

# BLOOD VESSELS RELATED TO THE HEART

blood vessels

*Presenting by:*

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BAMS 1<sup>ST</sup> YEAR

# *INTRODUCTION*

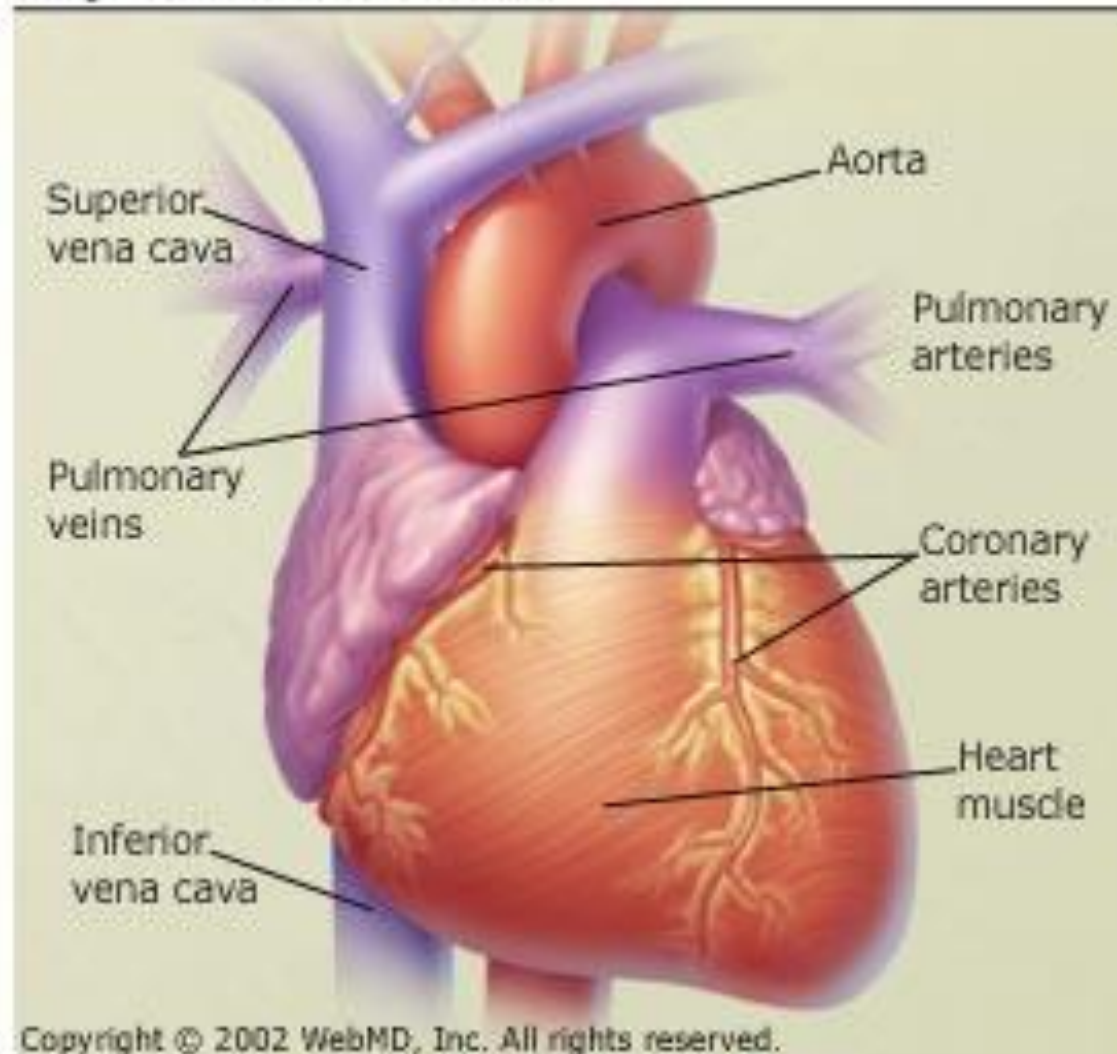
- ❖ Blood is carried through the blood vessels from heart.
- ❖ Mainly 5 blood vessels arises from heart these are :
  1. Aorta
  2. superior vena cava
  3. inferior vena cava
  4. pulmonary artery
  5. pulmonary vein

1. *Aorta* : carries oxygenated blood from left ventricle to all over body.
2. *Superior vena cava* : deoxygenated blood from upper part of the body to right atrium.
3. *Inferior vena cava* : deoxygenated blood from lower part of the body to right atrium.
4. *Pulmonary artery* : deoxygenated blood from right ventricle to lungs.
5. *Pulmonary veins* : oxygenated blood from lungs to left atrium.



# BLOOD VESSELS

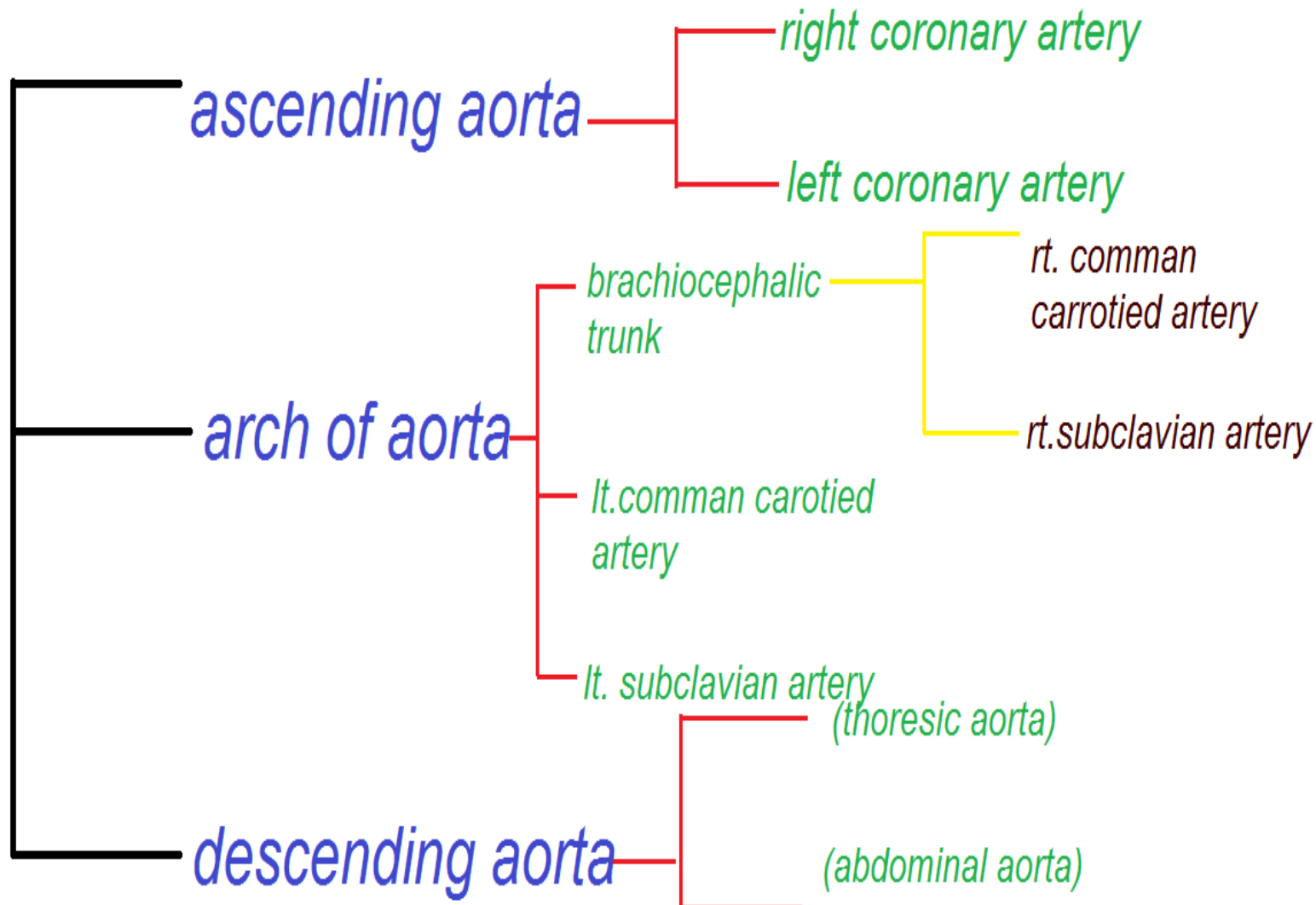
Major Blood Vessels



# AORTA

- ✖ The aorta is the largest & main artery in human body (  $D = 2\text{-}3\text{cm}$  ).
- ✖ Originating from the left ventricle of the heart.
- ✖ Contain a valve at its origin called semilunar valve, which prevent back flow into left ventricle during its diastole.
- ✖ Carries oxygenated blood.

# BRANCHES OF AORTA





*Arterial branch**supply*

1. ***Rt.&  
Lt.coronary  
artery***

*Heart*

*Rt.side of  
head & neck*

2. ***Rt.comman  
carotid***

*Rt.upper limb*

*Lt.side of*

3. ***Rt.subclavian  
artery***

*head & neck*

*Lt. upper limb*

4. ***Lt.comman  
carotid***

*Rest part of*

# SUPERIOR VENACAVA

- ✗ About 7cm long.
- ✗ Begins post. To the right 1<sup>st</sup> costal cartilage by the union of rt.& lt. brachiocephalic vein.
- ✗ Ends at the level of right 3<sup>rd</sup> costal cartilage.
- ✗ It empties blood into superior part of right atrium.
- ✗ SVC receives blood from other vein superior to the diaphragm except the alveoli.
- ✗ Includes veins of head neck upper limb & thoracic wall.

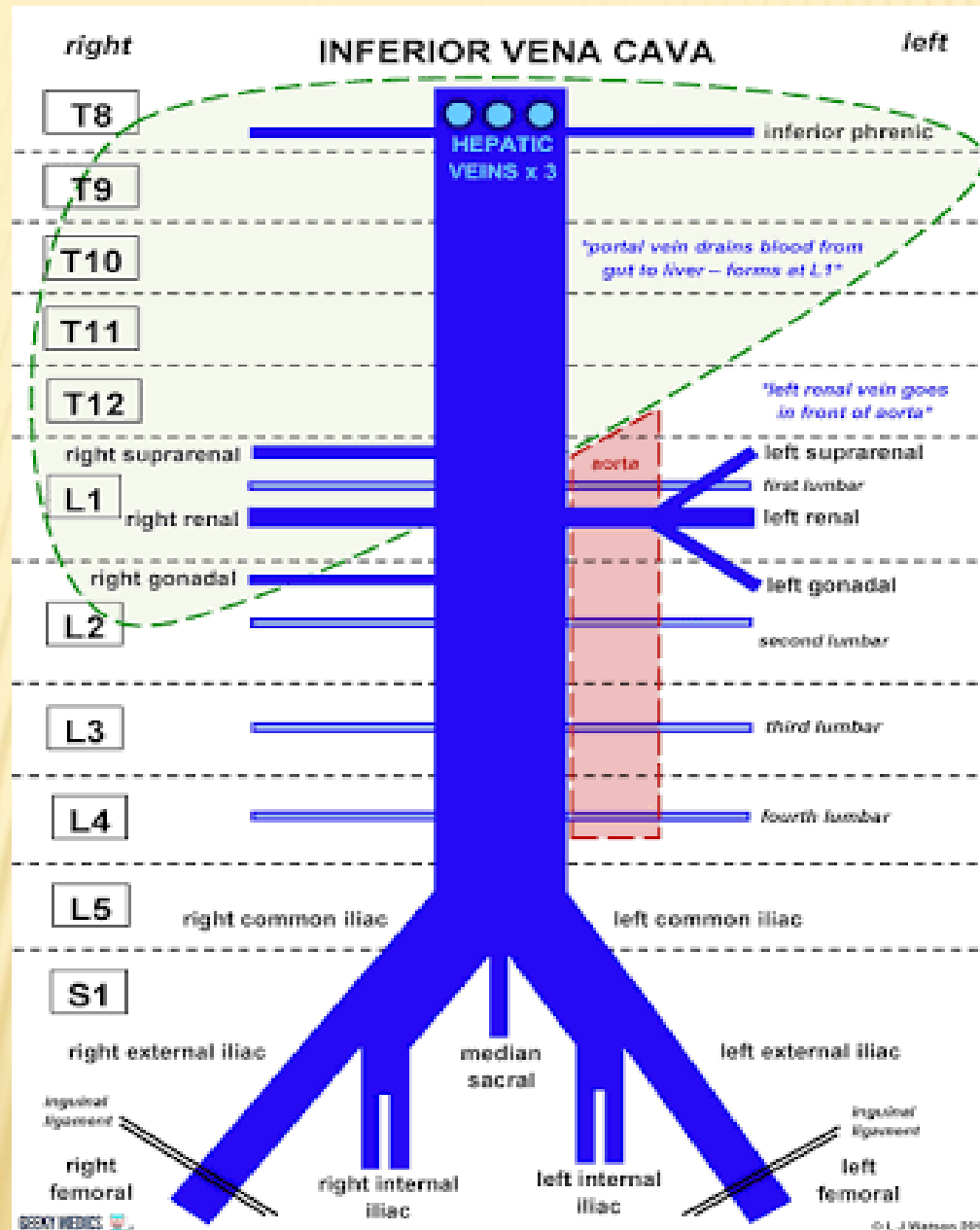


# TRIBUTERIES

1. *AZYGUS VEIN*
2. *SMALL MEDIASTINAL VEINS*
3. *SMALL PERICARDIAL VEINS*
4. *RIGHT BRACHIOCEPHALIC VEINS*
5. *LEFT*

# INFERIOR VENA CAVA

- ✗ Largest vein of the body ( $d=3.5\text{cm}$ ).
- ✗ Begins anterior to  $L_5$  by union of common iliac veins. pierce costal tendon of diaphragm at  $T_8$ .
- ✗ Enters in the inferior part of right atrium.
- ✗ Receives blood from veins inferior to diaphragm.(including lower limb, abdominal walls & abdominal viscera).
- ✗ Commonly compressed during the later stage of pregnancy by enlarging uterus.





# *TRIBUTARIES*

1. HEPATIC VEINS
2. RIGHT SUPRARENAL VEINS
3. RENAL VEINS
4. RIGHT TESTICULAR VEINS
5. INFERIOR PHRENIC VEIN
6. FOUR LUMBAR VEINS
7. RIGHT & LEFT COMMON ILLIAC VEIN
8. MEDIAL SACRAL VEIN

# PULMONARY ARTERY/ TRUNK

- ✗ Great vessel (L=5cm, D=3cm)
- ✗ Arising from right ventricle.
- ✗ It carries deoxygenated blood to lungs.
- ✗ It lies in front of ascending aorta.
- ✗ At the arch of aorta it bifurcates as two parts.
- ✗ These are only postnatal arteries that carries deoxygenated blood.

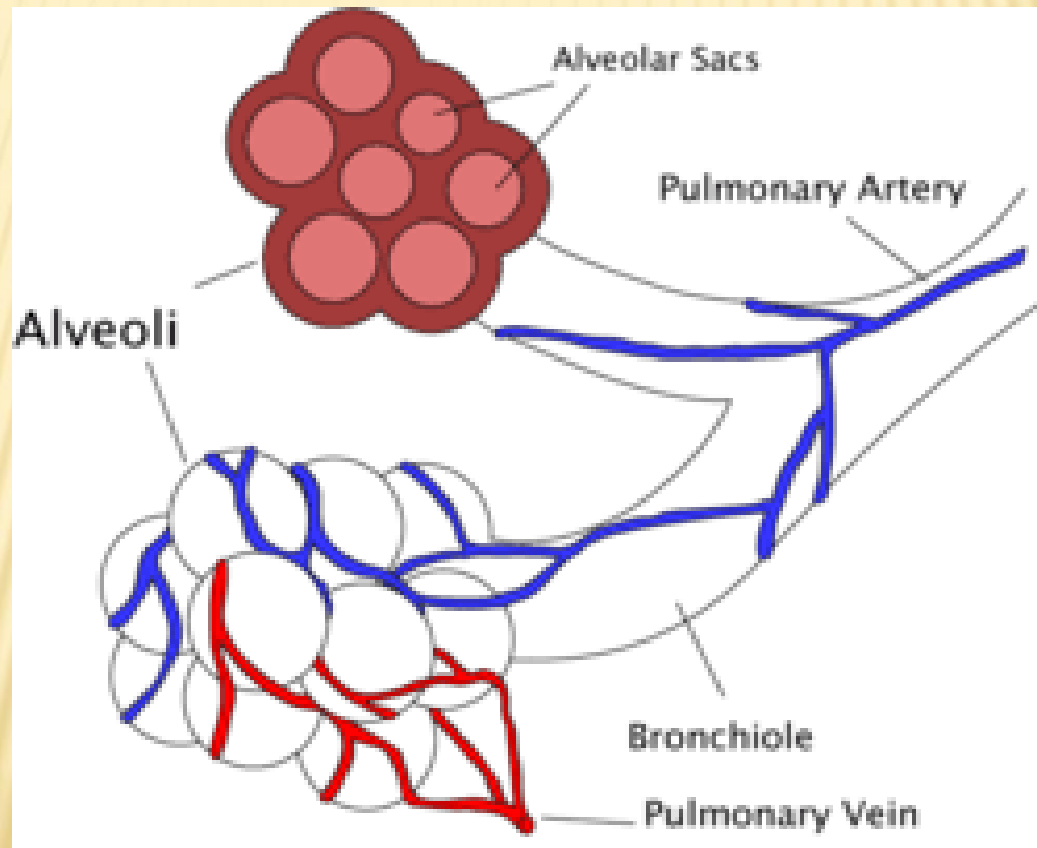
# BRANCHES OF PULMONARY TRUNK

1. RIGHT PULMONARY ARTERY

2. LEFT PULMONARY ARTERY



# PULMONARY CIRCULATION



# PULMONARY VEIN

- ✗ Pulmonary veins are the veins that transfer oxygenated blood.
- ✗ Arising = from both lungs
- ✗ Drains to= left atrium
- ✗ These veins do not contain valves.

- ✗ Oxygenated blood after reaching the left atrium through these veins passes into left ventricle and from there is pumped into the systemic circulation.
- ✗ Pulmonary veins are four in number. two pulmonary veins arises from each lungs.





Thank  
you