the reason medications were omitted as well as the specific nursing assessments needed to safely administer medication
3) Document vital sign's or particular assessments according to your hospital's form	• To confirm medication's action
4) Sign in the narcotic record for controlled substances when you remove them from the locked area(e.g, drawer or shelf).	• Federal law regulates special documentation for controlled narcotic substances
18. Check the client within 30 minutes after giving medication.	• To verify the client's response to the medication • Particularly, you should check the response after administered pain killer whether if the medication relieves pain or not.

Administering oral medications through a Nasal-Gastric tube

Definition:

Administering through a nasal-gastric tube is a process that administer oral medication through a nasal-gastric tube instead of mouth.

Purpose:

as "Administering oral medication"

Equipments required:

1. Client's kardex and chart
2. Medication prescribed
3. Medicine cup (1)
4. Water or another fluids as needed
5. Mortar and pestle or pill crusher if an order to crush medications has been obtained ()
6. Disposable gloves (1): if available
7. Large syringe (20-30 mL) (1)
8. Small syringe (3-5 mL) (1)
9. Stethoscope (1)

Procedure:

Care Action	Rationale
1. Confirmation the medication: 1) Check the name, dosage, type, time of medication with the client's kardex. 2) If you are going to give more than one medication, make sure they are compatible	• Be sure to administer the correct medication and dosage to the correct client
2. Check the kardex and the client's record for allergies to medications	• You cannot administer a medication to which the client previously experienced an allergic reaction
3. Perform hand hygiene	• To prevent the spread of infection
4. Assemble all equipments	• Organization helps to eliminate the possibility of medication errors
5. Set up medication following the Five right of administration	• Strictly adhere to safety precautions to decrease the possibility of errors
6. Explain the procedure	• To allay his/her anxiety
7. Put on gloves if available	• To maintain standard precautions which indicate to avoid possibility to be infected by any body fluids or secretions
8. Check the placement of the nasal-gastric tube 1) Connect a small syringe to the end of tube 2) Gently aspirate the gastric juice or endogastric substances by a syringe ❖Nursing Alert❖ Do not aspirate if the client has a button –type gastric-tube	• Ensure that medication will be delivered into the stomach • If you cannot confirm the tubing's placement, consult senior staffs and be sure the correct placement. • Aspiration can damage the antireflux valve
9. After checking for the gastric-tube's placement, pinch or clamp the tubing and remove the syringe	• Pinch or clamp the tubing prevents endogastric substances form escaping through the tubing • Ensure that no air enters the stomach, causing discomfort for the client
10. Administering medications: 1) Remove the plunger from the large syringe and reconnect the syringe to the tube 2) Release the clamp and pour the medication into the syringe 3) If the medication does not flow freely down the tube, insert the plunger and gently apply a slight pressure to start the flow. 4) If medication flow does not start, determine if the gastric-tube of plugged. 5) After you have administered the medication, flush the tube with 15 to 30 ml of water. 6) Clamp the tubing and remove the syringe 7) Replace the tubing plug. If feeding is continued, reconnect the tubing to the feeding tubing	• To clear the tube and decrease the chance of the tubing becoming clogged • To prevent the medication and water from escaping

Care Action	Rationale
11. Assist the client to a comfortable position	• To provide comfort
12. Document administration of gastric-tube feeding of medication and sign	• Documentation provides continuity of care and giving signature maintain professional accountability

Removing Medications from an Ampoule

Definition:

To remove medication form an ampoule defines that you prepare medication from an ampoule for IV, IM or another administration of medication.

Purpose:

1. To prepare medication for administration of medication by sterilized method

Equipments required:

1. Medication chart
2. Sterile syringe (1)
3. Sterile needle (1)
4. Second needle (optional)
5. Spirit swab
6. Ampoule of medication prescribed
7. Ampoule cutter if available (1)
8. Kidney tray (1)
9. Steel Tray (1)
10. Container for discards if possible (1)

NOTE:

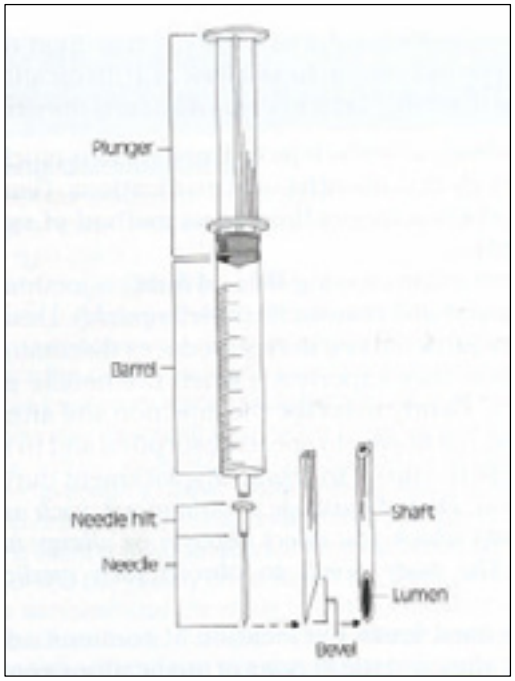


Fig. 80 Syringe and Needle

Procedure:

Care Action	Rationale
1.Gather equipments. Check the medication order against the original Dr.'s order according to hospital/ agency policy.	•This comparison helps to identify that may have occurred when orders were transcribed.
2.Perform hand hygiene	•To prevent the spread of infection
3.Tap the stem of ampoule or twist your wrist quickly while holding the ampoule vertically. (Fig. 83 A, B)	•This facilitates movement of medication in the stem to the body of the ampoule.
4. Wipe the neck around of the ampoule by spirit swab	• To prevent entering of dust and microorganisms
5.After drying spirit, put and round a ampoule cutter to the neck of the ampoule roundly.	• To cut smoothly and avoid making any shattered glass fragments
6. Put spirit swab to the neck of the ampoule. Use a snapping motion to break off the top of the ampoule along the pre-scored line at its neck. Always break away from your body.	• This protects the nurses' face and finger from any shattered glass fragments.
7. 1) Remove the cap from the needle by pulling it straight off. 2) Hold the ampoule by your non-dominant hand (usually left hand) and insert the needle into the ampoule, being careful not to touch the rim.	• The rim of the ampoule is considered contaminated .use of a needle prevents the accidental withdrawing of small glass particles with the medication.



Fig. 81 Cut-point on the ampoule



Fig. 82cut the ampoule with holding cut-point up





Fig. 83 How to drop medication from the stem

A: Tapping the stem of an ample B: Twisting your wrist holding it vertically



Fig. 84 Inserting the tip of needle



Fig. 85 Withdrawing medication from an ampoule

Care Action	Rationale
8. Withdraw medication in the amount ordered plus a small amount more (- 30 %). Do not inject air into solutions. 1) Insert the tip of the needle into the ampoule. (Fig. 84) 2) Withdraw fluid into the syringe Touch the plunger at the knob only. (Fig. 85)	• By withdrawing a small amount more of medication, any air bubbles in the syringe can be displaced once the syringe is removed. • Handling the plunger at the knob only will keep the shaft of the plunger sterile.
9. 1) Do not expel any air bubbles that may form in the solution. 2) Wait until the needle has been withdrawn to tap the syringe and expel the air carefully. 3) Check the amount of medication in the syringe and discard any surplus.	• Ejecting air into the solution increases pressure in the ampoule and can force the medication to spill out over the ampoule. Ampoules may have overfill. • Careful measurement ensures that the correct dose is withdrawn.
10.Discard the ampoule in a kidney tray or a suitable container after comparing with the medication chart.	• If not all of the medication has been removed from the ampoule, it must be discarded because there is no way to maintain the sterility of the contents in an unopened ampoule.
11.Recap to the syringe by sterilized method and keep the syringe in safe and clean tray. If the medication is to be given IM or if agency policy requires the use of a needle to administer medication, attach the selected needle to the syringe.	• Used needle might be touched with the inside of the ampoule so the lumen might become dull. If you give IM, needle should be changed to new one to insert smoothly into muscle.
12. Perform hand hygiene.	• To prevent the spread of infection

Removing medications from a vial

Definition:

To remove medication form a vial defines that you prepare medication from an ampoule for IV, IM or another administration of medication.

Purpose:

1. To prepare medication for administration of medication by sterilized method

Equipments required:

1. Medication chart
2. Sterile syringe (1)
3. Sterile needle (1)
   ✻Size depends on medication being administration and client
4. Vial of medication prescribed
5. Spirit swabs
6. Second needle (optional)
   ✻Size depends on medication being administration and client
7. Kidney Tray (1)
8. Steel Tray (1)

Procedure:

Care Action	Rationale
1.Gather equipments. Check medication order against the original Dr.'s order according to agency policy.	• This comparison helps to identify errors that may have occurred when orders were transcribed.
2. Perform hand hygiene.	• To prevent the spread of infection
3. Remove the metal or plastic cap on the vial that protects the rubber stopper.	• The metal or plastic cap prevents contamination of the rubber top.
4. Swab the rubber top with the spirit swab.	• Sprit removes surface bacteria contamination. This should be done the first the rubber stopper is entered, and with any subsequent re-entries into the vial.
5. Remove the cap from the needle by pulling it straight off.. Draw back an amount of air into the syringe that is equal to the specific dose of medication to be withdrawn.	• Before fluid is removed, injection of an equal amount of air is required to prevent the formation of a partial vacuum because a vial is a sealed container. If not enough air is injected, the negative pressure makes it difficult to withdraw the medication .
6. Pierce the rubber stopper in the center with the needle tip and inject the measured air into the space above the solution. The vial may be positioned upright on a flat surface or inverted.	• Air bubbled through the solution could result in withdrawal of an inaccurate amount of medication.
7. Invert the vial and withdraw the needle tip slightly so that it is below the fluid level. (Fig. 86)	• This prevents air from being aspirated into the syringe.
8. Draw up the prescribed amount of medication while holding the syringe at eye level and vertically. ❖Nursing Alert❖ Be careful to touch the plunger at the knob only.	• Holding the syringe at eye level facilitates accurate reading ,and vertical position makes removal of air bubbles from the syringe easy. • Handling the plunger at the knob only will keep the shaft of the plunger sterile.



Fig. 86 A: Holding a vial with the syringe without touching needle and connected site



Fig. B: Withdrawing medication from a vial in inverting position

Care Action	Rationale
9. Removal of air: 1) If any bubbles accumulate in the syringe , tap the barrel of the syringe sharply and move the needle past the fluid into the air space to re-inject the air bubble into the vial. 2) Return the needle tip to the solution and continue withdrawing the medication.	• Removal of air bubbles is necessary to ensure that the dose of medication is accurate.
10. After the correct dose is withdrawn, remove the needle from the vial and carefully replace the cap over the needle. ❖Nursing Alert❖ Some agencies recommended changing needles, if needed to administer the medication, before administering the medication.	• This prevents contamination of he needle and protects the nurse against accidental needle sticks. • This method can decrease possibility of contamination by the first needle and maintain sharp of the tip on needle
11. If a multidose vial is being used, label the vial with the date and time opened, and store the vial containing the remaining medication according to agency policy.	• Because the vial is sealed, the medication inside remains sterile and can be used for future injections.
12. Perform hand hygiene.	• To prevent the spread of infection

Prevention of the Needle-Stick Injuries:

One-handed Needle Recapping Technique

Definition:

One-handed needle recapping is a method that place the cap to needle on clean and safe place such as inside a big tray

Purpose: To prevent own finger or another person by needle from sticking accidentally

Procedure:

Action	Rationale
1. Until giving injection: 1) Before giving the injection, place the needle cover on a solid, immovable object such as the rim of a bedside table or big tray. 2) The open end of the cap should face the nurse and be within reach of the nurse's dominant, or injection hand. 3) Give the injection.	• Plan safe handling and disposal if needles before beginning the procedure.
2. Recapping: (Fig. 87) 1) Place the tip of the needle at the entrance of the cap. 2) Gently slide the needle into the needle cover.	• This method can allow time
3. Once the needle is inside the cover, use the object's resistance to completely cover the needle.	• Confirm that the needle is covered by the cap.
4. Dispose of the needle at the first opportunity.	• This can reduce the risk of needle-sticking
5. Perform hand hygiene.	• To prevent the spread of infection

❖NURSING ALERT❖

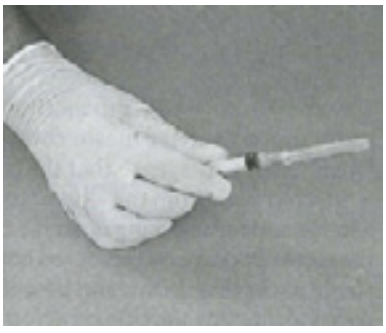
This procedure should be used only when a sharpes disposal box is unavailable and the nurse cannot leave the client's room.



Fig.87 A. Preparing to slide needle into the cap



B. Lifting cap onto needle



C. Covering needle with cap

Giving an Intra-Muscular Injection

Definition:

Intra-muscular injection is the injection of medicine into muscle tissue. To produce quick action an patient as the medicine given by injection is rapidly absorbed. Intramuscular injections are often given in the deltoid, vastus laterials, ventrogluteal and dorsogluteal muscles.

Purpose:

1.To relieve symptoms of illness
2. To promote and prevent from disease
3. To treat the disease accordingly

Contraindication:

IM injections may be contraindicated in clients with;

- Impaired coagulation mechanisms
- Occlusive peripheral vascular disease
- Edema
- Shock
- After thrombolytic therapy
- during myocardial infarction

(Rationale: These conditions impair peripheral absorption)

Equipments required:

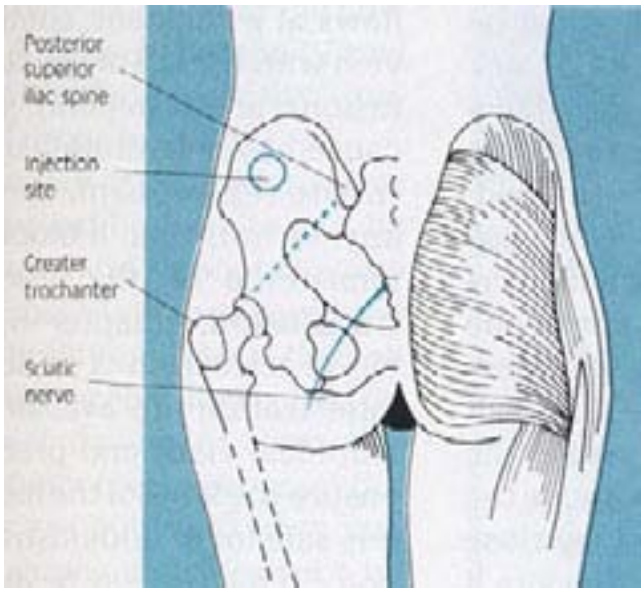
1. Client's chart and kardex
2. Prescribed medication
3. Sterile syringe (3-5 mL) (1)
4. Sterile needle in appropriate size: commonly used 21 to 23 G with 1.5"(3.8cm) needle (1)
5. Spirit swabs
6. Kidney tray (1)
7. Disposable container (1)
8. Ampoule cutter if available (1)
9. Steel Tray (1)
10. Disposable gloves if available (1)
11. Pen

❖Nursing Alert❖

- The needle may be packaged separately or already attached to the sterile syringe. Prepackaged loaded syringes usually have a needle that is 1" long. BUT! check the package with care before open it.
- The needles used for IM injections are longer than subcutaneous needles (Rationale: Needles must reach deep into the muscle.)
- Needle length also depends on the injection site, client's size, and amount of subcutaneous fat covering the muscle.
- The needle gauge for IM injections should be larger to accommodate viscous solutions and suspensions.

❖Nursing Alert❖

Selection of appropriate site for IM injection



(from Caroline Bunker Rosdabl,p.769)

Fig. 88 Dorsogluteal site
Inject above and outside a line drawn from the posterior superior iliac spine to the greater trochanter of the femur. Or, divide the buttock into quadrants and inject in the upper outer quadrant, about 2" to 3"(5 to 7.6 cm) below the iliac crest. Insert the needle at a 90- degree angle.

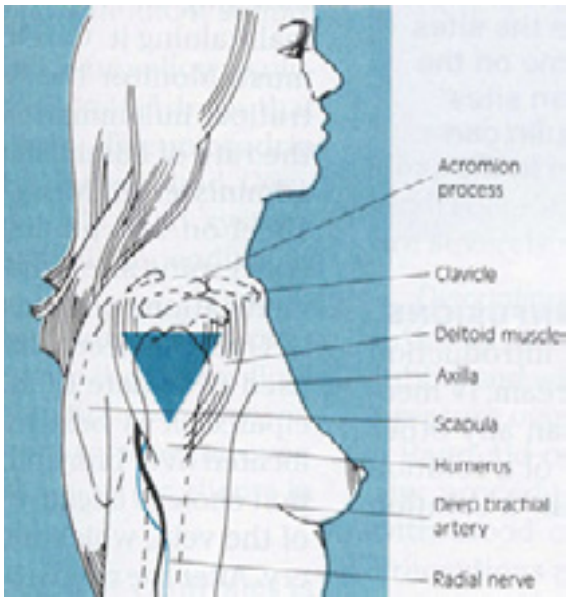


Fig. 89 Deltoid site
Find the lower edge of the acromial process and the point on the lateral arm in line with the axilla. Insert the needle 1" to 2" (2.5 cm to 5cm) below the acromial process, usually two or three fingerbreadths, at a 90-degree angle or angled slightly toward the process.

Procedure:

Care Action	Rationale
1. Assemble equipments and check the Dr.'s order	• This ensures that the client receives the right medication at the right time by the proper route.
2. Explain the procedure to the client	• Explanation fosters his/her cooperation and allays anxiety
3. Perform hand hygiene and put on gloves if available	• To prevent the spread of infection • Gloves act as a barrier and protect the nurse's hands from accidental exposure to blood during the injection procedure
4. Withdraw medications from an ampoule or a vial as described in the procedure "Removing medication from an ampoule" or " Removing medication from a vial" ❖Nursing Alert❖ Do not add any air to the syringe	• To prepare correct medication safely before using • Some references recommend adding air to the syringe with mediation. But the addition of air bubble to the syringe is unnecessary and potentially dangerous because it could result in an overdose of medication
5. Identify the client carefully using the following way: a. Check the name in the identification bracelet b. Ask the client his/her name c. Verify the client's identification with a staff member who knows the client	• You should not rely on the name on the door, on the board or over the bed. It is sometimes inaccurate. • This is the most reliable method if available • This requires an answer from the client. In the elderly and/or illness the method may causes confusion. • This is double-checked identify
6. Close the door and put a screen.	• To provide for privacy
7. 1) Assist the client to a comfortable position. 2)Select the appropriate injection site using anatomic landmarks 3) Locate the site of choice ❖Nursing Alert❖ Ensure that the area is not tender and is free of lumps or nodules	• Collect site identification decreases the risk of injury • God visualization is necessary to establish the correct location of the site and avoid damage to tissues • Nodules or lumps may indicate a previous injection site where absorption was inadequate
8. Cleanse the skin with a spirit swab: 1) Start from the injection site and move outward in a circular motion to a circumference of about 2" (5 cm) from the injection site 2) Allow the area to dry	• Cleansing the injection site prepares it for the injection • This method remove pathogen away from the injection site • Alcohol or spirit gives full play to disinfect after dried

Care Action	Rationale
3) Place a small, dry gauze or spirit swab on a clean, nearby surface or hold it between the fingers of your non-dominant hand.	• To prepare a dry gauze or spirit swab to give light pressure immediately after I.M.
9. Remove the needle cap by pulling it straight off	• This technique lessens the risk of accidental needle-stick and also prevents inadvertently unscrewing the needle from the barrel of the syringe
10. Spread the skin at the injection site using your non-dominant hand	• This makes the tissue taut and facilitates needle entry. You may minimize his/her discomfort
11. Hold the syringe in your dominant hand like a pencil or dart.	• This position keeps your fingers off the plunger, preventing accidental medication loss while inserting the needle
12. Insert the needle quickly into the tissue at a 90 degree angle	• A quick insertion is less painful • This angle ensures you will enter muscle tissue.
13. Release the skin and move your non-dominant hand to steady the syringe's lower end	• To prevent movement of the syringe
14. Aspiration blood: 1) Aspirate gently for blood return by pulling back on the plunger with your dominant hand 2) If blood enters the syringe on aspiration, withdraw the needle and prepare a new injection with a new sterile set-up.	 • A blood return indicates IV needle placement • Possibly a serious reaction may occur if a drug intended for intramuscular use is injected into a vein • Blood contaminates the medication, which must be redrawn
15. If no blood appears, inject the medication at a slow and steady rate(; 10 seconds/ mL of medication)	• Rapid injection may be painful for the client. Injecting slowly reduces discomfort be allowing time for the solution to disperse in the tissues
16. Remove the needle quickly at the same angle you inserted it	• Slow needle withdrawal may be uncomfortable for the client
17. Massage the site gently with a small, dry gauze or spirit swab, unless contraindicated for specific Medication. If there are contraindications to massage, apply gentle pressure at the site with a small, dry gauze or a spirit swab.	• Massaging the site promotes medication absorption and increases the client's comfort. • Do not massage a heparin site because of the medication's anticoagulant action • Light pressure causes less trauma and irritation the tissues. Massage can force medication into the subcutaneous tissues in some medications
18. Discard the needle: 1) Do not recap the needle 2) Discard uncapped needle and syringe in appropriate container if available	 • Most accidental needle-sticks occur while recapping needles • Proper disposal prevents injury
19. Assist the client to a position of comfort	• To facilitate comfort and make him/her relax
20. Remove your gloves and perform hand hygiene	• To prevent the spread of infection

Care Action	Rationale
21.Recording: Record the medication administered, dose, date, time, route of administration, and IM site on the appropriate form.	• Documentation provides coordination of care • Site rotation prevents injury to muscle tissue
22. Evaluation the client's response: 1) Check the client's response to the medication within an appropriate time 2) Assess the site within 2 to 4 hours after administration	• Drugs administered parenterally have a rapid onset • Assessment of the site deters any untoward effects

❖Nursing Alert❖

- No more than 5 mL should be injected into a single site for an adult with well-developed muscles
- If you must inject more than 5 mL of solution, divide the solution and inject it at two separate sites.
- The less developed muscles of children and elderly people limit the intramuscular injection to 1 to 2 mL
- Special considerations for pediatric:
  The gluteal muscles can be used as the injection site only after a toddler has been walking for about 1 year
- Special considerations for elder:
  IM injection medications can be absorbed more quickly than expected because elder clients have decreased muscle mass.

Starting an Intra-Venous Infusion

Definition:

Starting intra-venous infusion is a process that gives insertion of Intra-venous catheter for IV therapy

Purpose:

1. To give nutrient instead of oral route
2. To provide medication by vein continuously

Equipments required:

1. I.V. solution prescribed
2. I.V. infusion set/ IV. tubing (1)
3. IV. catheter or butterfly needle in appropriate size (1)
4. Spirit swabs
6. Adhesive tape
7. Disposable gloves if available (1)
8. IV. stand (1)
9. Arm board, if needed, especially for infant
10. Steel Tray (1)
11. Kidney tray (1)

NOTE:

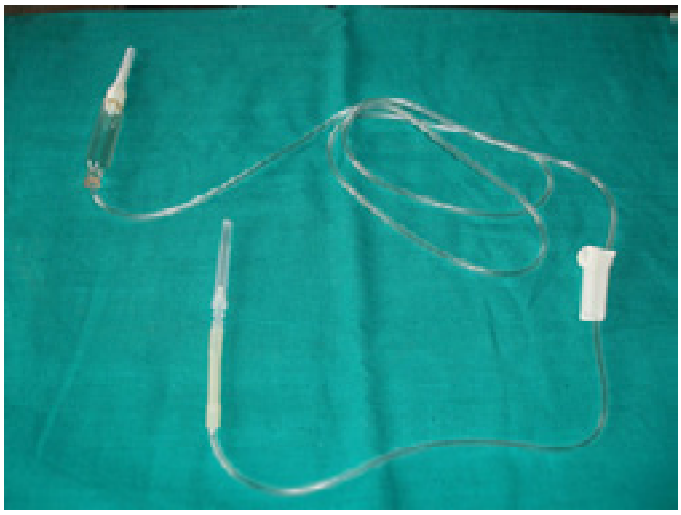


Fig.90 IV infusion set

Procedure:

Care Action	Rationale
1. Assemble all equipments and bring to bedside.	• Having equipment available saves time and facilitates accurate skill performance
2. Check I.V. solution and medication additives with Dr.'s order.	• Ensures that the client receives the correct I.V. solution and medication as ordered by Dr.
3. Explain procedure to the client	• Explanation allays his/her anxiety and fosters his/her cooperation
4. Perform hand hygiene	• To prevent the spread of infection
5. Prepare I.V. solution and tubing: 1) Maintain aseptic technique when opening sterile packages and I.V. solution	• This prevents spread of microorganisms
2) Clamp tubing, uncap spike, and insert into entry site on bag as manufacturer directs	• This punctures the seal in the I.V. bag.
3) Squeeze drip chamber and allow it to fill at least one-third to half way.	• Suction effects cause to move into drip chamber. Also prevents air from moving down the tubing
4) Remove cap at end of tubing, release clamp, allow fluid to move through tubing. Allow fluid to flow until all air bubbles have disappeared.	• This removes air from tubing that can, in larger amounts, act as an air embolus
5) Close clamp and recap end of tubing, maintaining sterility of set up.	• To maintain sterility
6) If an electric device is to be used, follow manufacturer's instructions for inserting tubing and setting infusion rate.	• This ensures correct flow rate and proper use of equipment
7) Apply label if medication was added to container	• This provides for administration of correct solution with prescribed medication or additive. • Pharmacy may have added medication and applied label
8) Place time-tape (or adhesive tape) on container as necessary and hang on I.V. stand	• This permits immediate evaluation of I.V. according to schedule
6. Preparation the position: 1) Have the client in supine position or comfortable position in bed. 2) Place protective pad under the client's arm.	• Mostly the supine position permits either arm to be used and allows for good body alignment
7. Selection the site for venipuncture: 1) Select an appropriate site and palpate accessible veins	• The selection of an appropriate site decreases discomfort for the client and possible damage to body tissues
2) Apply a tourniquet 5-6 inches above the venipuncture site to obstruct venous blood flow and distend the vein.	• Interrupting the blood flow to the heart causes the vein to distend. • Distended veins are easy to see
3) Direct the ends of the tourniquet away from the site of injection.	• The end of the tourniquet could contaminate the area of injection if directed toward the site of injection.

Care Action	Rationale
4) Check to be sure that the radial pulse is still present	• Too much tight the arm makes the client discomfort. • Interruption of the arterial flow impedes venous filling.
8.Palpation the vein 1) Ask the client to open and close his/her fist.	• Contraction of the muscle of the forearm forces blood into the veins, thereby distending them further.
2) Observe and palpate for a suitable vein	• To reduce several puncturing
3) If a vein cannot be felt and seen, do the following: a. Release the tourniquet and have the client lower his/her arm below the level of the heart to fill the veins. Reapply tourniquet and gently over the intended vein to help distend it b. Tap the vein gently c. Remove tourniquet and place warmed-moist compress over the intended vein for 10-15 minutes.	• Lowering the arm below the level of the heart, tapping the vein, and applying warmth help distend veins by filling them with blood.
9. Put on clean gloves if available.	• Care must be used when handling any blood or body fluids to prevent transmission of HIV and other blood-born infectious disease
10. Cleanse the entry site with an antiseptic solution(such as spirit) according to hospital policy. a. Use a circular motion to move from the center to outward for several inches b. Use several motions with same direction as from the upward to the downward around injection site approximate 5-6 inches	• Cleansing that begins at the site of entry and moves outward in a circular motion carries organisms away from the site of entry • Organisms on the skin can be introduced into the tissues or blood stream with the needle.
11. Holding the arm with un-dominant hand a. Place an un-dominant hand about 1 or 2 inches below entry site to hold the skin taut against the vein. b. Place an un-dominant hand to support the forearm from the back side ❖Nursing Alert❖ Avoid touching the prepared site.	• Pressure on the vein and surrounding tissues helps prevent movement of the vein as the needle or catheter is being inserted. • The needle entry site and catheter must remain free of contamination from un-sterile hands.
12.Puncturing the vein and withdrawing blood: 1) Enter the skin gently with the catheter held by the hub in the dominant hand, bevel side up, at a 15-30 degree angle.	• This technique allows needle or catheter to enter the vein with minimum trauma and deters passage of the needle through the vein
2) The catheter may be inserted from directly over the vein or the side of the vein.	

Care Action	Rationale
3) While following the course of the vein, advance the needle or catheter into the vein.	
4) A sensation can be felt when the needle enters the vein.	
5) When the blood returns through the lumen of the needle or the flashback chamber of the catheter, advance either device 1/8 to 1/4 inch farther into the vein.	• The tourniquet causes increased venous pressure resulting in automatic backflow.
6) A catheter needs to be advanced until hub is at the venipuncture site	• Having the catheter placed well into the vein helps to prevent dislodgement
13. Connecting to the tube and stabilizing the catheter on the skin: 1) Release the tourniquet.	
2) Quickly remove protective cap from the I.V. tubing	• The catheter which immediately is connected to the tube causes minimum bleeding and patency of the vein is maintained
3) Attach the tubing to the catheter or needle	
4) Stabilize the catheter or needle with non-dominant hand	
14.Starting flow 1) Release the clamp on the tubing	
2) Start flow of solution promptly	• Blood clots readily if I.V. flow is not maintained.
3) Examine the drip of solution and the issue around the entry site for sign of infiltration	• If catheter accidentally slips out of vein, solution will accumulate and infiltrate into surrounding tissue
15. Fasten the catheter and applying the dressing: 1) Secure the catheter with narrow non-allergenic tape	• Non-allergenic tape is less likely to tear fragile skin
2) Place strictly sided-up under the hub and crossed over the top of the hub	• The weight of tubing is enough to pull it out of the vein if it is not well anchored. • There are various way to anchor the hub. You should follow agency /hospital policy.
3) Loop the tubing near the site of entry	• To prevent the catheter from removing accidentally
16. Bring back all equipments and dispose in proper manner.	• To prepare for the next procedure.
17. Remove gloves and perform hand hygiene	• To prevent the spread of infection
18. If necessary, anchor arm to an arm board for support	• An arm board helps to prevent change in the position of the catheter in the vein. Site protectors also will be used to protect the I.V. site.
19.Adjust the rate of I.V. solution flow according to Dr.'s order	• Dr. prescribed the rate of flow or the amount of solution in day as required to the client's condition • Some medications are given very less amount. You may use infusion pump to maintain the flow rate

Care Action	Rationale
20. Document the procedure including the time, site , catheter size, and the client's response	• This ensures continuity of care
21. Return to check the flow rate and observe for infiltration	• To find any abnormalities immediately

❖Nursing Alert❖

You should have special consideration for the elderly and infant.

To Older adults

- Avoid vigorous friction at the insertion site and using too much alcohol.(Rationale: Both can traumatize fragile skin and veins in the elderly)

To Infant and Children

- Hand insertion sites should not be the first choice for children. (Rationale: Nerve endings are more very close to the surface of the skin and it is more painful)

Maintenance of I.V. System

Definition:

Maintenance of I.V. system is defined as routine care to keep well condition of I.V. therapy

Purpose:

1. To protect injection site from infection
2. To provide safe IV therapy
3. To make the client comfort with IV therapy
4. To distinguish any complications as soon as possible

Equipments required:

1. Steel Tray (1)
2. Spirit swab
3. Dry gauze or cotton
4. Adhesive tape
5. IV infusion set if required
6. Kardex, client's record
7. Kidney tray (1)

Maintenance of I.V. system: General caring for the client with an I.V.

Care Action	Rationale
1.Make at least hourly checks of the rate, tubing connections, and amount and type of solution present. If using an electronic infusion device(pump or controller), check that all settings are correct.	• Regular checking give proper amount
2. Watch for adverse reactions. One such problem is infiltration, in which the I.V. solution infuses into tissues instead of the vein. Check the insertion site for redness, swelling, or tenderness hourly. Document that you have checked the site.	• Keen observation prevent any complications with I.V.
3. Report any difficulty at once. The doctor may order the I.V. line to be discontinued or to be irrigated.	
4. Safeguard the site and be aware of tubing and pump during transfers, ambulation, or other activities.	• If a controllers is being used, remember this system works on the principle of gravity. • If the bag of solution is too low, blood will flow up the tubing and may cause complications.
5. Change the I.V. dressing every 72 hours and if it becomes wet or contaminated with drainage.	• Change of the dressing with wet or contamination of drainage prevents infection in the I.V. insertion site.
6. Wear gloves when changing dressings or tubing.	• Wear gloves prevents from infection. • The few times that nurses handle dressings, the lower the client's risk of infection.
7. Be sure to double-check all clamps when changing tubing, adding medications, or removing I.V. tubing (from a pump or controller).	• Double -check system prevents from medical error.
8. If the rate of flow is not regulated properly, it could result in the client receiving a bolus of mediation.	• The rate of flow regulated prevent the client from overdose.
9. Always check to make sure medications, solutions, or additives are compatible before adding them to existing solutions.	• Checking before adding avoid having incompatibility.
10. Protect the I.V. site from getting wet or soiled.	• Protection of the I.V. site reduces the possibility of infection.
11. If the client will be away from the nursing unit for tests or procedures, be sure there is adequate solution to be infused while he/she is gone.	• It will avoid having shortage of IV. or making coagulation while having tests or procedures.

Maintenance of I.V. system: Changing of I.V. system

Care Action	Rationale
1. Check I.V. solution.	• Ensure that correct solution will be used.
2.Determine the compatibility of all I.V. fluids and additives by consulting appropriate literature.	• Incompatibilities may lead to precipitate formation and can cause physical, chemical, and therapeutic client changes.
3.Determine client's understanding of need for continued I.V. therapy.	• Reveals need for client instruction.
4. Assess patency of current I.V. access site.	• If patency is occluded, a new I.V. access site may be needed. Notify a doctor.
5. Have next solution prepared and accessible(at least 1 hour) before needed. Check that solution is correct and properly labeled. Check solution expiration date and for presence of precipitate and discoloration.	• Adequate planning reduces risk of clot formation in vein caused by empty I.V. bag. • Checking prevents medication error.
6. Prepare to change solution when less than 50 ml of fluid remains in bottle or bag or when a new type of solution is ordered.	• Preparation ahead of time prevents air from entering tubing and vein from clotting from lack of flow.
7.Prepare client and family be explaining the procedure, its purpose, and what is expected of client.	• Appropriate explanation decreases his/her anxiety and promote cooperation.
8. Be sure drip chamber is at least half full.	• Half full in Chamber provides fluids to vein while bags is changed.
9 Perform hand hygiene.	• Hand hygiene reduces transmission of microorganisms.
10.Prepare new solution for changing. If using plastic bag, remove protective cover from I.V. tubing port . If using glass bottle, remove metal cap.	• It permits quick, smooth and organized change from old to new solution.
11. Move roller clam to stop flow rate.	• It Prevents solution removing in drip chamber from emptying while changing solutions.
12. Remove old I.V. fluid container from I.V. stand.	• Brings work to nurse's eye level.
13. Quickly remove spike from old solution bag or bottle and, without touching tip, insert spike into new bag or bottle.	• Reduces risk of solution in drip chamber running dry and maintains sterility.
14. Hang new bag or bottle of solution on I.V. stand.	• Gravity assists delivery of fluid into drip chamber.
15. Check for air in tubing. If bubbles form, they can be removed by closing the roller clamp, stretching the tubing downward, and tapping the tubing with the finger.	• Reduces risk of air embolus.
16. Make sure drip chamber is one-third to one-half full. If the drip chamber is too full, pinch off tubing below the drip chamber, invert the container, squeeze the drip chamber, hang , hang up the bottle, replace the tubing.	• Reduces risk of air entering tubing.

Care Action	Rationale
17. Regulate flow to prescribed rate.	• Deliver I.V. fluid as ordered.
18.Place on bag.(Mark time on label tape or on glass bottle).	• Ink from markers may leach through polyvinyl chloride containers.
19. Observe client for signs of overhydration or dehydration to determine response to I.V. fluid therapy.	• Provides ongoing evaluation of client's fluid and electrolyte status.
20. Observe I.V. system for patency and development of complications.	• Provides ongoing evaluation of I.V. system.

Administering Medications by Heparin Lock

Definition:

A heparin lock is an IV catheter that is inserted into a vein and left in place either for intermittent administration of medication or as open line in the case of an emergency.
Administering medications by heparin lock is defined as one of IV therapy which can allow to be freedom clients while he/she has not received IV therapy.

Purpose:

1. To provide intermittent administration of medication
2. To administer medication under the urgent condition

Equipments required:

1. Client's chart and Kardex
2. Prescribed medication
3. Spirit swabs
4. Disposable gloves if available (1)
5. Kidney tray (1)
6. Steel Tray (1)

For flush

7. Saline vial or saline in the syringe (1)
8. Heparin flush solution (1)
9. Syringe (3-5 mL) with 21-25 gauge needle (1)

For Intermittent infusion

10. IV bag or bottle with 50-100 mL solution (1)
11. IV tubing set (1)
12. IV stand (1)
13. 21-23 gauge needle (1)
14. Adhesive tape

❖Nursing Alert❖

- A heparin lock has an adapter which is attached to the hub(end)of the catheter.
- An anticoagulant, approximately 2 mL heparin, is injected into the heparin lock.
- To reduce the possibility of clotting , flush the heparin lock with 2-3 mL of saline 8 hourly (or once a every duty); Saline lock.
- Choose heparin lock or saline lock to decrease the possibility of making coagulation according to your facility's policy or Dr.'s order.

Procedure:

Care Action	Rationale
1. Perform hand hygiene	• To prevent the spread of infection
2. Assemble all equipments	• Organization facilities accurate skill performance
3. Verify the medication order	• To reduce the chances of medication errors
4. Check the medication 's expiration date	• Outdated medication may be ineffective
For Bolus Injection 5. Prepare the medication. If necessary, withdraw from an ampoule or a vial	• Preparing the medication before entering the client's room facilitates administration
6. Explain the procedure to the client	• Providing information fosters his/her cooperation
7. Identify the client before giving the medication	• Abiding by the "Five rights" prevents medication errors
8. Put on gloves	• Gloves act as a barrier
9. Cleanse the heparin lock port with a spirit swab	• Spirit swab removes surface contaminants and decreases the potential for introducing pathogens into the system
10. 1) Steady the heparin lock with your dominant hand 2) Insert the needle of the syringe containing 1 mL of saline into the center of the port 3) Aspirate for blood return 4) Inject the saline 5) Remove the needle and discard the syringe in the sharps container without recapping it	• Blood return on aspiration generally indicates that the catheter is positioned in the vein. • Saline clears the tubing of any heparin flush or previous medication • Most accidental needle-sticks occur during recapping. Proper disposal prevents injury
11. 1) Cleanse the port again with a spirit swab 2) Insert the needle of the syringe containing the medication 3) Inject the medication slowly 4) Withdraw the syringe and dispose of it properly	• Rapid injection of medication can lead to speed shock
12. 1) Cleanse the port with a spirit swab 2) Flush the lock with 1 mL heparin flush solution according your hospital/agency policy.	• To remove contaminants and prevents infection via the port • Flush clears the lock of medication and keeps it open • Some agencies recommend only a saline flush to clear the lock
For Intermittent Infusion 5. 1) Use premixed solution in the bag 2)Connect the tubing and add the needle or needless component 3) Prepare the tubing with solution	• Preparing the medication before you enter the client's room facilitates administration
6. Follow the former action 6.-10.	

Care Action	Rationale
11. 1) Cleanse the port again with a spirit swab 2) Insert the needle or needleless component attached to the IV setup into the port 3) Attach it to the IV infusion pump or calculate the flow rate 4) Regulate drip according to the prescribed delivery time 5) Clamp the tubing and withdraw the needle when all solution has been infused 6) Discard the equipments used safely according to hospital/ agency's policy	
12. 1) Cleanse the port with a spirit swab 2) Flush the lock with 1 mL heparin flush solution according your hospital/agency policy.	• To remove contaminants and prevents infection via the port • Flush clears the lock of medication and keeps it open • Some agencies recommend only a saline flush to clear the lock
13. Remove gloves and perform hand hygiene	• To prevent the spread of infection
14. Record: 1) Record the IV medication administration on the appropriate form 2)Record the fluid volume on the client's balance sheet	• Documentation provides coordination of care
15. Check the client's response to the medication within the appropriate time	• Drugs administered parenterally have rapid onsets of action

Performing Nebulizer Therapy

Definition:

Nebulizer Therapy is to liquefy and remove retained secretions from the respiratory tract. A nebulizer is a device that a stable aerosol of fluid and /or drug particles.

Most aerosol medication have bronchodilating effects and are administered by respiratory therapy personnel.

Purpose:

1. To relieve respiratory insufficiency due to bronchospasm
2. To correct the underlying respiratory disorders responsible for bronchospasm
3. To liquefy and remove retained thick secretion form the lower respiratory tract
4. To reduce inflammatory and allergic responses the upper respiratory tract
5. To correct humidify deficit resulting from inspired air by passing the airway during the use of mechanical ventilation in critically and post surgical patients

Types of nebulizer:

1. Inhaler or meterd-dose nebulizer
2. Jet nebulizer
3. Ultrasonic nebulizer

❖Nursing Alert❖

- Teach the client how to use personnel device. (Rationale: To ensure appropriate self-care after discharge)
- Avoid treatment immediately before and after meals.(Rationale: To decrease the chance of vomiting or appetite suppression, especially with medication that cause the client to cough or expectorate or those that are done in conjunction with percussion/ bronchial drainage)

a. Inhaler

Equipments required:

1. Dr.'s order card, client's chart and kardex
2. Inhaler (1)
3. Tissue paper
4. Water, lip cream as required

Procedure:

Care Action	Rationale
1. Perform hand hygiene	• To prevent the spread of infection
2. Prepare the medication following the Five rights of medication administration: ①Right drug ②Right dose ③Right route ④Right time ⑤Right client	• Strictly observe safety precautions to decrease the possibility of a medication error
3. Explain to the client what you are going to do.	• Providing explanation fosters his/her cooperation and allays anxiety
4. Assist the client to make comfortable position in sitting or semi-Fowler position.	• Upright position can help expanding the chest
5. Shake the inhaler well immediately prior to use	• Shaking aerosolizes the fine particles
6. Spray once into the air.	• To fill the mouthpiece
7. Instruction to the client: 1) Instruct the client to take a deep breath and exhale completely through the nose	• The procedure is designed to allow the medication to come into contact with the lungs for the maximum amount of time
2) The client should grip the mouthpiece with the lips, push down on the bottle, and inhale as slowly and deeply as possible through the mouth.	
3) Instruct the client to hold his/her breath for adult 10 seconds and then to slowly exhale with pursed lips	
4) Repeat the above steps for each ordered " puffs", waiting 5-10 seconds or as prescribed between puffs.	• This method achieve maximum benefits
5) Instruct the client to gargle and wipe the face if needed.	• Gargling cleanse the mouth. When steroid remains inside the mouth, infection of fungus may occur.
8. Replace equipments used properly and discard dirt.	• To prepare for the next procedure prevent the spread of infection and
9. Perform hand hygiene.	• To prevent the spread of infection
10.Document the date, time, amount of puffs, and response. Sign on the documentation	• Documentation provides continuity of care • Giving signature maintains professional accountability
11. Report any findings to a senior staff.	• To provide continuity of care

b. Ultrasonic Nebulizer

Equipments required:

1. Dr.'s order card, client's chart and kardex
2. Ultrasonic nebulizer (1)
3. Circulating set-up (1)
4. Sterile water
5. Mouthpiece or oxygen mask (1)
6. Prescribed medication
7. Sputum mug if available (1)
8. Tissue paper
9. Water, lip cream as required

Procedure:

Care Action	Rationale
1. Check the medication order against the original Dr's order	• To ensure that you give the correct medication to the correct client.
2. Perform hand hygiene	• To prevent the spread of infection
3. Prepare the medication following the Five rights of medication administration: ①Right drug ②Right dose ③Right route ④Right time ⑤Right client	• Strictly observe safety precautions to decrease the possibility of a medication error
4. Explain to the client what you are going to do	• Providing explanation fosters his/her cooperation and allays anxiety.
5. Assist to the client to a make comfortable position in sitting or semi-Fowler position.	• Upright position can help expanding the chest
6. Setting the nebulizer: 1) Plug the cord into an electrical outlet 2) Fill the nebulizer cup with the ordered amount of medication 3) Turn on the nebulizer at the prescribed time	• To ensure that you give the correct amount of medication
7. Instructing the client during nebulization: 1) Instruct the client to close the lips around the mouthpiece and to breathe through the mouth	• If the client is using a mask, he/she may breathe normally
2) Instructing the client to continue the treatment until he/she can no longer see a mist on exhalation from the opposite end of the mouthpiece or vent holes in the mask	• To ensure that the client inhales the entire dose
❖Nursing Alert❖ Discontinue when the client feel ill and you find side effects. You should take vital signs, check respiration sound and report to the Dr.	• Side effect includes nausea, vomiting, palpitation, difficult breathing, cyanosis and cold sweat.

Care Action	Rationale
3) Encourage the client to partially cough and expectorate any secretions loosed during the treatment	
8. After nebulization finished, 1) Turn off the nebulizer and take off the cord from the electrical outlet.	
2) Instruct the client to gargle and wipe the face if needed. Apply lip cream if needed.	• Gargling cleanse the mouth. When steroid remains inside the mouth, infection of fungus may occur. • Applying lip cream provide moisten on lips.
3) Soak the nebulizer cup and mouthpiece or oxygen mask in warm salvon water for an hour. Disinfect the nebulizer by spirit swab.	• To avoid contamination
4) Rinse and dry it after each use	• To prepare for the next procedure
5) Replace equipments used properly and discard dirt.	• To prepare for the next procedure and prevent the spread of infection
9. Perform hand hygiene.	• To prevent the spread of infection
10.Document the date, time, type and dose of medication, and response. Sign on the documentation	• Documentation provides continuity of care • Giving signature maintains professional accountability
11. Report any findings to a senior staff.	• To provide continuity of care

III. Specimen Collection

❖Nursing Alert❖

Collecting Specimen

You always should follow the principle steps as the following:

- Label specimen tubes or bottles with the client's name, age, sex, date, time, inpatient no. and other data if needed before collecting the specimen.
- Always perform hand hygiene before and after collecting any specimen.
- Always observe body substance precautions when collecting specimens
- Collect the sample according your hospital/agent policy and procedure.
- Clean the area involved for sample collection
- Maintain the sterile technique if needed for sample or culture.
- Transport the specimen to laboratory immediately
- Be sure specimen is accompanied by specimen form or appropriate order form
- Record the collection and forwarding of the sample to laboratory on the client's record

Collecting Blood Specimen

a. Performing Venipuncture

Definition :

Venipuncture is using a needle to withdraw blood from a vein, often from the inside surface of the forearm near the elbow.

Purpose:

1. To examine the condition of client and assess the present treatment
2. To diagnose disease

Equipments required:

1. Laboratory form
2. Sterilized syringe
3. Sterilized needles
4. Tourniquet (1)
5. Blood collection tubes or specimen vials as ordered
6. Spirit swabs
7. Dry gauze
8. Disposable Gloves if available (1)
9. Adhesive tape or bandages
10. Sharps Disposal Container (1)
11. Steel Tray (1)
12. Ball point pen (1)

Procedure:

Care Action	Rationale
1. Identify the patient. Outpatient are called into the phlebotomy area and asked their name and date of birth. Inpatient are identified by asking their name and date of birth.	• This information must match the requisition.
2. Reassure the client that the minimum amount of blood required for testing will be drawn.	• To perform once properly without any unnecessary venipuncture
3.Assemble the necessary equipment appropriate to the client's physical characteristics.	• Organization facilitates accurate skill performance
4.Explain to the client about the purpose and the procedure.	• Providing explanation fosters his/her cooperation and allays anxiety
5.Perform hand hygiene and put on gloves if available.	• To prevent the infection of spreading.
6. Positioning 1) Make the client to be seated comfortably or supine position 2) Assist the client with the arm extended to form a straight-line from shoulder to wrist. 3) Place a protective sheet under the arm.	• To make the position safe and comfortable is helpful to success venipuncture at one try. • To prevent the spread of blood
7. Check the client's requisition form, blood collection tubes or vials and make the syringe-needle ready.	• To assure the Dr's order with the correct client and to make the procedure smoothed
8. Select the appropriate vein for venipuncture.	• The larger median cubital, basilica and cephalic veins are most frequently used, but other may be necessary and will become more prominent if the client closes his/her fist tightly.
9. Applying the tourniquet: 1) Apply the tourniquet 3-4 inches(8 - 10 cm)above the collection site. Never leave the tourniquet on for over 1 minute. 2) If a tourniquet is used for preliminary vein selection, release it and reapply after two minutes.	• To prevent the venipunctue site from touching the tourniquet and keep clear vision • Tightening of more than 1 minute may bring erroneous results due to the change of some blood composition.
10. Selection of the vein: 1) Feel the vein using the tip of the finger and detect the direction, depth and size of vein. 2) Massage the arm from wrist to elbow. If the vein is not prominent, try the other arm.	• To assure venipuncture at one try.
11. Disinfect the selected site: 1) Clean the puncture site by making a smooth circular pass over the site with the spirit swab, moving in an outward spiral from the zone of penetration. 2) Allow the skin to dry before proceeding. 3) Do not touch the puncture site after cleaning.	• To prevent the infection from venipuncture site • Disinfectant has the effect on drying • To prevent the site from contaminating

Care Action	Rationale
4) After blood is drawn the desired amount, release the tourniquet and ask the client to open his/her fist. 5) Place a dry gauze over the puncture site and remove the needle. 6) Immediately apply slight pressure. Ask the client to apply pressure for at least 2 minutes. 7) When bleeding stops, apply a fresh bandage or gauze with tape.	• To avoid making ecchymoma • The normal coagulation time is 2-5 minutes.
12. 1) Transfer blood drawn into appropriate blood specimen bottles or tubes as soon as possible using a needless syringe . 2)The container or tube containing an additive should be gently inverted 5-8 times or shaking the specimen container by making figure of 8.	• A delay could cause improper coagulation • Do not shake or mix vigorously.
13.Dispose of the syringe and needle as a unit into an appropriate sharps container.	• To prevent the spread of infection
14. Label all tubes or specimen bottles with client name, age, sex, inpatient no., date and time.	• To prevent the blood tubes or bottles from misdealing.
15.Send the blood specimen to the laboratory immediately along with the laboratory order form.	• To avoid misdealing and taking erroneous results
16. Replace equipments and disinfects materials if needed.	• To prepare for the next procedure and prevent the spread of infection and
17. Put off gloves and perform hand hygiene.	• To prevent the spread of infection

❖NURSING ALERT❖

❍Factors to consider in site selection:

- Extensive scarring or healed burn areas should be avoided.
- Specimens should not be obtained from the arm on the same side as a mastectomy.
- Avoid areas of hematoma.
- If an I.V. is in place, samples may be obtained below but NEVER above the I.V. site.
- Do not obtain specimens from an arm having a cannula, fistula, or vascular graft.
- Allow 10-15 minutes after a transfusion is completed before obtaining a blood sample.

❍ Safety

- Observe universal (standard) precaution safety precautions. Observe all applicable isolation procedures.
- Needle are never recapped, removed, broken or bent after phlebotomy procedure.
- Gloves are to be discarded in the appropriate container immediately after the procedure.
- Contaminated surfaces must be cleaned with freshly prepared 10 % bleach solution. All surfaces are cleaned daily with bleach.
- In the case of an accidental needle-stick, immediately wash the area with an antibacterial soap, express blood from the wound, and contact your supervisor.

❍ I f a blood sample is not available,

- Reposition the needle.
- Loosen the tourniquet
- Probing is not recommended.
- A patient should never be stuck more than twice unsuccessfully by a same staff. The supervisor or a senior staff should be called to assess the client.

b. Assisting in Obtaining Blood for Culture

Definition:

Collecting of blood specimen for culture is a sterile procedure to obtain blood specimen. Sterile techniques is used in whole of the procedure.

Purpose:

1.To identify s disease-causing organisms
2. To detect the right antibiotics to kill the particular microorganisms

Equipments required:

1. Laboratory form
2. Sterilized syringes (10 mL): (2-3)
3. Sterilized needles : (2-3)
4. Tourniquet (1)
5. Blood culture bottles or sterile tubes containing a sterile anticoagulant solution as required
6. Disinfectant : Povidon-iodine or spirit swabs
7. Dry gauze
8. Disposable gloves if available (1)
9. Adhesive tape or bandages
10. Sharps Disposal Container (1)
11. Steel Tray (1)
12. Ball point pen (1)

Procedure:

❖Nursing Alert❖

Your role is that of assistant. You are responsible to notify the proper client when the culture is to be done. Use the following actions in assisting with blood cultures:

Care Action	Rationale
1. Identify the patient.	• This information must match the requisition.
2. Reassure the client that the minimum amount of blood required for testing will be drawn.	• To perform once properly without any unnecessary collecting of blood
3.Assemble the necessary equipment appropriate to the client's physical characteristics.	• Organization facilitates accurate skill performance
4.Explain to the client about the purpose and the procedure.	• Providing explanation fosters his/her cooperation and allays anxiety
5. Label all tubes or specimen bottles with client name, age, sex, inpatient no., date and time.	• To prevent the blood tubes or bottles from misdealing.
6.Perform hand hygiene and put on gloves if available.	• To prevent the infection of spreading.
7. Protect the bed with a pad under the client's arm.	• To prevent the bed of escaping or wetting the disinfectant and blood.
8. Place the arm with proper position and disinfect around the injection site approximate 2-3 inches	• To prevent unnecessary injury and protect of entering organisms from the skin surfaces
9. While puncturing: 1) Assist the person who is drawing blood 2) Confirm the amount 3) After obtaining sufficient blood specimen, receive and place the specimen into the specimen container with strict sterile technique. 4) Close the container promptly and tightly	• Sometimes the blood may be placed into twe or more tubes or bottles. • To secure the sterilized condition of container
10. After puncturing: 1) Place a sterile gauze pad and folded into a compress tightly over the site 2) Secure firmly with tape 3) Check the stop of bleeding a few minutes later	• To make sure all bleeding has stopped
11.Dispose of the syringe and needle as a unit into an appropriate sharps container.	• To prevent the spread of infection
12.Send the specimen to the laboratory immediately along with the laboratory order form.	• To avoid misdealing and taking erroneous results
13. Replace equipments and disinfects materials if needed.	• To prepare for the next procedure and prevent the spread of infection and
14. Put off gloves and perform hand hygiene.	• To prevent the spread of infection
15. Document the procedure in the designated place and mark it off on the Kardex.	• To avoid duplication • Documentation provides coordination of care

Collecting Urine Specimen

Definition:

Urinalysis, in which the components of urine are identified, is part of every client assessment at the beginning and during an illness.

Purpose:

1. To diagnose illness
2. To monitor the disease process
3. To evaluate the efficacy of treatment

❖Nursing Alert❖

- Label specimen containers or bottles before the client voids.(Rationale: Reduce handling after the container or bottle is contaminated.)
- Note on the specimen label if the female client is menstruating at that time.(Rationale: One of the tests routinely performed is a test for blood in the urine. If the female client is menstruating at the time a urine specimen is taken, a false-positive reading for blood will be obtained.)
- To avoid contamination and necessity of collecting another specimen, soap and water cleansing of the genitals immediately preceding the collection of the specimen is supported.(Rationale: Bacteria are normally present on the labia or penis and the perineum and in the anal area.)
- Maintain body substances precautions when collecting all types of urine specimen.(Rationale: To maintain safety.)
- Wake a client in the morning to obtain a routine specimen.(Rationale: If all specimen are collected at the same time, the laboratory can establish a baseline. And also this voided specimen usually represents that was collecting in the bladder all night.)
- Be sure to document the procedure in the designated place and mark it off on the Kardex.(Rationale: To avoid duplication.)

a. Collecting a single voided specimen

Equipments required:

1. Laboratory form
2. Clean container with lid or cover (1): wide-mouthed container is recommended
3. Bedpan or urinal (1): as required
4. Disposable gloves (1): if available
5. Toilet paper as required

Procedure:

Care Action	Rationale
1. Explain the procedure	• Providing information fosters his/her cooperation
2. Assemble equipments and check the specimen form with client's name, date and content of urinalysis	• Organization facilitates accurate skill performance • Ensure that the specimen collecting is correct
3. Label the bottle or container with the date, client's name, department identification, and Dr's name.	• Ensure correct identification and avoid mistakes
4. Perform hand hygiene and put on gloves	• To prevent the spread of infection
5.Instruct the client to void in a clean receptacle.	• To prevent cross-contamination
6. Remove the specimen immediately after the client has voided	• Substances in urine decompose when exposed to air. Decomposition may alter the test results
7. Pour about 10-20 mL of urine into the labeled specimen bottle or container and cover the bottle or container	• Ensure the client voids enough amount of the urine for the required tests • Covering the bottle retards decomposition and it prevents added contamination.
8.Dispose of used equipment or clean them. Remove gloves and perform hand hygiene.	• To prevent the spread of infection
9. Send the specimen bottle or container to the laboratory immediately with the specimen form.	• Organisms grow quickly at room temperature
10.Document the procedure in the designated place and mark it off on the Kardex.	• To avoid duplication • Documentation provides coordination of care

b. Collecting a 24-hour Urine Specimen

Definition:

Collection of a 24-hour urine specimen is defined as the collection of all the urine voided in 24 hours, without any spillage of wastage.

Purpose:

1. To detect kidney and cardiac diseases or conditions
2. To measure total urine component

Equipments required:

1. Laboratory form
2. Bedpan or urinal (1)
3. 24 hours collection bottle with lid or cover (1)
4. Clean measuring jar (1)
5. Disposable gloves if available (1)
6. Paper issues if available
7. Ballpoint pen (1)

Procedure:

Care Action	Rationale
1. Explain the procedure	• Providing information fosters his/her cooperation
2. Assemble equipments and check the specimen form with client's name, date and content of urinalysis	• Organization facilitates accurate skill performance • Ensure that the specimen collecting is correct
3. Label the bottle or container with the date, client's name, department identification, and Dr's name.	• Ensure correct identification and avoid mistakes
4. Instruct the client: 1) Before beginning a 24 hour urine collection, ask the client to void completely. 2) Document the starting time of a-24 hour urine collection on the specimen form and nursing record. 3) Instruct the client to collect all the urine into a large container for the next 24 hours. 4) In the exact 24 hours later, ask the client to void And pour into the large container. 5) Measure total amount of urine and record it on the specimen form and nursing record. 6) Document the time when finished the collection	• To measure urinal component and assess the function of kidney and cardiac function accuracy The entire collected urine should be stored in a covered container in a cool place.
5. Sending the specimen: 1) Perform hand hygiene and put on gloves if available. 2) Mix the urine thoroughly	• To prevent the contamination

Care Action	Rationale
3) Collect some urine as required or all the urine in a clean bottle with lid. 4) Transfer it to the laboratory with the specimen form immediately.	• Ensure the client voids enough amount of the urine for the required tests • Covering the bottle retards decomposition and it prevents added contamination. • Substances in urine decompose when exposed to air. Decomposition may alter the test results
6.Dispose of used equipment or clean them. Remove gloves and perform hand hygiene.	• To prevent the spread of infection
7.Document the procedure in the designated place and mark it off on the Kardex.	• To avoid duplication • Documentation provides coordination of care

c. Collecting a urine specimen from a retention catheter

Equipments required:

1. Laboratory form
2. Disposable gloves if available (1)
3. Container with label as required
4. Spirit swabs or disinfectant swabs
5. 10-20-mL syringe with 21-25-gauge needle
6. Clamp or rubber band (1)
7. Ballpoint pen (1)

Purpose:

Care Action	Rationale
1. Assemble equipments. Label the container.	• Organization facilitates accurate skill performance
2. Explain the procedure to the client	• Providing information fosters his/her cooperation
3. Perform hand hygiene and put on gloves if available.	• To prevent the spread of infection
4. Clamp the tubing: 1) Clamp the drainage tubing or bend the tubing 2) Allow adequate time for urine collection ❖Nursing Alert❖ You should not clamp longer than 15minutes	• Collecting urine from the tubing guarantees a fresh urine. • Long-time clamp can lead back flow of urine and is able to cause urinary tract infection
5. Cleanse the aspiration port with a spirit swab or another disinfectant swab (e.g., Betadine swab)	• Disinfecting the port prevents organisms from entering the catheter.
6. Withdrawing the urine: 1) Insert the needle into the aspiration port 2) Withdraw sufficient amount of urine gently into the syringe	• This technique for uncontaminated urine specimen, preventing contamination of the client's bladder
7.Transfer the urine to the labeled specimen container ❖Nursing Alert❖ The container should be clean for a routine urinalysis and be sterile for a culture	• Careful labeling and transfer prevents contamination or confusion of the urine specimen • Appropriate container brings accurate results of urinalysis.
8.Unclamp the catheter	• The catheter must be unclamped to allow free urinary flow and to prevent urinary stasis.
9.Prepare and pour urine to the container for transport	• Proper packaging ensures that the specimen is not an infection risk
10. Dispose of used equipments and disinfect if needed. Remove gloves and perform hand hygiene	• To prevent the spread of infection
11.Send the container to the laboratory Immediately	• Organisms grow quickly at room temperature
12.Document the procedure in the designated place and mark it off on the Kardex.	• To avoid duplication • Documentation provides coordination of care

d. Collecting a urine culture

Definition:

Collecting a urine culture is a process that it obtain specimen urine with sterile technique

Purpose:

1. To collect uncontaminated urine specimen for culture and sensitivity test
2. To detect the microorganisms causes urinary tract infection (; UTI)
3. To diagnose and treat with specific antibiotic

Equipments required:

1. Laboratory form
2. Sterile gloves (1)
3. Sterile culture bottle with label as required
4. Sterile kidney tray or sterile container with wide mouthed if needed
5. Bed pan if needed (1)
6. Paper tissues if needed
7. Ballpoint pen (1)

Procedure:

Care Action	Rationale
1. Assemble equipments and check the specimen form with client's name, date and content of urinalysis	• Organization facilitates accurate skill performance • Ensure that the specimen collecting is correct
2. Label the bottle or container with the date, client's name, department identification, and Dr's name.	• Ensure correct identification and avoid mistakes
3. Explain the procedure to the client	• Providing information fosters his/her cooperation
4. Instruct the client: 1) Instruct the client to clean perineum with soap and water 2) Open sterilized container and leave the cover facing inside up 3) Instruct the client to void into sterile kidney tray or sterilized container with wide mouth 4) If the client is needed bed-rest and needs to pass urine more, put bed pan after you collected sufficient amount of sterile specimen	 • To prevent the contamination of specimen from perineum area • The cover should be kept the state sterilized • To secure the specimen kept in sterilized container surely
5. Remove the specimen immediately after the client has voided. Obtain 30-50 mL at midstream point of voiding	• Substances in urine decompose when exposed to air. Decomposition may alter the test results • Ensure the client voids enough amount of the urine for the required tests • Emphasize first and last portions of voiding to be discarded
7. Close the container securely without touching inside of cover or cap.	• Covering the bottle retards decomposition and it prevents added contamination.

Care Action	Rationale
8. Dispose of used equipment or clean them. Remove gloves and perform hand hygiene.	• To prevent the spread of infection
9. Send the specimen bottle or container to the laboratory immediately with the specimen form.	• Organisms grow quickly at room temperature
10.Document the procedure in the designated place and mark it off on the Kardex.	• To avoid duplication • Documentation provides coordination of care

Collecting a stool specimen

Definition:

Collection of stool specimen deters a process which is aimed at doing chemical bacteriological or parasitological analysis of fecal specimen

Purpose:

1. To identify specific pathogens
2. To determine presence of ova and parasites
3. To determine presence of blood and fat
4. To examine for stool characteristics such as color, consistency and odor

Equipments required:

1. Laboratory form
2. Disposable gloves if available (1)
3. Clean bedpan with cover (1)
4. Closed specimen container as ordered
5. Label as required
6. Wooden tongue depressor (1-2)
7. Kidney tray or plastic bag for dirt (1)

Procedure:

Care Action	Rationale
1. Assemble equipments. Label the container.	• Organization facilitates accurate skill performance • Careful labeling ensures accuracy of the report and alerts the laboratory personnel to the presence of a contaminated specimen
2. Explanation: 1) Explain the procedure to the client 2) Ask the client to tell you when he/she feels the urge to have a bowel movement	• Providing information fosters his/her cooperation • Most of clients cannot pass on command
3. Perform hand hygiene and put on gloves if available.	• To prevent the spread of infection
4. Placing bedpan: 1) Close door and put curtains/ a screen. 2) Give the bedpan when the client is ready. 3) Allow the client to pass feces 4) Instruct not to contaminate specimen with urine	• To provide privacy • You are most likely to obtain a usable specimen at this time. • To gain accurate results

Care Action	Rationale
5. Collecting a stool specimen: 1) Remove the bedpan and assist the client to clean if needed 2) Use the tongue depressor to transfer a portion of the feces to the container without any touching 3) Take a portion of feces from three different areas of the stool specimen 4) Cover the container	 • It is grossly contaminated • To gain accurate results • It prevents the spread of odor
6. Remove and discard gloves. Perform hand hygiene	• To prevent the spread of infection
7. Send the container immediately to the laboratory	• Stools should be examined when fresh. • Examinations for parasites, ova, and organisms must be made when the stool is warm.
8.Document the procedure in the designated place and mark it off on the Kardex.	• To avoid duplication • Documentation provides coordination of care

❖Nursing Alert❖

The procedure is exact same in routine test of stool and culture. **BUT!!** when you collect stool specimen you should caution on the next point;

- Collect stool specimen with clean wooden tongue depressor or spatula for routine stool test
- Collect stool specimen with sterile wooden tongue depressor or spatula for culture

Collecting a sputum specimen

a. Routine test

Definition:

Collecting a sputum specimen is defined as a one of diagnostic examination using sputum

Purpose:

1. To diagnose respiratory infection
2. To assess the efficacy of treatment to diseases such as TB

Equipments required:

1. Laboratory form
2. Disposable gloves if available (1)
3. Sterile covered sputum container (1)
4. Label as required
5. Sputum mug or cup (1)
6. Kidney tray or plastic bag for dirt (1)
7. Paper tissues as required
8. Ballpoint pen (1)

Procedure:

Care Action	Rationale
1. Assemble equipments. Label the container.	• Organization facilitates accurate skill performance • Careful labeling ensures accuracy of the report and alerts the laboratory personnel to the presence of a contaminated specimen
2. Explain the procedure to the client	• Providing information fosters his/her cooperation
3. Perform hand hygiene and put on gloves if available.	• To prevent the spread of infection. The sputum specimen is considered highly contaminated, so you should treat it with caution.
4. Collecting the specimen: 1) Instruct the client to cough up secretions from deep in the respiratory passage. 2) Have the client expectorate directly into the sterile container. 3) Instruct the client to wipe around mouth if needed. Discard it properly 4) Close the specimen immediately	 • A sputum specimen should be from the lungs and bronchi. It should be sputum rather than mucous • Avoid any chance of outside contamination to the specimen or any contamination of other objects • Paper tissues used by any client are considered contaminated • To prevent contamination
5. Remove and discard gloves. Perform hand hygiene	• To prevent contamination of other objects, including the label
6. Send specimen to the laboratory immediately.	To prevent the increase of organisms
7.Document the procedure in the designated place and mark it off on the Kardex.	• To avoid duplication • Documentation provides coordination of care

b. Collecting a sputum culture

Definition:

Collection of coughed out sputum for culture is a process to identify respiratory pathogens.

Purpose:

1. To detect abnormalities
2. To diagnose disease condition
3. To detect the microorganisms causes respiratory tract infections
4. To treat with specific antibiotics

Equipments required:

1. Laboratory form
2. Disposable gloves if available (1)
3. Sterile covered sputum container (1)
4. Label as required
5. Kidney tray or plastic bag for dirt (1)
6. Paper tissues as required
7. Ballpoint pen (1)

❖Nursing Alert❖

You should give proper and understandable explanation to the client

1. Give specimen container on the previous evening with instruction how to treat
2. Instruct to raise sputum from lungs by coughing, not to collect only saliva.
3. Instruct the client to collect the sputum in the morning
4. Instruct the client not to use any antiseptic mouth washes to rinse hid/her mouth before collecting specimen.

Procedure:

Care Action	Rationale
1. Assemble equipments. Label the container.	• Organization facilitates accurate skill performance • Careful labeling ensures accuracy of the report and alerts the laboratory personnel to the presence of a contaminated specimen
2.Explain the procedure to the client	• Providing information fosters his/her cooperation
3. Perform hand hygiene and put on gloves if available.	• To prevent the spread of infection. The sputum specimen is considered highly contaminated, so you should treat it with caution.
4. Instruct the client: 1) Instruct the client to collect specimen early morning before brushing teeth	• To obtain overnight accumulated secretions
2) Instruct the client to remove and place lid facing upward.	• To maintain the inside of lid as well as inside of container
3) Instruct the client to cough deeply and expectorate directly into specimen container	• A sputum specimen should be from the lungs and bronchi. It should be sputum rather than mucous
4) Instruct the client to expectorate until you collect at least 10 mL of sputum	• To obtain accurate results
5) Close the container immediately when sputum was collected	• To prevent contamination
6) Instruct the client to wipe around mouth if needed. Discard it properly	• Paper tissues used by any client are considered contaminated
5. Remove and discard gloves. Perform hand hygiene	• To prevent contamination of other objects, including the label
6. Send specimen to the laboratory immediately.	• To prevent the increase of organisms
7. Document the procedure in the designated place and mark it off on the Kardex.	• To avoid duplication • Documentation provides coordination of care

Appendix 1

Checklist for Taking Vital Signs

Student: ( )
Instructor: ( )
Evaluated on : ( )

Step	Satisfied	Unsatisfied: (Put comments)	Not Performed
General steps for taking vital signs: 1. Confirmed the client identification and assess the client condition, send him/her toilets if needed			
2. Explained the purpose and all procedures			
3. Performed hand washing			
4. Collected all equipments required			
5. Made him/her comfortable position			
6. Maintained his/her privacy by closing door or using screen			
Measuring temperature of axilla 1. Explained the procedure			
2. Loosen the cloth if needed			
3. Confirmed the client whether if the axilla is dry or not, if not, make dry by patting			
4. Cleaned a thermometer and confirm the level of thermometer placing under 35 degree			
5. Put the thermometer with 45 degree from anterioinferior to the client7s arm pit and hold the arm tightly across the chest for 3 minutes			
6. Took away and read at eye level ,and note it			
7. Cleaned the thermometer by spirit swab			
8. Assessed the data Normality Abnormality: hyerthermia hypothermia			
Counting radial pulse 1.Explained the procedure			
2. Supported the client with supine or sitting position			
3. Assisted the client's forearm across the lower chest in supine position. In sitting position, assist the client's forearm to bend with 90 degree on armrest of chair or on the nurse's arm.			

Step	Satisfied	Unsatisfied: (Put comments)	Not Performed
4. Palpated radial pulse by three fingertips			
5. Counted the rate for 1 minute			
6. Checked the rhythm, regularity, volume(or strength)			
7.Took notes			
8. Assessed the data and advised the client as needed.			
9.Reported any abnormalities			
Counting respirations 1. Explained the procedures			
2. Provided privacy			
3.Positioned the client to ensure view of chest movement			
4.Placed the client arm relaxed across the lower chest or abdomen			
5.Counted the rate completely for 1 minute			
6. Checked the cycle with rhythm and depth.			
7. Took notes			
8. Replaced the client's clothes if needed.			
9. Assesses the data and advised as needed			
10. Reported any abnormalities			
Measuring blood pressure: by two steps before measured: 1. Explained the procedures			
2. Assisted the supine or sitting position			
3. Removed constricting clothing from the upper arm selected			
4. Positioned the client's forearm at heart level with the palm turned up			
5. Palpated brachial artery by nondominant hand.			
6. Positioned the center of bladder of deflated cuff above brachial artery			
7.Wrapped cuff evenly around upper arm with two fingers loose			
8.Set up manometer properly			
Measured blood pressure in two steps: 1) Palpatory method 1)Identified approximate systolic pressure by palpating brachial pulse			

Step	Satisfied	Unsatisfied	Not Performed
9.2) Inflated 20-30 mmHg more than the point identified as systolic pressure to ensure 3) Deflated cuff evenly by open screw of bulb to fall mercury at rate of 2-3 mm Hg per second 4) Identified the scale of manometer where you palpated brachial pulse again 5) Deflated cuff completely 6) Removed cuff from the upper arm 7) Took 3 minutes interval before auscultation			
2) Auscultation 1) Checked stethoscope amplification of sound 2) Rechecked brachial pulse and placed the center part of bladder above it 3) Wrapped cuff evenly and snugly around the upper arm. Closed the screw clamp of bulb. 4) Applied diaphragm of stethoscope over brachial artery 5) Inflated cuff to 20-30 mmHg above that of palpated systolic pressure. 6) Allowed mercury to fall evenly at the rate of 2-3 mmHg per second 7) Noted the point on manometer when first sound clearly was listened 8) Deflated cuff continuously and noted the point at which sound disappeared 9) Continued deflation 10 -20 mmHg after the last sound listened 10) Released the pressure from cuff completely and rapidly. 11) Removed cuff from the upper arm 12) Took notes			
11. Assisted client to return comfortable position and arrange the clothing			
12. Informed the reading to the client and advised as needed			
13. Cleaned earpieces and diaphragm of stethoscope with spirit swab.			
14.Performed hand hygiene			
15. Reported any abnormal findings			

General Comments:

Well performance ( ) Just performed ( ) Poor performance ( )

- Students given poor performance need to receive the back evaluation.

Feedback from instructor

Appendix 2

Checklist for Bedmaking: un-occupied bed

Student: ( )
Instructor: ( )
Evaluated on : ( )

Step (by one nurse)	Satisfied	Unsatisfied: (Put comments)	Not Performed
1. Performed hand hygiene			
2. Assembled all equipments required and brought them to bedside			
3. Make enough space for bedmaking			
4. Cleaned bedside locker by wet and dry sponge cloth			
5. Clean the both side of mattress by wet and dry sponge cloth			
6. Started bedmaking from right side of bed: 1) **Apply a bottom sheet** and smoothed out it			
2) Made a mitered corner in top corner of bottom sheet and secondly in end corner of bottom sheet			
3) Tucked bottom sheet under mattress			
4) **Applied mackintosh and draw sheet** to bed correctly and tucked the edge under mattress tightly			
7.Move to left side of bed: 1) Spread bottom sheet smoothly over the bed			
2) Mitered corner in top corner and in end corner of bottom sheet			
3) Tucked bottom sheet under mattress			
4) Pulled mackintosh and draw sheet from the center of bed and tucked tightly under mattress			
8.Returned to right side again: 1) Applied top sheet to the end of bed in right side of bed			
2) Place blanket at the level of 1 feet below from the top edge of bed. Spread the blanket to the end of bed in right side of bed			
3) Made cuff out of top edge of sheet over blanket			
11.Mitered corner in end of bed and tucked in remained portion of top sheet with blanket tightly under mattress.			

Step (by one nurse)	Satisfied	Unsatisfied: (Put comments)	Not Performed
9. Moved to left side: 1) Pull the top sheet and smoothed it over to bed			
2) Smoothed blanket over to bed			
3) Made cuff out of top edge of sheet over blanket			
4) Mitered corner in end of bed and tucked the remained tightly under mattress			
10. Applied a clean pillowcace over pillow and placed it at the center of bed neatly			
11. Rearranged the place of bed and bedside locker if needed			
12. Return all equipments and disposal			
13. Perform hand hygiene			

General Comments:

Well performance ( ) Just performed ( ) Poor performance ( )

- Students given poor performance need to receive the back evaluation.

Feedback from instructor

Appendix 3

Checklist for Changing occupied bed

Student: ( )
Instructor: ( )
Evaluated on : ( )

Step (by one nurse)	Satisfied	Unsatisfied: (Put comments)	Not Performed
1. Confirmed client's identification and explain the procedures			
2.Performed hand hygiene			
3. Assembled all equipments required and brought them to bedside			
4. Closed door and/or put screen			
5.Removed personal belongings from bed-side and put them into bedside locker or safe place. Arranged enough space for bedmaking			
6.Cleaned bedside locker by wet and dry sponge cloth			
7. Loosened top lines from mattress			
8. Remove blanket by folding and covered the client's body by only top sheet			
9. Assisted the client to turn toward left side of the bed. Adjust ed the pillow.			
10. Started bedmeaking from right side: **1) Fanfolded (or rolled) soiled lines from the side of bed** and wedged them close to the client			
2) Clean the surface of mattress by wet and dry sponge cloth			
3) Placed bottom sheet evenly on the bed folded lengthwise with the center fold			
4) Adjusted bottom sheet and Mitered a corner in top corner of bottom sheet			
5) Tighten bottom sheet and mitered a corner in end corner of bottom sheet.			
6) Tucked in along side.			
7) Place the mackintosh and draw sheet correctly on the bottom sheet and tucked them under mattress			
11. Assisted client to roll over the folded linen to right side.			
12.Moved to left side: 1) Removed the soiled lines.			
2) Discarded the soiled linen correctly.			

Step (by one nurse)	Satisfied	Unsatisfied: (Put comments)	Not Performed
12. 3) Clean the surface of mattress by wet and dry sponge cloth			
4) Grasped clean linens and pull them out gently on the mattress			
5) **Tuck the bottom sheet tightly** in top corner of bed and mitered a corner.			
6) Tucked the bottom sheet tightly in end corner of bed and mitered a corner.			
7) **Tucked in along side**			
8) **Spread mackintosh and draw sheet over bottom sheet and tucked** them tightly under mattress.			
13. Assisted the client back too the center of bed. Adjust the pillow.			
14. Returned to right side: 1) **Placed clean top sheet** at the top side of the soiled top sheet			
2) Asked the client to hold the upper edge of clean top sheet			
3) Held both the top of the soiled sheet and the end of the clean sheet with right hand. Withdrew to downward.			
4) **Removed the soiled top sheet** and discarded into laundry bag or bucket.			
5) Placed blanket over top sheet correctly. **Made cuff** out of top edge of sheet			
6) **Tucked the lower ends** securely under mattress. **Mitered corners.**			
15. Repeated procedure 14. in left side.			
16. Removed the pillow and replace the pillow cover with clean one. Repositioned the pillow under client's head.			
17. Replaced persona belongings back. **Returned the bed-side locker and bed** as usual			
18. Return all equipments to proper places			
20. Discarded soiled linens appropriately.			
20. Perform hand hygiene.			

General Comments:

Well performance ( ) Just performed ( ) Poor performance ( )

- Students given poor performance need to receive the back evaluation.

Feedback from instructor

Appendix 4

Checklist for making post-operative bed

Student's name: ( )
Instructor: ( )
Evaluated on : ( )

Step	Satisfied	Not Satisfied	Not done	Remarks
1. Performed hand hygiene				
2. Assembled all equipments and brought bed-side.				
3. **Made foundation bed with a large mackintosh and draw sheet**				
4. **Placed top bedding** as for closed bed **without tucked at foot**				
5. **Folded back top bedding at the foot of bed**				
6. **Tucked the top bedding on one side** only.				
7. On the other side, **did not tuck the top bedding:** 1) Brought head and foot corners of them at the center of bed and formed right angles				
2) Folded back suspending portion and rolled to opposite 1/3 side of bed.				
8. **Removed pillow** and placed in opposite side from entering client (or in foot side)				
9. Placed a kidney tray on bed-side				
10. Placed IV stand near the bed				
11. Checked locked wheel of the bed				
12. Placed hot water bag if needed. If put before, removed it when client came back				
13. **Transferred client:** 1) Helped lifting client into the bed				
2) Covered client by top bedding immediately				
3) Tucked top bedding and mitered corners in end of bed				

General Comments:

Well performance ( ) Just performed ( ) Poor performance ( )

- Students given poor performance need to receive the back evaluation.

Feedback from instructor

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