



SAMIR COMMON



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THORACIC CAGE



At sternal angle the second rib articulates with sternum (NOT FIRST)

(1 repeat)

Thoracic inlet plane slopes downwards and forwards

Third rib is a typical rib

Xhoid process usually remain as cartilage till age of 40 years

Jugular notch of manubrium lies at level of disc between T2 and T3 NOT T1 and T2

Scalenus medius does NOT insert into scalene tubercle of first rib

Head of 5th rib articulates with bodies of T4 and T5 NOT T5 and T6

THORACIC WALL



Internal thoracic artery arises from 1st part of subclavian(3)

Intercostal nerves lie BELOW and NOT ABOVE intercostal vessels in costal groove(3)

Internal thoracic artery gives off superior epigastric and pericardiophrenic arteries(2)

Right superior intercostal vein drains into arch of azygos vein(2)

7th intercostal nerve is atypical spinal nerve(2)

External intercostal muscle continues FORWARDS as ANTERIOR intercostal membrane NOT BACKWARDS(2)

Third intercostal nerve is a typical nerve (1)

THORACIC WALL

External intercostal muscles extend as far as the costochondral junction(1)

Internal intercostal muscle has fibres directed downwards and backwards(1)

Superior intercostal artery is NOT a branch of internal thoracic artery(1)

Right third posterior intercostal artery gives off the right bronchial artery(1)

Neurovascular bundle passes around the chest wall in subcostal groove deep to the internal intercostal muscle (between internal and innermost intercostal muscles)(1)

Posterior intercostal arteries arise from superior intercostal artery and descending aorta(1)

THORACIC WALL

Left superior intercostal vein drains into left brachiocephalic vein

1st posterior intercostal artery is a branch from costocervical trunk

9th anterior intercostal artery is a branch from musculophrenic

Anterior intercostal veins in upper 2 spaces drain into internal mammary vein

External intercostal muscle has fibres directed downwards and forwards

Typical intercostal nerves are ventral rami of thoracic spinal nerves

Internal thoracic artery terminates in 6th and NOT 5th intercostal space

All intercostal nerves are the anterior rami of thoracic spinal nerves

THORACIC WALL



Intercostal nerve runs between internal and innermost intercostal muscles

External intercostal does NOT extend posteriorly to angle of rib

Pericardium is a two layered structure

Middle three intercostal nerves (4, 5 and 6) are typical nerves

Inferior hemiazygous vein usually arises from LEFT renal NOT right renal

Azygos vein arches above root of RIGHT lung NOT LEFT

Internal thoracic artery DOES NOT give branches to lung and pleura

First two posterior intercostal arteries are indirect branches of costocervical trunk

Azygos vein crosses on RIGHT side of trachea NOT LEFT

THORACIC WALL

If internal thoracic artery has been occluded, posterior intercostal arteries would supply anterior part of upper six intercostal spaces

External intercostal muscle is inserted in superior border of the rib below

A typical intercostal nerve gives collateral nerve

Posterior intercostal artery lies between intercostal nerve and vein

Internal mammary vein ascends on medial side of artery NOT LATERAL

Severe localized pain with inspiration and expiration = intercostal nerve injury

Azygos vein drains into SVC and NOT RIGHT ATRIUM

LUNG



Bronchopulmonary segments are supplied by end arteries and tertiary bronchus(2)

Right vagus nerve passes directly behind hilum of right lung and NOT ANTERIOR to it(2)

Arch of azygos vein lies superior to hilum of right lung(1)

Oblique fissure follows medial border of scapula on abducted arm(1)

Right lung has 10 bronchopulmonary segments(1)

Root of left lung lies ANTERIOR to the descending aorta and NOT POSTERIOR

Mediastinal surface of left lung shows impression for arch of aorta

The lower margin of lung cuts 8th rib in midaxillary line

LUNG

Right lung possesses a horizontal and an oblique fissure

The upper lobe of right lung divides into three segments

Root of right lung lies SUPERIOR and NOT POSTERIOR to the inferior vena cava

Groove for inferior vena cava is seen on mediastinal surfaces of right lung

Esophagus leaves an impression in mediastinal surfaces of both lungs

Right principal bronchus is WIDER than left bronchus and NOT VICE VERSA

Bronchopulmonary segments of lingula of left lung are superior and inferior

Right superior lobar bronchus is called eparterial bronchus

Left bronchus divides into 2 lobar bronchi

Azygous vein passes directly behind the right hilum



LUNG

- Internal mammary vein ascends on medial side of artery NOT LATERAL**
- Horizontal fissure of right lung runs at level of 4th costal cartilage NOT 6th**
- Bronchial arteries supply oxygenated blood to the lungs tissues**
- Eparterial bronchus of the right lung supplies ONLY UPPER LOBE**
- Right lung DOES NOT have a cardiac notch (Only left does)**
- Descending aorta makes impression on left lung NOT ASCENDING**
- Right pulmonary artery lies anterior to the principal bronchus and NOT posterior**
- Visceral pleura is INSENSITIVE to pain and temperature**
- Anterior border of lung is thin and sharp NOT THICK AND ROUNDED**
- Tracheobonchial lymph nodes lie at bifurcation of trachea**



LUNG

Root of lung MOVES with inspiration

The amount of elevation and forward thrust of anterior extremities of 3-6 ribs is NOT LIMITED

Phrenic nerve is NOT a cranial nerve

Right lung DOES NOT have lingula

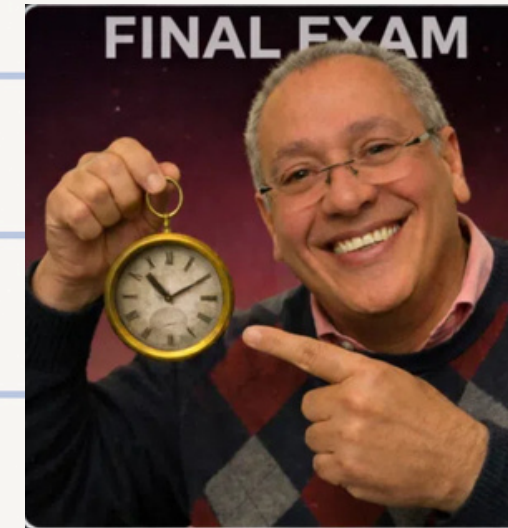
You do NOT hear the sounds from upper lobe of left lung while performing auscultation on back of chest

Parietal pleura is NOT supplied by anterior and posterior pulmonary plexuses

Left bronchial arteries arise from descending thoracic aorta

Medial basal bronchopulmonary segment may be absent in the left lung

PLEURA



Air in pleural cavity = Pneumothorax (1)

Pleural reflection lies at 10th rib in midaxillary line NOT 8th (1)

Chest tube for draining pleural effusion is inserted at the middle of the intercostal space

Parietal pleura is the layer that must be infiltrated with local anesthesia at insertion of chest tube

Pleural reflection lies at 8th rib in midclavicular line

Mediastinal part of parietal pleura is innervated by phrenic nerve

Suprapleural membrane attaches posteriorly to transverse process of C7 vertebrae NOT C6 vertebrae

PLEURA

Visceral pleura is supplied by autonomic nerve fibers ONLY and NOT phrenic and intercostals

Supraleural membrane DOES NOT move upwards

Cardiac notch is drawn between 4th and 6th costal cartilages NOT 8th

Plaural cavity DOES NOT contain network of lymph capillaries

Suprapleural membrane prevents inward suction of the structures at the root of neck during inspiration

Pulmonary ligament allows for distention of pulmonary vein

Pleural sac is invaginated by the lung from its medial aspect

HEART



Coronary sinus, IVC and SVC all return deoxygenated blood to the right atrium (4)

Anterior interventricular artery is accompanied by great cardiac vein (4)

Apex of heart lies at left 5th intercostal space 4-5 inches (9 cm) from midline (NOT 9) (3)

Sino-atrial node is situated behind opening of SVC (3)

Right coronary artery usually gives posterior interventricular artery NOT ANTERIOR (2)

Posterior interventricular artery is accompanied by middle cardiac vein (2)

HEART



Anterior (sternocostal) surface of heart is made by right ventricle, right atrium, left auricle and a strip of left ventricle (1)

Mitral valve has two cusps (1)

Crista terminalis is a feature of right atrium (1)

Pulmonary valve is at level of 3rd left costal cartilage (1)

Right ventricle comprises the largest portion of sternocostal surface of heart (1)

Chorda tendinae ARE NOT part of conductive system of heart (1)

Deep cardiac plexus lies at the bifurcation of trachea (1)

The 4 pulmonary veins open into left atrium (1)

HEART



Coronary sinus ends in right atrium between opening of IVC and right A-V orifice (1)

Septomarginal(moderator) band is present in cavity of right ventricle (1)

Base of heart lies at T5, T6. T7 and T8 levels (1)

Azygos vein DOES NOT open into right atrium (1)

Heart is situated in middle mediastinum (1)

Blunt trauma to sternum causes right ventricle injury

Left atrium lies behind right atrium

Tricuspid regurgitation causes reflux of blood into right atrium

Apex of heart is located in left fifth intercostal space

Location of superficial cardiac plexus is at the concavity of aortic arch

HEART



Inability to maintain constant tension on cusps of the AV valve indicates damage to chordae tendinae

Mitral valve is heard best at apex of heart

Sympathetic fibers of both superficial and deep cardiac plexuses arise from lower 3 cervical and upper 4-5 thoracic ganglia of both sides

Trabeculae carnae in left ventricle are fine and numerous

Anterior cardiac vein ends in right atrium

Parasympathetic root of superficial cardiac plexus of heart arises from inferior cervical cardiac branch of left vagus

Blood flowing into coronary arteries arises from ascending aorta

Left atrium DOES NOT form left border of heart

HEART



Right atrium contains muscoli pectinate

Left ventricle contains anterior and posterior papillary muscles ONLY

Heart has an inherent beat

A-V node usually receives arterial supply from the right coronary artery

Pectinate muscles ARE NOT present in right ventricle

Opening of IVC is guarded on its right side by a rudimentary valve

Chordae tendinae of anterior papillary muscle are attached to the anterior and posterior cusps of tricuspid valve

Supraventricular crest is present in right ventricle NOT LEFT

Pulmonary valve sound is best heard at second left intercostal space

Apex of heart is made ONLY by left ventricle

HEART



Mitral valve lies opposite the left 4th costal cartilage

Right coronary is the usual source of blood supply to SA node NOT LEFT

Left coronary artery passes between pulmonary trunk and left auricle (NOT BETWEEN PULMONARY TRUNK AND AORTA)

Fossa ovalis is NOT related to right ventricle

Left ventricle lies posterior to right ventricle (NOT VICE VERSA)

Interventricular septum is convex towards right ventricle (NOT LEFT)

Atrioventricular groove lodges right coronary artery

Major arterial supply of interventricular septum originates from anterior interventricular artery

PERI CARDIUM



Oblique sinus is a blind recess that lies behind left atrium and is bounded by pulmonary veins and both SVC and IVC (1)

posteriorly and both ascending aorta and pulmonary trunk anteriorly (1)

Oblique sinus acts as bursa behind left atrium NOT LEFT VENTRICLE (1)

Fibrous pericardium and parietal layer of serous pericardium are supplied by phrenic nerve (1)

Strong sternopericardial ligaments connect fibrous pericardium to sternum

Transverse sinus of pericardium is related anteriorly to ascending aorta and pulmonary trunk

Oblique sinus of pericardium is open below into main pericardial cavity

PERICARDIUM

Fibrous pericardium is the outermost layer and does NOT line anything
In pericardial effusion drainage of fluid is made in 5th intercostal space
Transverse sinus is a passage between arterial and venous ends of heart
Transverse sinus is present between anterior wall of left atrium, SVC
Transverse sinus is bounded above and behind by right pulmonary artery and NOT LEFT

HEART DEVELOPMENT



Septum primum and secundum fuse together AFTER birth NOT BEFORE (3)

**Pulmonary stenosis, overriding aorta, VSD and hypertrophy of right ventricle
= Tetralogy of fallot (1)**

Septum secundum is an incomplete septum (1)

Right horn and median part of sinus venosus shares in development of right atrium

Anterior rough part of right atrium arises from right 1/2 of primitive atrium

Left horn of sinus venosus becomes smaller and forms coronary sinus

Development of heart occurs in cardiogenic field cranial to buccopharyngeal membrane

HEART DEVELOPMENT

Left common cardinal vein becomes oblique vein of left atrium

Distal third of bulbus cordis forms the pulmonary trunk and ascending aorta

Common atrioventricular opening is divided into two by the endocardial cushions

Annulus fossa ovalis is remnant of septum secundum

Fossa valis is remnant of septum primum

Absorbed part of pulmonary veins does NOT share in formation of right atrium

Foramen secundum is located in upper part of septum primum

BLOOD VESSELS



Arch of aorta is related superiorly to LEFT brachiocephalic vein (NOT right) (3)

Union of 2 brachicephalic veins to form SVC occurs behind level of right 1st costal cartilage NOT at sternal angle (3)

Arch of aorta begins opposite right 2nd sternocostal junction at level of disc between T4 and T5 (sternal angle) (3)

Descending thoracic aorta gives 2 left bronchial arteries (2)

Left recurrent laryngeal nerve lies on left anterior side of arch of aorta (2)

Left subclavian artery arises from arch of aorta NOT DESCENDING AORTA (1)

SVC opens into right atrium behind 3rd right costal cartilage (1)

BLOOD VESSELS

Esophagus lies posterior to the arch of aorta and to the left (1)

Descending thoracic aorta is related to thoracic vertebrae from 5-12 (1)

Descending thoracic aorta descends in posterior mediastinum NOT middle (1)

Descending thoracic aorta is related anteriorly to heart, pericardium and diaphragm

Left principal bronchus lies below aortic arch

Arch of aorta lies in front of bifurcation of trachea

End of arch of aorta is present at level of lower border of T4

Descending thoracic aorta begins at the end of arch of aorta

SVC does NOT receive hemiazygous vein

BLOOD VESSELS



Right lymphatic duct drains into right brachiocephalic vein

left superior intercostal vein crosses superficial to arch of aorta

Descending aorta has no direct relation with right vagus

Most superficial structure in thoracic inlet is SVC

Thoracic duct passes through aortic opening NOT through esophageal one

Cisterna chyli is NOT related to thoracic contents

Greater splanchnic nerve does NOT pass posterior to diaphragm

Descending thoracic aorta lower part is NOT related to quadrate lobe of liver

Ascending aorta lies in middle mediastinum NOT superior

BLOOD VESSELS



Right recurrent laryngeal nerve has NO relation to arch of aorta

Ligamentum arteriosum, superficial cardiac plexus and left recurrent laryngeal nerve pass between arch of aorta and pulmonary trunk

Brachiocephalic trunk is the FIRST branch of arch of aorta

Ascending thoracic aorta ascends upwards, forwards and to the right

Q39

SVC pierces fibrous pericardium at level of 2nd right costal cartilage

Ascending aorta begins opposite 3rd left intercostal space

Descending thoracic aorta gives off branches to supply middle part of esophagus

BLOOD VESSELS



Right coronary artery arises from ascending aorta

Left common carotid arises from arch of aorta

SVC is about 2 inches long

LARGE NERVES



Right phrenic is the only motor supply to right hemidiaphragm and crus (2)

Left vagus along its course in superior mediastinum is related laterally to left lung and pleura (1)

Each phrenic nerve supply its own side of diaphragm (1)

The right phrenic is more vertical than the left (1)

Right phrenic nerve descends vertically along venous side of mediastinum

Mass at region of ligamentum arteriosum would compress left recurrent laryngeal nerve

Difficulty breathing from a tumor affecting mediastinal pleura = phrenic nerve compression

LARGE NERVES



Right phrenic descends close to the SVC

Thoracic duct is posterior to right phrenic NOT VICE VERSA

Right vagus does NOT descend between right common carotid and right subclavian

Autonomic plexus of esophagus is situated anterior and posterior to the esophagus

Autonomic plexus of esophagus receives branches from both vagi

Phrenic nerve supplies pericardium and diaphragm

Left recurrent laryngeal nerve hooks inferiorly around arch of aorta

Left ventricle is NOT supplied by left phrenic

LARGE NERVES



Left vagus nerve passes behind root of left lung

The right phrenic nerve passes through caval opening of diaphragm NOT LEFT

Upper and middle thoracic ganglia give postganglionic nerve fibers to esophageal plexus NOT lower thoracic ganglia

Lesser splanchnic nerve is formed by T9-T10

Esophageal plexus receives sympathetic fibers from upper 5 thoracic ganglia

LARGE TUBES

Trachea starts at level of cricoid cartilage or level of C6 vertebra (4)

Thoracic duct passes through aortic opening (3)

A foreign body enters more commonly into right primary bronchus because it is wider, shorter and vertical (3)

Trachea bifurcates at level of sternal angle (1)

Thoracic duct does NOT drain lymph from right upper limb (1)

Esophagus crosses in front of descending aorta at T7 (1)

Trachea lies in superior mediastinum NOT inferior (1)

Esophagus is 25cm (10 inches) in length (1)

Left principal bronchus divides into two lobar bronchi (1)

LARGE TUBES

Esophagus lies posterior to pericardium and left atrium

Trachea lies anterior to esophagus in superior mediastinum

Esophagus passes through esophageal opening of diaphragm at level of T10

Esophagus passes through posterior mediastinum

Thoracic duct receives left jugular and subclavian lymph trunks

Thoracic part deviates anteriorly and to left as it enters the abdomen

Anatomical narrowing sites of esophagus is caused by left principal bronchus

Thoracic part of trachea is related posteriorly to esophagus with left recurrent laryngeal nerve in between

LARGE TUBES

In root of neck thoracic duct curves laterally behind left common carotid artery and the left internal jugular vein NOT MEDIALY

Thoracic duct opens at beginning of left brachiocephalic vein

Brachiocephalic nodes lie along left brachiocephalic vein in superior mediastinum NOT posterior mediastinum

Trachea is crossed on its right side of by arch of azygos vein

Esophagus lies right to the esophagus in the superior mediastinum

Esophagus lies left to thoracic duct in posterior mediastinum

Right bronchus passes behind superior vena cava

LARGE TUBES

Trachea ends at level of disc between T4 and T5

The right principal bronchus is wider than the left principal bronchus

Thracic duct contains many valves

Left bronchus recieves arterial supply from descending thoracic aorta

Inferior tracheobronchial lymph nodes enlargement causes distortion and widening of carina

Deep cardiac plexus lies opposite the bifurcation of trachea

Esophagus has a constriction at its beginning 17cm frm upper incisors

Anterior relation of thoracic part of trachea is left brachicephalic vein

Thoracic duct lies behind esophagus

MEDIASTINUM

Sternopericardial ligaments lie in anterior mediastinum (2)

Most superficial structure in superior mediastinum is SVC (1)

Thoracic part of trachea is located in superior mediastinum (1)

Superior mediastinum is separated from inferior mediastinum by plane passing through T4-T5 (1)

Structure found in both superior and posterior mediastina is esophagus

Tumor in posterior mediastinum would compress descending aorta

Aortic arch on left side by phrenic and vagus nerves

Ascending aorta is NOT a content in superior mediastinum

Trachea and esophagus are crossed anteriorly by arch of aorta

Posterior mediastinum is related below to diaphragm



MEDIASTINUM

Superior mediastinum does NOT contain inferior hemiazygos vein

Aortic arch lies behind lower 1/2 of manubrium

Compression of left recurrent laryngeal nerve leads to hoarseness and NOT aphasia

Inferior vena cava is part of middle mediastinum NOT POSTERIOR

Internal thoracic artery is NOT a part of posterior mediastinum

Intercostal nerves are NOT part of anterior mediastinum

Descending thoracic aorta is NOT part of superior mediastinum

Ascending aorta is present in middle mediastinum

Compression of arteries in mediastinum leads to ischemia

Cisterna chyli is NOT present in thoracic cavity



MEDIASTINUM

Pain over shoulder with aneurysm of aortic arch = phrenic nerve injury

Thymus gland tumor leads to compression of left of brachiocephalic vein

DIA**PHRAGM**

Diaphragm motor supply comes from phrenic nerve (4)

Abdominal aorta passes through diaphragm at T12 vertebral level (2)

Thoracic duct passes through aortic opening of diaphragm (2)

Azygos vein passes with descending aorta through diaphragm (1)

Aneurysm of abdominal aorta at aortic hiatus of diaphragm would compress azygos vein and thoracic duct

IVC passes through central tendon of diaphragm

Esophageal hiatus is surrounded by right crus of diaphragm

Left phrenic pierces cupola of diaphragm to reach abdomen

Vena caval opening of diaphragm lies at T8 level

BLOOD VESSELS DEVELOPMENT

Pulmonary arteries grow out from the sixth arch (1)

Left sixth arch is responsible for origin of patent ductus arteriosus

After birth, septum primum and septum secundum fuse with each other

Dilatation of terminal or large alveoli occurs in congenital cystic fibrosis

Common carotid artery develops from third aortic arch

There are 6 pairs of aortic arches

External carotid artery arises as bud a bud from the 3rd aortic arch

Each arch arises from the aortic sac and terminates in the dorsal aorta



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