



Thorax

Chapter 6

New Terminology

Combining Form	Meaning	Example	Meaning of New Term
Angi/o	Vessel	Angioedema	Swelling of a vessel
Vas/o	Vessel	Vasorrhaphy	Suturing of a vessel
Aort/o	Aorta	Aortostenosis	Narrowing or stricture of the aorta
Arteri/o	Artery	Arteriosclerosis	Abnormal condition of hardening of an artery
Ather/o	Thick, fatty	Atheroma	Thick, fatty tumor
Atri/o	Atria	Atrioventricular	Pertaining to the atria and the ventricles

New Terminology

Combining Form	Meaning	Example	Meaning of New Term
Cardi/o	Heart	Tachycardia	Condition of a rapid heart beat
Coron/o	Heart	Coronary	Pertaining to the heart
Electr/o	Electricity	Electrocardiogram	Record of electricity to the heart
Hem/o	Blood	Hemolytic	Pertaining to the destruction of blood
Hemat/o	Blood	Hematemesis	Vomiting of blood
Phleb/o	Vein	Phleborrhaxis	Rupture of a vein
Ven/o	Vein	Venostasis	Stopping of a vein

New Terminology

Combining Form	Meaning	Example	Meaning of New Term
Vascul/o	Blood vessel	Vasculogenesis	Creation of a blood vessel
Ventricul/o	Ventricle	Ventriculostomy	Mouthlike opening into a ventricle
Aer/o	Air	Aerophagia	Eat or swallowing air
Alveol/o	Alveoli	Alveolitis	Inflammation of the alveoli
Bronch/o	Bronchus	Bronchitis	Inflammation of the bronchus
Bronchi/o	Bronchus	Bronchiectasis	Dilation or expansion of the bronchus
Bronchiol/o	Bronchiole	Bronchiolitis	Inflammation of the bronchiole

New Terminology

Combining Form	Meaning	Example	Meaning of New Term
Chondr/o	Cartilage	Chondroplasty	Surgical repair of the cartilage
Diaphragmat/o	Diaphragm	Diaphragmatocele	Hernia of the diaphragm
Epiglott/o	Epiglottis	Epiglottal	Pertaining to the epiglottis
Laryng/o	Larynx	Laryngitis	Inflammation of the larynx
Lob/o	Lobe	Lobectomy	Excision or surgical removal of a lobe
Muc/o	Mucus	Mucoid	Resembling mucus
Nas/o	Nose	Nasogastric	Pertaining to the nose and stomach

New Terminology

Combining Form	Meaning	Example	Meaning of New Term
Rhin/o	Nose	Rhinitis	Inflammation of the nose
Or/o	Mouth	Oral	Pertaining to the mouth
Stomat/o	Mouth	Somatitis	Inflammation of the mouth
Ox/i	Oxygen	Oximeter	Measuring instrument for oxygen
Ox/o	Oxygen	Anoxia	Condition of no oxygen
Pharyng/o	Pharynx	Pharyngeal	Pertaining to the pharynx

New Terminology

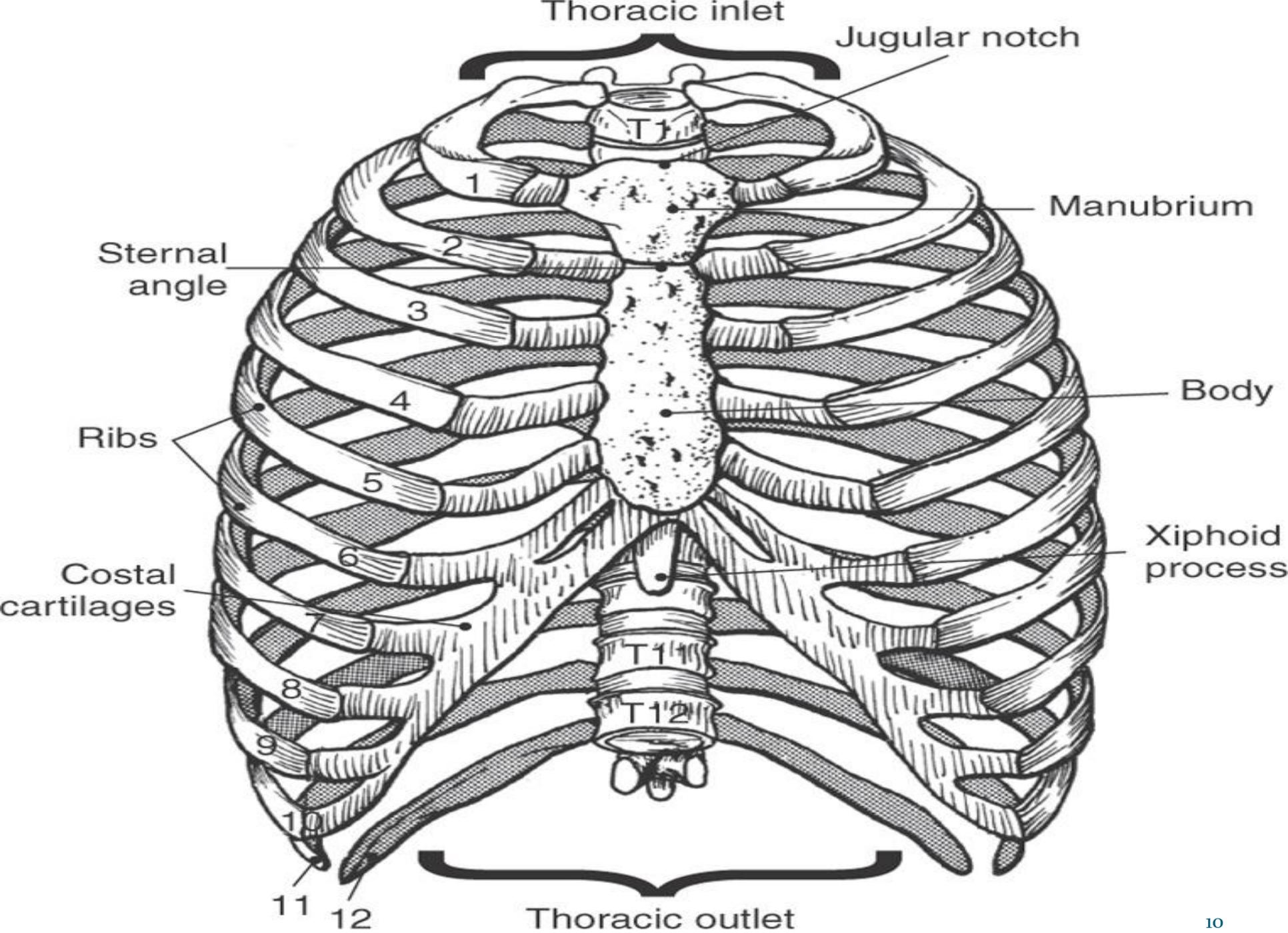
Combining Form	Meaning	Example	Meaning of New Term
Phon/o	Sound, voice	Phonograph	Recording instrument for sound or voice
Pleur/o	Pleura	Pleurodynia	Pain of the pleura
Pnea	Breathing	Apnea Dyspnea	Temporary cessation of breathing Difficult breathing
Pneum/o	Lung, air	Pneumonia	Condition of the lung
Pneumon/o	Lung/air	Pneumonectomy	Excision or surgical removal of the lung
Pulmon/o	Lung	Pulmonary	Pertaining to the lung

New Terminology

Combining Form	Meaning	Example	Meaning of New Term
Sinus/o	Sinus	Sinusoid	Resembling a sinus
Spir/o	Breathing	Spirometer	Measuring instrument for breathing
Thorac/o	Thorax	Thoracentesis	Surgical puncture of the thorax
Tonsill/o	Tonsil	Tonsillitis	Inflammation of the tonsil
Trache/o	Trachea	Tracheotomy	Cutting into or incision of the trachea

Bony Thorax

- **Protects the organs of the thorax**
- **Aids in respiration**
- **Consists of:**
 - **Thoracic spine**
 - **Sternum**
 - **Ribs**
 - **Costal cartilages**



Lungs

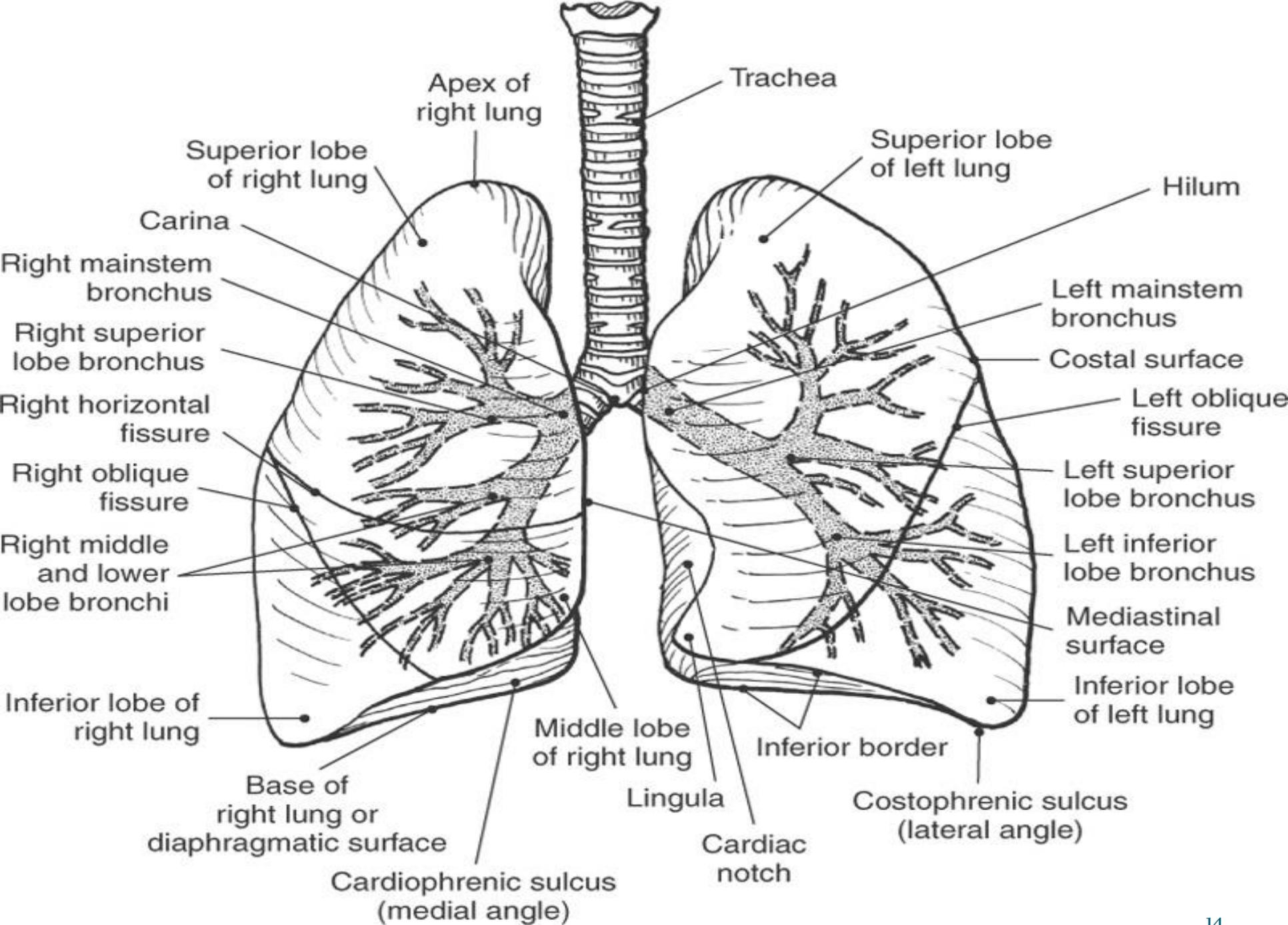
- **Organs of respiration**
 - **Gaseous exchange occurs between:**
 - **Respiratory air**
 - **Blood**

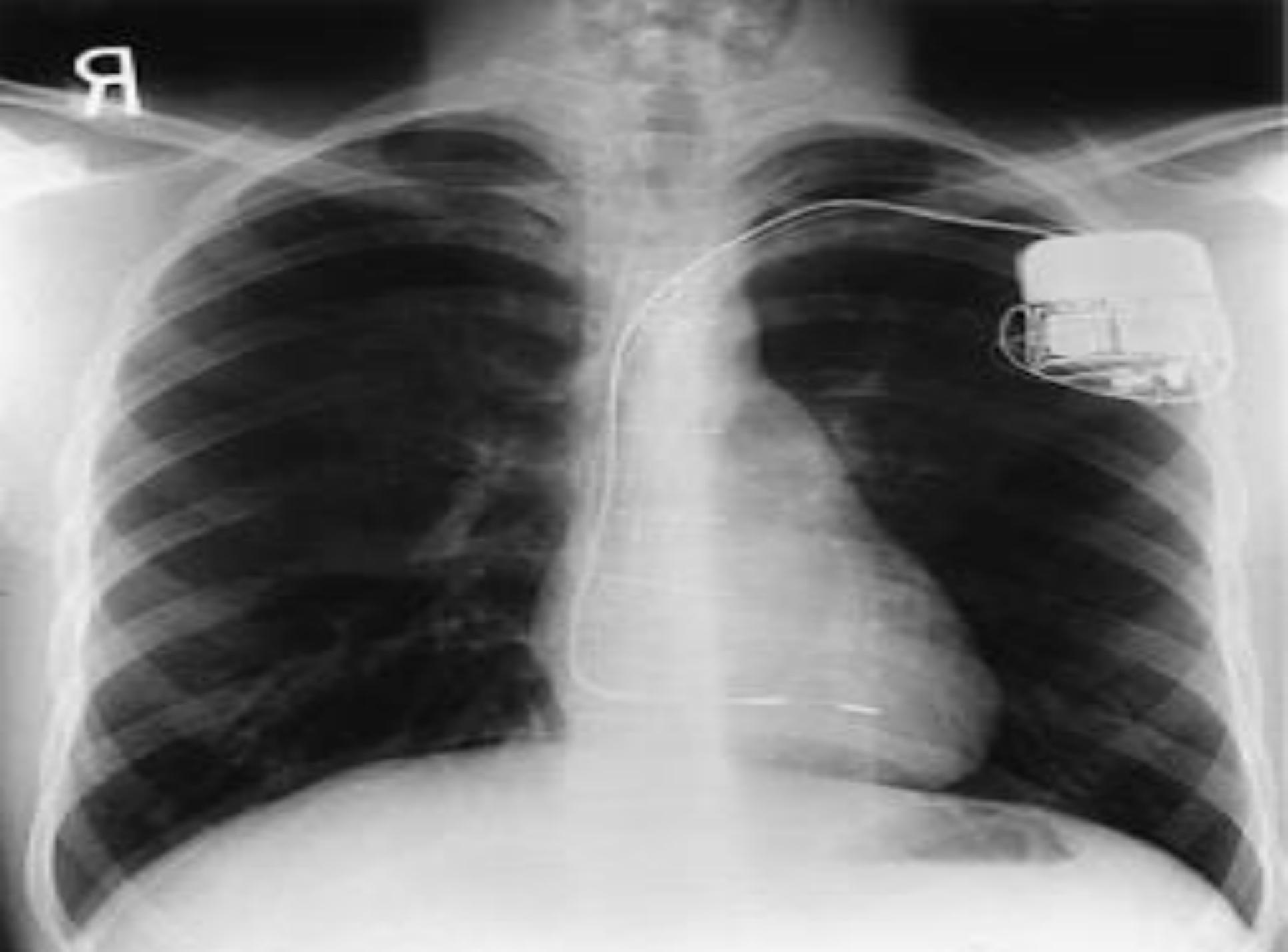
Apex

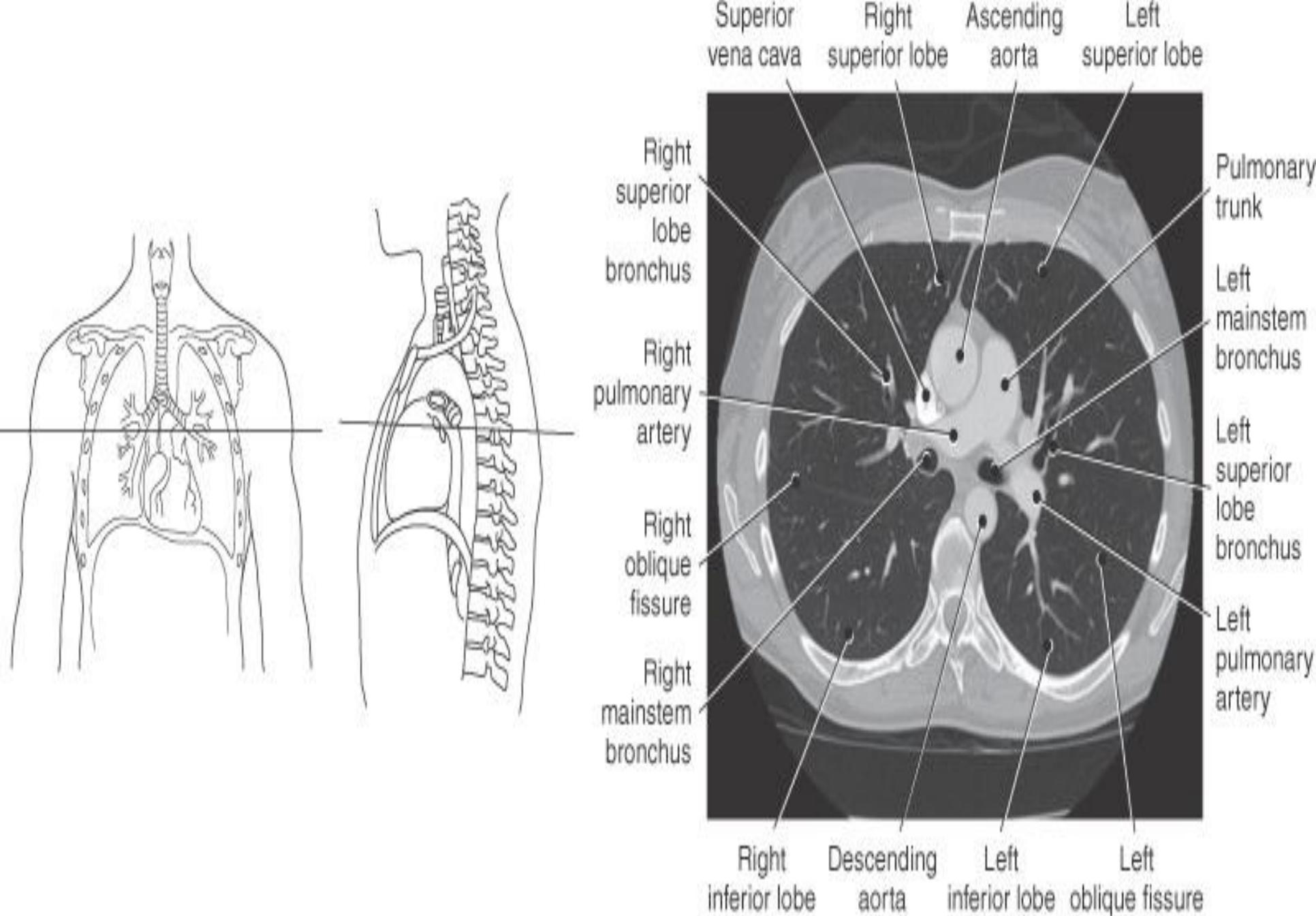
- **Superior portion of lungs**
- **At the level of the first rib**

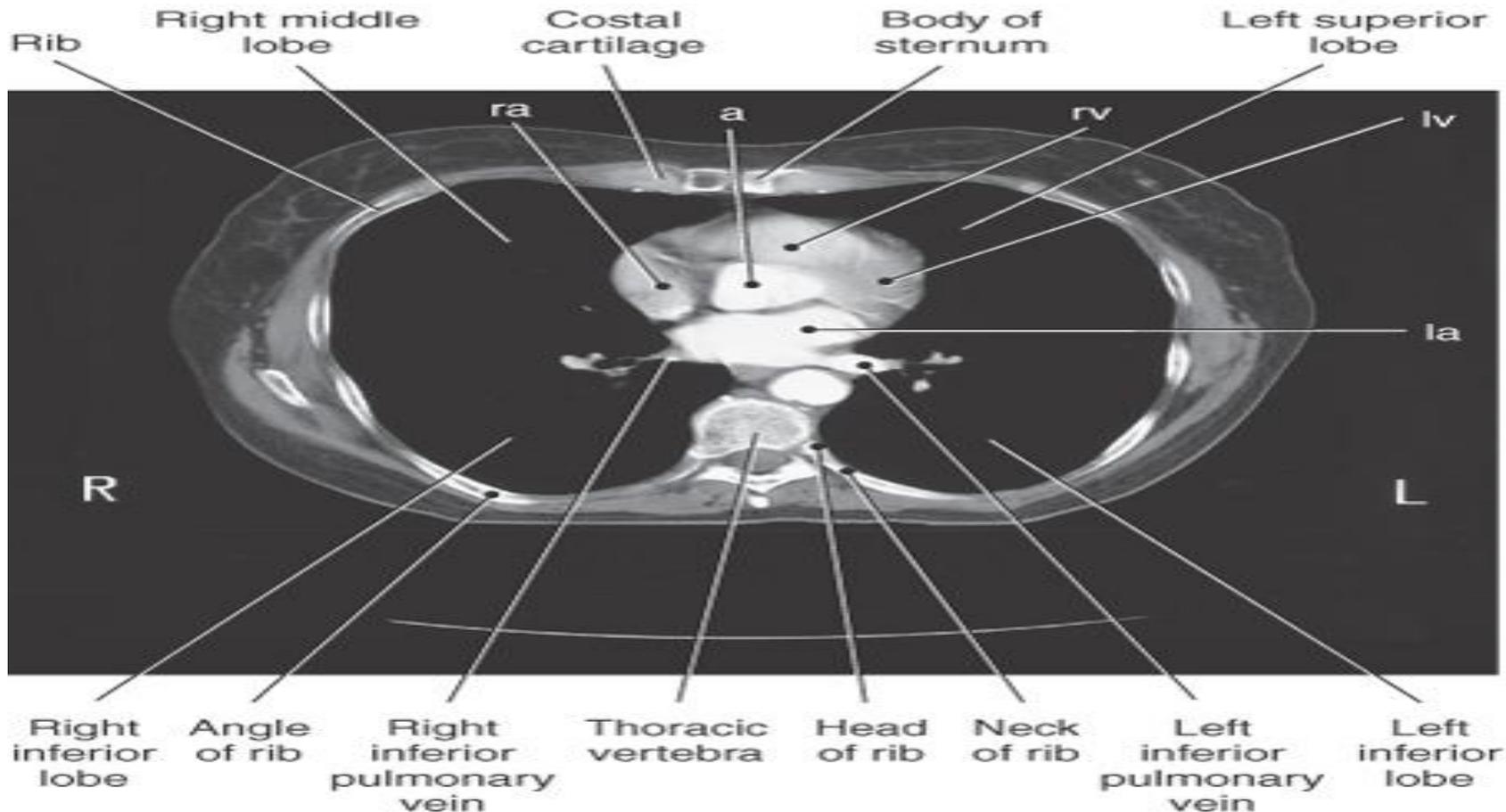
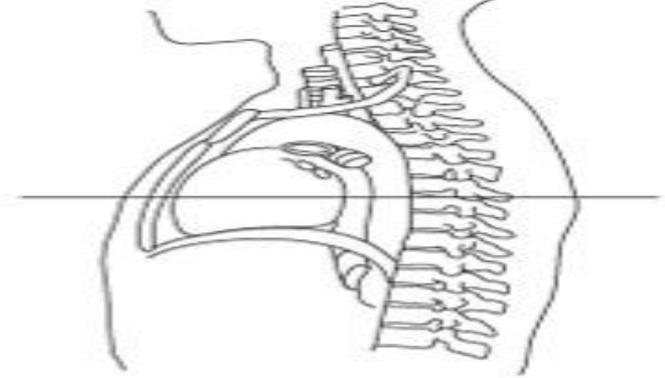
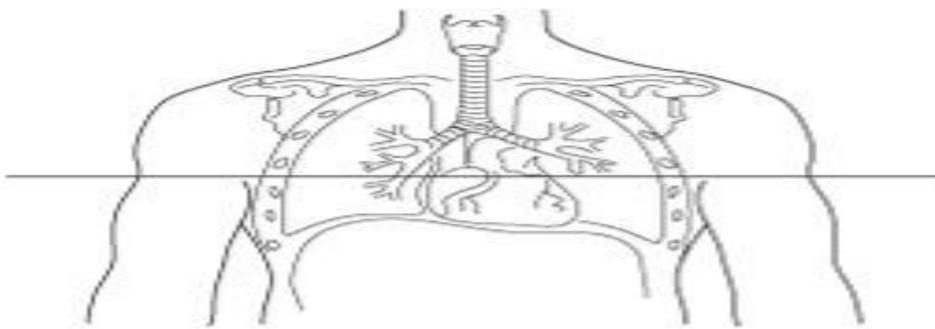
Bases

- **Dome of the diaphragm**
- **Wide concave-shaped**
- **Inferior portion of the lungs**









KEY: ra, Right atrium; a, aorta; rv, right ventricle; lv, left ventricle; la, left atrium;

Hilum

- **Opening on the medial surface of each lung**
- **Passage for:**
 - **Bronchi**
 - **Blood vessels**
 - **Lymph vessels**
 - **Nerves**

Pleural Cavities

- Each lung lies within a single pleural cavity
- Lined by pleura (Serous membrane)
 - Parietal
 - Outer layer
 - Continuous with thoracic wall and diaphragm
 - Visceral
 - Inner layer
 - Closely covers the outer surface of the lung

Bronchi

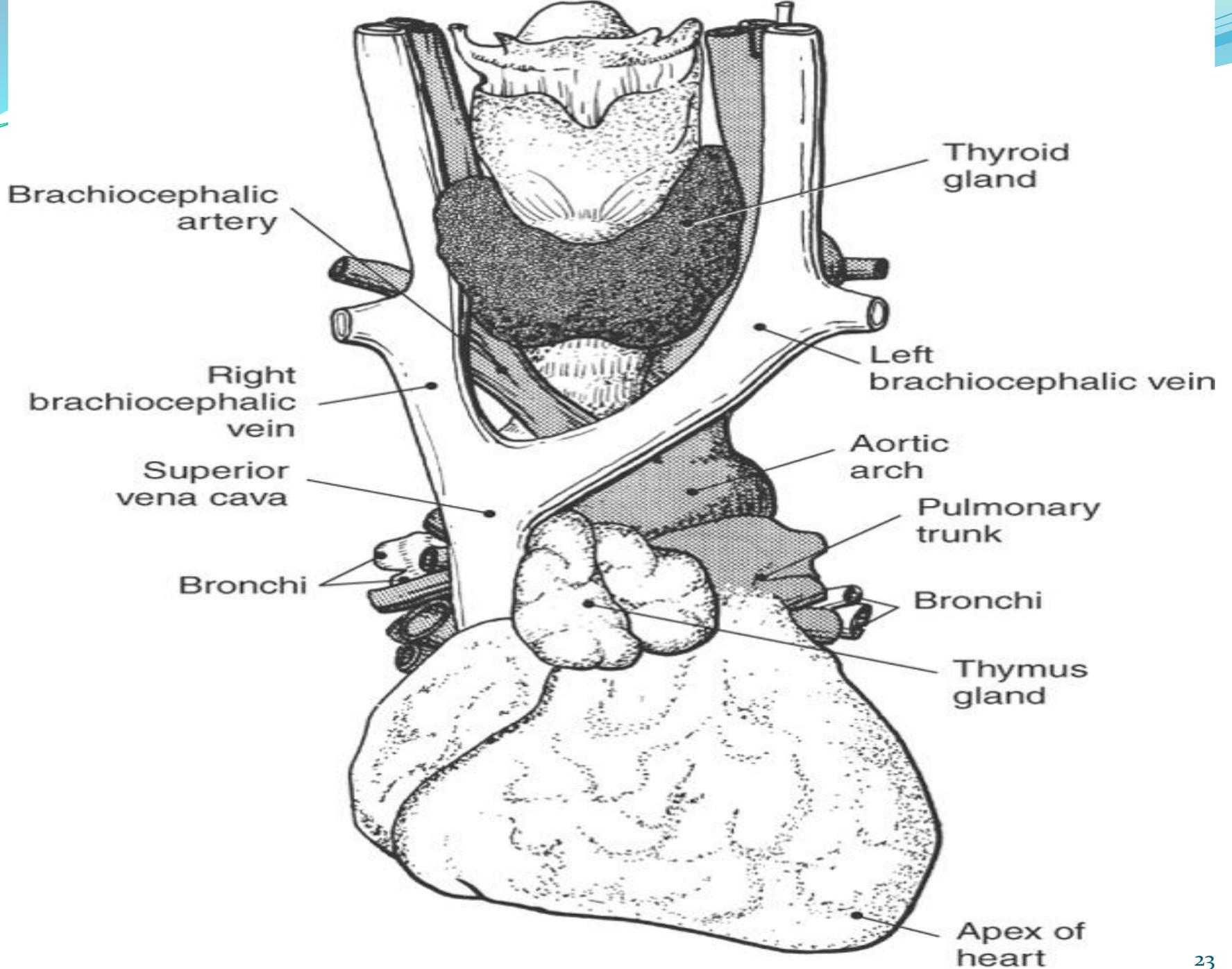
- **Trachea bifurcates into:**
 - **Left mainstem (primary) bronchi**
 - **Right mainstem (primary) bronchi**
- **This occurs at the level of T5**
 - **Commonly called the “Carina”**

Mediastinum

- **Midline region of the thoracic cavity**
- **Located between the two pleural cavities of the lung**

Thymus Gland

- **Triangular-shaped**
- **Bi-lobed gland of lymph tissue**
- **Located in the superior portion of the mediastinum**

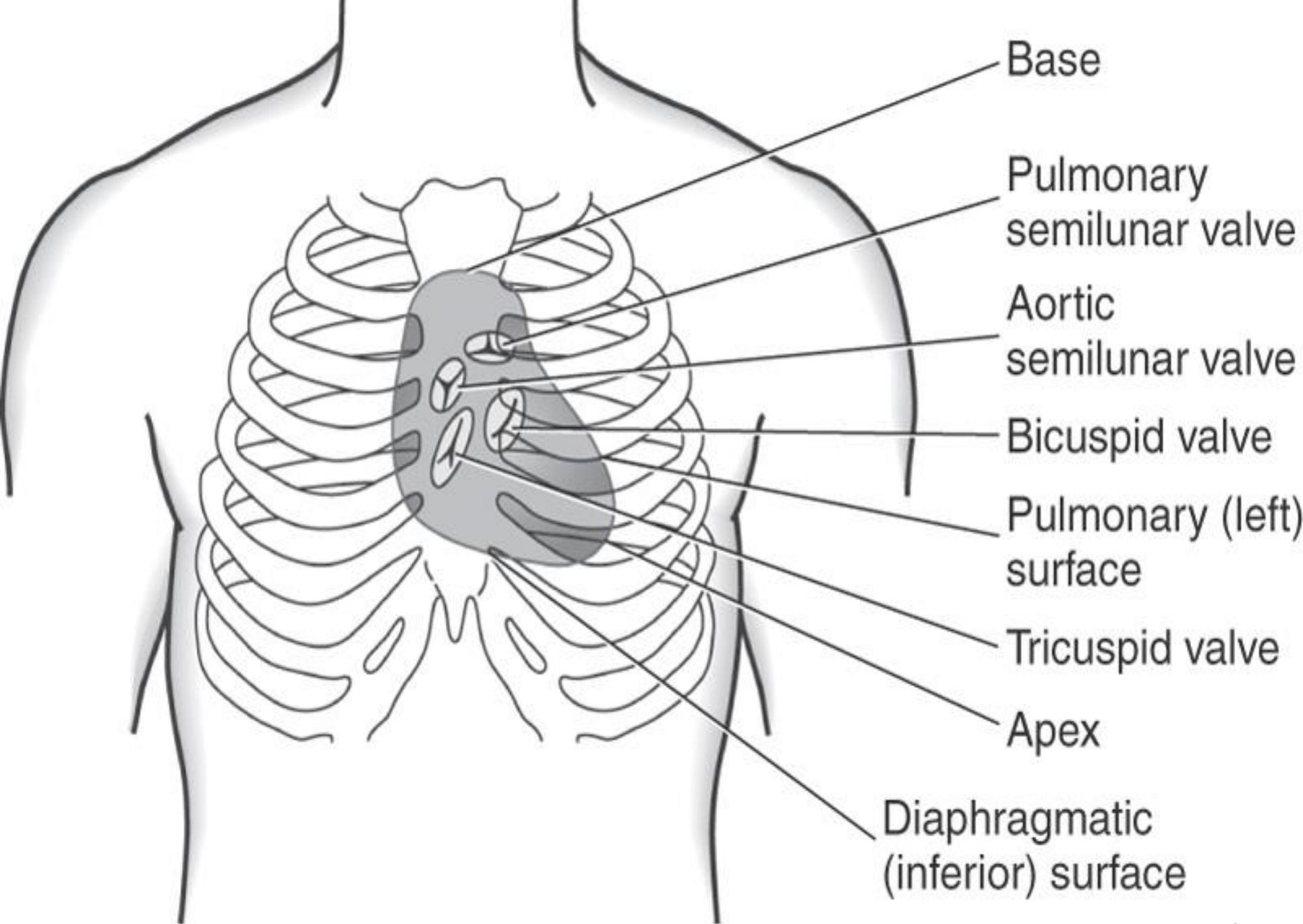


Lymph Nodes

- **Located in the mediastinum are generally clustered around the:**
 - **Great vessels**
 - **Esophagus**
 - **Bronchi**
 - **Carina**
- **Grouped into 14 regional nodal stations**
 - **Used in lung cancer staging**

Heart

- **4 chambers**
 - **2 ventricles**
 - **2 atriums**
- **Located within the middle mediastinum**
- **Approximately the size of a large fist**
- **Situated obliquely in the chest**



Base

Pulmonary
semilunar valve

Aortic
semilunar valve

Bicuspid valve

Pulmonary (left)
surface

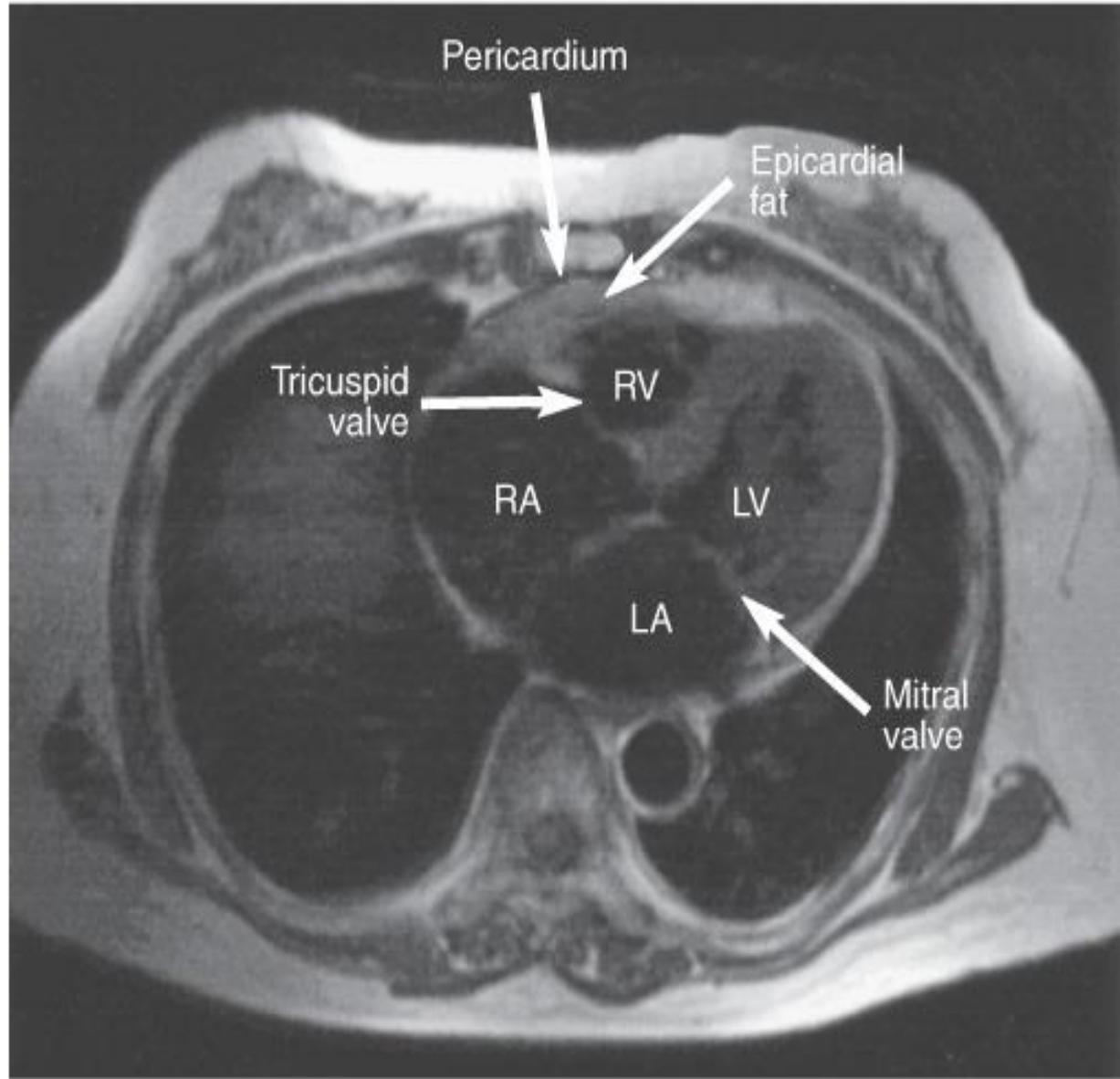
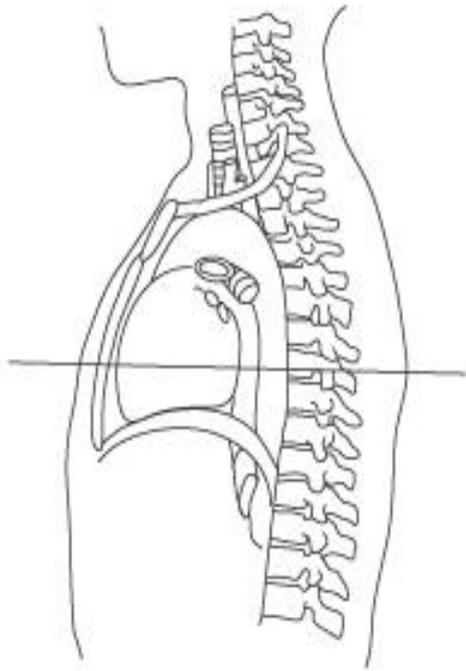
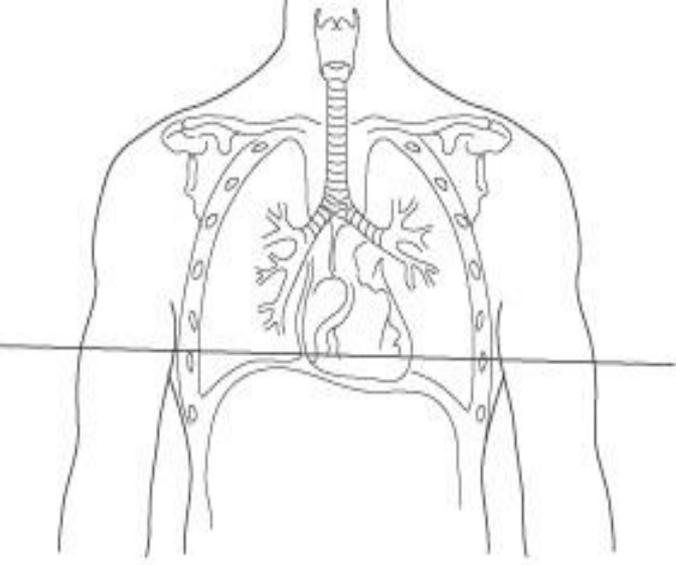
Tricuspid valve

Apex

Diaphragmatic
(inferior) surface

Apex

- **Formed by the left ventricle**
- **Points:**
 - **Inferiorly**
 - **Anteriorly**
 - **To the left**



KEY: RV, Right ventricle; LV, left ventricle; LA, left atrium; RA, right atrium.

Pericardium

- **Heart enclosed within a pericardial sac**
- **Fibrous tissue**
- **Fluid can build up within**

Right Atrium

- **Receives deoxygenated blood from:**
 - **Superior vena cava**
 - **IVC**

Right Ventricle

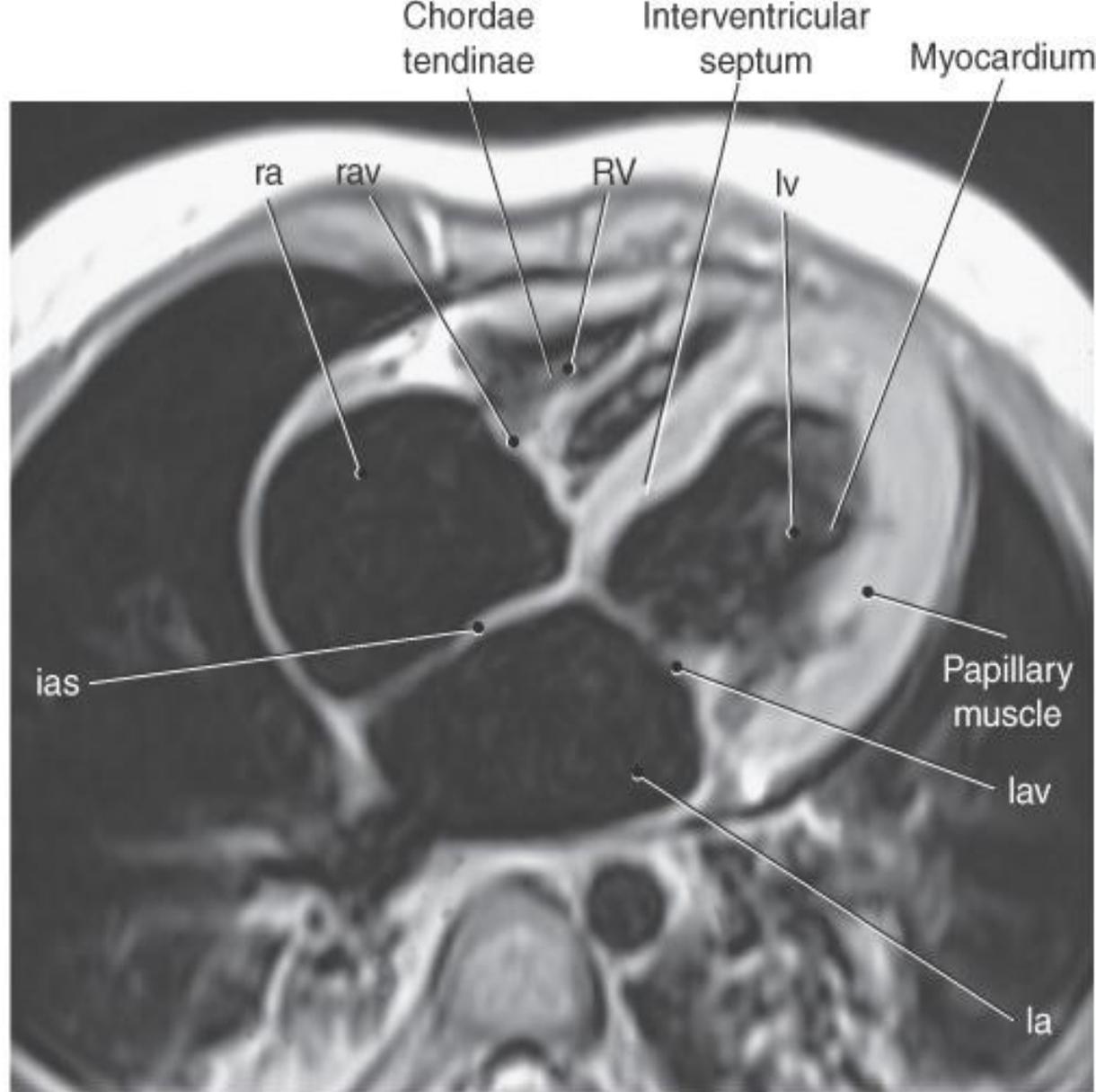
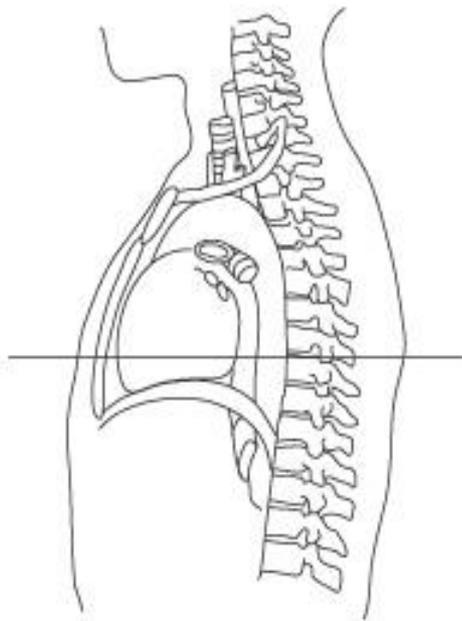
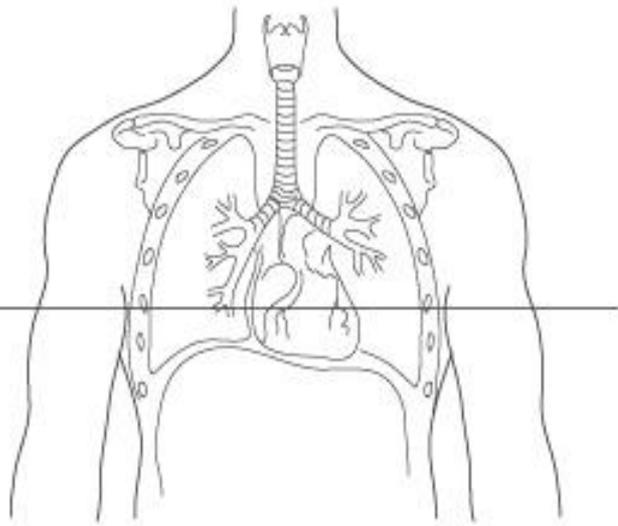
- **Receives deoxygenated blood from the right atrium**
- **Forces blood into the pulmonary trunk**

Left Atrium

- **Receives oxygenated blood directly from the lungs via the four pulmonary veins**

Left Ventricle

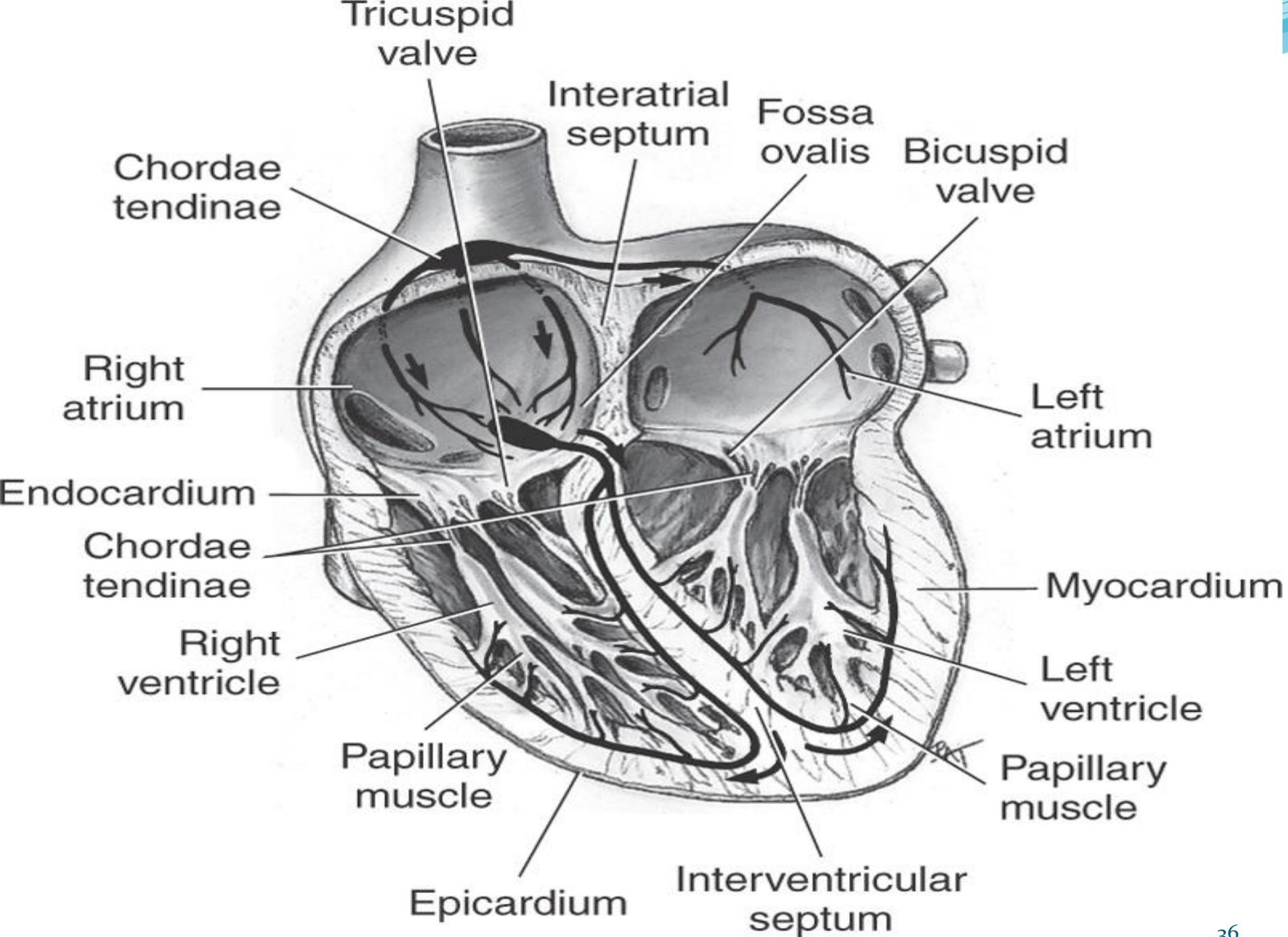
- **Forms the apex of the heart**
- **Receives oxygenated blood from the left atrium**
- **Pumps blood into the aorta**



KEY: ra, Right atrium; rav, right atrioventricular valve; RV, right ventricle; lv, left ventricle; lav, left atrioventricular valve; la, left atrium; ias, intraatrial septum.

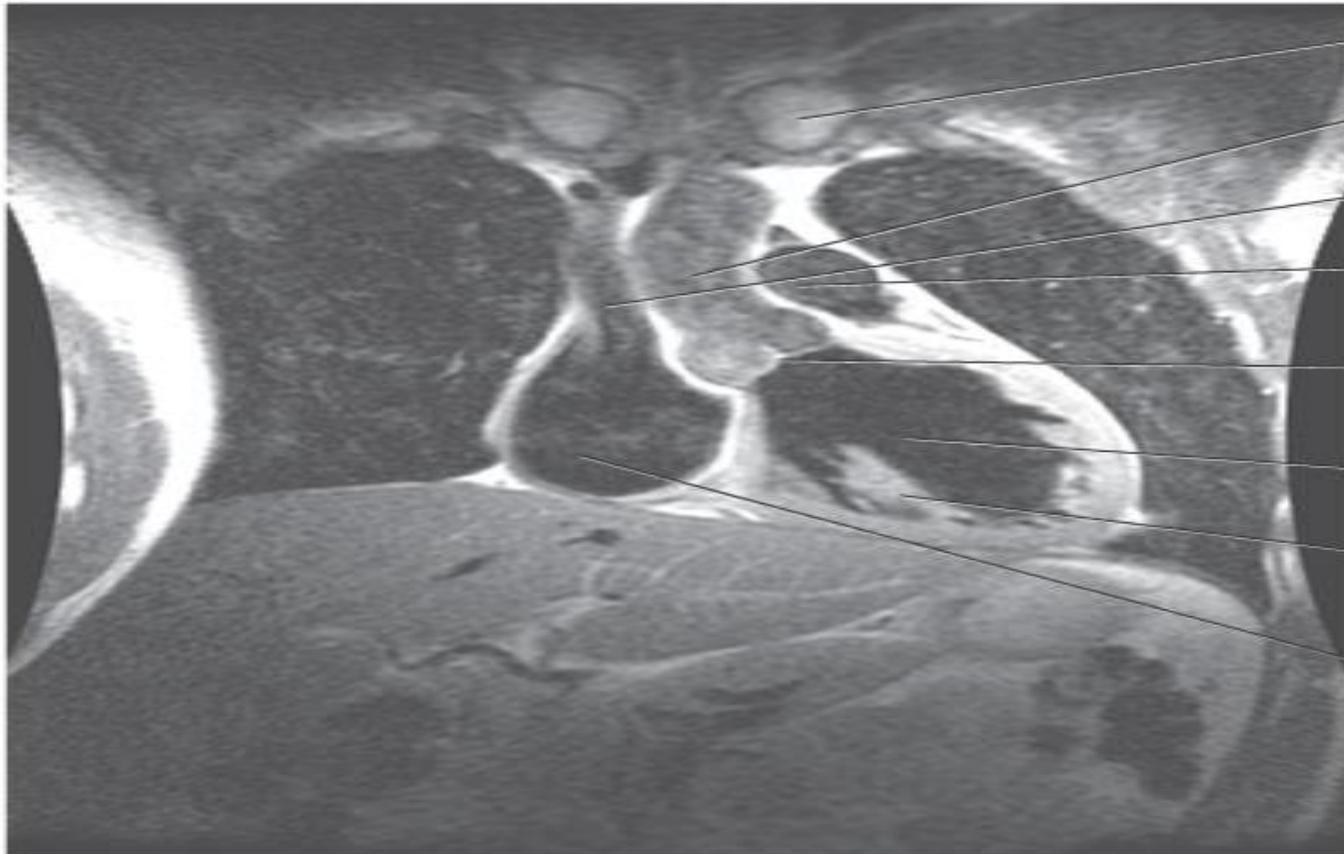
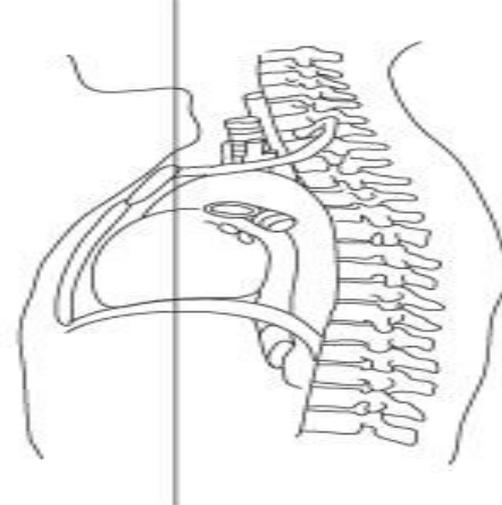
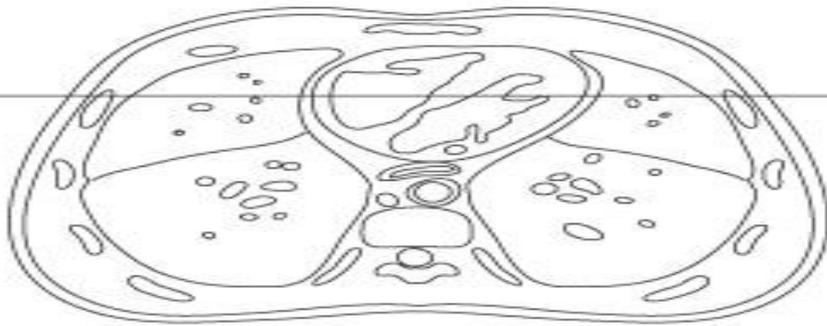
Cardiac Valves

- **2 Types**
 - **Atrio-ventricular**
 - **Right**
 - **Tricuspid valve (3 leaflets)**
 - **Left**
 - **Bicuspid valve (2 leaflets)**



Semi-lunar Valves

- **Located where ventricles meet the great vessels**
- **Three crescent-shaped cups**
 - **Pulmonary**
 - **Right ventricle/pulmonary artery**
 - **Aortic**
 - **Left ventricle/ascending aorta**



- Clavicle
- Ascending aorta
- Superior vena cava
- Pulmonary trunk
- Aortic semilunar valve
- Left ventricle
- Papillary muscles
- Right atrium

Great Vessels

- **Aorta**
- **Pulmonary arteries**
- **Pulmonary veins**
- **Superior vena cava**
 - **Enters superior portion of RA**
- **Inferior vena cava**
 - **Enters inferior portion of RA**

Aorta

- **Ascending aorta**
- **Aortic arch**
- **Descending aorta**
- **Thoracic aorta**
- **Abdominal aorta**

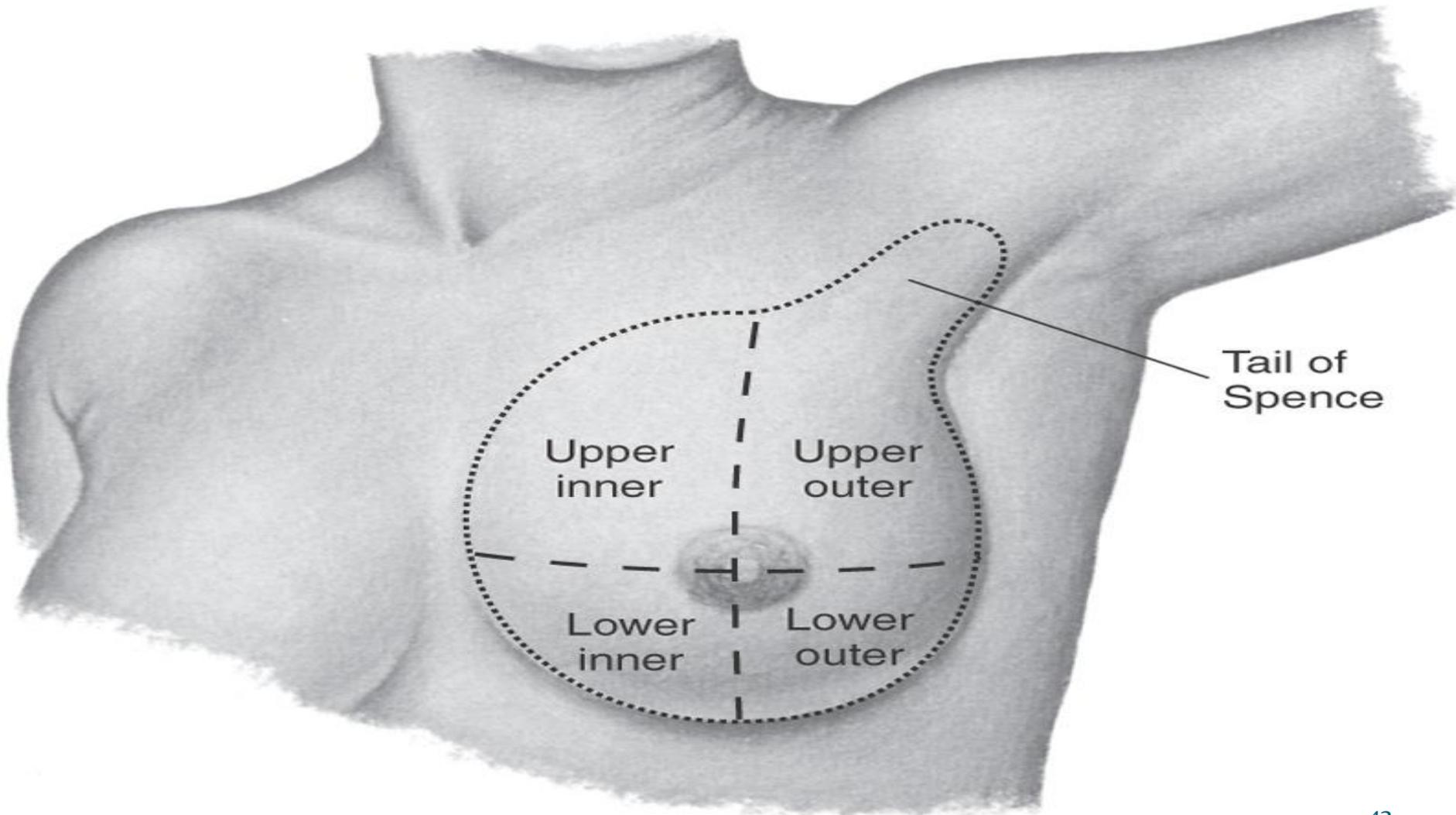
Aortic Arch

- **3 branches**
 - **Brachiocephalic (innominate)**
 - **Right CCA**
 - **Right Subclavian**
 - **Left CCA**
 - **Left Subclavian**

Superior Vena Cava

- **Receives blood from:**
 - **Head & neck**
 - **Internal and External Jugular Veins**
 - **Upper extremities**
 - **Subclavian Veins**
- **Brachiocephalic veins unite to form the Superior Vena Cava**

Breast



Breast

- **Three layers:**
 - **Subcutaneous layer**
 - **Skin and subcutaneous fat**
 - **Mammary layer**
 - **Glandular tissue**
 - **Retromammary layer**
 - **Muscle retromammary fat**

