

## **BREAST AND LYMPHATIC ASSESSMENT & HEART & NECK ASSESSMENT**

**BREASTS** — Breasts are paired mammary glands that lie over the muscles of the anterior chest wall.

They are located:

**Anterior to:**

- Pectoralis major
- Serratus anterior

**Extent:**

- Horizontally: 2nd to 6th rib
- Vertically: Sternum to midaxillary line

### **MALE AND FEMALE BREASTS**

- Male and female breasts are similar until puberty.

**Female** - Develop into an accessory reproductive organ with two functions:

- Produce and store milk
- Aid in sexual stimulation

**Male**

- No functional capability

### **LOCATION OF ASSESSMENT FINDINGS**

**Breast Quadrants** - Breasts are divided into four quadrants intersecting at the nipple.

**The 4 Breast Quadrants:**

1. Upper Outer Quadrant (UOQ)
2. Upper Inner Quadrant (UIQ)
3. Lower Outer Quadrant (LOQ)
4. Lower Inner Quadrant (LIQ)

**Tail of Spence** — The Tail of Spence is located in the upper outer quadrant and extends into the axillary area. It is the most frequent location of breast tumors.

**LYMPH NODES** — Lymph nodes are present in male and female breasts and function to:

- Drain lymph from breasts
- Filter microorganisms
- Return water and protein to blood

## **EXTERNAL ANATOMY OF THE BREAST**

**Skin**

- Smooth
- Varies in color

**Nipple**

- Darker pigment
- Located at center
- Contains lactiferous ducts

**Areola**

- Surrounds nipple

**Contains:**

- Sebaceous glands
- Hair follicles
- Smooth muscle fibers that contract nipple with stimulation

## **INTERNAL ANATOMY OF THE BREAST**

**Three types of tissue:**

- Glandular
- Fibrous
- Fatty

### **BREAST ABNORMALITIES**

- Asymmetrical breasts
- Round breasts
- Bell-shaped breasts
- East-west breasts
- Athletic breasts
- Side set breasts
- Slender breasts
- Teardrop shaped breasts
- Wide-set breasts
- Breast cancer

### **BREAST PALPATION METHODS**

**Vertical Strip Method** - Palpate in parallel lines until the midaxillary line including the Tail of Spence.

**Pie Wedge Method** - Palpate like slices of a pie.

### Concentric Circle Method

- Start outermost area
- Move in circular pattern toward nipple
- Move fingers 2 fingerbreadths inward each time

### LYMPH NODE LOCATIONS

- Lateral (brachial)
- Central (midaxillary)
- Posterior (subscapular)
- Anterior (pectoral)
- Supraclavicular
- Infraclavicular

### BREAST SELF-EXAMINATION

- Standing
- Lying

**SUPERNUMERARY NIPPLE** — A supernumerary nipple is an aborted beginning of an additional nipple along the mid-clavicular line of the thorax.

- It appears as a hyperpigmented macule that may resemble a nipple and usually occurs below the normal nipple.

## CARDIOVASCULAR (HEART) SYSTEM

### COMPONENTS:

- Heart
- Blood vessels:
  - *Arteries* — oxygenated blood
  - *Capillaries* — connect arterioles and venules
  - *Veins* — unoxygenated blood

### FUNCTION:

The cardiovascular system:

- Transports blood throughout the body
- Returns blood to the heart
- Pumps blood to:
  - Pulmonary circulation
  - Systemic circulation

### CIRCULATION TYPES:

**Pulmonary Circulation** - From right side of heart → lungs → left side of heart

**Systemic Circulation** - From left side of heart → body tissues → right side of heart

**HEART** — The heart is a hollow, muscular, contractile, four-chambered organ located in the mediastinum between the lungs.

### Characteristics:

- Pumps blood to pulmonary and systemic circulation
- Size of a clenched fist

### Weight:

- 255 g (women)
- 310 g (men)

### FOUR CHAMBERS

- Right atrium
- Left atrium
- Right ventricle
- Left ventricle

### LAYERS OF THE HEART:

- *Epicardium* — outer visceral layer
- *Myocardium* — muscular layer
- *Endocardium* — inner lining

### ELECTRICAL CONDUCTION OF THE HEART

#### *Cardiac muscle cells can:*

- Spontaneously generate electrical impulses
- Conduct impulses through the heart

### Conduction System

- **Sinoatrial (SA) node** — *natural pacemaker*
- **Atrioventricular (AV) node**
- Bundle of His to Bundle branches (L & R) to Purkinje fibers

**CARDIAC CYCLE** — The cardiac cycle refers to the filling and emptying of the heart chambers.

*Two phases:*

- **Diastole** — relaxation (filling)
- **Systole** — contraction (emptying)

**HEART SOUNDS** - Produced by valve closure.

*Normal sound:*

- “Lub-dub” (S1 and S2)

- S1 occurs due to closure of AV valves.

## PERIPHERAL VASCULAR SYSTEM ASSESSMENT

### NECK VESSELS

#### Carotid Arteries

*Normally have:*

- Smooth rapid upstroke early in systole
- Gradual downstroke

#### Jugular Veins

*Two sets:*

- Internal
- External

- Jugular pulses are important for determining right heart hemodynamics.

**JUGULAR VEIN DISTENTION (JVD)** — Jugular vein distention occurs when the vein on the right side of the neck becomes swollen due to blood backing up, increasing jugular venous pressure.

- It is usually a sign of heart failure.

#### JUGULAR VENOUS PRESSURE (JVP)

Measured by:

- Placing a ruler vertically at the angle of Louis
- Identifying highest level of jugular pulsation

or distention

#### ABNORMAL HEART SOUNDS:

- Murmurs
- Abnormal splitting
- Gallops (S3 or S4)
- Clicks
- Friction rubs
- Audible arrhythmias
- Muffled heart sounds

**MURMUR** — A murmur is a blowing, whooshing, or rasping sound caused by turbulent blood flow through heart valves or near the heart.

#### ABNORMAL SPLITTING OF HEART SOUNDS

— Occurs due to conditions such as pulmonary artery hypertension or right ventricular dilatation, producing a split second heart sound at the apex.

**GALLOPS** — A mechanical event associated with rapid ventricular filling, producing a low-frequency sound with ventricular bulge.

**CLICKS** — Clicking sounds occur when stretched valve flaps snap against each other, sometimes accompanied by murmur from blood leaking backward.

**AUDIBLE ARRHYTHMIAS** — Abnormal heart rhythm heard as irregular or rapid beats.

*Types:*

- **Tachycardia** — abnormally fast heart rate at rest
- **Bradycardia** — slower than normal heart rate