

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING PRACTICE
1 <sup>st</sup> Semester AY 1443		

## **NUR 215 - PRACTICAL**

### **MODULES FOR NURSING PROCEDURES**

**Name of Student:** \_\_\_\_\_

**Student No.** \_\_\_\_\_

**Name of Teacher** \_\_\_\_\_

**Course Coordinator:** Dr. Irene Roco

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

<b>PROCEDURAL CHECKLISTS</b>	<b>Page</b>
<b>I - Asepsis</b>	2
1. Performing Hand Hygiene	3
2. Applying and Removing Personal Protective Equipment (Gloves, Gown, Mask, Face shield )	5
3. Applying and Removing Sterile Gloves (Open Method)	7
4. Establishing and Maintaining a Sterile Field	10
<b>II – Vital Signs</b>	13
1. Assessing Temperature, Pulse and Respiration	17
2. Assessing Blood Pressure	19
3. Measuring Oxygen Saturation	21
<b>III – Promoting Oxygenation</b>	24
1. Administering oxygen by nasal cannula or by mask	26
<b>IV - Wound care</b>	29
<b>V - Positioning the client</b>	32
1. Moving a client up in bed	32
2. Turning the client to the lateral or prone position in bed	33
3. Assisting the client to sit on the side of the bed	35
4. Transferring patient between bed and chair	37
5. Assisting the client to ambulate	39
<b>VI – Urinary Catheterization</b>	41
1. Performing Urinary Catheterization for Female	43
2. Performing Urinary Catheterization for Male	45
<b>VII – Administering Enema</b>	50
<b>VIII – Inserting a Nasogastric Tube</b>	53
1. Administering a tube Feeding	57
2. Removing NGT	60

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

## I – ASEPSIS

### Learning Outcomes:

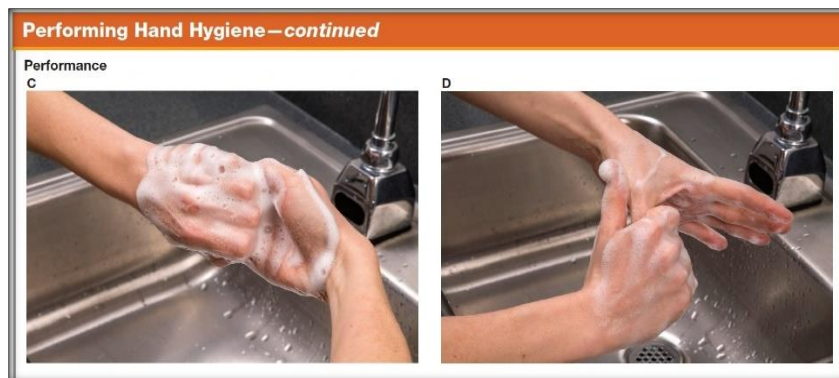
At the end of the session, students will be able to verbalize / perform the steps accurately that are used in performing the following nursing procedures::

1. Performing hand hygiene
2. Applying and removing a gown, facemask, eyewear, and clean gloves
3. Establishing and maintaining a sterile field
4. Applying and removing sterile gloves by the open method

### 1. PERFORMING HAND HYGIENE

#### Introduction:

- **Asepsis** - freedom from disease-causing organisms
- Vigorous washing for 15–20 seconds under stream of water
- Use of Granular soap, soap-filled sheets, or liquid soap
- Use of antimicrobial agents:
  - In presence of known multiple resistant bacteria
  - Before invasive procedures
  - In special care units
  - Before caring for severely immunocompromised patients
- Alcohol-based hand rubs
- Gloves still required in some situations



#### Asepsis

- All practices intended to confine a specific microorganism to a specific area
- Limits number, growth, and transmission of microorganisms
- Objects referred to as clean or dirty (soiled, contaminated)

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

### Surgical asepsis (Sterile Technique)

- Practices that keep area or object free of all microorganisms
- Practices that destroy all microorganisms and spores
- Used for all procedures involving sterile areas of the body

## **PERFORMING HAND HYGIENE**

### Procedural Checklist

#### PURPOSES

- To reduce the number of microorganisms on the hands
- To reduce the risk of transmission of microorganisms to clients
- To reduce the risk of cross contamination among clients
- To reduce the risk of transmission of infectious organisms to oneself

#### EQUIPMENT

- Soap
- Warm running water
- Paper towels

PROCEDURE	Rationale
<b>PREPARATION</b>	
1. Assess the hands: Nails should be kept short. Most agencies do not permit health care workers in direct contact with clients to have any form of artificial nails.	Short, natural nails are less likely to harbor microorganisms, scratch a client, or puncture gloves
2. Removal of all jewelry is recommended.	Although the research is controversial, microorganisms can lodge in the settings of jewelry and under rings. Removal facilitates proper cleaning of the hands and arms.
3. Check hands for breaks in the skin, such as hangnails or cuts.	A nurse who has open sores may require a work assignment with decreased risk for transmission of infectious organisms due to the chance of acquiring or passing on an infection.
<b>PERFORMANCE</b>	
4. Turn on the water and adjust the flow.	
5. Adjust the flow so that the water is warm.	Warm water removes less of the protective oil of the skin than hot water
6. Wet the hands thoroughly by holding them under the running water and apply soap to the hands.	The water should flow from the least contaminated to the most contaminated area; the hands are generally considered more contaminated than the lower arms
7. Hold the hands lower than the elbows so that the water flows from the arms to the fingertips.	
8. If the soap is liquid, apply 4 to 5 mL (1 tsp). If it is bar soap, granules, or sheets, rub them firmly between the hands.	

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

9. Thoroughly wash and rinse the hands.	
10. Use firm, rubbing, and circular movements to wash the palm, back, and wrist of each hand. Be sure to include the heel of the hand.	The circular action creates friction that helps remove microorganisms mechanically.
11. Interlace the fingers and thumbs, and move the hands back and forth. The steps includes: a. Right palm over left dorsum with interlaced fingers and vice versa b. Palm to palm with fingers interlaced c. Backs of fingers to opposing palms with fingers interlocked d. Rotational rubbing of left thumb clasped in right palm and vice versa.	Interlacing the fingers and thumbs cleans the inter digital spaces.
12. Continue these motions for about 30 seconds	
13. Rub the fingertips against the palm of the opposite hand.	The nails and fingertips are commonly missed during hand hygiene
14. Rinse the hands.	
15. Thoroughly pat dry the hands and arms. Dry hands and arms thoroughly with a paper towel without scrubbing.	Moist skin becomes chapped readily as does dry skin that is rubbed vigorously; chapping produces lesions.
16. Discard the paper towel in the appropriate container	
17. Turn off the water.	
18. Use a new paper towel to grasp a hand-operated control.	This prevents the nurse from picking up microorganisms from the faucet handles.
19. Apply hand lotion if desired.	Hand lotions are important to prevent skin dryness and irritation.

Reference: Berman, A. et al. (2016) *Kozier & Erb's Fundamentals of Nursing: Concepts, Process and Practice. 10th Ed. New Jersey: Pearson Education, Inc*

## 2. APPLYING PERSONAL PROTECTIVE EQUIPMENT (PPE)

### 1. Gloves

- Protect hands when body substances handled
- Reduce likelihood of nurses transmitting own endogenous microorganisms to individuals receiving care
- Reduce chance of transmitting microorganisms from one client to another
- Gloves ( Latex- Highly allergenic)

### 2. Gowns

### 3. Face masks

### 4. Eyewear, Goggles, glasses

### 5. Face shields

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

**APPLYING AND REMOVING PERSONAL PROTECTIVE EQUIPMENT**  
**(GLOVES, GOWN, MASK, EYEWEAR)**

Procedural Checklist

**PURPOSE** • To protect health care workers and clients from transmission of potentially infective materials

**Equipment:**

- Gown
- Mask
- Eyewear
- Clean glove

PROCEDURE	Rationale
1. Prior to performing the procedure, introduce self and verify the client's identity using agency protocol. Explain to the client what you are going to do, why it is necessary, and how he or she can participate	
2. Perform hand hygiene	Hand hygiene prevents the spread of microorganism
3. Apply a clean gown. <ul style="list-style-type: none"> <li>• Pick up a clean gown, and allow it to unfold in front of you without allowing it to touch any area soiled with body substances.</li> </ul>	Overlapping securely covers the uniform at the back. Waist ties keep the gown from falling away from the body, which can cause inadvertent soiling of the uniform.
<ul style="list-style-type: none"> <li>• Slide the arms and the hands through the sleeves.</li> <li>• Fasten the ties at the neck to keep the gown in place.</li> </ul>	
<ul style="list-style-type: none"> <li>• Overlap the gown at the back as much as possible, and fasten the waist ties or belt.</li> </ul>	
4. Apply the face mask. <ul style="list-style-type: none"> <li>• Locate the top edge of the mask. The mask usually has a narrow metal strip along the edge</li> </ul>	With the edge of the mask under the glasses, clouding of the glasses is less likely to occur. •
<ul style="list-style-type: none"> <li>• Hold the mask by the top two strings or loops.</li> </ul>	
<ul style="list-style-type: none"> <li>• Place the upper edge of the mask over the bridge of the nose, and tie the upper ties at the back of the head or secure the loops around the ears. If glasses are worn, fit the upper edge of the mask under the glasses.</li> </ul>	
<ul style="list-style-type: none"> <li>• Secure the lower edge of the mask under the chin, and tie the lower ties at the nape of the neck.</li> </ul>	To be effective, a mask must cover both the nose and the mouth, because air moves in and out of both. •
<ul style="list-style-type: none"> <li>• If the mask has a metal strip, adjust this firmly over the bridge of the nose.</li> </ul>	A secure fit prevents both the escape and the inhalation of microorganisms around the edges of the mask and the fogging of eyeglasses. •
<ul style="list-style-type: none"> <li>• Wear the mask only once, and do not wear any mask longer than the manufacturer recommends or once it becomes wet.</li> </ul>	A mask should be used only once because it becomes ineffective when moist

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

<ul style="list-style-type: none"> <li>Do not leave a used face mask hanging around the neck.</li> </ul>	
5. Apply protective eyewear if it is not combined with the face mask	
6. Apply clean gloves.	
<ul style="list-style-type: none"> <li>No special technique is required.</li> <li>If wearing a gown, pull the gloves up to cover the cuffs of the gown. If not wearing a gown, pull the gloves up to cover the wrists.</li> </ul>	
7. To remove soiled PPE, remove the gloves first since they are the most soiled	
<ul style="list-style-type: none"> <li>Remove the first glove by grasping it on its palmar surface, taking care to touch only glove to glove.</li> </ul>	This keeps the soiled parts of the used gloves from touching the skin of the wrist or hand.
<ul style="list-style-type: none"> <li>Pull the first glove completely off by inverting or rolling the glove inside out</li> </ul>	
<ul style="list-style-type: none"> <li>Continue to hold the inverted removed glove by the fingers of the remaining gloved hand. Place the first two fingers of the bare hand inside the cuff of the second glove.</li> </ul>	Touching the outside of the second soiled glove with the bare hand is avoided.
<ul style="list-style-type: none"> <li>Pull the second glove off to the fingers by turning it inside out. This pulls the first glove inside the second glove.</li> </ul>	The soiled part of the glove is folded to the inside to reduce the chance of transferring any microorganisms by direct contact
<ul style="list-style-type: none"> <li>Using the bare hand, continue to remove the gloves, which are now inside out, and dispose of them in the refuse container</li> </ul>	
8. Perform hand hygiene.	Contact with microorganisms may occur while removing PPE
9. Remove protective eyewear and dispose of properly or place in the appropriate receptacle for cleaning.	
10. Remove the gown when preparing to leave the room.	
<ul style="list-style-type: none"> <li>Avoid touching soiled parts on the outside of the gown, if possible.</li> </ul>	The top part of the gown may be soiled, for example, if you have been holding an infant with a respiratory infection
<ul style="list-style-type: none"> <li>Grasp the gown along the inside of the neck and pull down over the shoulders. Do not shake the gown</li> </ul>	
<ul style="list-style-type: none"> <li>Roll up the gown with the soiled part inside, and discard it in the appropriate container</li> </ul>	
11. Remove the mask.	
<ul style="list-style-type: none"> <li>Remove the mask at the doorway to the client's room. If using a respirator mask, remove it after leaving the room and closing the door.</li> </ul>	
<ul style="list-style-type: none"> <li>If using a mask with strings, first untie the lower strings of the mask</li> </ul>	This prevents the top part of the mask from falling onto the chest

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

<ul style="list-style-type: none"> <li>Untie the top strings and, while holding the ties securely, remove the mask from the face. If side loops are present, lift the side loops up and away from the ears and face. Do not touch the front of the mask.</li> </ul>	The front of the mask through which the nurse has been breathing is contaminated.
<ul style="list-style-type: none"> <li>Discard a disposable mask in the waste container.</li> </ul>	
<ul style="list-style-type: none"> <li>Perform proper hand hygiene again.</li> </ul>	

Reference: Berman, A. et al. (2016) *Kozier & Erb's Fundamentals of Nursing: Concepts, Process and Practice. 10th Ed. New Jersey: Pearson Education, Inc*

### APPLYING AND REMOVING STERILE GLOVES (OPEN METHOD)

#### PURPOSE:

- To enable the nurse to handle or touch sterile objects freely without contaminating them
- To prevent transmission of potentially infective organisms from the nurse's hands to clients at high risk for infection

#### Equipment

- Packages of sterile gloves

PROCEDURE	Rationale
1. Introduce self and verify the client's identity using agency protocol. Explain to the client what you are going to do, why it is necessary, and how he or she can participate.	
2. Perform hand hygiene and observe other appropriate infection prevention procedures	
3- Provide for client privacy	
4. Open the package of sterile gloves.	Any moisture on the surface could contaminate the gloves
a- Place sterile glove package on clean, dry surface	
b- Open the package. If the package is inside a plastic cover, remove the cover.	-
c- Place the package in the work area so that the top flap of the wrapper opens away from you.	
d- Reaching around the package (not over it), pinch the first flap on the outside of the wrapper between the thumb and index finger, Pull the flap open, laying it flat on the far surface.	Touching only the outside of the wrapper maintains the sterility of the inside of the wrapper.  -By using both hands, you avoid reaching over the sterile contents
e- Repeat for the side flaps, opening the top most one first. Use the right hand for the right flap, and the left hand for the left flap.	
f- Pull the fourth flap toward you by grasping the corner that is turned down	
<b>Applying a Sterile Gloves</b>	
5- Put the first glove on the dominant hand.	
a- grasp the glove for the dominant hand by its folded cuff edge with the thumb and first finger of the non-dominant hand Touch only the inside of the cuff.	- The hands are not sterile. By touching only the inside of the glove, the nurse avoids contaminating the outside



King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

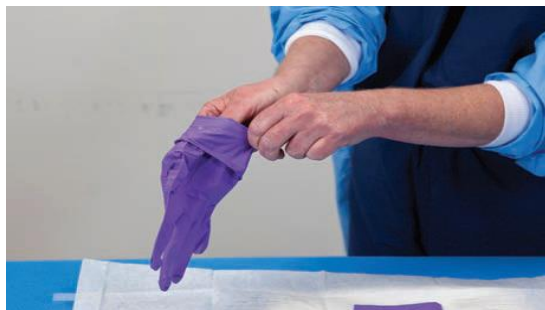
b-Insert the dominant hand into the glove and pull the glove on. Keep the thumb of the inserted hand against the palm of the hand during insertion	
6- Put the second glove on the monodominant hand	
a- Pick up the other glove with the sterile gloved hand, inserting the gloved fingers under the cuff and holding the gloved thumb close to the gloved palm.	
b-Pull on the second glove carefully. Hold the thumb of the gloved first hand as far as possible from the palm.	If the thumb is kept against the palm, it is less likely to contaminate the outside of the glove
c-Adjust each glove so that it fits smoothly, and carefully pull the cuffs up by sliding the fingers under the cuffs.	In this position, the thumb is less likely to touch the arm and become contaminated.
<b>Removing the Gloves</b>	
1. Remove gloves by turning them inside out, and dispose it.	
2. Perform hand hygiene	
3. Document that sterile technique was used in the performance of the procedure	

Be :Referencerman, A. et al. (2016) *Kozier & Erb's Fundamentals of Nursing: Concepts, Process and Practice. 10th Ed. New Jersey: Pearson Education, Inc*

#### 5-(a)Applying and Sterile Gloves (Open Method)



5(b)



#### 6-(a)Applying and Sterile Gloves (Open Method)



6b



King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

**5-(b)Applying a Sterile Gloves (Closed Method)**

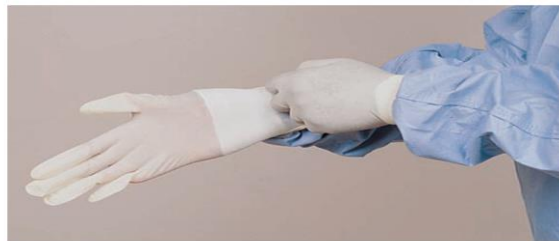
5-b(1)



5-b(2)



5 b3



**4. ESTABLISHING AND MAINTAINING A STERILE FIELD**

**The Basic Principles Of Surgical Asepsis**

1. A sterile field is a microorganism-free area. Nurses often establish a sterile field by using the innermost side of a sterile wrapper or by using a sterile drape.
2. When the field is established, sterile supplies and sterile solutions can be placed on it.
3. Sterile forceps are used in many instances to handle and transfer sterile supplies.
4. So that sterility can be maintained, supplies may be wrapped in a variety of materials.
5. Commercially prepared items are frequently wrapped in plastic, paper, or glass.
6. Sterile liquids (e.g., sterile water for irrigations) are preferably packaged in amounts adequate for one use only because once a container has been opened, there is no assurance that it will remain sterile.
7. Any leftover liquid is discarded.



1 Opening the first flap of a sterile wrapped package.



2 Opening the second flap to the side.

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

## ESTABLISHING AND MAINTAINING A STERILE FIELD

### Procedural Checklist

#### PURPOSE

- To ensure that sterile items remain sterile

#### **Equipment**

- Package containing a sterile drape
- Sterile equipment as needed (e.g., wrapped sterile gauze, wrapped sterile bowl, antiseptic solution, sterile forceps)

#### **ASSESSMENT**

- Review the client's record or discuss with the client exactly what procedure will be performed that requires a sterile field.
- Assess the client for:
  - a. presence of or risk for infection
  - b. Ability to participate with the procedure

PROCEDURE	Rationale
<b>Preparation</b>	
1. Ensure that the package is clean and dry; if moisture is noted on the inside of a plastic-wrapped package or the outside of a cloth-wrapped package, it is considered contaminated and must be discarded.	
2. Check the sterilization expiration dates on the package, and look for any indications that it has been previously opened. Spots or stains on cloth or paper-wrapped objects may indicate contamination, and the objects should not be used.	
3. Follow agency practice for disposal of possibly contaminated packages.	
<b>Performance</b>	
1. Introduce self and verify the client's identity using agency protocol.	
2. Explain to the client what you are going to do, why it is necessary, and how he or she can participate.	
3. Perform hand hygiene and observe other appropriate infection prevention procedures	
4. Provide for client privacy.	
5. Open the package. If the package is inside a plastic cover, remove the cover.	
<b>To Open a Wrapped Package on a Surface •</b>	
1. Place the package in the work area so that the top flap of the wrapper opens away from you.	Touching only the outside of the wrapper maintains the sterility of the inside of the wrapper.
2. • Reaching around the package (not over it), pinch the first flap on the outside of the wrapper between the thumb and index finger.	

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

3. Pull the flap open, laying it flat on the far surface.	
4. Repeat for the side flaps, opening the topmost one first. Use the right hand for the right flap, and the left hand for the left flap.	By using both hands, you avoid reaching over the sterile contents. •
5. Pull the fourth flap toward you by grasping the corner that is turned down.	
<b>Opening a Wrapped Package While Holding It</b>	
1. Hold the package in one hand with the top flap opening away from you.	
2. Using the other hand, open the package as described above, pulling the corners of the flaps well back.	
3. Tuck each of the corners into the hand holding the package so that they do not flutter and contaminate sterile objects. The hands are considered contaminated, and at no time should they touch the contents of the package.	
<b>Establish a sterile field by using a drape.</b>	
1. Open the package containing the drape With one hand, pluck the corner of the drape that is folded back on the top touching only one side of the drape.	
2. Lift the drape out of the cover, and allow it to open freely without touching any objects.	If the drape touches the outside of the package or any unsterile surface, it is considered contaminated
3. With the other hand, carefully pick up another corner of the drape, holding it well away from you and, again, touching only the same side of the drape as the first hand.	
4. Lay the drape on a clean and dry surface, placing the bottom (i.e., the freely hanging side) farthest from you.	By placing the lowermost side farthest away, you avoid leaning over the sterile field and contaminating it.
5. Add necessary sterile supplies, being careful not to touch the drape with the hands	

Be :Referencerman, A. et al. (2016) *Kozier & Erb's Fundamentals of Nursing: Concepts, Process and Practice. 10th Ed. New Jersey: Pearson Education, Inc*

#### 4-Open the package of sterile gloves

4.b



4.d



#### 4-Open the package of sterile gloves

4.e



4.f



King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

## II - VITAL SIGNS

### Learning Outcomes

1. Identify nine sites used to assess the pulse and state the reasons for their use.
2. Demonstrate appropriate documentation and reporting of vital signs.

### VITAL SIGNS

- Monitor functions of the body
- Should be thoughtful, scientific assessment
- Often, someone other than nurse measures client's vital signs.
  1. Body Temperature, Pulse , Respiration
  2. Blood Pressure
  3. Oxygen Saturation (O2 Sat)

### 1. Assessing Body Temperature

#### Sites:

- Oral
- Rectal -Considered to be very accurate
- Axillary- Preferred for newborns
- Tympanic membrane
- Skin/temporal artery



- **Types of thermometers** (Goal of eliminating mercury from health care environments)
  - Electronic
  - Chemical disposable
  - Temperature-sensitive tape
  - Infrared (tympanic)

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

## LIFESPAN CONSIDERATIONS Temperature

### CHILDREN

- Tympanic or temporal artery sites are preferred.
- For the tympanic route, have the child held on an adult's lap with the child's head held gently against the adult for support. Pull the pinna straight back and upward for children over age 3 (Figure 29-11 ■).



**Figure 29-10 ■** Axillary thermometer placement for a child.

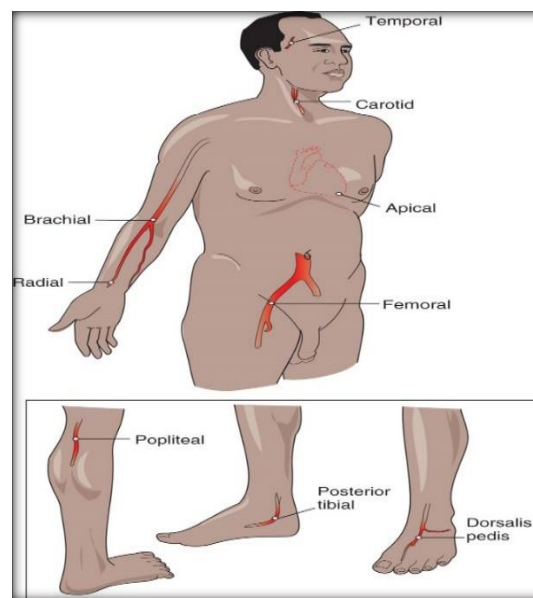


**Figure 29-11 ■** Pull the pinna of the ear back and up for placement of a tympanic thermometer in a child over 3 years of age; back and down for children under age 3.

## Assessing Pulse

- Pulse - is a wave of blood created by contraction of the left ventricle of the heart
- Peripheral pulse- located away from the heart, (the foot).
- Apical pulse/ central pulse
  - Point of maximal impulse (PMI)

### Nine sites for assessing pulse



King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

### Apical Pulse Assessment

- Locate apical and radial sites
- Pulse deficit - Discrepancy between apical and radial pulse rates
- Two-nurse method may be more accurate



5 Taking an apical pulse using the flat-disc stethoscope. Note how the amplifier is held against the chest.



1 Assessing pulses: A Radial

### Assessing Respirations

- Be aware of the following:
  - Client's normal breathing pattern
  - Influence of the client's health problems on respirations
  - Medications, therapies that might affect respirations
  - Relationship of client's respirations to cardiovascular function
- Assessing Respiratory Rate
  - Breaths per minute
  - Eupnea - Breathing normal in rate and depth
  - Bradypnea (slow)
  - Tachypnea (fast)
  - Apnea (Absence of breathing)

### Assessing Blood Pressure

- Arterial blood pressure - Measure of exertion of blood as it flows through arteries
- Systolic - Contraction of the ventricles
- Diastolic - Ventricles at rest; Lower pressure present at all times

**TABLE 29-4** Classification of Blood Pressure

Category	Systolic BP (mmHg)		Diastolic BP (mmHg)
Normal	<120	and	<80
Prehypertension	120–139	or	80–89
Hypertension, stage 1	140–159	or	90–99
Hypertension, stage 2	>160	or	>100

From the "The Seventh Report of the Joint National Committee for the Detection, Evaluation, and Treatment of High Blood Pressure—Completed Report," by National Institutes of Health, National Heart, Lung, and Blood Institute, 2004. Retrieved from <http://www.nhlbi.nih.gov/guidelines/hypertension/jnc7full.htm>.

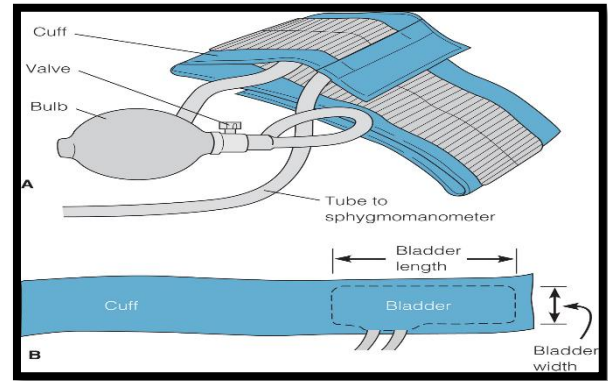
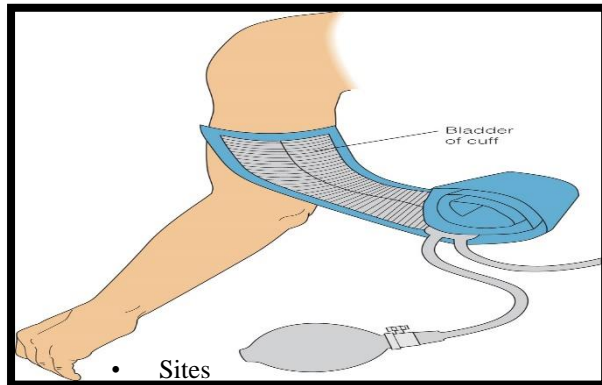
### Equipments for Blood Pressure

- Sphygmomanometer
  - Indicates pressure of air within the bladder of the blood pressure cuff
  - Aneroid or digital
- Doppler ultrasound

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

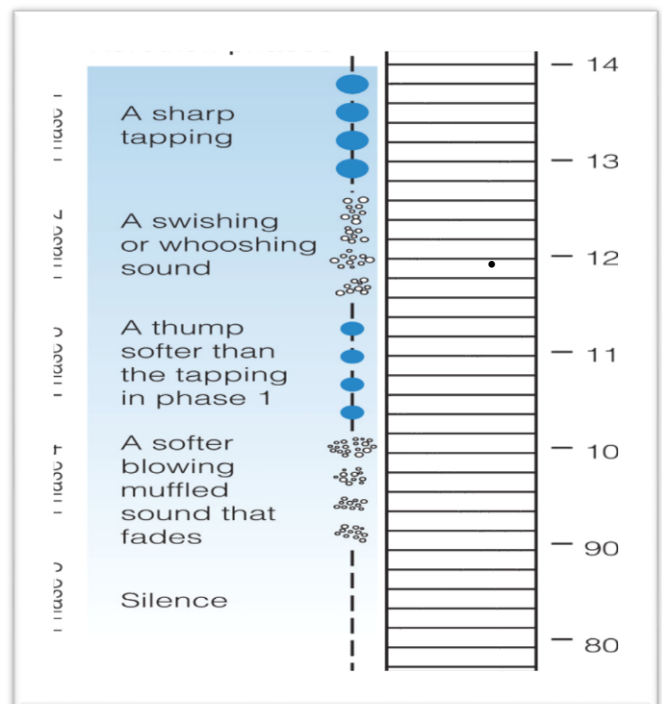
- Cuff and bladder sizes

**Determining that the bladder of a blood pressure cuff is 40% of the arm circumference or 20% wider than the diameter of the midpoint of the limb.**



- Sites
  - Upper arm (brachial artery)
  - Thigh (popliteal artery)
    - Indicated when either arm cannot be measured or when bp in both thighs needs to be compared

- Methods
  - Direct (invasive monitoring)
  - Indirect
  - Korotkoff sounds
    - Auscultatory
    - Palpatory
  - Auscultatory gap





King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

### LIFESPAN CONSIDERATIONS Blood Pressure

#### INFANTS

- Use a pediatric stethoscope with a small diaphragm.
- The lower edge of the blood pressure cuff can be closer to the antecubital space of an infant.
- Use the palpation method if auscultation with a stethoscope or DUS is unsuccessful.
- Arm and thigh pressures are equivalent in children under 1 year of age.
- The systolic blood pressure of a newborn averages about 75 mmHg (D'Amico & Barbarito, 2012).

#### CHILDREN

- Blood pressure should be measured in all children over 3 years of age and in children less than 3 years of age with certain medical conditions (e.g., congenital heart disease, renal malformation, medications that affect blood pressure).
- Explain each step of the process and what it will feel like. Demonstrate on a doll.
- Use the palpation technique for children under 3 years old.
- Cuff bladder width should be 40% and length should be 80% to 100% of the arm circumference (Figure 29–24 ■).



Figure 29–24 ■ Pediatric blood pressure cuffs.

### LIFESPAN CONSIDERATIONS Blood Pressure

#### CHILDREN

- Take the blood pressure prior to other uncomfortable procedures so that the blood pressure is not artificially elevated by the discomfort.
- In children, the diastolic pressure is considered to be the onset of phase 4, where the sounds become muffled.
- In children, the thigh pressure is about 10 mmHg higher than the arm pressure.
- One quick way to determine the normal systolic blood pressure of a child is to use the following formula:

$$\text{Normal systolic BP} = 80 + (2 \times \text{child's age in years})$$

#### OLDER ADULTS

- Skin may be very fragile. Do not allow cuff pressure to remain high any longer than necessary.
- Determine if the client is taking antihypertensives and, if so, when the last dose was taken.
- Medications that cause vasodilation (antihypertensive medications) and also the loss of baroreceptor efficiency in older clients place them at increased risk for having orthostatic hypotension. Measuring blood pressure while the client is in the lying, sitting, and standing positions—and noting any changes—can determine this.
- If the client has arm contractures, assess the blood pressure by palpation, with the arm in a relaxed position. If this is not possible, take a thigh blood pressure.

### Oxygen Saturation

- Pulse oximeter
  - Noninvasive device that estimates arterial oxygen saturation (SaO<sub>2</sub>) by means of sensor attached to client's finger
- Normal SpO<sub>2</sub> 95–100%
  - < 70% is life threatening



King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

## **PROCEDURAL CHECKLISTS WITH RATIONALE**

### **Assessing Body Temperature**

#### **Procedure**

#### **PURPOSES**

- To establish baseline data for subsequent evaluation
- To identify whether the core temperature is within normal range
- To determine changes in the core temperature in response to specific therapies (e.g., antipyretic medication, immunosuppressive therapy, invasive procedure)

#### **Equipment**

- Thermometer
- Thermometer sheath or cover
- Water-soluble lubricant for a rectal temperature
- Clean gloves for a rectal temperature
- Towel for axillary temperature
- Tissues/wipes

<b>PROCEDURE</b>
<b>Preparation</b>
1. Check that all equipment is functioning normally
<b>Performance</b>
2. Introduce self and verify the client's identity using agency protocol
3. Explain to the client what you are going to do, why it is necessary, and how he or she can participate.
4. Perform hand hygiene and observe appropriate infection prevention procedures.
5. Apply gloves if performing a rectal temperature.
6. Provide for client privacy.
7. Position the client appropriately
8. Place the thermometer. Apply a protective sheath or probe cover if appropriate.
9. Wait the appropriate amount of time. Electronic and tympanic thermometers will indicate that the reading is complete through a light or tone. Check package instructions for length of time to wait prior to reading chemical dot or tape thermometers.
10. Remove the thermometer and discard the cover or wipe with a tissue if necessary. If gloves were applied, remove and discard them.
11. Perform hand hygiene.
12. Read the temperature and record it on your worksheet. If the temperature is obviously too high, too low, or inconsistent with the client's condition, recheck it with a thermometer known to be functioning properly.
13. Wash the thermometer if necessary and return it to the storage location.
14. Document the temperature in the client record.

### **Assessing a Peripheral Pulse**

#### **PURPOSES**

- To establish baseline data for subsequent evaluation
- To identify whether the pulse rate is within normal range
- To determine the pulse volume and whether the pulse rhythm is regular
- To determine the equality of corresponding peripheral pulses on each side of the body
- To monitor and assess changes in the client's health status

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

- To monitor clients at risk for pulse alterations (e.g., those with a history of heart disease or experiencing cardiac arrhythmias, hemorrhage, acute pain, infusion of large volumes of fluids, or fever)
- To evaluate blood perfusion to the extremities

#### Equipment

- Clock or watch with a sweep second hand or digital seconds indicator

PROCEDURE	Rationale
<b>Performance (Continuation of Procedure from Assessing temperature )</b>	
1. Select the pulse point.	
2. Assist the client to a comfortable resting position. <ul style="list-style-type: none"> <li>• When the radial pulse is assessed, with the palm facing downward, the client's arm can rest alongside the body or the forearm can rest at a 90-degree angle across the chest.</li> <li>• For the client who can sit, the forearm can rest across the thigh, with the palm of the hand facing downward or inward</li> </ul>	
3. Palpate and count the pulse. Place two or three middle fingertips lightly and squarely over the pulse point.	Using the thumb is contraindicated because the nurse's thumb has a pulse that could be mistaken for the client's pulse.
4. Count for one full minute. If an irregular pulse is found, also take the apical pulse	
5. . Assess the pulse rhythm and volume.	
6. • Assess the pulse rhythm by noting the pattern of the intervals between the beats. A normal pulse has equal time periods between beats. If this is an initial assessment, assess for 1 minute.	
7. Assess the pulse volume. A normal pulse can be felt with moderate pressure, and the pressure is equal with each beat. A forceful pulse volume is full; an easily obliterated pulse is weak.	

### Assessing Respirations

#### Procedure

#### PURPOSES

- To acquire baseline data against which future measurements can be compared
- To monitor abnormal respirations and respiratory patterns and identify changes
- To monitor respirations before or after the administration of a general anesthetic or any medication that influences respirations
- To monitor clients at risk for respiratory alterations (e.g., those with fever, pain, acute anxiety, chronic obstructive pulmonary disease, asthma, respiratory infection, pulmonary edema or emboli, chest trauma or constriction, brainstem injury)

#### Equipment

- Clock or watch with a sweep second hand or digital seconds indicator

PROCEDURE	Rationale
<b>Preparation</b>	
1. For a routine assessment of respirations, determine the client's activity schedule and choose a suitable time to monitor the respirations. A client who has been exercising will need to rest for a few minutes to permit the accelerated respiratory rate to return to	

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

normal.	
<b>Performance</b>	
<ol style="list-style-type: none"> <li>Observe or palpate and count the respiratory rate. <ul style="list-style-type: none"> <li>The client's awareness that the nurse is counting the respiratory rate could cause the client to purposefully alter the respiratory pattern.</li> <li>If you anticipate this, place a hand against the client's chest to feel the chest movements with breathing, or place the client's arm across the chest and observe the chest movements while supposedly taking the radial pulse.</li> </ul> </li> </ol>	
<ol style="list-style-type: none"> <li>Count the respiratory rate for 30 seconds if the respirations are regular. Count for 60 seconds if they are irregular. An inhalation and an exhalation count as one respiration.</li> </ol>	
<ol style="list-style-type: none"> <li>Observe the depth, rhythm, and character of respirations. Observe the respirations for depth by watching the movement of the chest.</li> </ol>	During deep respirations, a large volume of air is exchanged; during shallow respirations, a small volume is exchanged.
<ol style="list-style-type: none"> <li>Observe the respirations for regular or irregular rhythm.</li> </ol>	Normally, respirations are evenly spaced
<ol style="list-style-type: none"> <li>Observe the character of respirations—the sound they produce and the effort they require.</li> </ol>	Normally, respirations are silent and effortless.
<ol style="list-style-type: none"> <li>Document the respiratory rate, depth, rhythm, and character on the appropriate record</li> </ol>	

### Assessing Blood Pressure Procedure

#### PURPOSES

- To obtain a baseline measurement of arterial blood pressure for subsequent evaluation
- To determine the client's hemodynamic status (e.g., cardiac output: stroke volume of the heart and blood vessel resistance)

#### Equipment

- Stethoscope
- Blood pressure cuff of the appropriate size
- Sphygmomanometer

PROCEDURE	Rationale
<b>Preparation</b>	
<ol style="list-style-type: none"> <li>Ensure that the equipment is intact and functioning properly. Check for leaks in the tubing between the cuff and the sphygmomanometer.</li> </ol>	
<ol style="list-style-type: none"> <li>Make sure that the client has not smoked or ingested caffeine within 30 minutes prior to measurement..</li> </ol>	Smoking constricts blood vessels, and caffeine increases the pulse rate. Both of these cause a temporary increase in blood pressure
<b>Performance</b>	
<ol style="list-style-type: none"> <li>Introduce self and verify the client's identity using agency protocol. Explain to the client what you are going to do, why it is necessary, and how he or she can</li> </ol>	

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

participate.	
4. Perform hand hygiene and observe appropriate infection prevention procedures.	
5. Provide for client privacy	
6. Position the client appropriately. The adult client should be sitting unless otherwise specified. Both feet should be flat on the floor.	Legs crossed at the knee results in elevated systolic and diastolic blood pressures
7. The elbow should be slightly flexed with the palm of the hand facing up and the arm supported at heart level. Readings in any other position should be specified. The blood pressure is normally similar in sitting, standing, and lying positions, but it can vary significantly by position in certain persons	The blood pressure increases when the arm is below heart level and decreases when the arm is above heart level
8. Wrap the deflated cuff evenly	
9. Expose the upper arm around the upper arm. Locate the brachial artery	
10. Apply the center of the bladder directly over the artery.	The bladder inside the cuff must be directly over the artery to be compressed if the reading is to be accurate. • For an adult, place the lower border of the cuff approximately 2.5 cm (1 in.) above the antecubital space.
11. If this is the client's initial examination, perform a preliminary palpatory determination of systolic pressure. • Palpate the brachial artery with the fingertips.	The initial estimate tells the nurse the maximal pressure to which the sphygmomanometer needs to be elevated in subsequent determinations. It also prevents underestimation of the systolic pressure or overestimation of the diastolic pressure should an auscultatory gap occur.
12. Close the valve on the bulb. Pump up the cuff until you no longer feel the brachial pulse. At that pressure the blood cannot flow through the artery. Note the pressure on the sphygmomanometer at which pulse is no longer felt..	This gives an estimate of the systolic pressure
13. Release the pressure completely in the cuff, and wait 1 to 2 minutes before making further measurements.	A waiting period gives the blood trapped in the veins time to be released. Otherwise, false high systolic readings will occur.
14. Position the stethoscope appropriately. • Cleanse the earpieces with antiseptic wipe. • Insert the ear attachments of the stethoscope in your ears so that they tilt slightly forward	Sounds are heard more clearly when the ear attachments follow the direction of the ear canal
15. Ensure that the stethoscope hangs freely from the ears to the diaphragm	If the stethoscope tubing rubs against an object, the noise can block the sounds of the blood within the artery.
16. Place the bell side of the amplifier of the stethoscope over the brachial pulse site	Because the blood pressure is a low-frequency sound, it is best heard with the bell-shaped diaphragm.
17. Place the stethoscope directly on the skin, not on clothing over the site	This is to avoid noise made from rubbing the amplifier against cloth.
18. Hold the diaphragm with the thumb and index finger.	
19. Auscultate the client's blood pressure. • Pump up the cuff until the sphygmomanometer reads 30 mmHg above the point where the brachial pulse disappeared	

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

20. Release the valve on the cuff carefully so that the pressure decreases at the rate of 2 to 3 mmHg per second	If the rate is faster or slower, an error in measurement may occur.
21. As the pressure falls, identify the manometer reading at Korotkoff phases 1, 4, and 5.	There is no clinical significance to phases 2 and 3.
22. Deflate the cuff rapidly and completely. • Wait 1 to 2 minutes before making further determinations	This permits blood trapped in the veins to be released
23. Repeat the above steps to confirm the accuracy of the reading—especially if it falls outside the normal range . If there is greater than 5 mmHg difference between the two readings, additional measurements may be taken and the results averaged.	
24. .If this is the client’s initial examination, repeat the procedure on the client’s other arm. There should be a difference of no more than 10 mmHg between the arms. The arm found to have the higher pressure should be used for subsequent examinations.	
25. Remove the cuff from the client’s arm.	
26. Wipe the cuff with an approved disinfectant. The client uses it for the length of stay and then it is discarded.	Cuffs can become significantly contaminated. Many institutions use disposable blood pressure cuffs. This decreases the risk of spreading infection by sharing cuffs.
27. Document and report pertinent assessment data according to agency policy.	

*Reference: Berman, A. et al. (2016) Kozier & Erb’s Fundamentals of Nursing: Concepts, Process and Practice. 10th Ed. New Jersey: Pearson Education, Inc*

### Measuring Oxygen Saturation

#### Procedure

#### PURPOSES

- To estimate the arterial blood oxygen saturation
- To detect the presence of hypoxemia before visible signs develop

#### Equipment

- Nail polish remover as needed
- Alcohol wipe
- Sheet or towel
- Pulse oximeter

PROCEDURE	Rationale
<b>Preparation:</b>	
1. Check that the oximeter equipment is functioning normally.	
<b>Performance</b>	
2. Introduce self and verify the client’s identity using agency protocol. Explain to the client what you are going to do, why it is necessary, and how he or she can participate.	
3. Perform hand hygiene and observe appropriate infection prevention procedures.	
4. Provide for client privacy	
5. Choose a sensor appropriate for the client’s weight, size, and	Weight limits of sensors overlap, if a

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

<p>desired location.</p> <ul style="list-style-type: none"> <li>• If the client is allergic to adhesive, use a clip or sensor without adhesive</li> <li>• If using an extremity apply the sensor only if the proximal pulse and capillary refill at the point closest to the site are present</li> <li>• Avoid using lower extremities that have a compromised circulation and extremities that are used for infusions or other invasive monitoring.</li> </ul>	pediatric sensor could be used for a small adult.
6. Prepare the site. • Clean the site with an alcohol wipe before applying the sensor. • It may be necessary to remove a female client's dark nail polish	Nail polish may interfere with accurate measurements although the data about this are inconsistent.
7. Alternatively, position the sensor on the side of the finger rather than perpendicular to the nail bed	
8. Apply the sensor, and connect it to the pulse oximeter. <ul style="list-style-type: none"> <li>• Make sure the LED and photodetector are accurately aligned, that is, opposite each other on either side of the finger, toe, nose, or earlobe.</li> </ul>	
9. Attach the sensor cable to the connection outlet on the oximeter. Turn on the machine according to the manufacturer's directions.	
10. Ensure that the bar of light or waveform on the face of the oximeter fluctuates with each pulsation	
11. Set and turn on the alarm when using continuous monitoring	
12. Check the preset alarm limits for high and low oxygen saturation and high and low pulse rates. Change these alarm limits according to the manufacturer's directions as indicated. Ensure that the audio and visual alarms are on before you leave the client. A tone will be heard and a number will blink on the faceplate.	
13. Ensure client safety. Inspect and/or move or change the location of an adhesive toe or finger sensor every 4 hours and a spring-tension sensor every 2 hours.	
14. Inspect the sensor site tissues for irritation from adhesive sensors	
15. Ensure the accuracy of measurement.	
16. Minimize motion artifacts by using an adhesive sensor, or immobilize the client's monitoring site	Movement of the client's finger or toe may be misinterpreted by the oximeter as arterial pulsations
17. If indicated, cover the sensor with a sheet or towel to block large amounts of light from external sources (e.g., sunlight, procedure lamps, or bilirubin lights in the nursery).	Bright room light may be sensed by the photodetector and alter the SpO <sub>2</sub> value.
18. Compare the pulse rate indicated by the oximeter to the radial pulse periodically.	A large discrepancy between the two values may indicate oximeter malfunction
19. Document the oxygen saturation on the appropriate record at designated intervals	

*Reference: Berman,, A. et al. (2016) Kozier & Erb's Fundamentals of Nursing: Concepts, Process and Practice. 10th Ed. New Jersey: Pearson Education, Inc*

King Saud university  
 College of Nursing  
 2<sup>nd</sup> Semester AY 1442



NURS 215  
 FUNDAMENTALS OF NURSING

511-911 NBN 7540-00-634-4124

MEDICAL RECORD			VITAL SIGNS RECORD														
HOSPITAL DAY																	
POST - DAY																	
MONTH-YEAR	DAY																
19	HOUR																
PULSE (Ø)	TEMP. F (°)																TEMP. C
	105 *																40.6 *
180	104 *																40.0 *
170	103 *																39.4 *
160	102 *																38.9 *
150	101 *																38.3 *
140	100 *																37.8 *
130	99 *																37.2 *
	99.6 *																37.0 *
120	98 *																36.7 *
110	97 *																36.1 *
100	96 *																36.1 *
90	95 *																35.6 *
80																	35.6 *
70																	35.0 *
60																	
50																	
40																	

(Centigrade Equivalents, for Reference only)

RESPIRATION RECORD																	
BLOOD PRESSURE																	
HEIGHT:	WEIGHT →																

PATIENT'S IDENTIFICATION (For typed or written entries give: Name - last, first, middle, ID No. (SSN or other); hospital facility) REGISTER NO. WARD NO.

VITAL SIGNS RECORDS  
 Medical Record  
 STANDARD FORM 611 (REV. 7-95)  
 Prescribed by GBA/CMR, FIRMR (41 CFR) 201-9.202-1



King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

### III - PROMOTING OXYGENATION

#### Nursing Interventions to maintain the Normal respirations of clients

1. Positioning the client for maximum chest expansion
2. Encouraging or providing frequent changes in position
3. Encouraging deep breathing and coughing
4. Encouraging ambulation
5. Implementing measures that promote comfort , such as giving pain medications

The following interventions are performed by nurses, RT, PT according to primary care provider's order:

- Percussion,
- Vibration
- postural drainage
- Oxygen Administration

#### 1. Percussion – clapping

- Forceful striking of the skin with cupped hands
- Fingers and thumb are held together and flexed tightly to form a cup
- Cover area with towel or gown to reduce discomfort
- Ask client to breathe slowly and deeply
- Alternately flex and extend wrists rapidly to slap the posterior chest
- Percuss each affected lung segment for 1–2 minutes



#### 2. Vibration –

- series of vigorous quivering produced by hands placed flat against the client's chest wall
- Used after percussion to increase the turbulence of the exhaled air and thus loosen thick secretions
- Often done alternately with percussion

##### Steps to Vibrate the Client's Chest

- Place hands, palms down, on chest area to be drained
- Ask client to inhale deeply and exhale slowly
- During exhalation vibrate the hands
- Vibrate during five exhalations
- After each vibration, ask client to cough and expectorate secretions



#### 3. Postural drainage

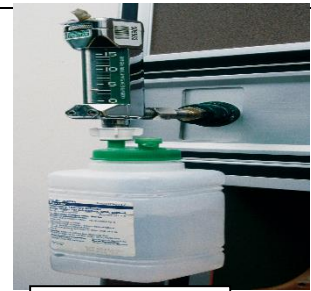
- Drainage by gravity of secretions from various lung segments
- Place client in appropriate positions to allow gravity to drain affected areas of lung
- Lower lobes require drainage more often than upper lobes
- Usually scheduled before meals to prevent vomiting

#### SEQUENCE FOR PVD (Percussion, Vibration , Drainage)

1. Positioning- 10 – 15 minutes
2. Percussion
3. Vibration
4. Removal of secretions by coughing or suction
5. Auscultate lungs and compare the findings to the baseline data
6. Document the amount, color and character of expectorated secretions

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

- **Oxygen therapy**
  - Nurse may initiate in emergency, then call provider.
  - Portable or wall outlet
  - Humidifier for high flow to prevent drying
    - Handle and store with caution to prevent falls and breakage



Humidifier

### OXYGEN DELIVERY SYSTEMS

- **Cannulas**
  - Nasal cannula - most common and inexpensive device
  - Easy to apply; does not interfere with client's ability to talk or eat
  - Delivers low concentration (24%) at flow rates of 2-6 Lpm
- **Face mask**
  - Clear, pliable plastic that covers client's nose and mouth
  - Types:
    - Partial rebreather mask
    - Nonrebreather mask
    - Venturi mask



Nasal Cannula

- The simple **face mask** delivers oxygen concentrations from 40% to 60% at liter flows of 5 to 8 L/min, respectively (Figure 50-13 A ■).
- The partial rebreather mask delivers oxygen concentrations of 40% to 60% at liter flows of 6 to 10 L/min, respectively. The



A



B



C



D

Figure 50-13 ■ A, A simple face mask; B, a partial rebreather mask; C, a nonrebreather mask; D, a Venturi mask.

Reference: Berman, A. et al. (2016) *Kozier & Erb's Fundamentals of Nursing: Concepts, Process and Practice, 10th Ed.* New Jersey: Pearson Education, Inc.

- **Face tent** – can be used when masks are poorly tolerated by patients
- **Transtracheal catheter**- placed through the surgically created tract in the lower neck directly into the trachea

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		



Face tent

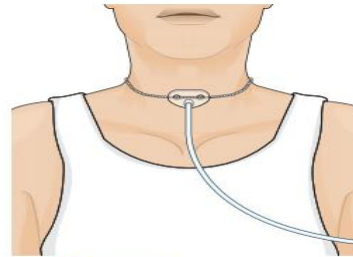


Figure 50-15 ■ Transtracheal catheter.

Transtracheal catheter

## ADMINISTERING OXYGEN BY NASAL CANNULA OR BY MASK

### Procedure

#### Purposes:

##### Cannula

1. To deliver a relatively low concentration of oxygen when only minimal O<sub>2</sub> support is required
2. To allow uninterrupted delivery of oxygen while the client ingests food or fluids

##### Face Mask

1. To provide moderate O<sub>2</sub> support and a higher concentration of oxygen and/or humidity than is provided by cannula
2. To provide a high flow of O<sub>2</sub> when attached to a Venturi system

#### Equipment:

- Oxygen supply with a flow meter and adapter
- Humidifier with distilled water or tap water according to agency protocol
- Nasal cannula and tubing / Prescribed face mask of the appropriate size
- Tape (optional)
- Padding for the elastic band

PROCEDURE	Rationale
<b>Preparation</b>	
6. Determine the need for oxygen therapy, and verify the medical order for the therapy.	
7. Prepare the client and support people <ul style="list-style-type: none"> <li>• Assist the client to a semi-Fowler's position if possible</li> </ul>	This position permits easier chest expansion and hence easier breathing.
<ul style="list-style-type: none"> <li>• Explain that oxygen is not dangerous when safety precautions are observed. Inform the client and support people about the safety precautions connected with oxygen use.</li> </ul>	
<b>Performance</b>	

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

8. Introduce self and verify the client's identity using agency protocol. Explain to the client what you are going to do, why it is necessary, and how he or she can participate.	
9. Discuss how the effects of the oxygen therapy will be used in planning further care or treatments	
10. Perform hand hygiene and observe other appropriate infection prevention procedures	
11. Provide for client privacy, if appropriate	
12. Set up the oxygen equipment and the humidifier	
<ul style="list-style-type: none"> <li>• Attach the flow meter to the wall outlet or tank. The flow meter should be in the off position.</li> </ul>	
<ul style="list-style-type: none"> <li>• If needed, fill the humidifier bottle. (This can be done before coming to the bedside.)</li> </ul>	
<ul style="list-style-type: none"> <li>• Attach the humidifier bottle to the base of the flow meter.</li> </ul>	
<ul style="list-style-type: none"> <li>• Attach the prescribed oxygen tubing and delivery device to the humidifier</li> </ul>	
13. Turn on the oxygen at the prescribed rate and ensure proper functioning.	
<ul style="list-style-type: none"> <li>• Check that the oxygen is flowing freely through the tubing. There should be no kinks in the tubing, and the connections should be airtight</li> </ul>	
<ul style="list-style-type: none"> <li>• There should be bubbles in the humidifier as the oxygen flows through. You should feel the oxygen at the outlets of the cannula or mask</li> </ul>	
<ul style="list-style-type: none"> <li>• Set the oxygen at the flow rate ordered.</li> </ul>	
14. Apply the appropriate oxygen delivery device.	
<b><u>Cannula</u></b>	
<ul style="list-style-type: none"> <li>• Put the cannula over the client's face, with the outlet prongs fitting into the nares and the tubing hooked around the ears</li> </ul>	
<ul style="list-style-type: none"> <li>• If the cannula will not stay in place, tape it at the sides of the face</li> </ul>	
<ul style="list-style-type: none"> <li>• Pad the tubing and band over the ears and cheekbones as needed.</li> </ul>	
<b><u>Face Mask</u></b>	
<ul style="list-style-type: none"> <li>• Guide the mask toward the client's face, and apply it from the nose downward</li> </ul>	
<ul style="list-style-type: none"> <li>• Fit the mask to the contours of the client's face</li> </ul>	<i>The mask should mold to the face so that very little oxygen escapes into the eyes or around the cheeks and chin.</i>
<ul style="list-style-type: none"> <li>• Secure the elastic band around the client's head so that the mask is comfortable but snug.</li> </ul>	
<ul style="list-style-type: none"> <li>• Pad the band behind the ears and over bony prominences.</li> </ul>	<i>Padding will prevent irritation from the mask.</i>
15. Assess the client regularly.	
<ul style="list-style-type: none"> <li>• Assess the client's vital signs, level of anxiety, color, and ease of respirations, and provide support while the client adjusts to the device.</li> </ul>	

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

<ul style="list-style-type: none"> <li>Assess the client in 15 to 30 minutes, depending on the client's condition, and regularly thereafter for any signs of hypoxia, tachycardia, dyspnea, restlessness and cyanosis.</li> </ul>	
<p><b><u>For nasal cannula</u></b></p> <ul style="list-style-type: none"> <li>Apply a water-soluble lubricant as required to soothe the Nasal mucous membranes.</li> <li>Place gauze pads at ear beneath the tubing, as necessary.</li> </ul>	
<p><b><u>For face mask</u></b></p> <ul style="list-style-type: none"> <li>Inspect the facial skin frequently for dampness or chafing, and dry and treat it as needed.</li> </ul>	
<p><b>16. Inspect the equipment on a regular basis.</b></p> <ul style="list-style-type: none"> <li>Check the liter flow and the level of water in the humidifier in 30 minutes and whenever providing care to the client.</li> <li>Make sure that safety precautions are being followed.</li> </ul>	
17. Remove PPE, if used. Perform hand hygiene	
18. Document findings in the client's record.	

## IV – WOUND CARE

### Dressing wounds

- Types of dressings
  - Choice depends on:
    - Location, size, type of wound
    - Amount of exudate
    - Whether wound requires debridement or is infected
    - Frequency of dressing change
    - Ease, difficulty of application
    - Cost
- **Supporting and immobilizing wounds**
  - Bandage
    - Strip of cloth used to wrap some part of the body
    - Gauze
      - Retains dressings on wounds
      - Fingers, hands, toes, and feet
    - Elasticized
      - Provides pressure to an area
      - Improves venous circulation in legs



Starting a bandage with circular turns.



Applying spiral turns.

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

## Wound Care

### Procedure

#### PURPOSES

- To promote wound healing by primary intention
- To prevent infection
- To assess the healing process
- To protect the wound from mechanical trauma

#### EQUIPMENT

• Bath blanket (if necessary)
Moisture-proof bag
• Mask (optional)
• Acetone or another solution (if necessary to loosen adhesive)
• Clean gloves
• Sterile gloves
• Sterile dressing set; if none is available, gather the following Sterile items:
• Drape or towel
• Gauze squares
• Container for cleaning solution
• Cleaning solution (e.g., normal saline)
• Two pairs of forceps
• Gauze dressings and surgipads
• Applicators or tongue blades to apply ointments
• Additional supplies required for the particular dressing (e.g., extra gauze dressings and ointment, if ordered)
Tape, tie tapes, or binder

PROCEDURE	Rationale
<b>PREPARATION</b>	
1. Prepare the client and assemble the equipment.	
<ul style="list-style-type: none"> <li>• Obtain assistance for changing a dressing on a restless or Confused adult.</li> </ul>	The person might move and contaminate the sterile field or the wound
<ul style="list-style-type: none"> <li>• Assist the client to a comfortable position in which the wound can be readily exposed. Expose only the wound area, using a bath blanket to cover the client, if necessary.</li> </ul>	Undue exposure is physically and psychologically distressing to most people.
<ul style="list-style-type: none"> <li>• Make a cuff on the moisture-proof bag for disposal of the soiled dressings, and place the bag within reach.</li> </ul>	<p>Making a cuff helps keep the outside of the bag free from contamination by the soiled dressings and prevents subsequent contamination of the nurse's hands or of sterile instrument tips when discarding dressing or sponges.</p> <p>Placement of the bag within reach prevents the nurse from reaching across the sterile field and</p>

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

	the wound and potentially contaminating these areas
<ul style="list-style-type: none"> <li>Apply a face mask, if required.</li> </ul>	Some agencies require that a mask be worn for surgical dressing changes to prevent contamination of the wound by droplet spray from the nurse's respiratory tract.
<b>PERFORMANCE</b>	
1. Prior to performing the procedure, introduce self and verify the client's identity using agency protocol. Explain to the client what you are going to do, why it is necessary, and how he or she can participate. Discuss how the results will be used in planning further care or treatments.	
2. Perform hand hygiene and observe other appropriate Prevention control procedures	
3. Provide for client privacy.	
4. Remove binders and tape. Remove binders, if used, and place them aside. Untie tie tapes, if used. Montgomery straps (tie tapes) are commonly used for wounds requiring frequent dressing changes.	These straps prevent skin irritation and discomfort caused by removing the adhesive each time the dressing is changed.
If adhesive tape was used, remove it by holding down the skin and pulling the tape gently but firmly toward the wound.	Pressing down on the skin provides countertraction against the pulling motion. Tape is pulled toward the incision to prevent strain on the sutures or wound.
5. Remove and dispose of soiled dressings appropriately.	
<ul style="list-style-type: none"> <li>Apply clean gloves and remove the outer abdominal dressing or surgipad.</li> </ul>	
<ul style="list-style-type: none"> <li>Lift the outer dressing so that the underside is away from the client's face.</li> </ul>	The appearance and odor of the drainage may be upsetting to the client
<ul style="list-style-type: none"> <li>Place the soiled dressing in the moisture-proof bag without touching the outside of the bag.</li> </ul>	Contamination of the outside of the bag is avoided to prevent the spread of microorganisms to the nurse and subsequently to others.
<ul style="list-style-type: none"> <li>Remove the underdressings, taking care not to dislodge any drains. If the gauze sticks to the drain, support the drain with one hand and remove the gauze with the other</li> </ul>	
<ul style="list-style-type: none"> <li>Assess the location, type (color, consistency), and odor of wound drainage, and the number of gauzes saturated or the diameter of drainage collected on the dressings.</li> </ul>	
<ul style="list-style-type: none"> <li>Discard the soiled dressings in the bag as before</li> </ul>	
<ul style="list-style-type: none"> <li>Remove and discard gloves in the moisture-proof bag</li> </ul>	
<ul style="list-style-type: none"> <li>Perform hand hygiene</li> </ul>	
6. Set up the sterile supplies.	

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

<ul style="list-style-type: none"> <li>• Open the sterile dressing set, using surgical aseptic technique.</li> <li>• Place the sterile drape beside the wound.</li> <li>• Open the sterile cleaning solution and pour it over the gauze sponges in the plastic container.</li> <li>• Apply sterile gloves.</li> </ul>	
7. Clean the wound, if indicated. <ul style="list-style-type: none"> <li>• Clean the wound, using your gloved hands or forceps and gauze swabs moistened with cleaning solution.</li> </ul>	
<ul style="list-style-type: none"> <li>• If using forceps, keep the forceps tips lower than the handles at all times.</li> </ul>	This prevents their Contamination by fluid traveling up to the handle and nurse's wrist and back to the tips.
<ul style="list-style-type: none"> <li>• Use a separate swab for each stroke and discard each swab after use.</li> </ul>	This prevents the introduction of microorganisms to other wound areas.
<ul style="list-style-type: none"> <li>• If a drain is present, clean it next, taking care to avoid reaching across the cleaned incision. Clean the skin around the drain site by swabbing in half or full circles from around the drain site outward, using separate swabs for each wipe</li> </ul>	
<ul style="list-style-type: none"> <li>• Support and hold the drain erect while cleaning around it. Clean as many times as necessary to remove the drainage.</li> </ul>	
<ul style="list-style-type: none"> <li>• Dry the surrounding skin with dry gauze swabs as required</li> </ul>	
<ul style="list-style-type: none"> <li>• Do not dry the incision or wound itself.</li> </ul>	Moisture facilitates wound healing
8. Apply dressings to the drain site <ul style="list-style-type: none"> <li>• Place a precut 4×4 gauze snugly around the drain, or open a 4×4 gauze to 4×8 in., fold it lengthwise to 2×8 in., and place it around the drain so that the ends overlap</li> </ul>	This dressing absorbs the drainage and helps prevent it from excoriating the skin. Using precut gauze or folding it as described, instead of cutting the gauze, prevents any threads from coming loose and getting into the wound, where they could cause inflammation and provide a site for infection.
<ul style="list-style-type: none"> <li>• Apply the sterile dressings one at a time over the drain and the incision. Place the bulk of the dressings over the drain area and below the drain, depending on the client's usual position.</li> </ul>	Layers of dressings are placed for best absorption of drainage, which flows by gravity.
<ul style="list-style-type: none"> <li>• Apply the final surgipad. Remove and discard gloves. Secure the dressing with tape or ties.</li> </ul>	
<ul style="list-style-type: none"> <li>• Perform hand hygiene.</li> </ul>	
9. Document the procedure and all nursing assessments.	



King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

## **V - POSITIONING THE CLIENT**

### **1. - MOVING A CLIENT UP IN BED**

#### **PURPOSE**

- To assist clients who have slid down in bed from the Fowler's position to move up in bed.

#### **Equipment**

<ul style="list-style-type: none"> <li>• Assistive devices such as an overhead trapeze</li> </ul>
<ul style="list-style-type: none"> <li>• friction-reducing device, or a mechanical lift</li> </ul>

<b>PROCEDURE</b>	<b>Rationale</b>
<b>Preparation.</b>	
1. Determine: <ul style="list-style-type: none"> <li>• Assistive devices that will be required</li> <li>• Encumbrances to movement such as an IV or an indwelling Urinary catheter</li> <li>• Medications the client is receiving, because certain medications may hamper movement or alertness of the client</li> <li>• Assistance required from other health care personnel.</li> </ul>	
<b>Performance</b>	
2. Prior to performing the procedure, introduce self and verify the client's identity using agency protocol. Explain to the client what you are going to do, why it is necessary, and how he or she can participate. Listen to any suggestions made by the client or support people.	
3. Perform hand hygiene and observe other appropriate infection prevention procedures.	
4. Provide for client privacy.	
5. Adjust the bed and the client's position. <ul style="list-style-type: none"> <li>• Adjust the head of the bed to a flat position or as low as the client can tolerate</li> </ul>	Moving the client upward against gravity requires more force and can cause back strain.
<ul style="list-style-type: none"> <li>• Raise the bed to a height appropriate for personnel safety (i.e., at the caregiver's elbows)</li> </ul>	
<ul style="list-style-type: none"> <li>• Lock the wheels on the bed and raise the rail on the side of the bed opposite you.</li> </ul>	
<ul style="list-style-type: none"> <li>• Remove all pillows, then place one against the head of the bed</li> </ul>	This pillow protects the client's head from inadvertent injury against the top of the bed during the upward move.
<b>6. For the client who is able to reposition without assistance:</b>	
<ul style="list-style-type: none"> <li>• Place the bed in flat or reverse Trendelenburg's position (as tolerated by the client).</li> <li>• Stand by and instruct the client to move self. Assess if the client is able to move without causing friction to the skin.</li> </ul>	
<ul style="list-style-type: none"> <li>• Encourage the client to reach up and grasp the upper side rails with both hands, bend knees, and push off with the feet and pull up with the arms simultaneously.</li> </ul>	
<ul style="list-style-type: none"> <li>• Ask if a positioning device is needed (e.g., pillow).</li> </ul>	
<b>7. Position yourself appropriately, and move the client.</b>	

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

<ul style="list-style-type: none"> <li>• Face the direction of the movement, and then assume a broad stance with the foot nearest the bed behind the forward foot and weight on the forward foot. Lean your trunk forward from the hips. Flex the hips, knees, and ankles.</li> </ul>	
<ul style="list-style-type: none"> <li>• Tighten your gluteal, abdominal, leg, and arm muscles and rock from the back leg to the front leg and back again. Then, shift your weight to the front leg as the client pushes with the heels so that the client moves toward the head of the bed.</li> </ul>	
<b>8. For the client who is unable to assist:</b>	
<ul style="list-style-type: none"> <li>• Use the ceiling lift with supine sling or mobile floor-based lift and two or more caregivers.</li> </ul>	Moving a client up in bed is not a one-person task. During any client handling, if the caregiver is required to lift more than 35 lb of a client's weight, then the client should be considered to be fully dependent, and assistive devices should be used. This reduces risk of injury to caregiver.
9. Ensure client comfort.	
10. Elevate the head of the bed and provide appropriate support devices for the client's new position.	
11. Document all relevant information. Record: <ul style="list-style-type: none"> <li>• Time and change of position moved from and position moved to</li> <li>• Any signs of pressure areas</li> <li>• Use of support devices</li> <li>• Ability of client to assist in moving and turning</li> <li>• Response of client to moving and turning (e.g., anxiety, discomfort, dizziness).</li> </ul>	

## 2 - TURNING THE CLIENT TO THE LATERAL OR PRONE POSITION IN BED

### **PURPOSE**

• Movement to the lateral (side-lying) position may be necessary when placing a bedpan beneath the client, when changing the client's bed linen, or when repositioning the client.

IMPLEMENTATION	Rationale
Preparation	
Determine:	
0- • Assistive devices that will be required (e.g., friction-reducing device or mechanical lift)	
1- • Encumbrances to movement such as an IV or an indwelling Urinary catheter	
2- • Medications the client is receiving, because certain medications may hamper movement or alertness of the client	
3- • Assistance required from other health care personnel.	Moving a client is not a one-person task. During any client handling, if the caregiver is required to lift more than 35 lb of a client's weight, then the client should be considered to be fully dependent and assistive devices should

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

	be used. This reduces risk of injury to caregiver
<b>Performance</b>	
5. Prior to performing the procedure, introduce self and verify the client's identity using agency protocol. Explain to the client what you are going to do, why it is necessary, and how he or she can participate.	
6. Perform hand hygiene and observe other appropriate infection prevention procedures	
7. Provide for client privacy.	
8. Position yourself and the client appropriately before performing the move. Other individual(s) stands on the opposite side of the bed.	
9. Adjust the head of the bed to a flat position or as low as the client can tolerate.	
10. Raise the bed to a height appropriate for personnel safety (i.e., at the caregiver's elbows).	This provides a position of comfort for the client.
11. Lock the wheels on the bed.	
12. Move the client closer to the side of the bed opposite the side the client will face when turned.	This ensures that the client will be positioned safely in the center of the bed after turning.
13. Use a friction-reducing device or mechanical lift (depending on level of client assistance required) to pull the client to the side of the bed.	
14. Adjust the client's head and reposition the legs appropriately.	
15. While standing on the side of the bed nearest the client, place the client's near arm across the chest.	
16. Abduct the client's far shoulder slightly from the side of the body and externally rotate the shoulder	Pulling the one arm forward facilitates the turning motion. Pulling the other arm away from the body and externally rotating the shoulder prevents that arm from being caught beneath the client's body during the roll.
17. Place the client's near ankle and foot across the far ankle and foot.	This facilitates the turning motion. Making these preparations on the side of the bed closest to the client helps prevent unnecessary reaching
18. The person on the side of the bed toward which the client will turn should be positioned directly in line with the client's waistline and as close to the bed as possible.	
19. Roll the client to the lateral position. The second person(s) standing on the opposite side of the bed helps roll the client from the other side.	
20. Place one hand on the client's far hip and the other hand on the client's far shoulder.	This position of the hands supports the client at the two heaviest parts of the body, providing greater control in movement during the roll.
21. Position the client on his or her side with arms and legs positioned and supported properly	

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

<b>Variation: Turning the Client to a Prone Position</b>	
22. To turn a client to the prone position, follow the preceding steps, with two exceptions: <ul style="list-style-type: none"> <li>• Instead of abducting the far arm, keep the client's arm alongside the body for the client to roll over.</li> </ul>	Keeping the arm alongside the body prevents it from being pinned under the client when the client is rolled.
<ul style="list-style-type: none"> <li>• Roll the client completely onto the abdomen.</li> </ul>	It is essential to move the client as close as possible to the edge of the bed before the turn so that the client will be lying on the center of the bed after rolling.
23. Never pull a client across the bed while the client is in the prone position.	Doing so can injure a woman's breasts or a man's genitals.
24. Document all relevant information. Record: <ul style="list-style-type: none"> <li>• Time and change of position moved from and position moved to</li> <li>• Any signs of pressure areas</li> <li>• Use of support devices</li> <li>• Ability of client to assist in moving and turning</li> <li>• Response of the client to moving and turning (e.g., anxiety, discomfort, dizziness).</li> </ul>	

### **3 - ASSISTING THE CLIENT TO SIT ON THE SIDE OF THE BED**

#### **PURPOSE**

- The client assumes a sitting position on the edge of the bed before walking, moving to a chair or wheelchair, eating, or performing other activities.

Procedure	Rationale
<b>Preparation</b>	
Determine: <ol style="list-style-type: none"> <li>1. Assistive devices that will be required</li> <li>2. Encumbrances to movement such as an IV or a urinary catheter</li> <li>3. Medications the client is receiving, because certain medications may hamper movement or alertness of the client</li> <li>4. Assistance required from other health care personnel</li> </ol>	
<b>Performance</b>	
5. Prior to performing the procedure, introduce self and verify the client's identity using agency protocol. Explain to the client what you are going to do, why it is necessary, and how he or she can participate.	
6. Perform hand hygiene and observe other appropriate infection prevention procedures.	
7. Provide for client privacy	
8. Position yourself and the client appropriately before performing the move.	
<ul style="list-style-type: none"> <li>• Assist the client to a lateral position facing you, using an assistive device depending on client assistance needs.</li> </ul>	

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

<ul style="list-style-type: none"> <li>• Raise the head of the bed slowly to its highest position.</li> </ul>	This decreases the distance that the client needs to move to sit up on the side of the bed.
<ul style="list-style-type: none"> <li>• Position the client's feet and lower legs at the edge of the bed.</li> </ul>	This enables the client's feet to move easily off the bed during the movement, and the client is aided by gravity into a sitting position
<ul style="list-style-type: none"> <li>• Stand beside the client's hips and face the far corner of the bottom of the bed (the angle in which movement will occur).</li> </ul>	
<ul style="list-style-type: none"> <li>• Assume a broad stance, placing the foot nearest the client and head of the bed forward.</li> </ul>	
<ul style="list-style-type: none"> <li>• Lean your trunk forward from the hips. Flex your hips, knees, and ankle</li> </ul>	
9. Move the client to a sitting position, using an assistive device depending on client assistance needs.	
<ul style="list-style-type: none"> <li>• Place the arm nearest to the head of the bed under the client's shoulders and the other arm over both of the client's thighs near the knees.</li> </ul>	Supporting the client's shoulders prevents the client from falling backward during the movement Supporting the client's thighs reduces friction of the thighs against the bed surface during the move and increases the force of the movement.
<ul style="list-style-type: none"> <li>• Tighten your gluteal, abdominal, leg, and arm muscles.</li> </ul>	
<ul style="list-style-type: none"> <li>• Pivot on the balls of your feet in the desired direction facing the foot of the bed while pulling the client's feet and legs off the bed.</li> </ul>	Pivoting prevents twisting of the nurse's spine. The weight of the client's legs swinging downward increases downward movement of the lower body and helps make the client's upper body vertical.
<ul style="list-style-type: none"> <li>• Keep supporting the client until the client is well balanced and comfortable..</li> </ul>	This movement may cause some clients to become light-headed or dizzy
<ul style="list-style-type: none"> <li>• Assess vital signs (e.g., pulse, respirations, and blood pressure) as indicated by the client's health status</li> </ul>	
10. Document all relevant information. Record: <ul style="list-style-type: none"> <li>• Ability of the client to assist in moving and turning</li> <li>• Type of assistive device, if one was used</li> <li>• Response of the client to moving and turning (e.g., anxiety, discomfort, dizziness).</li> </ul>	

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

#### **4 - TRANSFERRING PATIENT BETWEEN BED AND CHAIR**

##### **PURPOSE**

- A client may need to be transferred between the bed and a wheelchair or chair, the bed and the commode, or a wheelchair and the toilet.

##### **Equipment**

• Robe or appropriate clothing
• Slippers or shoes with nonskid soles
• Gait/transfer belt
• Chair, commode, wheelchair as appropriate to client need
• Slide board, if appropriate
• Lift, if appropriate

Procedure	Rationale
<b>Preparation •</b>	
1. Plan what to do and how to do it.	
2. Obtain essential equipment before starting (e.g., gait/transfer belt, wheelchair), and check that all equipment is functioning correctly.	
3. Remove obstacles from the area so clients do not trip. Make sure there are no spills or liquids on the floor on which clients could slip.	
<b>Performance</b>	
4. Prior to performing the procedure, introduce self and verify the client's identity using agency protocol. Explain the transfer process to the client. During the transfer, explain step by step what the client should do, for example, "Move your right foot forward."	
5. Perform hand hygiene and observe other appropriate infection prevention procedures	
6. Provide for client privacy	
7. Position the equipment appropriately.	
• Lower the bed to its lowest position so that the client's feet will rest flat on the floor. Lock the wheels of the bed	
• Place the wheelchair parallel to the bed and as close to the bed as possible.	
• Put the wheelchair on the side of the bed that allows the client to move toward his or her stronger side.	
• Lock the wheels of the wheelchair and raise the footplate	
8. Prepare and assess the client.	
• Assist the client to a sitting position on the side of the bed .Assess the client for orthostatic hypotension before moving the client from the bed.	
• Assist the client in putting on a bathrobe and nonskid slippers or shoes.	
• Place a gait/transfer belt snugly around the client's waist. Check to be certain that the belt is securely fastened	
9. Give explicit instructions to the client. Ask the client to:	

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

<ul style="list-style-type: none"> <li>Move forward and sit on the edge of the bed (or surface on which the client is sitting) with feet placed flat on the floor.</li> </ul>	This brings the client's center of gravity closer to the nurse's
<ul style="list-style-type: none"> <li>Lean forward slightly from the hips.</li> </ul>	This brings the client's center of gravity more directly over the base of support and positions the head and trunk in the direction of the movement
<ul style="list-style-type: none"> <li>Place the foot of the stronger leg beneath the edge of the bed (or sitting surface) and put the other foot forward.</li> </ul>	In this way, the client can use the stronger leg muscles to stand and power the movement. A broader base of support makes the client more stable during the transfer
<ul style="list-style-type: none"> <li>Place the client's hands on the bed surface (or available stable area) so that the client can push while standing.</li> </ul>	. This provides additional force for the movement and reduces the potential for strain on the nurse's back.
<ul style="list-style-type: none"> <li>The client should not grasp your neck for support.</li> </ul>	Doing so can injure the nurse.
10. Position yourself correctly	
<ul style="list-style-type: none"> <li>Stand directly in front of the client and to the side requiring the most support.</li> </ul>	
<ul style="list-style-type: none"> <li>Hold the gait/transfer belt with the nearest hand; the other hand supports the back of the client's shoulder</li> </ul>	
<ul style="list-style-type: none"> <li>Lean your trunk forward from the hips. Flex your hips, knees, and ankles. Assume a broad stance, placing one foot forward and one back. Brace the client's feet with your feet to prevent the client from sliding forward or laterally..</li> </ul>	
<ul style="list-style-type: none"> <li>Mirror the placement of the client's feet, if possible.</li> </ul>	This helps prevent loss of balance during the transfer
11. Assist the client to stand, and then move together toward the wheelchair or sitting area to which you wish to transfer the client.	
<ul style="list-style-type: none"> <li>On the count of three or the verbal instructions of "Ready-steady-stand" and on the count of three or the word "Stand," ask the client to push down against the mattress/side of the bed while you transfer your weight from one foot to the other (while keeping your back straight) and stand upright moving the client forward (directly toward your center of gravity) into a standing position. (If the client requires more than a very small degree of pulling, even with the assistance of two nurses, a mechanical device should be obtained and used.)</li> </ul>	
<ul style="list-style-type: none"> <li>Support the client in an upright standing position for a few moments.</li> </ul>	This allows the nurse and the client to extend the joints and provides the nurse with an opportunity to ensure that the client is stable before moving away from the bed
<ul style="list-style-type: none"> <li>Together, pivot on your foot farthest from the chair, or take a few steps toward the wheelchair, bed, chair, commode, or car seat.</li> </ul>	
12. Assist the client to sit	
<ul style="list-style-type: none"> <li>Move the wheelchair forward or have the client back up to the wheelchair (or desired seating area) and place the legs against the seat.</li> </ul>	Having the client place the legs against the wheelchair seat minimizes the risk of the client falling when sitting down.

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

• Make sure the wheelchair brakes are on.	
• Have the client reach back and feel/hold the arms of the wheelchair.	
• Stand directly in front of the client. Place one foot forward and one back.	
• Tighten your grasp on the transfer belt, and tighten your gluteal, abdominal, leg, and arm muscles.	
• Have the client sit down while you bend your knees/hips and lower the client onto the wheelchair seat.	
13. Ensure client safety.	
• Ask the client to push back into the wheelchair seat.	Sitting well back on the seat provides a broader base of support and greater stability and minimizes the risk of falling from the wheelchair. A wheelchair or bedside commode can topple forward when the client sits on the edge of the seat and leans far forward.
• Remove the gait/transfer belt.	
• Lower the footplates, and place the client's feet on them, if applicable	

### 5 - ASSISTING THE CLIENT TO AMBULATE

#### **PURPOSE**

- To provide a safe condition for the client to walk with whatever support is needed.

#### **Equipment**

• Assistive devices required for safe ambulation of client (e.g., gait/ transfer belt, walker, cane, sit to stand assist device, lift with ambulation sling)
• Wheelchair for following client, or chairs along the route if the client needs to rest
• Portable oxygen tank if the client needs it

Procedure	Rationale
Preparation	
1. Be certain that others are available to assist you if needed. Also, plan the route of ambulation that has the fewest hazards and a clear path for ambulation	
Performance	
2. Introduce self and verify the client's identity using agency protocol.	
3. Explain to the client how you are going to assist, why ambulation is necessary, and how he or she can participate. Discuss how this activity relates to the overall plan of care. Stress that the client must keep the nurse informed as to how the activity is being tolerated as it progresses.	
4. Perform hand hygiene and observe appropriate infection prevention procedures	
5. Ensure that the client is appropriately dressed to walk and has shoes or slippers with nonskid soles	
6. Prepare the client for ambulation	
• Have the client sit up in bed for at least 1 minute prior to	



King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

preparing to dangle legs.	
<ul style="list-style-type: none"> <li>Assist the client to sit on the edge of the bed and allow dangling for at least 1 minute.</li> </ul>	
<ul style="list-style-type: none"> <li>Assess the client carefully for signs and symptoms of orthostatic hypotension (dizziness, light-headedness, or a sudden increase in heart rate) prior to leaving the bedside</li> </ul>	Allowing for gradual adjustment can minimize drops in blood pressure (and fainting) that occur with shifts in position from lying to sitting, and sitting to standing
<ul style="list-style-type: none"> <li>Assist the client to stand by the side of the bed for at least 1 minute until he or she feels secure</li> </ul>	
<ul style="list-style-type: none"> <li>Carefully attend to any IV tubing, catheters, or drainage bags. Keep urinary drainage bags below level of the client's bladder.</li> </ul>	To prevent backflow of urine into bladder and risk of infection.
<ul style="list-style-type: none"> <li>If the client is a low safety risk (e.g., able to follow commands, medically stable, and experienced with assistive device), use a gait/transfer belt for standby assist as needed and assistive devices as needed (e.g., crutches, walker, cane) and 1-2 caregivers.</li> </ul>	
<ul style="list-style-type: none"> <li>Make sure the belt is pulled snugly around the client's waist and fastened securely. Grasp the belt at the client's back, and walk behind and slightly to one side of the client.</li> </ul>	
7. Ensure client safety while assisting the client to ambulate. •	
<ul style="list-style-type: none"> <li>Encourage the client to ambulate independently if he or she is able, but walk beside the client's weak side, if appropriate. <ul style="list-style-type: none"> <li>If the client has a lightweight IV pole because of infusing fluids, he or she may find that holding onto the pole while ambulating helps with balance.</li> <li>If the pole or other equipment is cumbersome in any way, the nurse must push it to match the client's pace, securing any assistance necessary in order to move smoothly with the client</li> </ul> </li> </ul>	
<ul style="list-style-type: none"> <li>Remain physically close to the client in case assistance is needed at any point</li> </ul>	
<ul style="list-style-type: none"> <li>If it is the client's first time out of bed following surgery, injury, or an extended period of immobility, or if the client is weak or unstable, have an assistant follow you and the client with a wheelchair in the event that it is needed quickly</li> </ul>	
<ul style="list-style-type: none"> <li>Encourage the client to assume a normal walking stance and gait as much as possible. Ask the client to straighten the back and raise the head so that the eyes are looking forward in a normal horizontal plane</li> </ul>	Clients who are unsure of their ability to ambulate tend to look down at their feet, which makes them more likely to fall.
8. Protect the client who begins to fall while ambulating.	
<ul style="list-style-type: none"> <li>If a client begins to experience the signs and symptoms of orthostatic hypotension or extreme weakness, quickly assist the client into a nearby wheelchair or other chair, and help the client to lower the head between the knees</li> <li>Stay with the client.</li> </ul>	A client who faints while in this position could fall head first out of the chair.
<ul style="list-style-type: none"> <li>When the weakness subsides, assist the client back to bed.</li> </ul>	
<ul style="list-style-type: none"> <li>If a chair is not close by, assist the client to a horizontal position on the floor before fainting occurs</li> </ul>	
a. Assume a broad stance with one foot in front of the other	A broad stance widens your base of support. Placing one foot behind the other allows you to rock backward and use the femoral muscles when supporting the client's weight and lowering the center of gravity

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

	(see the next step), thus preventing back strain
b. Bring the client backward so that your body supports the person.	Clients who faint or start to fall usually pitch slightly forward because of the momentum of ambulating. Bringing the client's weight backward against your body allows gradual movement to the floor without injury to the client.
c. Allow the client to slide down your leg, and lower the person gently to the floor, making sure the client's head does not hit any objects.	
<b>Variation: Two Nurses</b>	
<ul style="list-style-type: none"> <li>Place a gait/transfer belt around the client's waist. Each nurse grasps the side handle with the near hand and the lower aspect of the client's upper arm with the other hand</li> </ul>	
<ul style="list-style-type: none"> <li>Walk in unison with the client, using a smooth, even gait, at the same speed and with steps the same size as the client's</li> </ul>	This gives the client a greater feeling of security
9. Document distance and duration of ambulation and assistive devices, if used, in the client record using forms or checklists supplemented by narrative notes when appropriate	
10. Include description of the client's gait (including body alignment) when walking; pace; activity tolerance when walking (e.g., pulse rate, facial color, any shortness of breath, feelings of dizziness, or weakness); degree of support required; and respiratory rate and blood pressure after initial ambulation to compare with baseline data	

## VI -URINARY CATHETERIZATION

- introduction of a catheter into the urinary bladder.
- This is usually performed only when absolutely necessary, because the danger exists of introducing microorganisms into the bladder.
- Insertion of urinary catheters is one of most common causes of hospital-acquired (nosocomial) infections.
- Methods to apply vary by manufacturer; follow instructions provided.

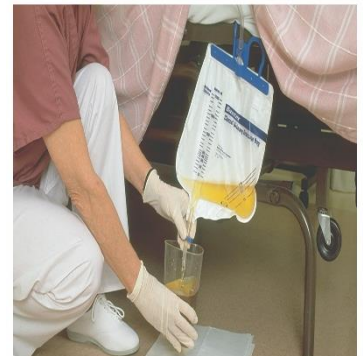


① A closed indwelling catheter insertion kit.

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

### Nursing interventions for clients with indwelling catheters

- Encourage large amounts of fluid intake
- Provide foods that create acidic urine
- Give routine perineal care
- Prevent contamination with feces in incontinent clients
- Change catheter and tubing when necessary (sediment, impaired drainage)
- Maintain sterile closed-drainage system
- Remove catheter as soon as possible after purpose achieved
- Provide bladder retraining if needed
- Follow good handwashing techniques
- Ensure tubing is free of obstructions
- Ensure there is no tension on catheter or tubing
- Ensure gravity drainage is maintained, with no loops in tubing below entry to drainage bag
- Ensure system is well sealed or closed
- Keep drainage receptacle below level of client's bladder
- Observe flow of urine q 2–3 hours
- Note color, odor, abnormal constituents
- If sediment is present, check more often



### BOX 48–3 Preventing or Reducing the Risk of CAUTIs

#### AVOID UNNECESSARY USE OF URINARY CATHETERS

- Develop criteria for appropriate catheter insertion.
- Consider alternatives to an indwelling catheter such as external condom catheter.
- Use a bladder scanner to assess for urinary retention.

#### INSERT URINARY CATHETERS USING ASEPTIC TECHNIQUE

- Catheters should only be inserted by trained individuals.
- Use aseptic technique and sterile equipment.
- Catheter kit should include a catheter and all necessary items in one place.
- Use the smallest catheter possible that allows for proper drainage and decreases urethral trauma.

#### MAINTAIN THE URINARY CATHETER

- Use hand hygiene and standard precautions during any manipulation of the catheter or collecting system.
- Maintain a sterile, closed drainage system.
- Maintain unobstructed urine flow; keep catheter and tubing from kinking.
- Keep the collection bag below the level of the bladder at all times, but do not rest the bag on the floor.
- Empty the collection bag regularly with a separate, clean collecting container for each client; and prevent contact of the drainage spigot with the nonsterile collecting container.

#### PRACTICES TO AVOID

- Irrigation of catheters, except in cases of catheter obstruction
- Disconnecting the catheter from the drainage tubing
- Replacing catheters routinely
- Cleaning the periurethral area with antiseptics. Routine hygiene (cleaning the meatus during daily bathing) is appropriate

#### REVIEW URINARY CATHETER NECESSITY DAILY AND REMOVE PROMPTLY

- Assess the need for catheter in daily nursing assessments; contact the primary care provider if criteria not met.
- Develop nursing protocols that allow nurses to remove urinary catheters if criteria for necessity are not met and there are no contraindications for removal.
- Implement automatic stop orders for 48 to 72 hours after catheter insertion. Continue catheter use only with a documented order from the primary care provider.
- Use alerts in chart or computerized charting system to inform the primary care provider of the presence of a catheter and require an order for continued use.

From *How-to-Guide: Prevent Catheter-Associated Urinary Tract Infections*, by IHI, 2011, Cambridge, MA: Author; "Using Evidence-Based Practice to Reduce Catheter-Associated Urinary Tract Infections," by T. L. Magers, 2013, *American Journal of Nursing*, 113(6), pp. 34–42; and "Maintaining Urinary Catheters: What Does the Evidence Say?" by M. A. Seckel, 2013, *Nursing*, 43(2), pp. 63–65.

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

### 1. Performing Urinary Catheterization for Female

#### PURPOSES

- To relieve discomfort due to bladder distention or to provide
- Gradual decompression of a distended bladder
- To assess the amount of residual urine if the bladder empties incompletely
- To obtain a sterile urine specimen
- To empty the bladder completely prior to surgery Performing Urinary Catheterization
- To facilitate accurate measurement of urinary output for critically ill clients whose output needs to be monitored hourly
- To provide for intermittent or continuous bladder drainage and/ or irrigation
- To prevent urine from contacting an incision after perineal surgery

<b>Equipment</b>
• Sterile catheter of appropriate size
• For an indwelling catheter:
• Syringe prefilled with sterile water in amount specified by catheter manufacturer
• Collection bag and tubing
• 5–10 mL 2% Xylocaine gel or water-soluble lubricant for male
• Urethral injection (if agency permits)
• Clean gloves
• Supplies for performing perineal cleansing
• Bath blanket or sheet for draping the client
• Adequate lighting (Obtain a flashlight or lamp if necessary.)
• Catheterization kit or individual sterile items:
• Sterile gloves
• Waterproof drape(s)
• Antiseptic solution
• Cleansing balls
• Forceps
• Water-soluble lubricant
• Urine receptacle
• Specimen container

<b>PROCEDURE</b>	<b>RATIONALE</b>
16. Introduce self and verify the client's identity using agency protocol.	
17. Explain to the client what you are going to do, why it is necessary, and how he or she can participate.	
18. Perform hand hygiene and observe other appropriate infection prevention procedures.	
19. Provide for client privacy.	
20. Place the client in the supine position, with knees flexed, feet about 2 feet apart, and hips slightly externally rotated. Drape all except the perineum.	
21. Establish adequate lighting. Stand on the client is right if you are right-handed, on the client is left if you are left-handed.	Because one hand is needed to hold the catheter once it is in place, open the package while two hands are still available.

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

22. If using a collecting bag and it is not contained within the Catheterization kit, open the drainage package and place the end of the tubing within reach.	
23. Apply clean gloves and perform routine perineal care to cleanse gross contamination meatus relative to surrounding structures	
24. Remove and discard gloves. Perform hand hygiene.	
25. Open the catheterization kit. Place a waterproof drape under the buttocks (female) without contaminating the center of the drape with your hands	
26. Apply sterile gloves	
27. Organize the remaining supplies: <ul style="list-style-type: none"> <li>• Saturate the cleansing balls with the antiseptic solution.</li> <li>• Open the lubricant package.</li> <li>• Remove the specimen container and place it nearby with the lid loosely on top.</li> </ul>	
28. Attach the prefilled syringe to the indwelling catheter inflation hub. Apply agency policy and/or manufacturer recommendation regarding pretesting of the balloon	There is little research regarding pretesting of the balloon; however, some balloons (e.g., silicone) may form a cuff on deflation that can irritate the urethra on insertion
29. Lubricate the catheter 2.5 to 5 cm (1 to 2 in.) and place it with the drainage end inside the collection container.	
30. If desired, place the fenestrated drape over the perineum, Exposing the urinary meatus	
31. Cleanse the meatus. NOTE: <ul style="list-style-type: none"> <li>• The non-dominant hand is considered contaminated once it touches the client's skin. Use your non dominant hand to spread the labia so that the meatus is visible. Establish firm but gentle pressure</li> <li>• Location of the urethral meatus is best identified during the cleansing process. Pick up a cleansing ball with the forceps in your dominant hand and wipe one side of the labia majora in an anteroposterior direction.</li> </ul>	
32. Use great care that wiping the client does not contaminate this sterile hand. Use a new ball for the opposite side. Repeat for the labia minora. Use the last ball to cleanse directly over the meatus	
33. Insert the catheter <ul style="list-style-type: none"> <li>• Grasp the catheter firmly 5 to 7.5 cm (2 to 3 in.) from the tip .</li> <li>• Ask the client to take a slow deep breath and insert</li> <li>• Insert the catheter as the client exhales. Slight resistance is expected as the catheter passes through the sphincter.</li> <li>• If necessary, twist the catheter or hold pressure on the catheter until the sphincter relaxes.</li> <li>• Advance the catheter 5 cm (2 in.) farther after the urine begins to flow through it.</li> <li>• If the catheter accidentally contacts the labia or slips into the vagina, it is considered contaminated and a new, sterile catheter must be used. The contaminated catheter may be left</li> </ul>	

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

in the vagina until the new catheter is inserted to help avoid mistaking the vaginal opening for the urethral meatus.	
<p>34. Hold the catheter with the non-dominant hand.</p> <ul style="list-style-type: none"> <li>For an indwelling catheter, inflate the retention balloon with the designated volume.</li> <li>Without releasing the catheter and without releasing the labia, hold the inflation valve between two fingers of your non dominant hand while you attach the syringe(if not left attached earlier) and inflate with your dominant hand.</li> <li>If the client complains of discomfort, immediately withdraw the instilled fluid, advance the catheter farther, and attempt to inflate the balloon again.</li> <li>Pull gently on the catheter until resistance is felt to ensure that the balloon has inflated and to place it in the trigone of the bladder.</li> </ul>	This is to be sure it is Fully in the bladder.
<p>35. Collect a urine specimen if needed.</p> <ul style="list-style-type: none"> <li>For an indwelling catheter preattached to a drainage bag, a specimen may be taken from the bag this initial time only. If necessary (e.g., open system), attach the drainage end of an indwelling catheter to the collecting tubing and bag..</li> </ul>	
36. Examine and measure the urine. In some cases, only 750 to 1,000 mL of urine are to be drained from the bladder at one time. Check agency policy for further instructions if this should occur.	
<p>37. Secure the catheter tubing to the thigh to prevent movement on the urethra or excessive tension or pulling on the retention balloon Secure with adhesive and nonadhesive catheter-securing devices</p>	This prevents unnecessary trauma to the urethra.
38. Hang the bag below the level of the bladder. No tubing should fall below the top of the bag.	
39. Wipe any remaining antiseptic or lubricant from the perineal area. Return the client to a comfortable position. Instruct the client on <u>positioning and moving with the catheter in place</u>	
40. Discard all used supplies in appropriate receptacles.	
41. Remove and discard gloves. Perform hand hygiene.	
42. Document the catheterization procedure including catheter size and results in the client record using forms or checklists supplemented by narrative notes when appropriate.	

## **2. Performing Urinary Catheterization for Male**

### **PURPOSES**

- To relieve discomfort due to bladder distention or to provide
- Gradual decompression of a distended bladder
- To assess the amount of residual urine if the bladder empties incompletely
- To obtain a sterile urine specimen
- To empty the bladder completely prior to surgery Performing Urinary Catheterization

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

- To facilitate accurate measurement of urinary output for critically ill clients whose output needs to be monitored hourly
- To provide for intermittent or continuous bladder drainage and/ or irrigation
- To prevent urine from contacting an incision after perineal surgery

<b>Equipment</b>
• Sterile catheter of appropriate size
• For an indwelling catheter:
• Syringe prefilled with sterile water in amount specified by catheter manufacturer
• Collection bag and tubing
• 5–10 mL 2% Xylocaine gel or water-soluble lubricant for male
• Urethral injection (if agency permits)
• Clean gloves
• Supplies for performing perineal cleansing
• Bath blanket or sheet for draping the client
• Adequate lighting (Obtain a flashlight or lamp if necessary.)
• Catheterization kit or individual sterile items:
• Sterile gloves
• Waterproof drape(s)
• Antiseptic solution
• Cleansing balls
• Forceps
• Water-soluble lubricant
• Urine receptacle
• Specimen container

PROCEDURE	Rationale
1. Introduce self and verify the client's identity using agency protocol.	
2. Explain to the client what you are going to do, why it is necessary, and how he or she can participate.	
3. Perform hand hygiene and observe other appropriate infection prevention procedures.	
4. Provide for client privacy.	
5. Place the client in the supine position, thighs slightly abducted or apart and drape all except the perineum.	
6. Establish adequate lighting. Stand on the client is right if you are right-handed, on the client is left if you are left-handed	Because one hand is needed to hold the catheter once it is in place, open the package
7. If using a collecting bag and it is not contained within the catheterization kit, open the drainage package and place the end of the tubing within reach.	
8. If agency policy permits, apply clean gloves and inject 10-to15 mL Xylocaine gel into the urethra of the male client. Wipe the underside of the penile shaft to distribute the gel up the urethra. Wait at least 5 minutes for the gel to take effect before inserting the catheter	
9. Remove and discard gloves . Perform hand hygiene	

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

10. Open the catheterization kit. Place waterproof drape under the buttocks, penis (male) without contaminating the center of the drape with your hands.	
11. Apply sterile gloves	
12. Organize the remaining supplies: <ul style="list-style-type: none"> <li>• Saturate the cleansing balls with the antiseptic solution.</li> <li>• Open the lubricant package.</li> <li>• Remove the specimen container and place it nearby with the lid loosely on top.</li> </ul>	
13. Attach the prefilled syringe to the indwelling catheter inflation hub. Apply agency policy and/or manufacturer recommendation regarding pretesting of the balloon.	There is little research regarding pretesting of the balloon; however, some balloons (e.g., silicone) may form a cuff on deflation that can irritate the urethra on insertion.
14. Lubricate the catheter 15 to 17.5 cm (6 to 7 in.) and place it with the drainage end inside the collection container.	
15. If desired, place the fenestrated drape over the perineum, exposing the urinary meatus.	
16. Cleanse the meatus. Note: The nondominant hand is considered contaminated once it touches the client's skin.	
17. Use your non dominant hand to grasp the penis just below the glans. If necessary, retract the foreskin. Hold the penis firmly upright, with slight tension. <ul style="list-style-type: none"> <li>• Pick up a cleansing ball with the forceps in your dominant hand and wipe from the center of the meatus in a circular motion around the glans.</li> <li>• Use great care that wiping the client does not contaminate the sterile hand.</li> <li>• Use a new ball and repeat three more times.</li> </ul>	Lifting the penis in this manner helps straighten the urethra.
18. Insert the catheter. <ul style="list-style-type: none"> <li>• Grasp the catheter firmly 5 to 7.5 cm (2 to 3 in.) from the tip</li> <li>• Ask the client to take a slow deep breath and insert the catheter as the client exhales. Slight resistance is expected as the catheter passes through the sphincter.</li> <li>• If necessary, twist the catheter or hold pressure on the catheter until the sphincter relaxes.</li> </ul>	
19. Advance the catheter 5 cm (2 in.) farther after the urine begins to flow through it. For male clients some experts recommend advancing the catheter to the "Y" bifurcation of the catheter.	This is to be sure it is fully in the bladder, will not easily fall out, and the balloon is in the bladder completely.
20. Hold the catheter with the non-dominant hand.	
21. For an indwelling catheter, inflate the retention balloon with the designated volume <ul style="list-style-type: none"> <li>• Without releasing the catheter hold the inflation valve between two fingers of your non-dominant hand while you attach the syringe (if not left attached earlier) and inflate with your dominant hand. If the client complains of discomfort, immediately withdraw the instilled fluid, advance the catheter farther, and attempt to inflate the balloon again.</li> <li>• Pull gently on the catheter until resistance is felt to ensure</li> </ul>	



King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

<ul style="list-style-type: none"> <li>• That the balloon has inflated and to place it in the trigone of the bladder.</li> </ul>	
22. Collect a urine specimen if needed. For an indwelling catheter preattached to a drainage bag, a specimen may be taken from the bag this initial time only	
23. Attach the drainage end of an indwelling catheter to the collecting tubing and bag.	
24. Examine and measure the urine. In some cases, only 750 to 1,000 mL of urine are to be drained from the bladder at one time	
25. Next, hang the bag below the level of the bladder. No tubing should fall below the top of the bag.	
26. Wipe any remaining antiseptic or lubricant from the perineal area. Replace the foreskin if retracted earlier. Return the client to a comfortable position. Instruct the client on positioning and moving with the catheter in place	
27. Discard all used supplies in appropriate receptacles.	
28. Remove and discard gloves. Perform hand hygiene.	
29. Document the catheterization procedure including catheter size and results in the client record using forms or checklists supplemented by narrative notes when appropriate.	

### Administering Enemas

- **Enema** is a solution introduced into the rectum and large intestine.
- **Action of an enema** : to distend the intestine and sometimes to irritate the intestinal mucosa, thereby increasing peristalsis and the excretion of feces and flatus.
- The enema solution should be at 37.7°C (100°F) because a solution that is too cold or too hot is uncomfortable and causes cramping.
- Enemas are classified into four groups:
  - a. Cleansing enema
  - b. Carminative
  - c. Retention
  - d. Return-flow enemas

**A - Cleansing enemas** - are intended to remove feces.

They are given chiefly to:

1. Prevent the escape of feces during surgery.
2. Prepare the intestine for certain diagnostic tests such as x-ray or visualization tests (e.g., colonoscopy).
3. Remove feces in instances of constipation or impaction

**Cleansing enemas use a variety of solutions.**

1. **Hypertonic solutions** exert osmotic pressure, which draws fluid from the interstitial space into the colon. The increased volume in the colon stimulates peristalsis and hence defecation.
  - A commonly used hypertonic enema is the commercially prepared Fleet phosphate enema.
2. **Hypotonic solutions** (e.g., tap water) exert a lower osmotic pressure than the surrounding interstitial fluid, causing water to move from the colon into the interstitial space.
  - Before the water moves from the colon, it stimulates peristalsis and defecation.
  - Because the water moves out of the colon, **the tap water enema should not be**

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

**repeated because of the danger of circulatory overload** when the water moves from the interstitial space into the circulatory system.

3. **Isotonic solutions**, such as physiological (normal) saline, are considered the safest enema solutions to use. They exert the same osmotic pressure as the interstitial fluid surrounding the colon. Therefore, there is no fluid movement into or out of the colon.
  - The instilled volume of saline in the colon stimulates peristalsis.
4. **Soapsuds enemas** stimulate peristalsis by increasing the volume in the colon and irritating the mucosa.
5. Only pure soap (i.e., Castile soap) should be used in order to minimize mucosa irritation

**Cleansing enemas may also be described as high or low.**

- a) **High enema** is given to cleanse as much of the colon as possible.
    - The client changes from the left lateral position to the dorsal recumbent position and then to the right lateral position during administration so that the solution can follow the large intestine.
    - During a high cleansing enema, the solution container is usually **held 30 to 49 cm (12 to 18 in.) above the rectum** because the fluid is instilled farther to clean the entire bowel
  - b) **Low enema** is used to clean the rectum and sigmoid colon only.
    - The client maintains a left lateral position during administration.
    - The force of flow of the solution is governed by:
      - (a) the height of the solution container,
      - (b) size of the tubing,
      - (c) viscosity of the fluid, and
      - (d) resistance of the rectum.
- √ **The higher the solution container is held above the rectum, the faster the flow and the greater the force (pressure) in the rectum.**
- √ **During most adult enemas, the solution container should be no higher than 30 cm (12 in.) above the rectum.**

**B - Carminative Enema** - given primarily to expel flatus.

- The solution instilled into the rectum releases gas, which in turn distends the rectum and the colon, thus stimulating peristalsis.
- For an adult, 60 to 80 mL of fluid is instilled.

**C - Retention Enema** - introduces oil or medication into the rectum and sigmoid colon.

- The liquid is retained for a relatively long period (e.g., 1 to 3 hours).
  - a. **An oil retention enema** acts to soften the feces and to lubricate the rectum and anal canal, thus facilitating passage of the feces.
  - b. **Antibiotic enemas** are used to treat infections locally, anthelmintic enemas to kill helminths such as worms and intestinal parasites, and nutritive enemas to administer fluids and nutrients to the rectum.

**D - Return-Flow Enema** also called a Harris flush, is occasionally used to expel flatus.

- Alternating flow of 100 to 200 mL of fluid into and out of the rectum and sigmoid colon stimulates peristalsis.
- This process is repeated five or six times until the flatus is expelled and abdominal distention is relieved.

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

**TABLE 49-4** Commonly Used **Enema** Solutions

Solution	Constituents	Action	Time to Take Effect	Adverse Effects
Hypertonic	90–120 mL of solution (e.g., sodium phosphate [Fleet])	Draws water into the colon.	5–10 min	Retention of sodium
Hypotonic	500–1,000 mL of tap water	Distends colon, stimulates peristalsis, and softens feces.	15–20 min	Fluid and electrolyte imbalance; water intoxication
Isotonic	500–1,000 mL of normal saline	Distends colon, stimulates peristalsis, and softens feces.	15–20 min	Possible sodium retention
Soapsuds	500–1,000 mL (3–5 mL soap to 1,000 mL water)	Irritates mucosa, distends colon.	10–15 min	Irritates and may damage mucosa
Oil (mineral, olive, cottonseed)	90–120 mL	Lubricates the feces and the colonic mucosa.	0.5–3 h	

### Administering an Enema

#### **PURPOSE**

- To achieve one or more of the following actions: cleansing, carminative, retention, or return-flow.

#### **Equipment**

- Disposable linen-saver pad.

- Bath blanket.

- Bedpan or commode.

- Clean gloves.

- Water-soluble lubricant if tubing not prelubricated.

- Paper towel.

- **Large-Volume Enema:**

- Solution container with tubing of correct size and tubing clamp.

- Correct solution, amount, and temperature.

- **Small-Volume Enema.**

- Prepackaged container of enema solution with lubricated tip

PROCEDURE	RATIONALE
1. Prepare the equipment	
2. Lubricate about 5 cm (2 in.) of the rectal tube.	Lubrication facilitates insertion through the sphincter and minimizes trauma.
3. Run some solution through the connecting tubing of a large-volume enema set and the rectal tube to expel any air in the tubing, then close the clamp.	Air instilled into the rectum, although not harmful, causes unnecessary distention.
4. Introduce self and verify the client's identity using agency protocol.	
5. Explain procedure to the client and provide for client privacy.	
6. Indicate that the client may experience a feeling of fullness while the solution is being administered.	
7. Explain the need to hold the solution as long as possible.	
8. Perform hand hygiene, apply clean gloves and observe other appropriate infection prevention procedures.	

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

9. Assist the adult client to a left lateral position, with the right leg as acutely flexed as possible, with the linen-saver pad under the buttocks.	This position facilitates the flow of solution by gravity into the sigmoid and descending colon, which are on the left side. Having the right leg acutely flexed provides for adequate exposure of the anus.
10. Insert the enema tube. For clients in the left lateral position, lift the upper buttock	This ensures good visualization of the anus.
11. Insert the tube smoothly and slowly into the rectum, directing it toward the umbilicus	The angle follows the normal contour of the rectum. Slow insertion prevents spasm of the sphincter.
12. Insert the tube 7 to 10 cm (3 to 4 in.).	Because the anal canal is about 2.5 to 5 cm (1 to 2 in.) long in the adult, insertion to this point places the tip of the tube beyond the anal sphincter into the rectum.
13. If resistance is encountered at the internal sphincter, ask the client to take a deep breath, then run a small amount of solution through the tube.	This relaxes the internal anal sphincter.
14. Never force tube or solution entry. If instilling a small amount of solution does not permit the tube to be advanced or the solution to freely flow, withdraw the tube. Check for any stool that may have blocked the tube during insertion. If present, flush it and retry the procedure. If resistance persists, end the procedure and report the resistance to the primary care provider and nurse in charge.	
15. Raise the solution container and open the clamp to allow fluid flow or compress a pliable container by hand.	
<ul style="list-style-type: none"> <li>• During most low enemas, hold or hang the solution container no higher than 30 cm (12 in.) above the rectum.</li> </ul>	The higher the solution container is held above the rectum, the faster the flow and the greater the force (pressure) in the rectum.
<ul style="list-style-type: none"> <li>• During a high enema, hang the solution container about ,30 to 49 cm (12 to 18 in.).</li> </ul>	Fluid must be instilled farther for a high enema to clean the entire bowel. See agency protocol.
16. Administer the fluid slowly. If the client complains of fullness or pain, lower the container or use the clamp to stop the flow for 30 seconds, and then restart the flow at a slower rate.	Administering the enema slowly and stopping the flow momentarily decreases the likelihood of intestinal spasm and premature ejection of the solution.
17. After all the solution has been instilled or when the client cannot hold any more and feels the desire to defecate (the urge to defecate usually indicates that sufficient fluid has been administered), close the clamp, and remove the enema tube from the anus.	
18. Place the enema tube in a disposable towel as you withdraw it.	

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

<p>19. Encourage the client to retain the enema. Ask the client to remain lying down.</p> <p>20. Request that the client retain the solution for the appropriate amount of time, for example, 5 to 10 minutes for a cleansing enema or at least 30 minutes for a retention enema.</p>	<p>It is easier for the client to retain the enema when lying down than when sitting or standing, because gravity promotes drainage and peristalsis.</p>
<p>21. Assist the client to defecate: Assist the client to a sitting position on the bedpan, commode, or toilet.</p>	<p>A sitting position facilitates the act of defecation.</p>
<ul style="list-style-type: none"> <li>• Ask the client who is using the toilet not to flush it. The nurse needs to observe the feces.</li> </ul>	
<ul style="list-style-type: none"> <li>• If a specimen of feces is required, ask the client to use a bedpan or commode.</li> </ul>	
<p>22. Remove and discard gloves and perform hand hygiene.</p>	
<p>23. Document the type and volume, if appropriate, of enema given. Describe the results.</p>	

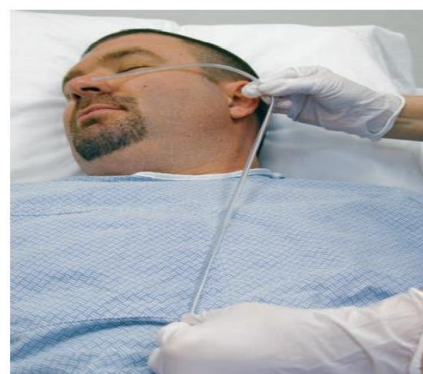
### **Inserting a Nasogastric (NG) Tube**

#### **Nasogastric tube**

- Traditional firm, large-bore nasogastric tubes (i.e., those larger than 12 Fr in diameter) are placed into the stomach.
- inserted through one of the nostrils, down the nasopharynx, and into the alimentary tract.
- **Nasogastric tubes are used for feeding clients :**
  - a. who have adequate gastric emptying,
  - b. who require short-term feedings.
- They are not advised for feeding clients without intact gag and cough reflexes since the risk of accidental placement of the tube into the lungs is much higher in those clients.
- Examples:
  - a. **Levin tube**, a flexible rubber or plastic, single-lumen tube with holes near the tip,
  - b. **Salem sump tube** – has a double lumen.
    - The larger lumens allow delivery of liquids to the stomach or removal of gastric contents.
    - When the Salem tube is used for suction of gastric contents, the smaller vent lumen (the proximal port is often referred to as the blue pigtail) allows for an inflow of atmospheric air, which prevents a vacuum if the gastric tube adheres to the wall of the stomach. Irritation of the gastric mucosa is thereby avoided.
    - Softer, more flexible and less irritating small-bore feeding tubes (SBFTs), smaller than 12 Fr in diameter, are frequently used for enteral nutrition



**Figure 47-11** ■ *Left*, Single-lumen Levin tube. *Right*, Double-lumen Salem sump tube with filter on air vent port.



1 Measuring the appropriate length to insert a nasogastric tube.

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

**Inserting a Nasogastric (NG) Tube**  
**Procedure**

**PURPOSES**

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

<b><u>Equipment</u></b>	
• Nasogastric tube (8 – 18 French)	• Stethoscope
• Water soluble lubricant	• Irrigation set
• Normal Saline solution or sterile water for irrigation	• Tongue blade
• Flashlight	• Nonallergenic tape
• Tissues	• Glass of water with straw
• Topical anesthetic	• Clamp
• Suction apparatus	• Bath towel or disposable pad
• Emesis basin	• Safety pin and rubber band
• Non sterile, disposable gloves	• Additional PPE
• Tape measure	• Skin barrier
• pH tape	•

<b>Procedure</b>	<b>Rationale</b>
1. Verify the medical order for insertion of an NG tube. Ensures the patient receives the correct treatment	
2. Perform hand hygiene and put on PPE, if indicated	
3. Identify the patient	
4. Explain the procedure to the patient and provide the rationale as to why the tube is needed. Discuss the associated discomforts that may be experienced and possible interventions that may allay this discomfort. Answer any questions as needed	
5. Gather equipment, including selection of the appropriate NG tube.	
6. Close the patient's bedside curtain or door. Raise bed to a comfortable working position;	
7. Assist the patient to high Fowler's position or elevate the head of the bed 45 degrees if the patient is unable to maintain upright position	
8. Drape chest with bath towel or disposable pad. Have emesis basin and tissues handy.	
9. Measure the distance to insert tube by placing tip of tube at patient's nostril and extending to tip of earlobe and then to tip of xiphoid process. Mark tube with an indelible marker	Measurement ensures that the tube will be long enough to enter the patient's stomach
10. Put on gloves. Lubricate tip of tube (at least 2– 4 inches ) with water-soluble lubricant. Apply topical anesthetic to nostril and oropharynx, as appropriate.	<ul style="list-style-type: none"> <li>• Lubrication reduces friction and facilitates passage of the tube into the stomach.</li> </ul>

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

	<ul style="list-style-type: none"> <li>• Topical Anesthetics act as local anesthetics, reducing discomfort. Consult the physician for an order for a topical anesthetic, such as lidocaine gel or spray, if needed</li> </ul>
<p><b>11.</b> After selecting the appropriate nostril, ask patient to slightly flex head back against the pillow.</p> <ul style="list-style-type: none"> <li>• Gently insert the tube into the nostril while directing the tube upward and backward along the floor of the nose. Patient may gag when tube reaches pharynx.</li> <li>• Provide tissues for tearing or watering of eyes. Offer comfort and reassurance to the patient</li> </ul>	<ul style="list-style-type: none"> <li>• Following the normal contour of the nasal passage while inserting the tube reduces irritation and the likelihood of mucosal injury.</li> </ul>
<p><b>12.</b> When pharynx is reached, instruct patient to touch chin to chest. Encourage patient to sip water through a straw or swallow even if no fluids are permitted.</p>	<ul style="list-style-type: none"> <li>• Bringing the head forward helps close the trachea and open the esophagus.</li> <li>• Swallowing helps advance the tubes, causes the epiglottis to cover the opening of the trachea, and helps to eliminate gagging and coughing</li> </ul>
<p><b>13.</b> Advance tube in downward and backward direction when patient swallows. <b>If gagging and coughing persist</b>, stop advancing the tube and check placement of tube with tongue blade and flashlight. If tube is curled, straighten the tube and attempt to advance again.</p>	<ul style="list-style-type: none"> <li>• Excessive gagging and coughing may occur if the tube has curled in the back of the throat. Forcing the tube may injure mucous membranes.</li> </ul>
<p><b>14.</b> Keep advancing tube until pen marking is reached. Do not use force. Rotate tube if it meets resistance.</p>	
<p><b>15.</b> Discontinue procedure and remove tube if there are signs of distress, such as gasping, coughing, cyanosis, and inability to speak or hum.</p>	<ul style="list-style-type: none"> <li>• The tube is in the airway if the patient shows signs of distress and cannot speak or hum. If after three attempts, NG insertion is unsuccessful, another nurse may try or the patient should be referred to another health care professional.</li> </ul>
<p><b>16. Secure the tube loosely to the nose or cheek until it is determined that the tube is in the patient's stomach:</b></p>	<ul style="list-style-type: none"> <li>• Securing with tape stabilizes the tube while position is being determined.</li> </ul>
<p><b>a.</b> Attach syringe to end of tube and aspirate a small amount of stomach contents.</p>	<ul style="list-style-type: none"> <li>• The tube is in the stomach if its contents can be aspirated. pH of aspirate can be tested to determine gastric placement. If unable to obtain a specimen, reposition the patient and flush the tube with 30 ml of air.</li> <li>• Current literature recommends that the nurse ensures proper placement of the NGT by relying on multiple methods and not on one method alone.</li> </ul>
<p><b>b.</b> Measure the pH of aspirated fluid using pH paper or a meter. Place a drop of gastric secretions onto pH paper or place small amount in plastic cup and dip the pH paper into it. Within 30 seconds, compare</p>	<ul style="list-style-type: none"> <li>• Current researches demonstrates that the use of pH is predictive of the correct placement. The pH of gastric contents is acidic (less than 5.5).</li> </ul>

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

the color on the paper with the chart supplied by the manufacturer.	<ul style="list-style-type: none"> <li>If the patient is taking an acid-inhibiting agent, the range may be 4.0 – 6.0.</li> </ul>
c. Visualize aspirated contents, checking for color and consistency	<ul style="list-style-type: none"> <li>Gastric fluid: green with particles, off white, or brown if the old blood is present.</li> <li>Intestinal aspirate : clear or straw colored to a deep yellow color; greenish brown if stained with bile.</li> <li>Respiratory or tracheobronchial fluid : off white to tan , may be tinged with mucus.</li> </ul>
d. Obtain radiograph (x-ray) of placement of tube, based on facility policy (and ordered by physician).	<ul style="list-style-type: none"> <li>The x-ray is considered the most reliable method for identifying the position of NG tube</li> </ul>
<b>17.</b> Remove gloves and secure tube with a commercially prepared device (follow manufacturer’s directions) or tape to patient’s nose. To secure with tape:	
a. Cut a 4 inch piece of tape and split bottom 2 inches or use packaged nose tape for NG tubes	
b. Place unsplit end over bridge of patient’s nose.	
c. Wrap split ends under tubing and up and over onto nose. Be careful not to pull tube too tightly against nose	
<b>18.</b> Put on gloves. Clamp tube and remove the syringe. Cap the tube or attach tube to suction according to the medical orders	<ul style="list-style-type: none"> <li>Suction provides for decompression of stomach and drainage of gastric contents</li> </ul>
<b>19.</b> Measure length of exposed tube. Reinforce marking on tube at nostril with indelible ink	<ul style="list-style-type: none"> <li>Tube lengths should be checked and compared with this initial measurement , in conjunction with pH measurement and visual assessment of aspirate.</li> <li>An increase in the length of the exposed tube may indicate dislodgment.</li> <li>The tube should be marked with indelible marker at the nostril.</li> <li>This marking should be assessed each time the tube is used to ensure the tube has not become displaced.</li> </ul>
<b>20.</b> Ask the patient to turn their head to the side opposite the nostril the tube is inserted.	<ul style="list-style-type: none"> <li>Turning the heads ensures adequate slack in the tubing to prevent tension when the patient turns the head.</li> </ul>
<b>21.</b> Secure tube to patient’s gown by using rubber band or tape. For additional support, tube can be taped onto patient’s cheek using a piece of tape. If a double-lumen tube (e.g., Salem sump) is used, secure vent above stomach level. Attach at shoulder level	<ul style="list-style-type: none"> <li>Securing prevents tension and tugging on the tube. Securing the double lumen tube above the stomach level prevents seepage of gastric contents and keep the lumen clear for venting air.</li> </ul>
<b>22.</b> Assist with or provide oral hygiene at 2- to 4- hour intervals. Lubricate the lips generously and clean nares and lubricate as needed	<ul style="list-style-type: none"> <li>Oral hygiene keeps mouth clean and moist, promotes comfort and reduces thirst.</li> </ul>



King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

23. Offer analgesic throat lozenges or anesthetic spray for throat irritation if needed.	
24. Remove equipment and return patient to a position of comfort. Remove gloves. Raise side rail and lower bed.	
25. Remove additional PPE, if used. Perform hand hygiene.	

### Administering a Tube Feeding

#### Testing Feeding Tube Placement

- confirmed by radiography, particularly when a small-bore tube has been inserted or when the client is at risk for aspiration.
- After placement is confirmed, the nurse marks the tube with indelible ink or tape at its exit point from the nose and documents the length of visible tubing for baseline data.
- The nurse is responsible, however, for verifying tube placement (i.e., GI placement versus respiratory placement) before each intermittent feeding and at regular intervals (e.g., at least once per shift) when continuous feedings are being administered.
- **Methods nurses use to check tube placement include the following:**
  1. **Aspirate GI secretions.** Because small-bore tubes offer more resistance during aspirations than large-bore tubes and are more likely to collapse when negative pressure is applied, it may not be possible to obtain an aspirate. If obtained, gastric secretions tend to be a grassy-green, off-white, or tan color; intestinal fluid is stained with bile and has a golden yellow or brownish green color.
  1. **Measure the pH of aspirated fluid.** Testing the pH of aspirates can help distinguish gastric from respiratory and intestinal placement as follows:
    - **Gastric aspirates** tend to be acidic and have a pH of 1 to 4 but may be as high as 6 if the client is receiving medications that control gastric acid.
    - **Small intestine aspirates** generally have a pH equal to or higher than 6.
    - **Respiratory secretions** are more alkaline with values of 7 or higher. However, there is a slight possibility of respiratory placement when the pH reading is as low as 5.

Therefore, when pH readings are 5 or higher, radiographic confirmation of tube location needs to be considered, especially in clients with diminished cough and gag reflexes.

2. **Confirm length of tube insertion with the insertion mark.** If more of the tube is now exposed, the position of the tip should be questioned.

**Currently, the most effective method is radiographic verification of tube placement.**

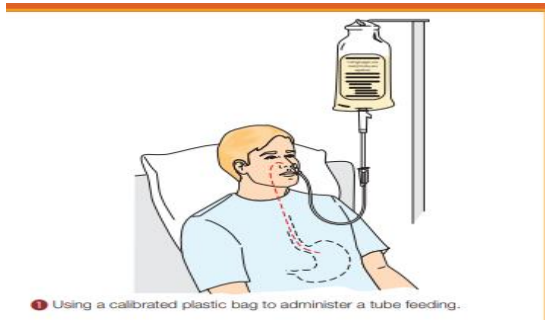
In the meantime, nurses should

- (a) ensure initial radiographic verification of smallbore tubes,
- (b) aspirate contents when possible and check their acidity
- (c) closely observe the client for signs of obvious distress
- (d) consider tube dislodgment after episodes of coughing, sneezing, and vomiting.

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		



2 Using the barrel of a syringe to administer a tube feeding.



1 Using a calibrated plastic bag to administer a tube feeding.

## 2. Administering a Tube Feeding

### PURPOSES

- To restore or maintain nutritional status
- To administer medications

### Equipment

• Correct type and amount of feeding solution
• 60-mL catheter-tip syringe
• Emesis basin
• Clean gloves
• pH test strip or meter
• Large syringe or calibrated plastic feeding bag with label and tubing that can be attached to the feeding tube or prefilled bottle with a drip chamber, tubing, and a flow-regulator clamp
• Measuring container from which to pour the feeding (if using open system)
• Water (60 mL unless otherwise specified) at room temperature
• Feeding pump as required

PROCEDURE	RATIONALE
<b>Preparation</b>	
Assist the client to a Fowler's position (at least 30° elevation) in bed or a sitting position in a chair, the normal position for eating. If a sitting position is contraindicated, a slightly elevated right side-lying position is acceptable.	These positions enhance the gravitational flow of the solution and prevent aspiration of fluid into the lungs
<b>Performance</b>	
1. Prior to performing the feeding, introduce self and verify the client's identity using agency protocol. Explain to the client what you are going to do, why it is necessary, and how he or she can participate. Inform the client that the feeding should not cause any discomfort but may cause a feeling of fullness	
2. Perform hand hygiene and observe other appropriate infection prevention procedures (e.g., clean gloves).	
3. Provide privacy for this procedure if the client desires it. Tube feedings are embarrassing to some people	
4. Assess tube placement. <ul style="list-style-type: none"> <li>• Apply clean gloves.</li> </ul>	

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

<ul style="list-style-type: none"> <li>• Attach the syringe to the open end of the tube and aspirate. Check the pH.</li> <li>• Allow 1 hour to elapse before testing the pH if the client has received a medication.</li> <li>• Use a pH meter rather than pH paper if the client is receiving a continuous feeding. Follow agency policy if the pH is equal to or greater than 6.</li> </ul>	
<p>5. Assess residual feeding contents.</p> <ul style="list-style-type: none"> <li>• If the tube is placed in the stomach, aspirate all contents and measure the amount before administering the feeding.</li> </ul>	<p>This is done to evaluate absorption of the last feeding; that is, whether undigested formula from a previous feeding remains. If the tube is in the small intestine, residual contents cannot be aspirated.</p>
<ul style="list-style-type: none"> <li>• If 100 mL (or more than half the last feeding) is withdrawn, check with the nurse in charge or refer to agency policy before proceeding. The precise amount is usually determined by the primary care provider's order or by agency policy</li> </ul>	<p>At some agencies, a feeding is delayed when the specified amount or more of formula remains in the stomach.</p>
<ul style="list-style-type: none"> <li>• Reinstill the gastric contents into the stomach if this is the agency policy or primary care provider's order.</li> </ul>	<p>Removal of the contents could disturb the client's electrolyte balance.</p>
<ul style="list-style-type: none"> <li>• If the client is on a continuous feeding, check the gastric residual every 4 to 6 hours or according to agency protocol</li> </ul>	
<p>6. Administer the feeding.</p> <ul style="list-style-type: none"> <li>• Before administering feeding: <ul style="list-style-type: none"> <li>a. Check the expiration date of the feeding.</li> <li>b. Warm the feeding to room temperature.</li> </ul> </li> </ul>	<p>An excessively cold feeding may cause abdominal cramps.</p>
<ul style="list-style-type: none"> <li>• When an open system is used, clean the top of the feeding container with alcohol before opening it.</li> </ul>	<p>This minimizes the risk of contaminants entering the feeding syringe or feeding bag. Feeding Bag (Open System)</p>
<ul style="list-style-type: none"> <li>• Apply a label that indicates the date, time of starting the feeding, and nurse's initials on the feeding bag.</li> </ul>	
<p><b>Feeding Bag (Open System)</b></p> <ul style="list-style-type: none"> <li>• Hang the labeled bag from an infusion pole about 30 cm (12 in.) above the tube's point of insertion into the client..</li> </ul>	<p>At this height, the formula should run at a safe rate into the stomach or intestine</p>
<ul style="list-style-type: none"> <li>• Clamp the tubing and add the formula to the bag.</li> </ul>	
<ul style="list-style-type: none"> <li>• Open the clamp, run the formula through the tubing, and reclamp the tube..</li> </ul>	<p>The formula will displace the air in the tubing, thus preventing the instillation of excess air into the client's stomach or intestine</p>
<ul style="list-style-type: none"> <li>• Attach the bag to the feeding tube and regulate the drip by adjusting the clamp to the drop factor</li> </ul>	

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

on the bag (e.g., 20 drops/mL) if not placed on a pump.	
<b>Syringe (Open System)</b> <ul style="list-style-type: none"> <li>Remove the plunger from the syringe and connect the syringe to a pinched or clamped nasogastric tube.</li> </ul>	Pinching or clamping the tube prevents excess air from entering the stomach and causing distention
<ul style="list-style-type: none"> <li>Add the feeding to the syringe barrel.. If another bottle is not to be immediately hung, flush the feeding tube before all of the formula has run through the tubing</li> </ul>	
<ul style="list-style-type: none"> <li>Instill 50 to 100 mL of water through the feeding tube or medication port. Rationale: Water flushes the lumen of the tube, preventing future blockage by sticky formula</li> </ul>	Water flushes the lumen of the tube, preventing future blockage by sticky formula
<ul style="list-style-type: none"> <li>Be sure to add the water before the feeding solution has drained from the neck of a syringe or from the tubing of an administration set..</li> </ul>	Adding the water before the syringe or tubing is empty prevents the instillation of air into the stomach or intestine and thus prevents unnecessary distention
8. Clamp the feeding tube. <ul style="list-style-type: none"> <li>Clamp the feeding tube before all of the water is instilled.</li> </ul>	Clamping prevents air from entering the tube.
3. Ensure client comfort and safety. <ul style="list-style-type: none"> <li>Secure the tubing to the client's gown.</li> </ul>	This minimizes pulling of the tube, thus preventing discomfort and dislodgment
<ul style="list-style-type: none"> <li>Ask the client to remain sitting upright in Fowler's position or in a slightly elevated right lateral position for at least 30 minutes.</li> </ul>	These positions facilitate digestion and movement of the feeding from the stomach along the alimentary tract, and prevent the potential aspiration of the feeding into the lungs
<ul style="list-style-type: none"> <li>Check the agency's policy on the frequency of changing the nasogastric tube and the use of smaller lumen tubes if a large-bore tube is in place.</li> </ul>	These measures prevent irritation and erosion of the pharyngeal and esophageal mucous membranes.
10. Dispose of equipment appropriately <ul style="list-style-type: none"> <li>If the equipment is to be reused, wash it thoroughly with soap and water so that it is ready for reuse</li> <li>Change the equipment every 24 hours or according to agency policy</li> <li>Remove and discard gloves</li> <li>Perform hand hygiene</li> </ul>	
11. Document all relevant information. <ul style="list-style-type: none"> <li>Document the feeding, including amount and kinds of fluids administered (feeding plus any water used to flush the tubing), duration of the feeding, and assessments of the client.</li> <li>Record the volume of the feeding and water administered on the client's intake and output record</li> </ul>	
12. Monitor the client for possible problems. <ul style="list-style-type: none"> <li>Carefully assess clients receiving tube feedings for problems.</li> </ul>	

King Saud university		NURS 215
College of Nursing		FUNDAMENTALS OF NURSING
2 <sup>nd</sup> Semester AY 1442		

<ul style="list-style-type: none"> <li>To prevent dehydration, give the client supplemental water in addition to the prescribed tube feeding as ordered</li> </ul>	
--	--

### 3. REMOVING A NASOGASTRIC TUBE

Procedure	Score
1. Know the principles of the procedure, material selection, and answer instructor's questions with Justification.	
<b>Preparation.</b>	
2. Confirm the primary care provider's order to remove the tube. •	
3. Assist the client to a sitting position if health permits.	
4. Place the disposable pad or towel across the client's chest to collect any spillage of secretions from the tube. •	
5. Provide tissues to the client to wipe the nose and mouth after tube removal.	
<b>Performance</b>	
6. Prior to performing the removal, introduce self and verify the client's identity using agency protocol. Explain to the client what you are going to do, why it is necessary, and how he or she can participate. Discuss how the results will be used in planning further care or treatments	
7. Perform hand hygiene and observe other appropriate infection prevention procedures (e.g., clean gloves).	
8. Provide for client privacy.	
9. <b>Detach the tube.</b> <ul style="list-style-type: none"> <li>Apply clean gloves.</li> <li>Disconnect the nasogastric tube from the suction apparatus, if present.</li> <li>Unpin the tube from the client's gown.</li> <li>Remove the adhesive tape securing the tube to the nose.</li> </ul>	
10. <b>Remove the nasogastric tube.</b> <ul style="list-style-type: none"> <li>Optional: Instill 50 mL of air into the tube.</li> <li>Ask the client to take a deep breath and to hold it.</li> <li>Pinch the tube with the gloved hand.</li> <li>Smoothly, withdraw the tube.</li> </ul>	
11. <b>Place the tube in the trash bag.</b> <ul style="list-style-type: none"> <li>Observe the intactness of the tube</li> </ul>	
12. <b>Ensure client comfort.</b> <ul style="list-style-type: none"> <li>Provide mouth care if desired.</li> <li>Assist the client as required to blow the nose.</li> </ul>	
13. <b>Dispose of the equipment appropriately.</b> <ul style="list-style-type: none"> <li>Place the pad, bag with tube, and gloves in the receptacle designated by the agency.</li> <li>Remove and discard gloves.</li> <li>Perform hand hygiene.</li> </ul>	
14. <b>Document all relevant information. •</b> Record the removal of the tube, the amount and appearance of any drainage if connected to suction, and any relevant assessments of the client.	

Reference: Berman, A. et al. (2016) *Kozier & Erb's Fundamentals of Nursing: Concepts, Process and Practice. 10th Ed. New Jersey: Pearson Education, Inc.*