

# Thorax

## Chapter 6

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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

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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	Phleborrhexis	Rupture of a vein
Ven/o	Vein	Venostasis	Stopping of a vein

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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

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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

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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
Somat/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

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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

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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

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## Bony Thorax

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

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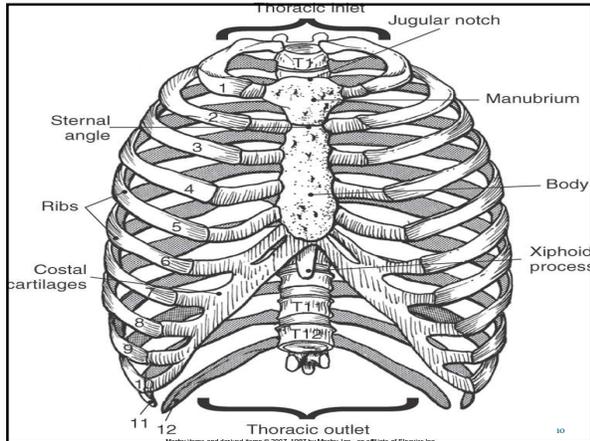
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## Lungs

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

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## Apex

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

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## Bases

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

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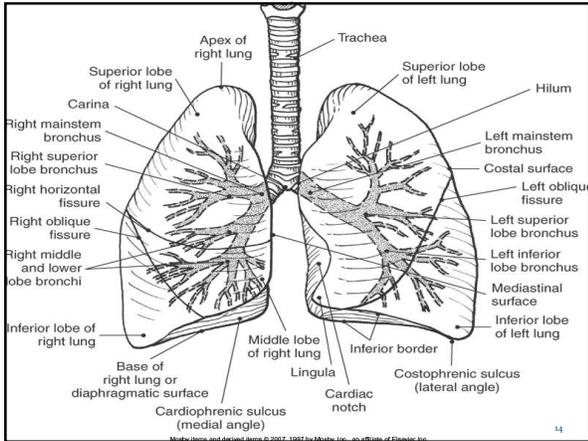
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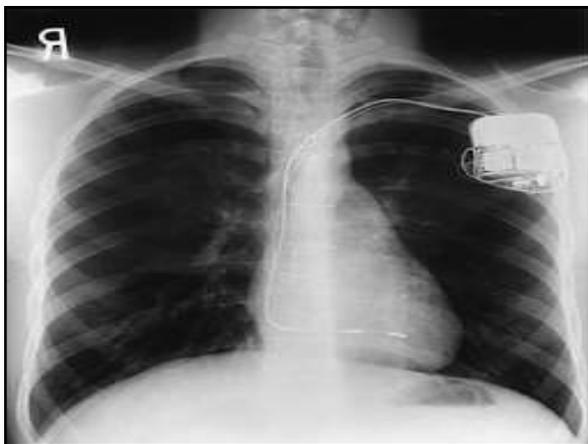
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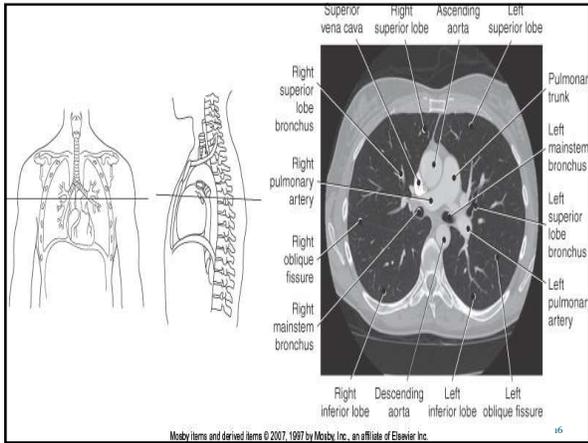
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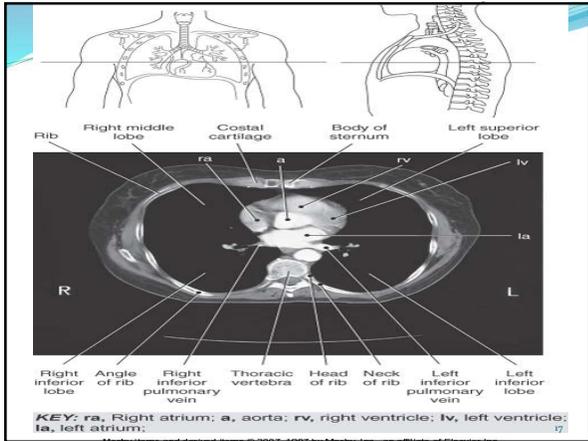
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## Hilum

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

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## 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

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## Bronchi

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

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## Mediastinum

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

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# Thymus Gland

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

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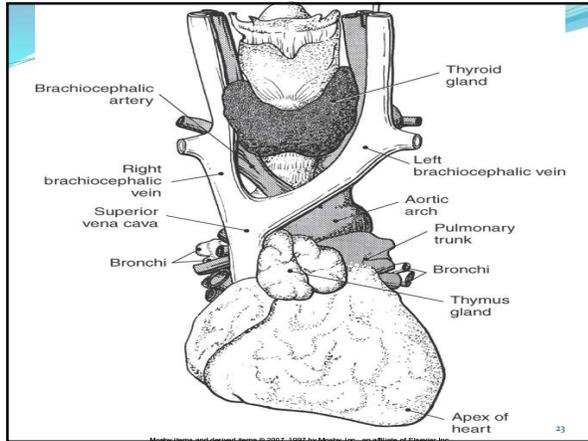
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# Lymph Nodes

- 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

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# Heart

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

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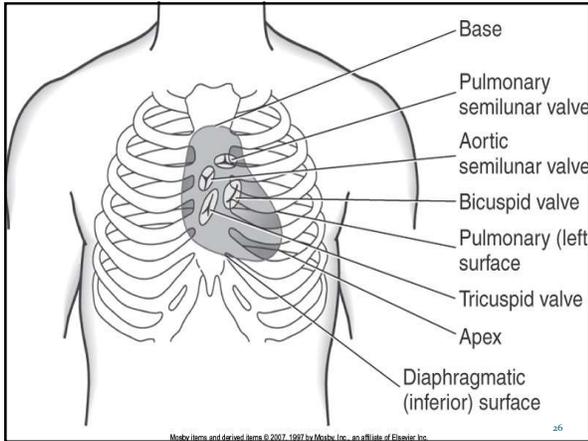
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# Apex

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

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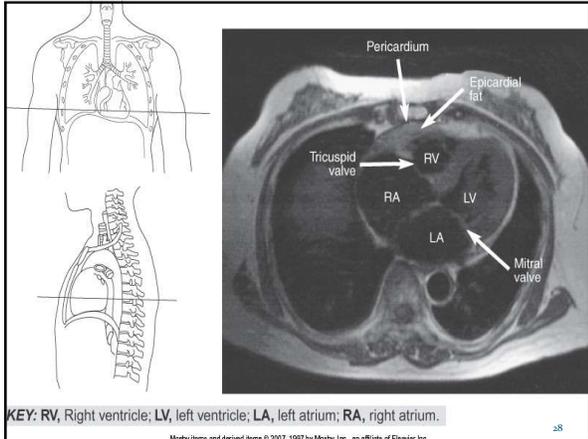
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## Pericardium

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

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## Right Atrium

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

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## Right Ventricle

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

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## Left Atrium

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

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## Left Ventricle

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

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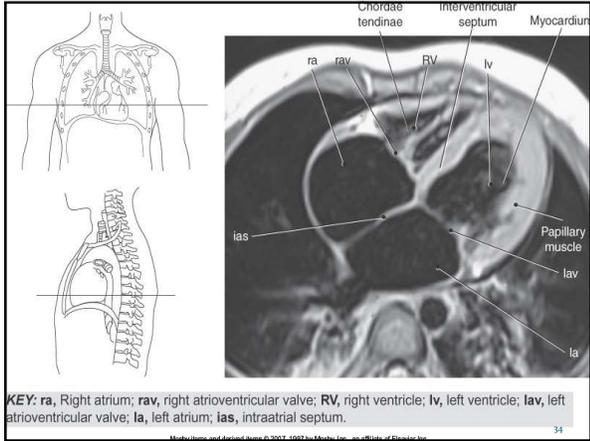
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## Cardiac Valves

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

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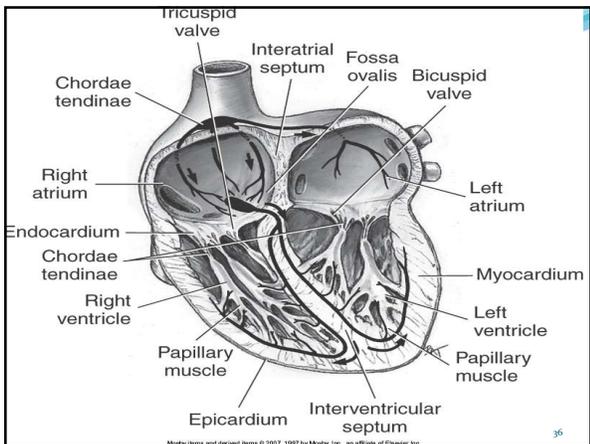
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# Semi-lunar Valves

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

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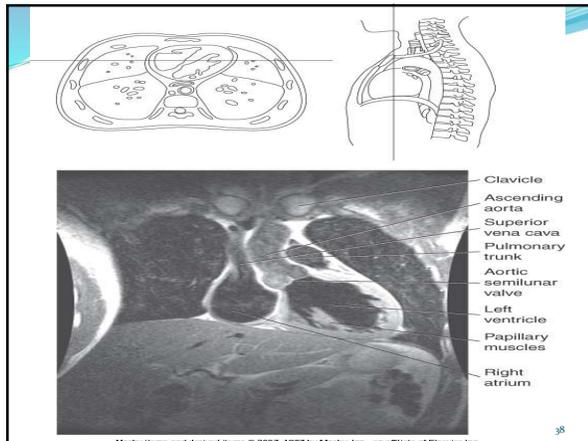
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# Great Vessels

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

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## Aorta

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

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## Aortic Arch

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

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## 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

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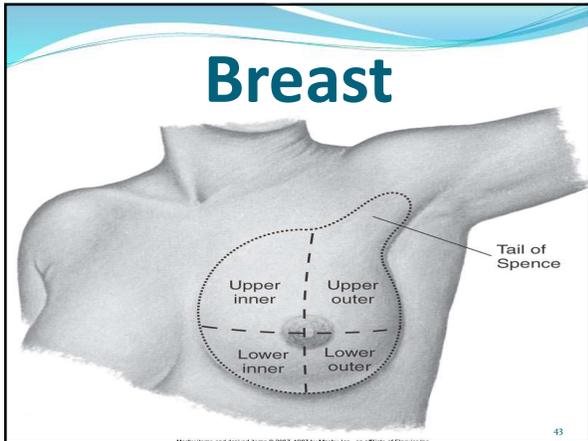
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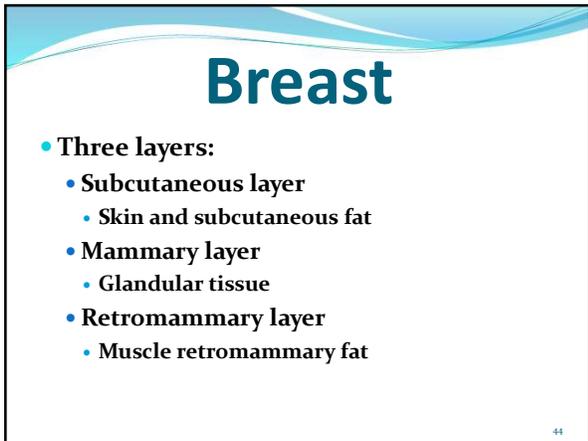
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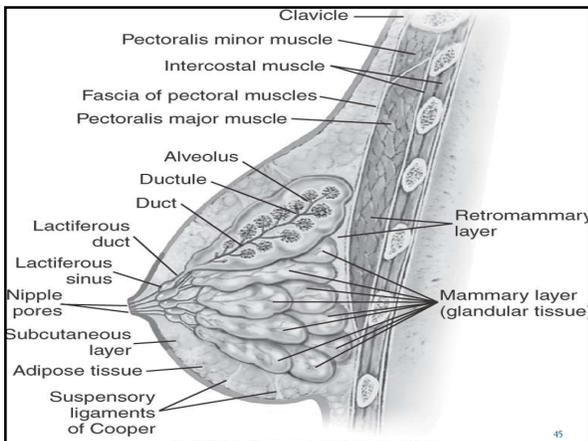
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