Objectives
1. Identify the assessment factors utilized by health care providers.
2. Collect and record subjective and objective health related data for the respiratory, cardiovascular, abdominal, neurological [[systems]], and the breasts & male genitalia.
3. Analyze the relationship of the assessment phase of the nursing process to development of a comprehensive nursing care plan.
4. Utilize assessment skills to collect data for identifying areas of actual or potential changes in care of clients.
5. Analyze health data to formulate nursing diagnoses.
6. Critically analyze the influence of culture on nursing care decision and actions when assessing patients.

Respiratory System

Subjective Data

Record presence or absence for each of the following...

- Persistent cough
- Sputum
- Night sweats
- Date of last chest x-ray & result
- Wheezing
- Hemoptysis
- Dyspnea at rest or exercise
- Pain in chest

Explore positive findings...

Lung Assessment

Objective Data

1. Position patient – in sitting position if possible
2. Inspect anterior, posterior & lateral chest; note abnormalities of skin & bony configuration
3. Palpate for vocal fremitus on posterior chest comparing lung fields
4. Palpates costal angle on anterior chest
5. Auscultate breath sounds over each lobe of the lung,l moving stethoscope systematically from side to side, top to bottom over anterior, lateral and posterior chest.

Written description includes

1. Description of the bony configuration of the chest; presence or absence of kyphosis/scoliosis
2. Record alterations on the anterior-posterior diameter – note presence or absence of barrel chest
3. Description of vocal fremitus
4. Description of costal angle
5. Description of normal breath sounds
6. If abnormal breath sounds, describe location & characteristics
Barrel Chest  
(\textit{Pectus excavatum})  

Funnel Chest  
(\textit{Pectus carinatum})  

Pigeon Chest  
(\textit{Pectus carinatum})  

Kyphoscoliosis  

- Observe the rate and depth of respiration  
  - normal rate is 12-18 breaths per minute

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eupnea</td>
<td>Normal, breathing at 12–18 breaths/min</td>
</tr>
</tbody>
</table>
| Bradypnea| Slower than normal rate (<10 breaths/min), with normal depth and regular rhythm.  
  Associated with increased intracranial pressure, brain injury, and drug overdose |
| Tachypnea| Rapid, shallow breathing ≥24 breaths/min  
  Associated with pneumonia, pulmonary edema, metabolic acidosis, septicemia,  
  severe pain, or rib fracture                                                   |
| Hypoventilation | Shallow, irregular breathing                                                |
| Hyperpnea | Increase depth of respirations                                              |
| Hyperventilation | Increased rate and depth of breathing that results in decreased PaCO₂ level  
  Inspiration and expiration are nearly equal in duration  
  Called Kussmaul's respiration if associated with diabetic ketoacidosis or renal origin |
| Apnea    | Period of cessation of breathing; time duration varies; apnea may occur briefly  
  during other breathing disorders, such as with sleep apnea; life-threatening if sustained |
| Cheyne-Stokes | Regular cycle where the rate and depth of breathing increase, then decrease until  
  apnea (usually about 20 seconds) occurs  
  Duration of apnea may vary and progressively lengthens; therefore, it is timed and reported  
  Associated with heart failure and damage to the respiratory center (drug-induced,  
  tumor, trauma)                                                                |
| Buč's respiration | Periods of normal breathing (3–4 breaths) followed by a varying period of apnea  
  (usually 10–60 seconds)  
  Also called cluster breathing  
  Associated with some nervous system disorders                                  |
• palpate the thorax for tenderness, masses, lesions, respiratory excursion and vocal fremitus
• observe movement of the thumbs during inspiration and expiration to very respiratory excursion.
  ◦ Maximal excursion may be as much as 8-10 cm in healthy, tall young men
  ◦ it is usually 5-7 cm
• Fremitus is verified by having the client reproduce the same sound over and over - (“eee eee eee”) - and by comparing the vibrations produced in each lung field to the parallel field. Note asymmetries. Areas with increased fremitus indicate fluid or masses in the lungs.
• Use percussion to determine whether underlying tissues are filled with air, fluid or solid material.
• Finish assessment by auscultating the lungs

<table>
<thead>
<tr>
<th>Table 21-5 Breath Sounds</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Duration of Sounds</strong></td>
</tr>
<tr>
<td>Vesicular*</td>
</tr>
<tr>
<td>Bronchovesicular</td>
</tr>
<tr>
<td>Bronchial</td>
</tr>
<tr>
<td>Tracheal</td>
</tr>
</tbody>
</table>

*The thickness of the bars indicates intensity of breath sounds; the steeper their incline, the higher the pitch of the sounds.
### Abnormal (Adventitious) Breath Sounds

<table>
<thead>
<tr>
<th>Breath Sound</th>
<th>Description</th>
<th>Etiology</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Crackles</strong></td>
<td>Soft, high-pitched, discontinuous popping sounds that occur during inspiration (while usually heard on inspiration, they may also be heard on expiration); May or may not be cleared by coughing</td>
<td>Secondary to fluid in the airways or alveoli or to delayed opening of collapsed alveoli. Associated with heart failure and pulmonary fibrosis.</td>
</tr>
<tr>
<td><strong>Crackles in general</strong></td>
<td>Discontinuous popping sounds heard in early inspiration; harsh, moist sound originating in the large bronchi</td>
<td>Associated with obstructive pulmonary disease.</td>
</tr>
<tr>
<td><strong>Coarse crackles</strong></td>
<td>Discontinuous popping sounds heard in late inspiration; sounds like hair rubbing together; originates in the alveoli</td>
<td>Associated with interstitial pneumonia, restrictive pulmonary disease (eg, fibrosis); fine crackles in early inspiration are associated with bronchitis or pneumonia.</td>
</tr>
<tr>
<td><strong>Fine crackles</strong></td>
<td>Usually heard on expiration, but may be heard on inspiration depending on the cause</td>
<td>Associated with bronchial wall oscillation and changes in airway diameter. Associated with chronic bronchitis or bronchiectasis.</td>
</tr>
<tr>
<td><strong>Wheezes</strong></td>
<td>Deep, low-pitched rumbling sounds heard primarily during expiration. Caused by air moving through narrowed tracheobronchial passages</td>
<td>Associated with secretions or tumor.</td>
</tr>
<tr>
<td><strong>Wheeze in general</strong></td>
<td>Continuous, musical, high-pitched, whistlelike sounds heard during inspiration and expiration caused by air passing through narrowed or partially obstructed airways; may clear with coughing</td>
<td>Associated with bronchospasm, asthma, and buildup of secretions.</td>
</tr>
<tr>
<td><strong>Sonorous wheezes (rhonchi)</strong></td>
<td>Harsh, crackling sound, like two pieces of leather being rubbed together (sound imitated by rubbing thumb and finger together near the ear) Heard during inspiration alone or during both inspiration and expiration. May subside when patient holds breath; coughing will not clear sound. Best heard over the lower lateral anterior surface of the thorax. Sound can be enhanced by applying pressure to the chest wall with the diaphragm of the stethoscope</td>
<td>Secondary to inflammation and loss of lubricating pleural fluid.</td>
</tr>
<tr>
<td><strong>Sibilant wheezes</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Friction Rubs</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Pleural friction rub</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Cardiovascular System

**Record presence or absence for each of the following...**

- Pain or distress over precardium
- Palpitations
- Dyspnea
- Edema
- History of heart attack
- Date of last EKG

**Explore positive findings...**

<table>
<thead>
<tr>
<th>Physical Assessment</th>
<th>Subjective Data</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cardiovascular System</strong></td>
<td><strong>Radiation of pain</strong></td>
</tr>
<tr>
<td><strong>Subjective Data</strong></td>
<td><strong>Cyanosis</strong></td>
</tr>
<tr>
<td><strong>Subjective Data</strong></td>
<td><strong>Orthopnea</strong></td>
</tr>
<tr>
<td><strong>Subjective Data</strong></td>
<td><strong>Murmur</strong></td>
</tr>
<tr>
<td><strong>Subjective Data</strong></td>
<td><strong>High blood pressure</strong></td>
</tr>
</tbody>
</table>

### Cardiac Assessment

**Objective Data**

1. Inspect anterior chest for pulsations.
2. Palpate chest for PMI (apical pulse)
3. Auscultate all 4 valvular areas with diaphragm and bell of stethoscope
4. Place stethoscope over the apex long enough to determine rate & rhythm of heart.
5. Inspect distal portion of extremities for circulatory status
6. Palpate for edema by pressing over bone, observe for pitting edema.
7. Palpate radial, femoral, popliteal, posterior tibial and dorsalis pedis pulses to determine presence, relative strength or absence.

**Written description includes**

1. Cardiac rate and character of rhythm
2. Presence or absence of adventitious sounds
3. Findings related to at least 2 characteristics for circulatory status such as temperature, color, texture or pigmentation.
4. Presence or absence of edema in extremities.
5. Presence or absence of radial, femoral, dorsalis-pedis, posterior tibial and popliteal pulses.

A thorough cardiovascular assessment may only be completed once in an outpatient setting, but in an inpatient setting it may be necessary to complete a thorough assessment every 8 hours (or even more often)

Evaluate the cardiovascular system for any deviations from normal with regard to the following:

- The heart as a pump – reduced pulse pressure, deviation of PMI from fifth intercostal space midclavicular line, gallop sounds, murmurs
- atrial and ventricular filling volumes and pressures – elevated jugular venous distension, peripheral edema, ascites, crackles, postural changes in BP
Physical Assessment

- Cardiac output – reduced pulse pressure, hypotension, tachycardia, reduces urine output, lethargy or disorientation
- compensatory mechanisms – peripheral vasoconstriction, tachycardia

Examine the skin for findings that may be associated with cardiovascular disease:

<table>
<thead>
<tr>
<th>Finding</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pallor (decreased color of the skin, often noted around the fingernails, lips, and oral mucosa, or in patients with dark skin, the palms of the hands and soles of the feet)</td>
<td>Caused by lack of oxyhemoglobin, it is a result of anemia or decreased arterial perfusion.</td>
</tr>
<tr>
<td>Peripheral cyanosis (a bluish tinge, most often of the nails and skin of the nose, lips, earlobes, and extremities)</td>
<td>It suggests decreased blood flow to a particular area, which allows more time for the hemoglobin molecule to become desaturated. This may occur normally in peripheral vasoconstriction associated with a cold environment, in patients with anxiety, or in disease states such as heart failure.</td>
</tr>
<tr>
<td>Central cyanosis (a bluish tinge observed in the tongue and buccal mucosa)</td>
<td>It denotes serious cardiac disorders (pulmonary edema and congenital heart disease) in which venous blood passes through the pulmonary circulation without being oxygenated.</td>
</tr>
<tr>
<td>Xanthelasma (yellowish, slightly raised plaques in the skin observed along the nasal portion of one or both eyelids)</td>
<td>It may indicate elevated cholesterol levels (hypercholesterolemia).</td>
</tr>
<tr>
<td>Ecchymosis (bruise, a purplish-blue color fading to green, yellow, or brown over time)</td>
<td>Patients who are receiving platelet-inhibiting medications or anticoagulant therapy should be carefully observed for unexplained ecchymosis. In these patients, excessive bruising indicates reduced platelet function (platelet-inhibiting medications) or prolonged clotting times (prothrombin, international normalized ratio, or partial thromboplastin time) caused by an anticoagulant dosage that is too high.</td>
</tr>
<tr>
<td>Thinning of skin surrounding a pacemaker or implantable cardioverter-defibrillator (ICD)</td>
<td>This could indicate erosion of the device through the skin.</td>
</tr>
<tr>
<td>Cool/cold and moist skin</td>
<td>In cardiogenic shock, sympathetic nervous system stimulation causes vasoconstriction, and the skin becomes cold and clammy. During acute coronary syndrome, diaphoresis is common.</td>
</tr>
</tbody>
</table>

- Assess blood pressure
- Assess the pulse pressure (the difference between the systolic and diastolic pressure)
  - A pulse pressure less than 30mmHg signifies a serious reduction in cardiac output
- Assess for postural hypotension (orthostatic hypotension)
  - the pt should be positioned supine and flat (as symptoms permit) for 10 minutes prior to initial BP & heart rate measurements
  - take supine measurements before obtaining sitting or standing measurements
  - postural bp changes should be assessed with the pt sitting on the edge of the bed with feet dangling
  - 1 to 3 minutes should elapse after each postural change before measuring BP and heart rate
Physical Assessment

- if pt exhibits any signs or symptoms of distress, return him or her to a supine position before completing the test
- both hr and bp should be recorded along with any signs or symptoms accompanying the postural changes
  - Normal postural responses from the CV system
    - HR increases 5 to 20 bpm above resting rate
    - Unchanged systolic pressure or slight decrease of up to 10mHg
    - a slight increase of 5 mmHg in diastolic pressure

Factors to be evaluated in examining the pulse: rate, rhythm, quality, configuration of the pulse wave, quality of the arterial vessel
  - normal pulse rate varies from low 50 bpm (young, healthy, young adults) to rates over 100bpm after exercise or during excitement
  - minor variations in regularity of the pulse are normal
  - pulse rate may increase during inhalation and slow during exhalation (sinus arrhythmia) may be common in children and young adults
- if pulse is irregular, the HR should be counted by auscultating the apical pulse and simultaneously palpating the radial pulse – discrepancy between contractions heard and pulses felt is noted
- Pulse quality – absent, diminished, normal, bounding (assess bilaterally)
- Pulse configuration (contour) – the “wave” of the pulse (abrupt and strong, versus thready or weak)
- Jugular Venous pulsations – observe the pulsations of the jugular veins in the neck to assess right atrial and right ventricular end-diastolic pressure (the pressure right before the contraction of the right ventricle). Obvious distention of the veins with the pt's head elevated 45-90 degrees indicates an abnormal increase in the volume of the venous system. Can occur with right ventricular failure, pulmonary hypertension, pulmonary stenosis and (less commonly) with obstruction of blood flow in the superior vena cava.

Heart Inspection and Palpation
Heart is examined by inspection, palpation and auscultation. Use a systematic approach.
1. Aortic area - 2nd intercostal space to the right of sternum. Find the Angle of Louis by locating the bony ridge near the top of the sternum, at the junction of the boy and manubrium. From this angle, the 2nd intercostal space is located by sliding one finger to the left or right of the sternum.
2. Pulmonic area - 2nd intercostal space to the left of the sternum
3. Erb's point - 3rd intercostal space to the left of the sternum
4. Tricuspid area – lower half of the sternum along the left parasternal wall
5. Mitral (apical) area – left fifth intercostal space at the mid clavicular line
6. Epicgastic area – below the xiphoid process

- For most of the exam, the pt should be supine with the head of the bed slightly elevated
- If apical pulse is not palpable with the pt supine, roll them onto their left side
- normally, the apical pulse is palpable in only one intercostal space, if it is palpable in two or more adjacent intercostal spaces there could be left ventricular enlargement
  - Left Ventricular Heave or Lift – a broad, forceful apical impulse that lifts the hand from the chest wall.
○ **Thrill** – a vibration or purring sensation where abnormal, turbulent blood flow is present. Best detected by using the palm of the hand. Associated with a loud murmur.

### Heart Auscultation

Normal heart sounds are referred to as S1 and S2.

---

**Normal heart sounds.** The first heart sound (S1) is produced by closure of the mitral and tricuspid valves (“lub”). The second heart sound (S2) is produced by closure of the aortic and pulmonic valves (“dub”). Arrows represent the direction of blood flow.

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**Abnormal Cardiac Sounds**

- Intensity of S1 increases during tachycardias or with mitral stenosis
- Dysrhythmias can vary the intensity of S1
- The pulmonic valve lags slightly behind the aortic valve – when it is audibly discernible it is called **Split S2**. Normal physiologic splitting of S2 is accentuated on inspiration and disappears on expiration. Splitting of S2 that remains constant during inspiration and expiration is an abnormal finding.

- **Gallop Sounds** – S3, S4
  - **S3** – occurs in diastole during rapid ventricular filling. Heard immediately after s2. Represents a normal finding in children and adults up to 35 or 40 years of age (physiologic S3). Abnormal finding in the elderly. Left sided S3 is best heard over the apical area.
  - **S4** – occurs lade in diastole. Occurs just before S1 and is generated by an Atrial contraction which forces blood into a non-compliant ventricle. Left ventricle S4 is auscultated over the apical area with the pt in the left lateral position. A right sided S4 (less common) is best heard over the tricuspid area with the pt in supine position. When both S3 and S4 are present, a quadruple rhythm occurs. During tachycardia all four sounds combine into a loud sound, referred to as a **summation gallop**.
• **Opening snaps and systolic clicks** -
  
  - **opening snaps** – abnormal diastolic sounds heard during opening of an AV valve. It's a high pitched sound that occurs too long after S2 for a split S2 and too early for S3. Best heard using the diaphragm of the stethoscope placed medial to the apical area and along the lower left sternal border.
  
  - **systolic click** – abnormal semilunar valve in early systole (immediately after s1). Result of the opening of a rigid and/or calcified aortic or pulmonic valve during ventricular contraction. Sounds are the loudest in the areas directly over the malfunctioning valve.

• **Murmurs** – murmurs are created by turbulent flow of blood. Causes of turbulence vary (narrowed valve, malfunctioning valve, congenital defect of ventricular wall, defects between the aorta and pulmonary artery, and/or increased flow of blood through a normal structure.)
Friction Rub – a harsh, grating sound that can be heard in both systole and diastole. Caused by abrasion of the inflamed pericardial surfaces from pericarditis. Friction rub can be heard best using the diaphragm of the stethoscope, with the pt sitting up and leaning forward.

**Cardiac Auscultation Procedure**

1. Initially, leave pt supine. The room must be quiet.
2. Start at the apical area & progress upward along the left sternal border to pulmonic and aortic areas.
Physical Assessment

3. Alternately, being the examination at the aortic and pulmonic areas and progress downward to the apex.
4. Identify S1 and evaluate.
5. Identify S2 and evaluate.
6. Listen for extra sounds
   - Ask yourself:
     - do I hear snapping or clicking?
     - Do I hear any high pitched blowing sounds?
     - Is this sound in systole or diastole or both?
7. Turn pt to the left side and listen again for an S3, S4 and mitral murmur.
8. If an abnormality is heard, the entire chest surface must be reexamined to determine the exact location of the sound and its radiation.
   -Patients may get nervous about an extended assessment. Support and reassure the pt as necessary.

Gastrointestinal System

<table>
<thead>
<tr>
<th>Subjective Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Record presence or absence for each of the following...</td>
</tr>
</tbody>
</table>

- Nausea
- Vomiting
- Loss of appetite
- Indigestion
- Heart burn
- Pain
- Diarrhea
- Constipation
- Hemorrhoids
- Rectal pain
- Color of stool
- Consistency of stool
- Last stool usual pattern
- Food intolerance
- Blood in stool
- Flatulence

Explore positive findings...

Abdominal Assessment

<table>
<thead>
<tr>
<th>Objective Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Position patient to facilitate abdominal assessment.</td>
</tr>
<tr>
<td>2. Inspect for general appearance, scars, pulsations.</td>
</tr>
<tr>
<td>3. Auscultate abdomen for bowel sounds over all 4 quadrants</td>
</tr>
<tr>
<td>4. Perform light palpation over all quadrants for tenderness and/or rigidity</td>
</tr>
<tr>
<td>5. Perform a maneuver to identify rebound tenderness.</td>
</tr>
</tbody>
</table>

Written description includes

1. General appearance of abdomen
2. Description and location of any scars present (use anatomical landmarks)
3. Presence or absence of bowel sounds.
4. Presence or absence of masses or tenderness.

A focused GI assessment begins with a complete history. Obtain information about:
- Abdominal pain
- dyspepsia
- gas
- nausea
- vomiting
- diarrhea
- constipation
- fecal incontinence
- jaundice
- previously diagnosed GI disease
- as about pt's normal brushing & flossing routine
- frequency of dental visits
- awareness of lesions or irritated areas of mouth, tongue or throat
- recent history of sore throat or bloody sputum
- discomfort caused by certain food
- daily food intake
- use of alcohol and tobacco, including smokeless chewing tobacco
- need to wear denture or partial plate

**Pain** – if a patient reports abdominal pain, obtain additional details:
- Character of pain
- Relationship to meals, rest, activity and defecation patterns
- distribution of referred pain
- Duration of pain
- Pattern
- Frequency
- Location
- time of pain
**Physical Assessment**

**Dyspepsia** - upper abdominal discomfort associated with eating (layman's term is indigestion) imprecise term that refers to a hose of symptoms such as pain, discomfort, fullness, bloating, early satiety, belching, heartburn, or regurgitation. Occurs in approximately 25% of adult population. Typically fatty foods cause the most issues. Salads, coarse vegetables and highly seasoned foods also cause considerable GI distress.

**Intestinal Gas** – accumulation of gas in GI tract may result in belching or flatulence. Patients often complain of bloating, distention or feeling full of gas with excessive flatulence as a symptom of food intolerance or gallbladder disease.

**Nausea and Vomiting** – nausea is a vague sensation of sickness or queasiness that may be followed by vomiting. Can be triggered by odors, activity, medications or food. The emesis (vomitus) may vary in color and content and may contain undigested food, blood (hematemesis, or bilious material mixed with gastric juices. Causes of nausea and vomiting:
1. visceral afferent stimulation (dysmotility, peritoneal irritation, infections, hepatobiliary or pancreatic disorders, and/or mechanical obstruction)
2. CNS disorders (vestibular disorders, increased intracranial pressure, infections, psychogenic disorder)
3. irritation of the chemoreceptor trigger zone from radiation therapy, systemic disorders and/or anti-tumor chemotherapy medications.

**Change in Bowel Habits & Stool characteristics** - Changes in bowel habits may signal dysfunction or disease

**Diarrhea** - an abnormal increase in the frequency and liquidity of stool, or in daily stool weight or volume. Associated with abdominal pain, cramping, nausea and vomiting.

**Constipation** – a decrease in the frequency of stool, or stools that are hard, dry and of smaller volume than normal.

Characteristics of stool can vary based on foods, medications and diseases.

<table>
<thead>
<tr>
<th>Altering Substance</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meat protein</td>
<td>Dark brown</td>
</tr>
<tr>
<td>Spinach</td>
<td>Green</td>
</tr>
<tr>
<td>Carrots and beets</td>
<td>Red</td>
</tr>
<tr>
<td>Cocoa</td>
<td>Dark red or brown</td>
</tr>
<tr>
<td>Senna</td>
<td>Yellow</td>
</tr>
<tr>
<td>Bismuth, iron, licorice, and charcoal</td>
<td>Black</td>
</tr>
</tbody>
</table>
Barium

Milky White

Other common abnormalities:

- Bulky, greasy, foamy stools that are foul in odor and may or may not float
- Light-gray or clay-colored stool, caused by decrease or absence of conjugated bilirubin
- Stool with mucous threads or pus that may be visible on gross inspection of the stool
- Loose, watery stool that may or may not be streaked with blood

Physical Assessment of GI

- Mouth
- Abdomen
- Rectum
- Requires good source of light
- Requires full exposure of abdomen
- Requires warm hands with short fingernails
- Requires a comfortable relaxed patient with an empty bladder

Oral Cavity Inspection & Palpation

1. Dentures should be removed to allow good visualization of oral cavity
2. Lips
   a. Inspect lips for moisture, hydration, color, texture, symmetry and presence of ulcerations or fissures
   b. Lips should be moist, pink, smooth and symmetrically
   c. Instruct pt to open mouth wide, a tongue blade is inserted to expose the buccal mucosa for assessment of color and lesions. Stensen's duct of parotid gland is visible as a small red dot in the buccal mucosa next to the upper molars
3. Gums
   a. Inspect for inflammation, bleeding, retraction and discoloration
   b. Odor of breath should be noted
   c. Examine hard palate for color and shape.
4. Tongue
   a. Inspect dorsum (back) of tongue for texture, color and lesions
      i. Normal findings include a thin white coat and large, vallate papillae in a “v” formation on the distal portion of the dorsum
   b. Instruct pt to protrude the tongue and move it laterally (allows tongue to be examined for size and symmetry. Also assess the integrity of the 12th cranial nerve)
   c. Further inspect ventral surface of tongue and the floor of the mouth
      i. Ask the pt to touch the roof of the mouth with the tip of the tongue
      ii. Note any lesions of the mucosa or other abnormalities involving the frenulum or superficial veins on the under surface of the tongue
      iii. Keep vigilant for white or red plaque, an indurated ulcer or a warty growth – these may be signs of oral cancer
   d. Depress tongue and visualize the pharynx
      i. Have pt tip their head back, open mouth wide, take a deep breath, and say “ah”. This should flatten the tongue enough to briefly all visualization of tonsil, uvula and posterior pharynx
ii. inspect for color, symmetry and evidence of exudate

**Abdominal Inspection, Auscultation, Palpation and Percussion**

- have pt lie supine with knees flexed slightly for inspection, auscultation, palpation and percussion of the abdomen

  - visualize the abdomen in four quadrants

  - perform inspection first
    - note skin changes
    - nodules
    - lesions
    - scarring
    - discolorations
    - inflammation
    - bruising
    - striae
    - note contour and symmetry, localized bulging, distention, or peristaltic waves

  - Auscultation always precedes percussion and palpation
    - listen for character, location and frequency of bowel sounds and vascular sounds
    - use bell of stethoscope and note any bruits in the aortic, renal, iliac and femoral arteries. Friction rubs are high-pitched and can be heard over the liver and spleen during respiration.
    - Borborygmi or stomach growling is heard as loud prolonged gurgle

- Percuss to assess the size and density of the abdominal organs & to detect the presence of air-filled, fluid-filled or solid masses.

- Percussion is used either independently or concurrently with palpation because it can validate palpation findings

- Palpate to identify areas of tenderness or muscular resistance
### Neurological System

<table>
<thead>
<tr>
<th>Subjective Data</th>
<th>Objective Data</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Record presence or absence for each of the following...</strong></td>
<td><strong>Neurological Assessment</strong></td>
</tr>
<tr>
<td>• Memory loss</td>
<td>In the examination, an appropriate technique should be used to assess each of the following</td>
</tr>
<tr>
<td>• Emotional problems</td>
<td>1. Cerebral function [[at least one test specific to mental status]]</td>
</tr>
<tr>
<td>• Paralysis</td>
<td>2. Cerebellar function [[gait is observed &amp; at least 1 other test for balance and coordination]]</td>
</tr>
<tr>
<td>• Parasthesias</td>
<td>3. Motor status [[at least 1 test of muscle strength]]</td>
</tr>
<tr>
<td>• Loss of consciousness</td>
<td>4. Sensory status [[extremities are tested for light touch &amp; superficial pain response]]</td>
</tr>
<tr>
<td>• Head injury</td>
<td><strong>Written description includes</strong></td>
</tr>
<tr>
<td>• History of meningitis or encephalitis</td>
<td>1. Level of orientation in all 3 spheres (time, place, person)</td>
</tr>
<tr>
<td></td>
<td>2. A description of the emotional state.</td>
</tr>
<tr>
<td></td>
<td>3. An evaluation of the intellectual ability</td>
</tr>
<tr>
<td></td>
<td>4. Presence or absence of normal cerebellar functions</td>
</tr>
<tr>
<td></td>
<td>5. Presence or absence of normal motor functions</td>
</tr>
<tr>
<td></td>
<td>6. Presence or absence of normal sensory functions</td>
</tr>
</tbody>
</table>

### Assessment of the Nervous System

- Health history of neurological disease should include details about
  - onset
  - character
  - severity
  - location
  - duration
  - frequency of symptoms and signs
  - associated complaints
  - precipitating, aggravating and relieving factors
  - progression
Physical Assessment

- remission
- exacerbation
- presence or absence of similar symptoms among family members

<table>
<thead>
<tr>
<th>Common Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pain</strong></td>
</tr>
<tr>
<td>- Unpleasant sensory perception and emotional experience associated with actual or potential tissue damage.</td>
</tr>
<tr>
<td>- It is multidimensional and entirely subjective.</td>
</tr>
<tr>
<td>- Can be acute or chronic</td>
</tr>
<tr>
<td>- Acute pain may be associated with brain hemorrhage, spinal disk disease or trigeminal neuralgia</td>
</tr>
<tr>
<td>- Chronic pain may represent a broader pathology</td>
</tr>
<tr>
<td><strong>Seizures</strong></td>
</tr>
<tr>
<td>- The result of abnormal paroxysmal discharges in the cerebral cortex which manifests as an alteration in sensation, behavior, movement, perception or consciousness.</td>
</tr>
<tr>
<td>- Alteration can be short or long (petit mal vs tonic-clonic grand mal seizures)</td>
</tr>
<tr>
<td>- Can be isolated events (such as high fever, withdrawal, hypoglycemia)</td>
</tr>
<tr>
<td>- May be the first obvious sign of a brain lesion.</td>
</tr>
<tr>
<td><strong>Dizziness &amp; Vertigo</strong></td>
</tr>
<tr>
<td>- Dizziness is the abnormal sensation of imbalance or movement. It's fairly common in the elderly and a very common complaint</td>
</tr>
<tr>
<td>- Dizziness can be caused by: viral syndromes, hot weather, roller coast rides, middle ear infections, etc.</td>
</tr>
<tr>
<td>- approx 50% of pts with dizziness have vertigo, an illusion of movement, usually rotation</td>
</tr>
<tr>
<td>- Vertigo is usually a manifestation of vestibular dysfunction</td>
</tr>
<tr>
<td>- Vertigo can be severe enough to result in spatial disorientation, light-headedness, loss of equilibrium (staggering), nausea and vomiting.</td>
</tr>
<tr>
<td><strong>Visual Disturbances</strong></td>
</tr>
<tr>
<td>- Can range from decreased visual acuity to sudden blindness</td>
</tr>
<tr>
<td>- Lesions of the eye (eg cataract), lesions along visual pathway (eg tumor) or lesions in the visual cortex (eg stroke) can interfere with normal vision.</td>
</tr>
<tr>
<td>- Abnormal eye movement can compromise vision by causing diplopia or double vision.</td>
</tr>
<tr>
<td><strong>Muscle Weakness</strong></td>
</tr>
<tr>
<td>- Common manifestation of neurologic disease</td>
</tr>
<tr>
<td>- Frequently coexists with other symptoms</td>
</tr>
<tr>
<td>- Can affect many different muscles and cause a wide range of disability</td>
</tr>
<tr>
<td>- Can be sudden and permanent (eg stroke) or progression (eg neuromuscular diseases)</td>
</tr>
<tr>
<td>- Any muscle group can be affected</td>
</tr>
</tbody>
</table>
Abnormal sensation

- A neurological manifestation of both central and peripheral nervous system diseases
- altered sensations can occur all over the body and affect small or large areas.
- Frequently associated with weakness or pain and is potentially disabling
- lack of sensation places a person at risk for falls and injury

A neurolologic assessment is divided into five components

1. Consciousness and cognition
2. Cranial nerves
3. Motor systems
4. Sensory system
5. Reflexes

Depending on patient's condition or chief complaint, the priority of these assessments will change.

1. Assessing Consciousness and Cognition

- cerebral abnormalities can cause disturbances in mental status, intellectual function, thought content, emotional status, language abilities and lifestyles.
- Alterations need to be described in neutral terms (eg avoid “inappropriate” and “demented”)

### Mental Status

- Assessment begins by observing pt's appearance and behavior (note dress, grooming & personal hygiene)
- Observe posture, gestures, movements and facial expressions.
- Does the pt appear to be aware of and interact with the surroundings?
- Assess orientation to time, place and person.
- Is the capacity for immediate memory intact?

### Intellectual Function

- A person with an average iq can repeat seven digits without faltering & can recite five digits backward
- the capacity to interpret well-known proverbs tests abstract reasoning
- questions designed to assess intellectual capacity can include questions that tests the ability to recognize similarities (eg “how are a pen and pencil alike”)
- can the pt make judgments about situations? (eg if the pt arrived home without a house key, what alternatives are there?)

### Thought Content

- Are pt's thoughts spontaneous, natural, clear, relevant and coherent?
- Does pt have any fixed ideas, illusions or preoccupations?
- What are his or her insights into these thoughts?
- Preoccupation w/ death or morbid events, hallucinations and paranoid ideation are examples of unusual thoughts
### Emotional Status

- Is the pt's affect (external manifestation of mood) natural and even, or irritable and angry, anxious, apathetic/flat, or euphoric?
- Do moods fluctuate normally during interview or does the pt unpredictably swing from joy to sadness?
- Is affect appropriate to words and thought content?
- Are verbal communications consistent with nonverbal cues?

### Language Ability

- Does the pt answer questions appropriately?
- Can he or she read a sentence from a newspaper and explain its meaning?
- Can the pt write his or her name, or copy a simple figure?
- A deficiency in language function is called **aphasia**

### Types of Aphasia & Region of Brain involved

<table>
<thead>
<tr>
<th>Type of Aphasia</th>
<th>Brain area involved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auditory-receptive</td>
<td>Temporal lobe</td>
</tr>
<tr>
<td>Visual-receptive</td>
<td>Parietal-occipital area</td>
</tr>
<tr>
<td>Expressive speaking</td>
<td>Inferior posterior frontal areas</td>
</tr>
<tr>
<td>Expressive writing</td>
<td>Posterior frontal area</td>
</tr>
</tbody>
</table>

### Impact on Lifestyle

- Issues to consider include limitations imposed on the pt by any cognitive deficit and pt's role in society
- Include family and community roles
- The plan of care needs to support adaptation to neurological deficits

### Level of Consciousness

- Pt's level of wakefulness and ability to respond to environment
- Level of consciousness is the most sensitive indicator of neurologic function
- Observe for alertness and ability to follow commands
- If pt is not alert or able to follow commands:
  - Observe for eye opening
  - Verbal response
  - Motor response to stimuli
  - Type of stimuli needed to obtain a response
  - Noxious should be used first, then a painful stimuli if no response is observed

2. Cranial Nerves [temporarily omitted]
3. Examining the Motor System

### Motor Ability
- Assess muscle size, tone, strength, coordination and balance
- instruct pt to walk across the room (if possible) while examining posture and gait
- inspect muscles and palpate (if necessary) for size and symmetry
- note evidence of atrophy or involuntary movements (tremors or tics)
- note resistance to passive motion
- abnormalities in tone include:
  - **spasticity** – increased muscle tone
  - **rigidity** – resistance to passive stretch
  - **flaccidity**

### Muscle Strength
- Assess pt's ability to flex and extend extremities against resistance
- compare for symmetry in the extremities
- test for drift (have pt hold arms out in front with palms up – drift is seen as pronation of the palm)
- a stick figure may be used to record muscle strength and is a precise form of documenting findings

<table>
<thead>
<tr>
<th>5 Point Scale for Rating Muscle Strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>0</td>
</tr>
</tbody>
</table>

### Balance and Coordination
- To test coordination have pt perform rapid, alternating movements and point-to-point testing
- coordination in the lower extremities is tested by having the pt run the heel down the anterior surface of the tibia of the other leg. Test each leg in turn.
- **Ataxia** is incoordination of voluntary muscle action, particularly of muscle groups used in activates such as walking or reaching.
• Tremors (rhythmic, involuntary movement) noted at rest or during movement suggest a problem in the anatomic areas responsible for balance and coordination
• **Romberg test** – screening test for balance. Pt stands w/ feet together and arms at side, first with eyes open and then with both eyes closed for 20 to 30 seconds. Stand close to the pt in case he or she begins to fall. Slight swaying is normal, but a loss of balance is abnormal and considered a “positive romberg test”
• additional tests include hopping in place, alternating knee bends and heel-to-toe walking forward and backward.

4. **Examining the Sensory System**
- sensory modalities are widespread throughout the CNS and PNS.
- the sensory examination is largely subjective and requires the cooperation of the pt
- be familiar with dermatomes

• test for tactile sensation, superficial pain, temperature, vibration and position sense
(proprioception)

- during the sensory assessment, the pt should close their eyes
- simple direction and reassurance that the examiner will not hurt or startle the pt will encourage cooperation
- tactile sensation is assessed by lightly touched a cotton wisp or fingertip to corresponding areas on each side of the body
- pain sensation tests are usually reserved for pts who do not respond or cannot discriminate to touch stimulation
- if pain is assessed, temperature does not have to be assessed.
- In pain assessment ask the pt to differentiate between the sharp and dull ends of a broken wooden cotton swab or tongue blade
- position or proprioception is assessed by having the pt close both eyes and indicate, as the great toe or index finger is alternately moved up and down, in which direction movement has taken place.
- Integration of sensation is tested by having the pt identify the location of two simultaneous points touched on the body (with their eyes closed)
- other tests include having a pt identify an object by touch (without sight)
- Agnosia – the general loss of ability to recognize objects through a particular sensory system.
- Inability to identify an object by sight is visual agnosia.

5. Examining Reflexes

Reflexes are involuntary contraction of muscles or muscle groups in response to stimulus.

There are three classifications:
1. Deep tendon
2. Superficial
3. Pathologic

**Deep Tendon Reflexes**

- A reflex hammer is used to elicit a deep tendon reflect
- Position extremity so the tendon is slightly stretched
- There is a wide range of “normal” reflexes, but what is important is that there is symmetry
- results are dependent on proper use of the hammer, proper positioning of the extremity and a properly relaxed patient
- the absence of reflexes is significant, although ankle jerks (achilles reflex) may be normally absent in older pts
<table>
<thead>
<tr>
<th>Reflex Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biceps Reflex</td>
<td>Biceps reflex is elicited by striking the biceps tendon over a slightly flexed elbow. Place the thumb against the tendon and strike the thumb. Normal response is flexion at the elbow and contraction of the biceps.</td>
</tr>
<tr>
<td>Triceps Reflex</td>
<td>Flex the pt's arm at the elbow, and position in front of chest. Support the arm and identify the triceps tendon by palpating 2.5 to 5cm above the elbow. A direct blow normal produces contraction of the triceps muscle and extension of the elbow.</td>
</tr>
<tr>
<td>Brachioradialis Reflex</td>
<td>Rest pt's forearm on the lap or across the abdomen. Gently strike the hammer 2.5 to 5 cm above the write. Normal result is flexion and supination of the forearm.</td>
</tr>
</tbody>
</table>
Patellar Reflex

Strike patellar tendon just below the patella. The pt may sit or lie down. If the pt is supine, support the leg to facilitate relaxation of the muscles. Contractions of the quadriceps and knee extension are normal responses.

Achilles Reflex

Dorsiflex the foot at the ankle and strike the hammer on the stretched Achilles tendon. Normally this produces plantar flexion. If reflex is not present and it is suspected it is because the pt cannot relax, have the pt kneel on a chair and retest.

**Clonus** – when reflexes are very hyperactive, clonus may be elicited. If the foot is abruptly dorsiflexed, it may continue to “beat” two or three times before it settles into a position of rest. Occasionally with CNS disease the activity persists. Unsustained clonus associated with normal but hyperactive reflexes is not considered pathological. Sustained clonus always indicate CNS disease and requires further evaluation.

**Superficial Reflexes**
Tested as positive (present) or negative (not-present)
- corneal
- palpebral
- gag
- upper/lower abdominal
- cremasteric (men only)
- plantar
- perianal

Only corneal, gag, and plantar reflexes are tested commonly
Physical Assessment

<table>
<thead>
<tr>
<th>Corneal</th>
<th>Using a clean wisp of cotton, touch the outer corner of each eye on the sclera. A positive response is a blink. If absent eye protection is needed and possible lubrication.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gag</td>
<td>Gently touch the back of the pharynx with a cotton-tipped application, first on one side of the uvula and then the other. Positive response is an equal elevation of the uvula and “gag” with stimulation. Absence requires careful evaluation and treatment of the resultant swallowing dysfunction to prevent aspiration of food and fluids.</td>
</tr>
<tr>
<td>Plantar</td>
<td>Stroke the sole of the foot with a tongue blade or the handle of a reflex hammer. Stimulation normally causes toe flexion.</td>
</tr>
</tbody>
</table>

Pathologic Reflexes

- pathologic reflexes are seen in the presence of neurologic siedase.

| Babinski Reflex | A well-known pathologic reflex indicative of CNS disease affecting the corticospinal tract. A person with an intact CNS has a positive plantar reflex. A person with CNS disease of the motor system, the toes fan out and draw back. This is a normal reflex in newborns, but represent a serious abnormality in adults. |

Breasts

<table>
<thead>
<tr>
<th>Subjective Data</th>
<th>Record presence or absence for each of the following...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nipple discharge</td>
<td>•</td>
</tr>
<tr>
<td>Masses</td>
<td>•</td>
</tr>
<tr>
<td>Tenderness</td>
<td>•</td>
</tr>
<tr>
<td>Hx of breast disease/surgery</td>
<td>•</td>
</tr>
<tr>
<td>Last mammogram</td>
<td>•</td>
</tr>
<tr>
<td>Skin dimples</td>
<td>•</td>
</tr>
<tr>
<td>Pain</td>
<td>•</td>
</tr>
<tr>
<td>Skin discoloration</td>
<td>•</td>
</tr>
<tr>
<td>Pattern of self-breast exam</td>
<td>•</td>
</tr>
</tbody>
</table>

Explore positive findings...

Breast Assessment

<table>
<thead>
<tr>
<th>Objective Data</th>
<th>1. Utilize at least 1 acceptable maneuver to identify signs of skin retraction or dimpling.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2. Inspect for symmetry with client in an upright position</td>
</tr>
<tr>
<td></td>
<td>3. Place client in supine position with a pillow under the shoulders to allow breast to rest more symmetrically over the chest wall palpation.</td>
</tr>
</tbody>
</table>
4. Palpate all 4 quadrants of the breast and axilla using the palmar surface of the fingers.
5. Explain to the client the steps carried out.

**Written description includes**

1. Presence or absence of symmetry, retraction, nipple discharge, masses & tenderness
2. A description of any mass identified including location & characteristics such as site, shape, consistency & mobility.

**Breast Self – Examination**

- Educating patients on the importance of breast self-examination is something a nurse should always initiate.
- The best time for self examination is 5-7 days after menses (counting the first day as day one)
- Patients (men included, if family has a history of breast cancer) should learn their “normal abnormalities” so they can detect changes.

**Patient Education – Breast Self Examination**

**Step 1**
- Stand in front of mirror
- Check both breasts for anything unusual
- Look for discharge from the nipple, puckering, dumping or scaling of the skin

**Step 2**
- Clasp hands behind your head and press your hands forward
- Watch closely for changes in shape and contour of your breasts
Physical Assessment

Step 3
• Pressed hands firmly on hips and bow slightly toward the mirror while pulling shoulders and elbows forward
• Note any change in the contour of the breast

Step 4
• Raise left arm
• Use 3 or 4 fingers of your right hand to feel left breast firmly, carefully and thoroughly
• Begin at the outer edge, press the flat part of the fingers in small circles, moving the circles slowly around the breast
• Gradually work toward the nipple
• Be sure to cover whole breast
• Pay special attention to the area between the breast and undersarm, including the undararm itself
• Feel for any unusual lumps or masses under skin
• Any spontaneous discharge warrants a trip to the dr
• Repeat on right breast

Step 5
• Repeat step 4 while lying down
• Lie flat on your back with left arm over head and a pillow or folded towel under left shoulder. (This position flattens your breast and makes it easier to check)
• Repeat on right breast
Assessment of Breasts

Breast examination with the woman in a supine position. The entire surface of the breast is palpated from the outer edge of the breast to the nipple; palpation patterns are (A) circular or clockwise, (B) wedge, and (C) vertical strip.

Pay special attention to areas with nodes.
# Physical Assessment

## Abnormal Findings During Inspection of the Breasts

<table>
<thead>
<tr>
<th>Condition</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Retraction Signs**       | - Signs include skin dimpling, creasing, changes in contour of breast or nipple  
                             - may be 2ndry to contraction of fibrotic tissues occurring with underlying malignancy  
                             - may be 2ndry to scar tissue after breast surgery  
                             - retraction might only appear with position changes |
| **Increased Venous Prominence** | - Unilateral localized increase in venous pattern is associated with malignant tumors  
                                  - Normal when bilateral and symmetrical breast enlargement associated with pregnancy and lactation |
| **Peau d'Orange (Edema)**  | - Associated with inflammatory breast cancer  
                             - caused by interference with lymphatic drainage  
                             - breast skin has orange peel appearance  
                             - skin pores enlargement  
                             - may be noted on the areola  
                             - skin becomes thick, hard and immobile |
| **Nipple Inversion**       | - Considered normal if long-standing  
                             - associated with fibrosis & malignancy if recently developed |
Physical Assessment

**Acute Mastitis**  
*(Inflammation of Breasts)*
- Associated with lactation but may occur at any age
- Nipple cracks or abrasions noted
- Breast skin reddens and is warm to touch
- Tenderness
- Systemic signs include fever & increased pulse

**Paget's Disease**  
*(Malignancy of Mammary Ducts)*
- Early signs: erythema of nipple and areola
- Late signs: thickening, scaling and erosion of nipple and areola

---

**Male Genitalia**

<table>
<thead>
<tr>
<th>Subjective Data</th>
<th>Objective Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Record presence or absence for each of the following...</td>
<td></td>
</tr>
<tr>
<td>- Fluid intake</td>
<td>- Voiding patterns</td>
</tr>
<tr>
<td>- Bladder control</td>
<td>- Frequency</td>
</tr>
<tr>
<td>- Urgency</td>
<td>- Symptoms of STDs</td>
</tr>
<tr>
<td>- Pattern of testicular self exam</td>
<td></td>
</tr>
</tbody>
</table>

**Explore positive findings...**

**Male Genitalia Assessment**

1. Inspect pubic region for hair distribution
2. Palpate penis for nodules, swelling, inflammation, tenderness
3. Inspect scrotum for appearance, size, symmetry
4. Palpate testes for shape, size, presence of masses.

**Written description includes**

1. Presence or absence of lesions, inflammation or discharge from penis.
2. Scrotum – testes descended, symmetry, presence or absence of masses or hernia
### Assessing the Male Genitals and Inguinal Area

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Normal Findings</th>
<th>Deviations from Normal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pubic Hair</strong></td>
<td>• Inspect distribution, amount and characteristics of pubic hair</td>
<td>• Triangular distribution</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• often spreads up abdomen</td>
</tr>
<tr>
<td><strong>Penis</strong></td>
<td>• Inspect penile shaft &amp; glans for lesions, nodules, swelling &amp; inflammation</td>
<td>• Presence of lesions, nodules, swellings or inflammation</td>
</tr>
<tr>
<td></td>
<td>• Inspect urethral meatus for swelling, inflammation &amp; discharge</td>
<td>• discharge from urethral meatus</td>
</tr>
<tr>
<td></td>
<td>• Palpate the penis for tenderness, thickening &amp; nodules. Use the thumb &amp; first 2</td>
<td>• variation in meatal locations</td>
</tr>
<tr>
<td></td>
<td>fingers</td>
<td>◦ hypospadias – underside of penile shaft</td>
</tr>
<tr>
<td></td>
<td></td>
<td>◦ epispadias - upper-side of penile shaft</td>
</tr>
<tr>
<td><strong>Scrotum</strong></td>
<td>• Inspect scrotum for appearance, size &amp; symmetry</td>
<td>• Testicles are enlarged and/or have an uneven surface</td>
</tr>
<tr>
<td></td>
<td>◦ ask pt to hold the penis out of the way</td>
<td>• epididymis is nonresilient and painful.</td>
</tr>
<tr>
<td></td>
<td>◦ inspect all skin surfaces by spreading the rugated surface skin &amp; lifting the</td>
<td></td>
</tr>
<tr>
<td></td>
<td>scrotum as needed to observe posterior surfaces</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Palpate scrotum to assess testes, epididymis &amp; spermatic cord</td>
<td></td>
</tr>
<tr>
<td></td>
<td>◦ do both testes</td>
<td></td>
</tr>
</tbody>
</table>
simultaneously for comparative purposes
• use first two fingers & thumb and feel for size, consistency, shape, smoothness & presence of masses.
• Palpate the epididymis between thumb & index finger (located on top of testes and extends behind them)
• palpate spermatic cord between thumb & index finger – usually feels firm
• if swelling, irregularities or nodules are detected during scrotal examination, attempt trans-illumination
• describe all scrotal masses in terms of size, shape, placement, consistency, tenderness & presence of trans-illumination

| Inguinal Area | • Inspect both inguinal areas for bulges while client is standing  
• First have client remain at rest and inspect  
• Have client strain or bear down as though having a bowel movement. Bearing down may make a hernia more visible | • No swelling or bulges  
• Swelling or bulge |