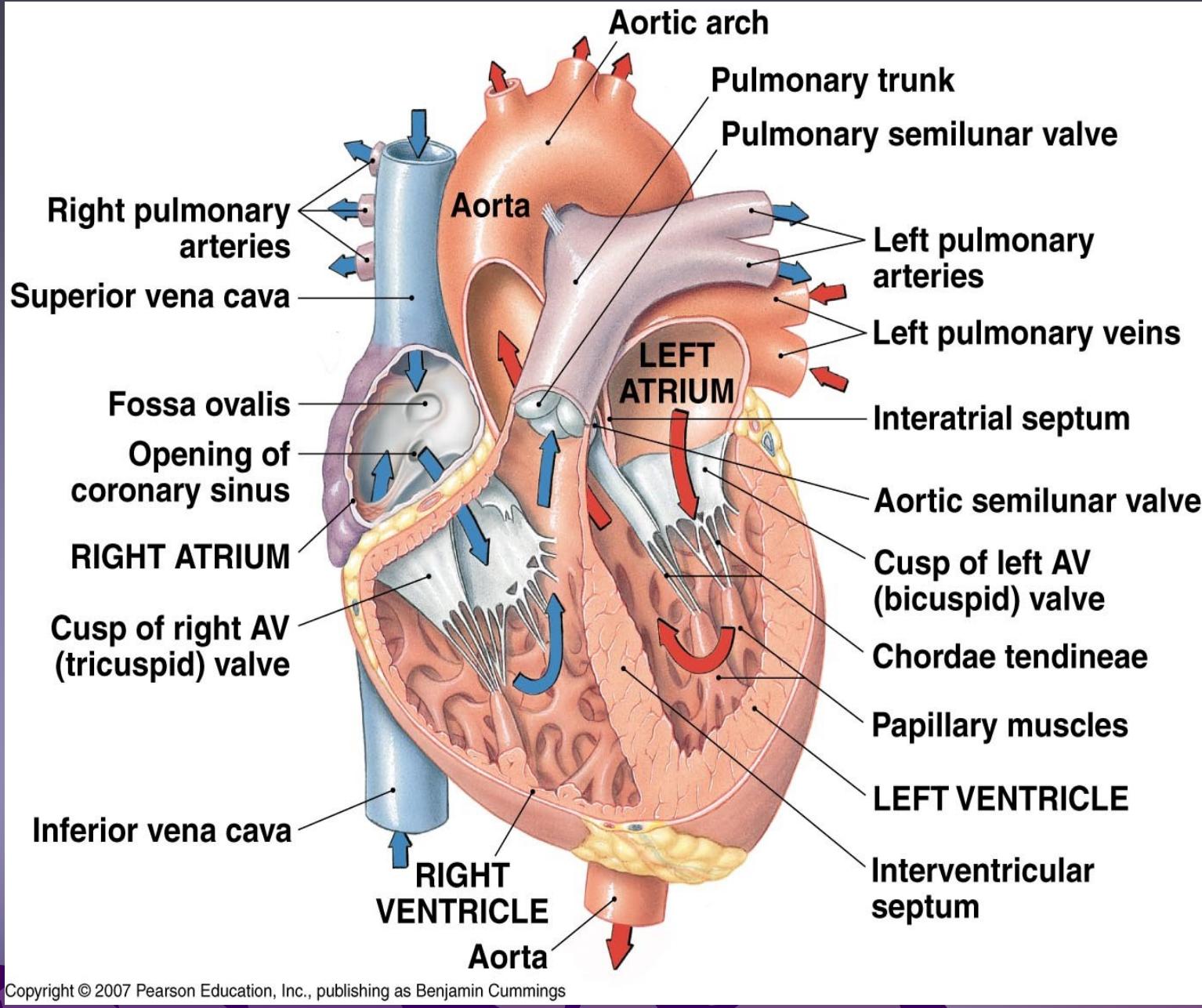


ANATOMI JANTUNG

Didik S Atmojo, S.Kep.,Ns.,M.Kep

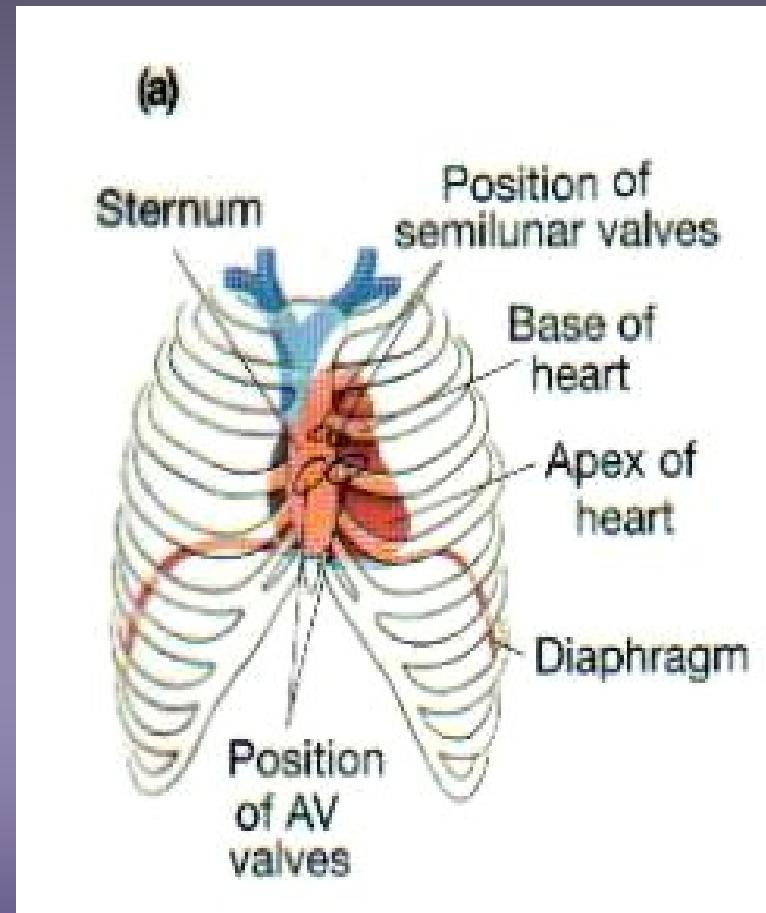


JANTUNG

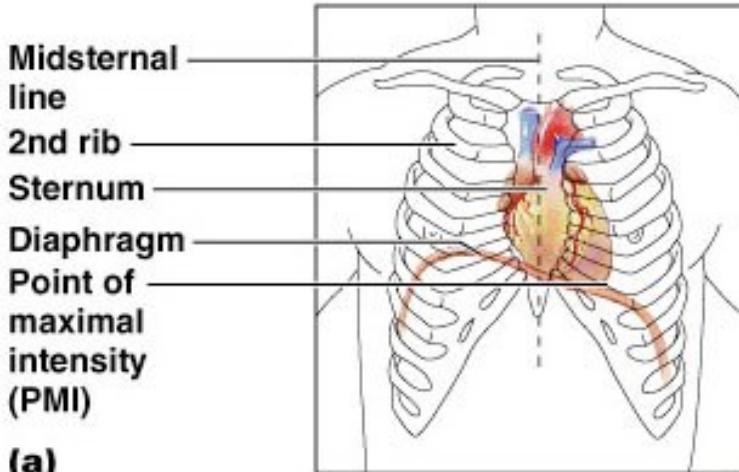
ANATOMI

- **LETAK**

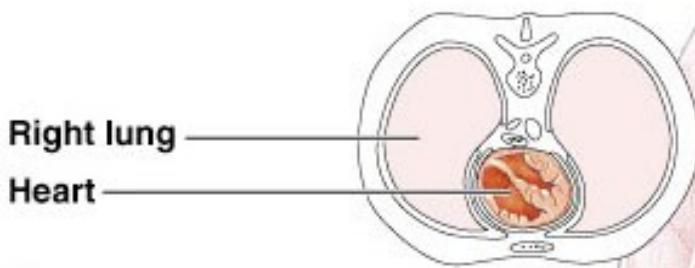
- RONGGA DADA KIRI
- TERLINDUNG DINDING DADA
- UKURAN 12-14 x 8-9 x 6 cm
- BERAT 250-350 gm
- BASIS : Superior-posterior : C-II
- APEX : anterior-inferior ICS-V
 - 2 jari di bawah papila mamae
 - Bag ventrikel paling tebal



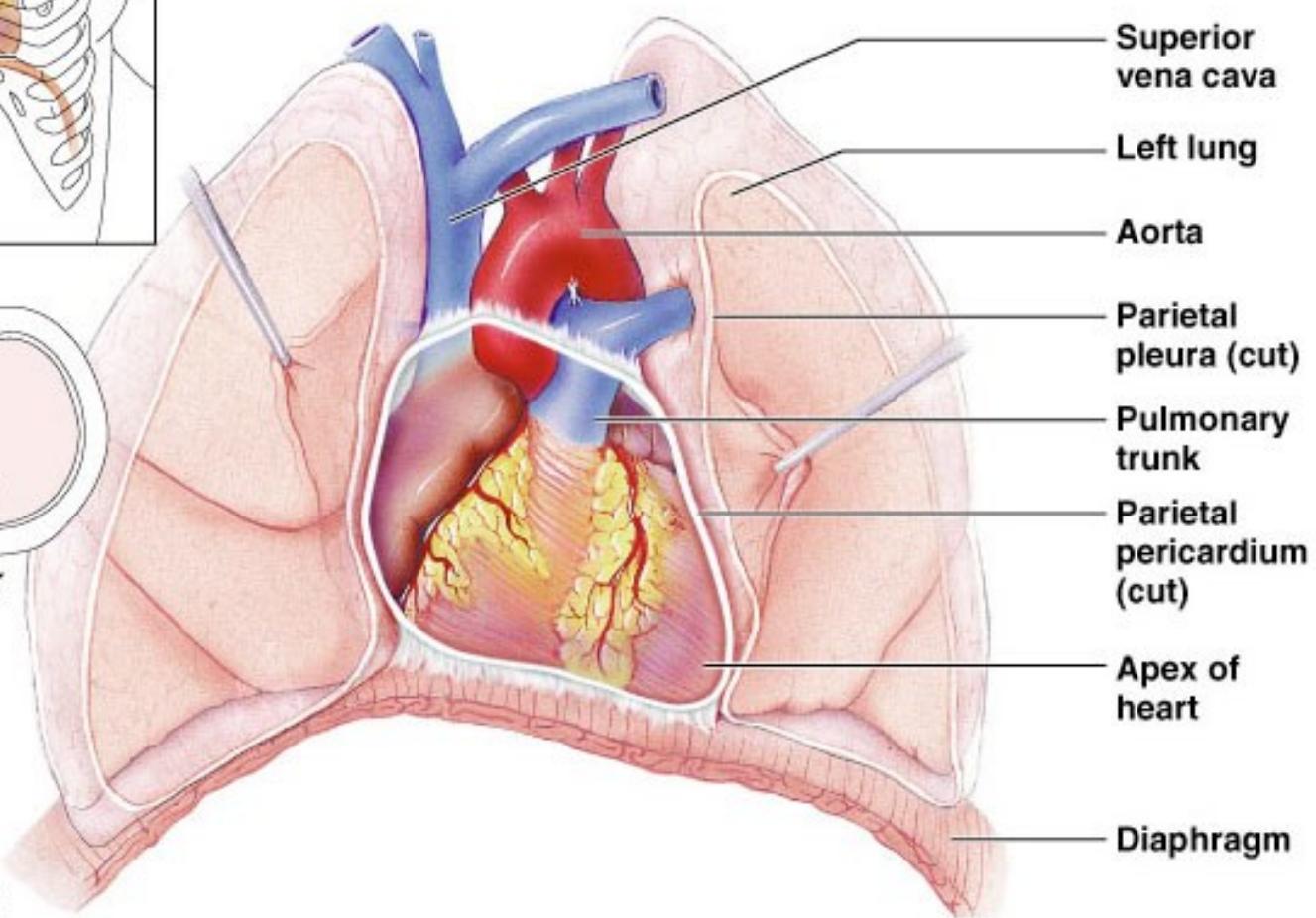
Heart Anatomy



(a)



(b)



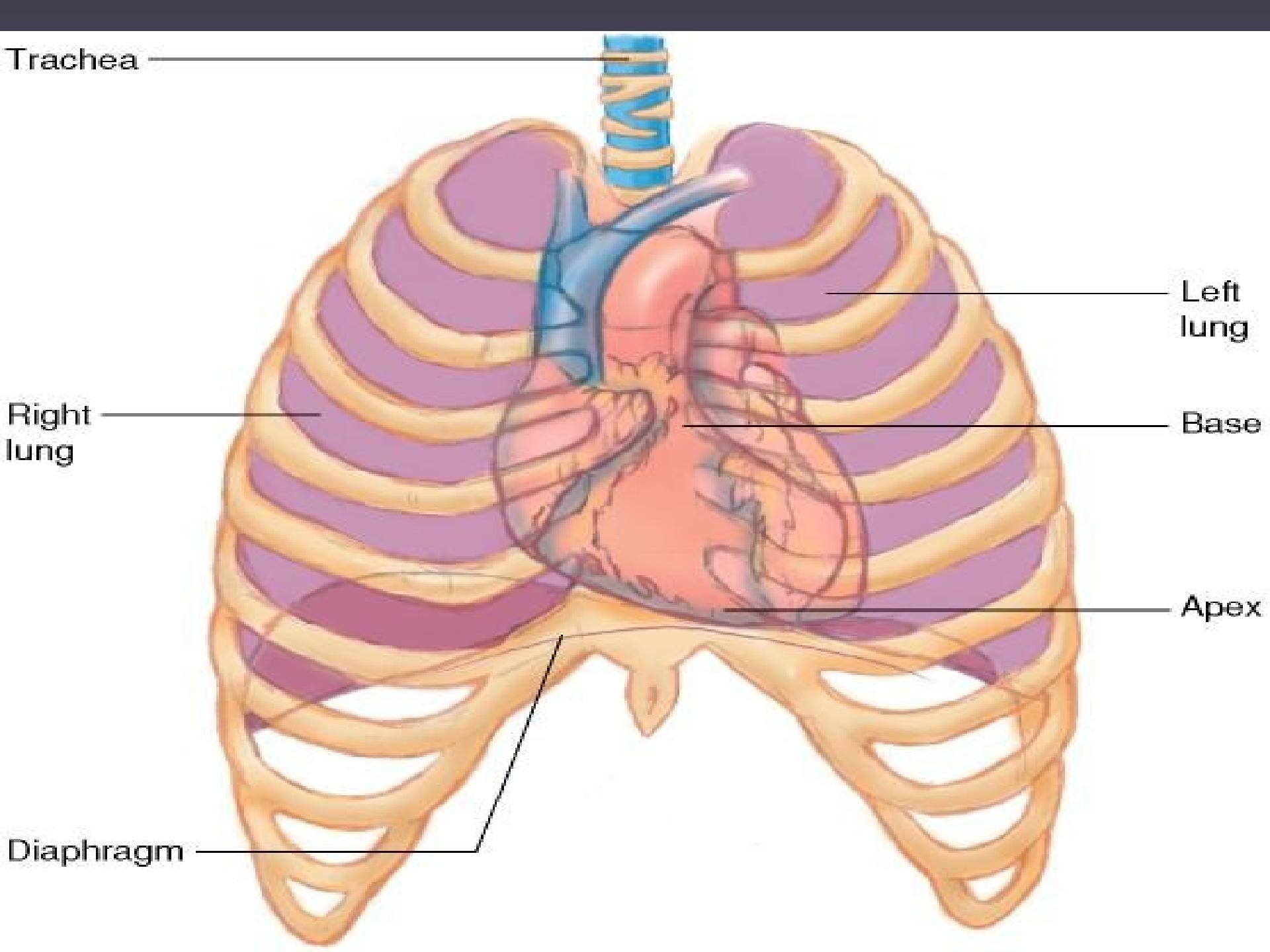
(c)

- **Jumlah** : 1 bh
- **Bentuk** : spt buah mangga
- **Ukuran** : sebesar tinju (250-300 gr)

Tgt pada :

- umur
- jenis kelamin
- TB
- lemak epikardium
- nutrisi

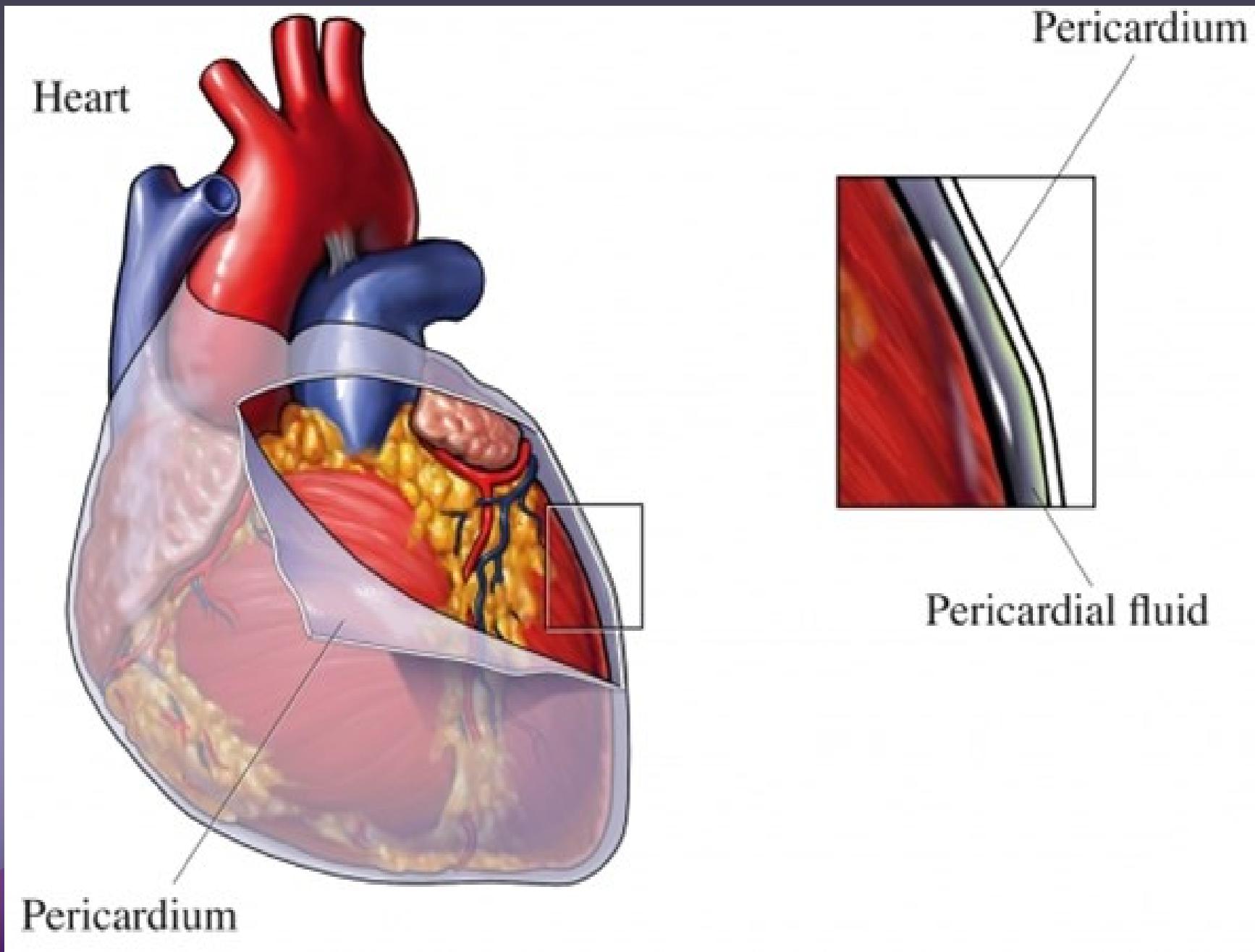
- **Atas** : Tumpul ---- BASIS CORDIS
- **Bawah** : runcing ---- APEX CORDIS



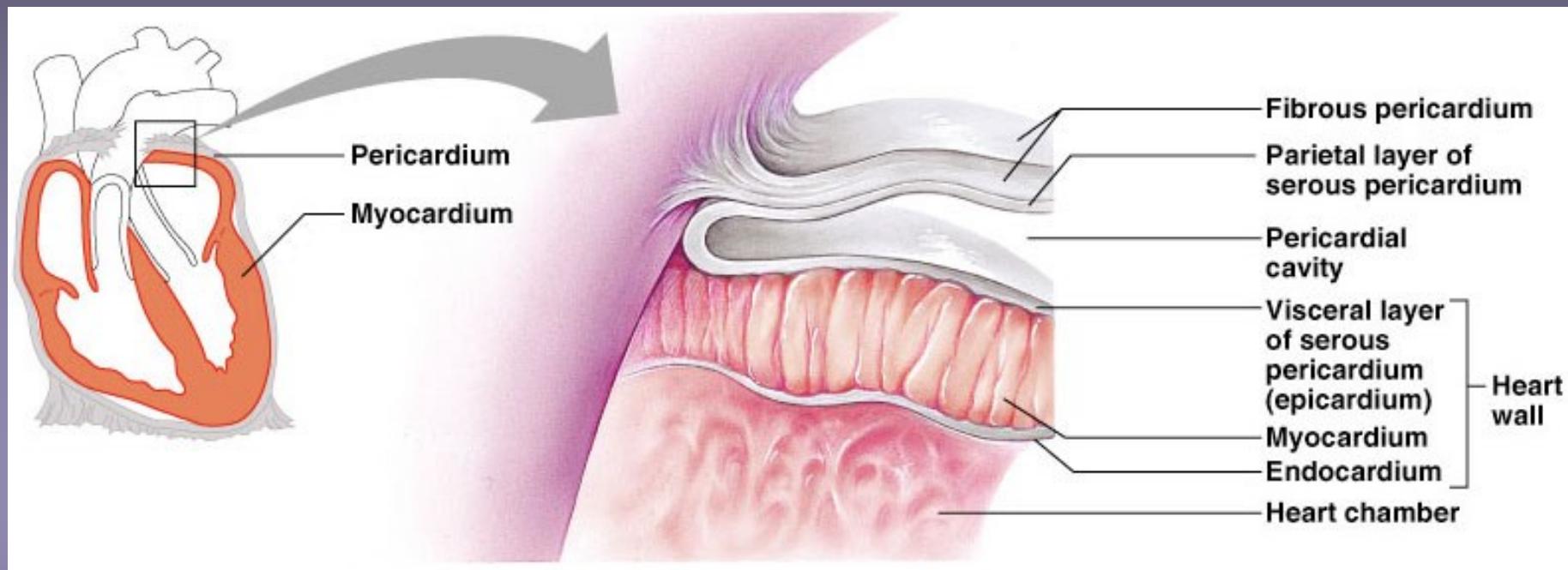
LAPISAN JANTUNG

1. PERICARDIUM (lapisan luar)

- pembungkus jantung
- dari jaringan ikat
- Terdiri dari 2 lapisan :
 1. Pericardium Parietalis (luar)
 2. Pericardium Viseralis (dalam)
- Diantara keduanya : RONGGA PERICARDIUM--- tdk berisi apa2



Pericardial Layers of the Heart



2. MYOCARDIUM (lap otot jantung)

- lapisan tengah jantung
- Terdiri dari 3 macam otot

1. otot atrium (tipis)

2. otot ventrikel

ventrikel kiri >> tebal dari v
kanan

3. otot serat khusus

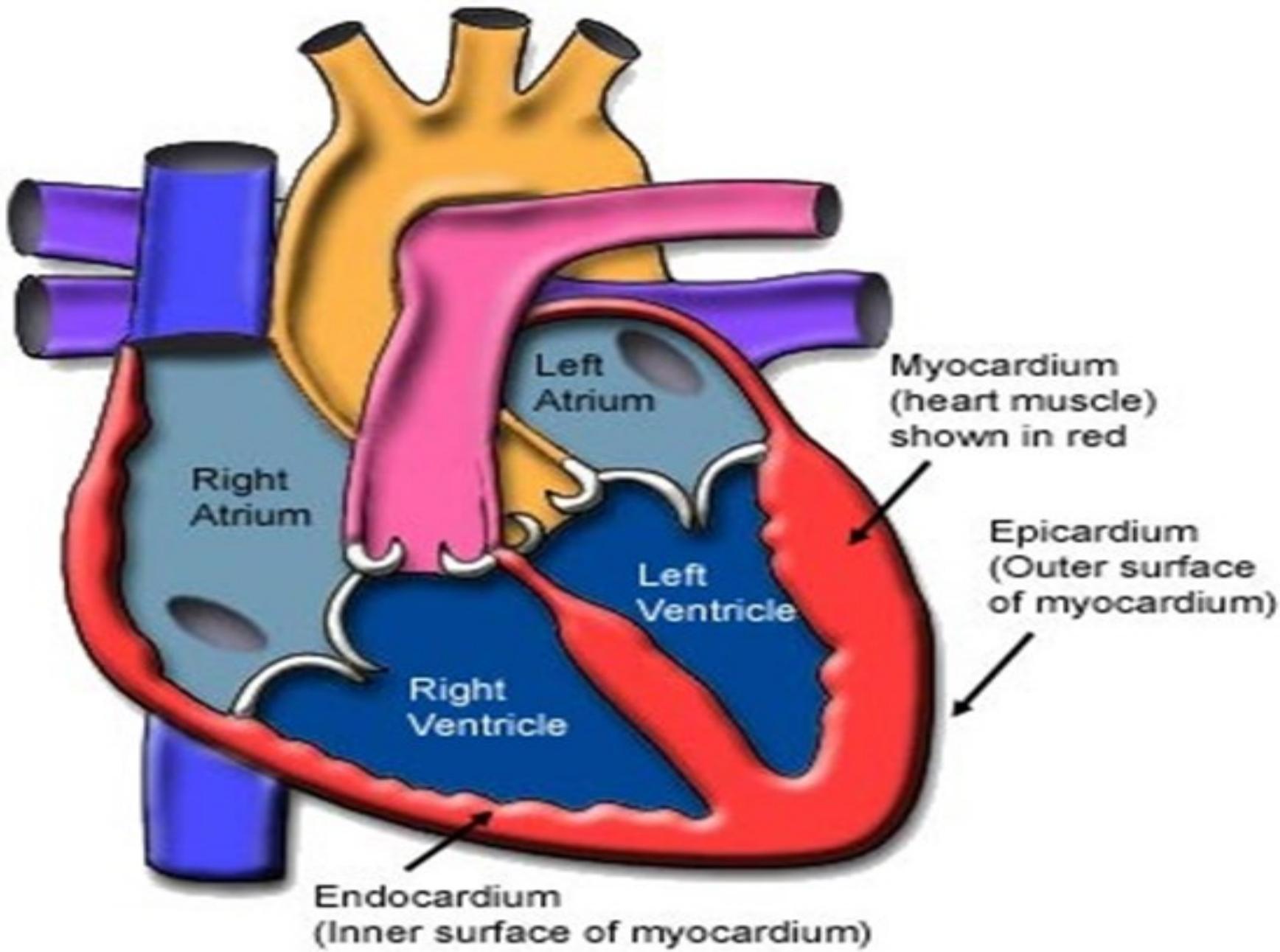
SEPTUM CORDIS (batas jantung
kiri dan kanan)

- 1 & 2 berkontraksi, 3 tdk (tpt rgs konduksi jantung)

- otot ventrikel lebih tebal dari atrium

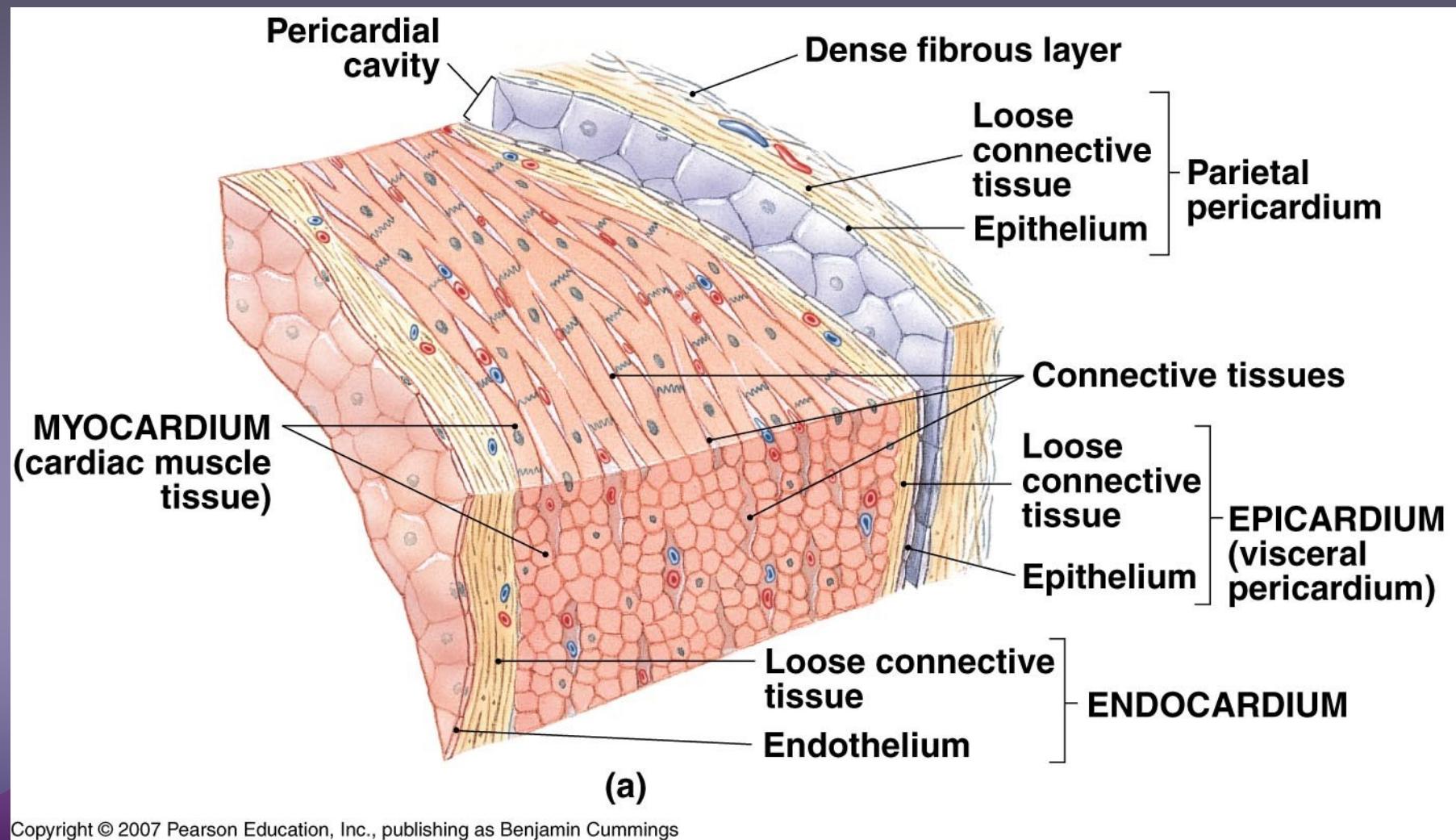
3. ENDOKARDIUM

- lapisan dalam jantung
- terdiri dr jaringan epitel (endotel)
- berhubungan langsung dengan ruang jantung



The Anatomy of the Heart

The Heart Wall and Cardiac Muscle Tissue



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Figure 12-4(a)

RUANGAN JANTUNG

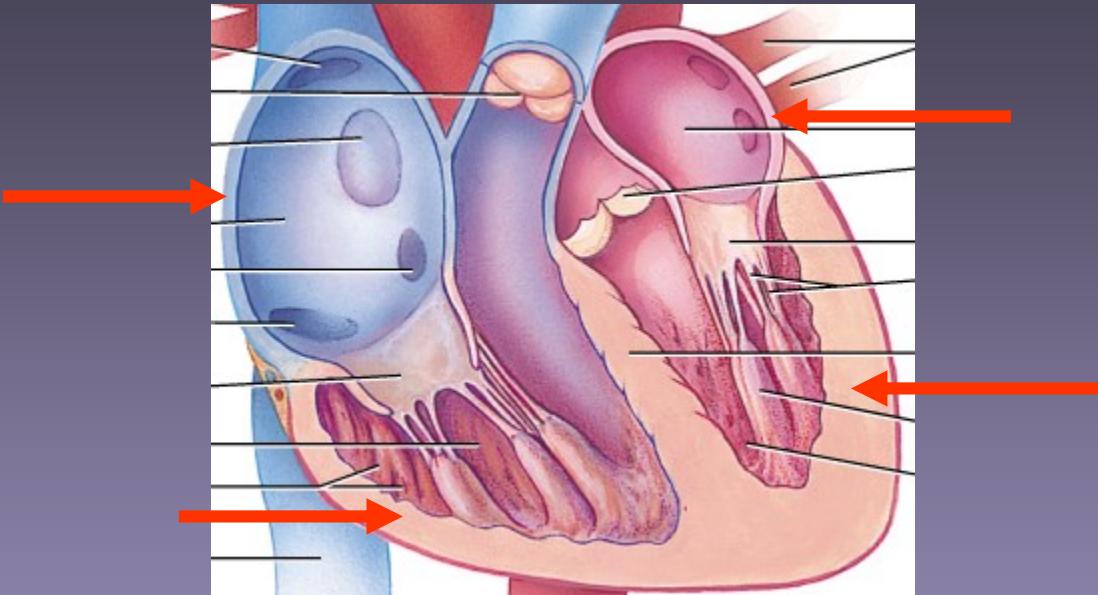
1. ATRIUM KANAN
2. ATRIUM KIRI
3. VENTRIKEL KANAN
4. VENTRIKEL KIRI

SEPTUM CORDIS : sekat jantung ---
pembatas jantung kiri dan kanan

PADA JANIN

- terdapat FORAMEN OVALE : lubang antara atrium kiri dan atrium kanan
---- shg darah atrium ka & ki bercampur
- Foramen ovale akan menutup setelah bayi lahir/tali pusat dipotong --- paru2 berfungsi

Myocardial Thickness and Function



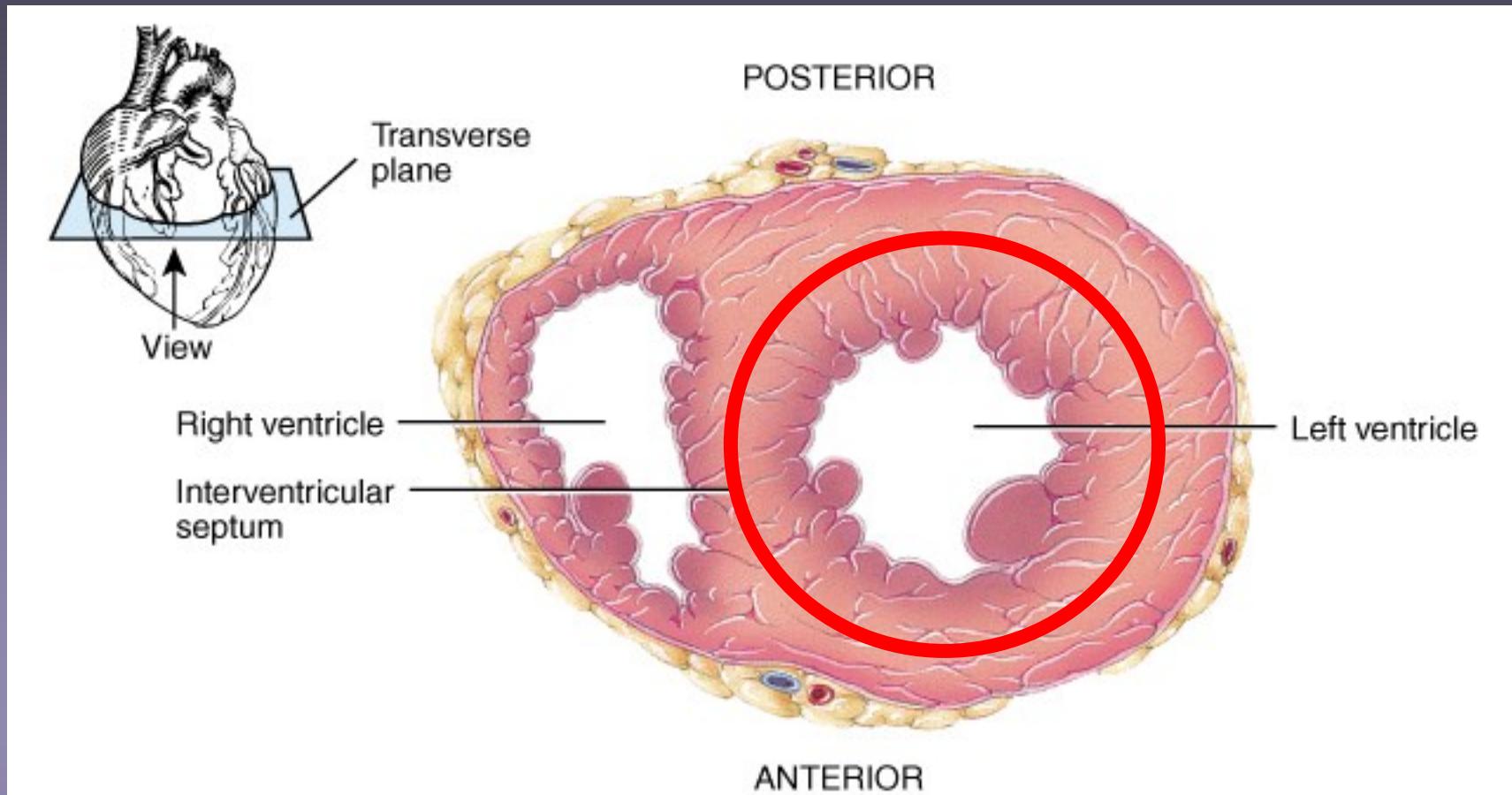
Thickness of myocardium varies according to the function of the chamber

Atria are thin walled, deliver blood to adjacent ventricles

Ventricle walls are much thicker and stronger

- right ventricle supplies blood to the lungs (little flow resistance)
- left ventricle wall is the thickest to supply systemic circulation

Thickness of Cardiac Walls



Myocardium of left ventricle is much thicker than the right.

KATUP JANTUNG

1. KATUP MITRALIS

- 2 daun katup
- antara atrium kiri dg ventrikel kiri

2. KATUP TRIKUSPIDALIS

- 3 daun katup
- antara atrium kanan dg ventrikel kanan

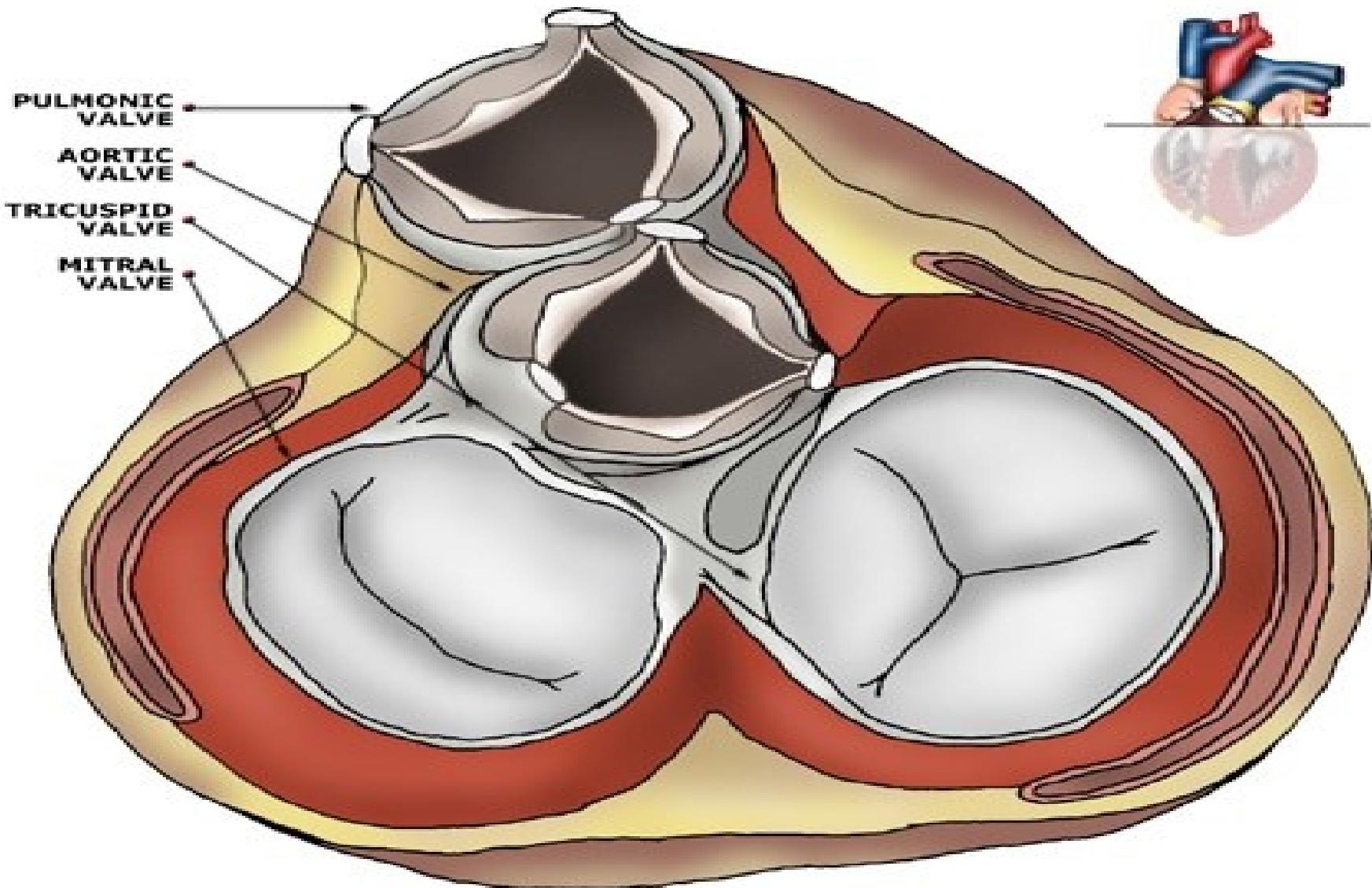
3. KATUP SEMILUNARIS PULMONALIS

- antara ventrikel kanan dg arteri pulmonalis

4. KATUP SEMILUNARIS AORTA

- antara ventrikel kiri dg aorta

ATRIOVENTRICULAR & SEMILUNAR VALVES



Heart Valves

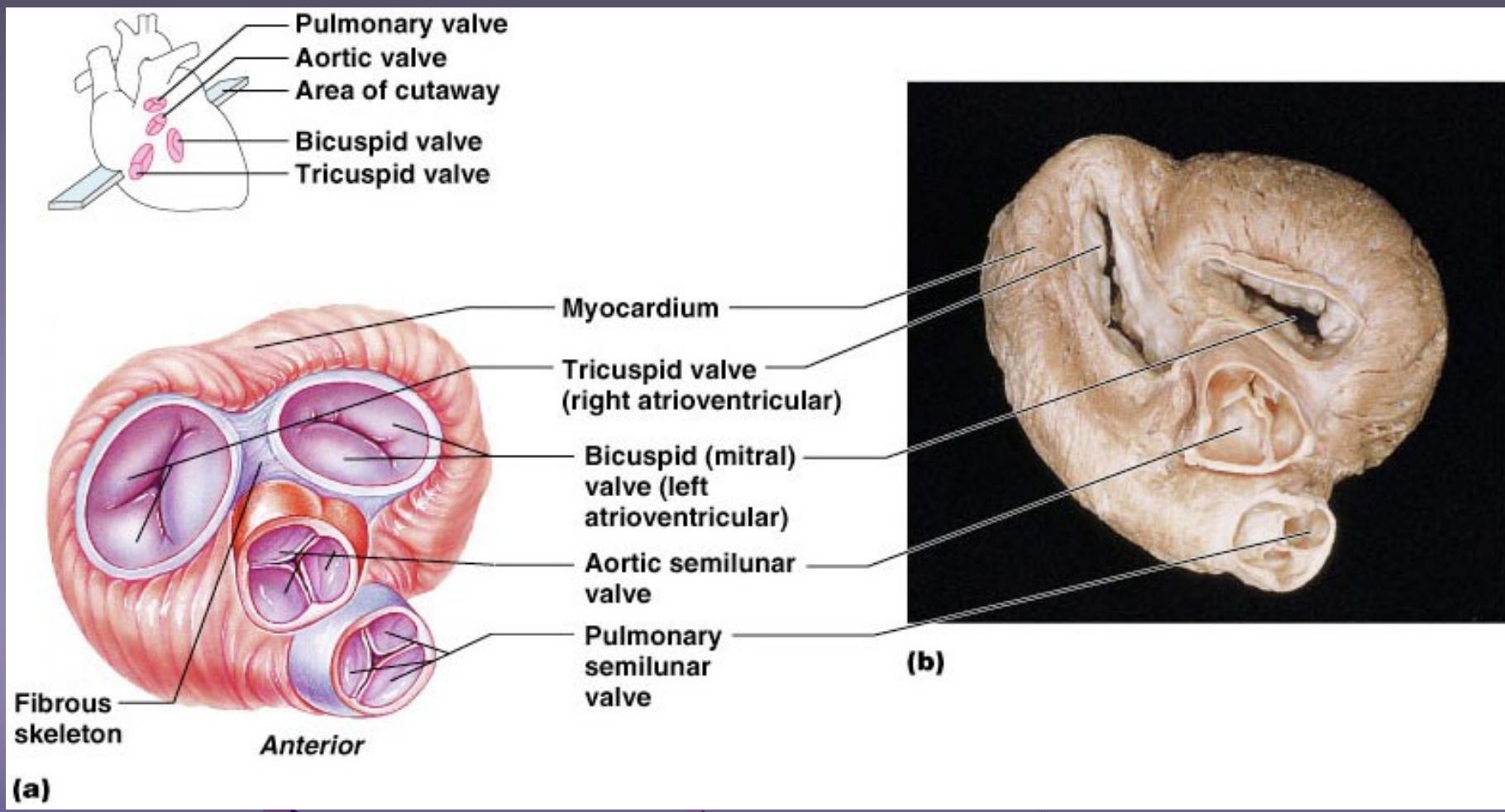
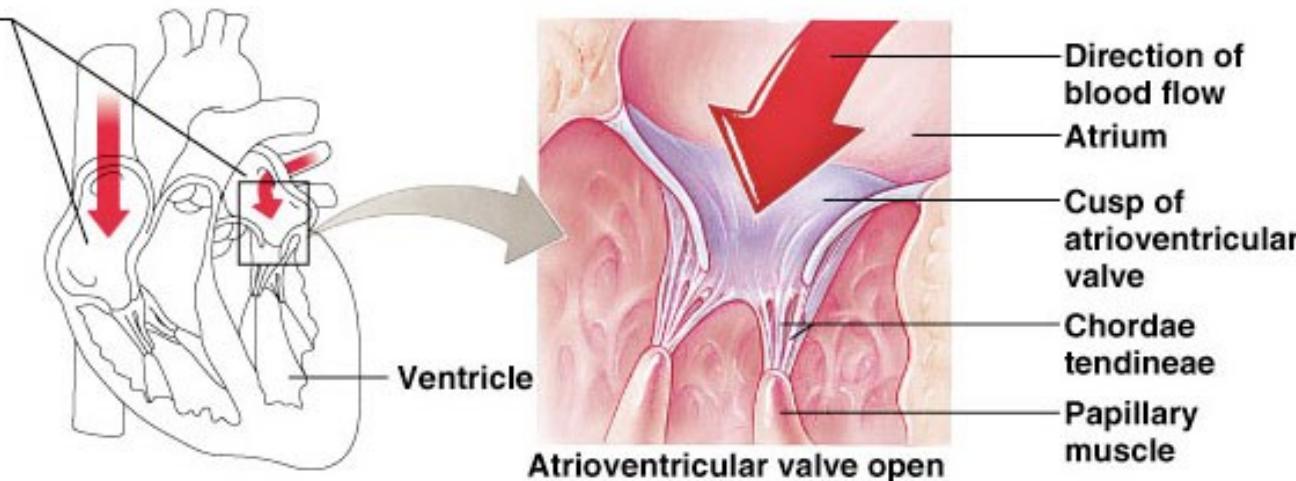


Figure 18.8a, b

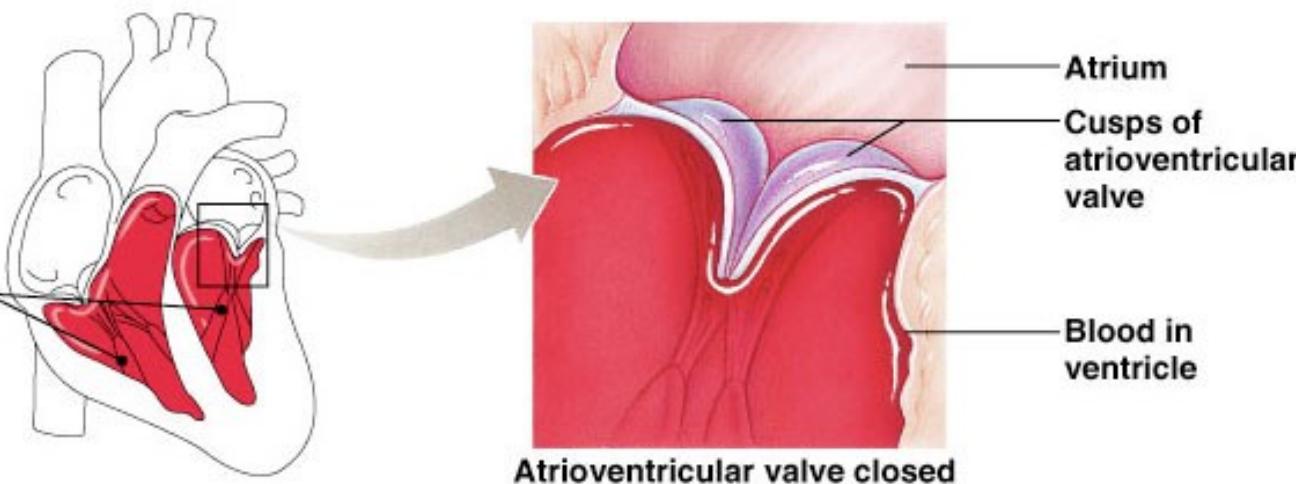
Atrioventricular Valve Function

- ① Blood returning to the heart fills atria, putting pressure against atrioventricular valves; atrioventricular valves forced open
- ② As ventricles fill, atrioventricular valve flaps hang limply into ventricles
- ③ Atria contract, forcing additional blood into ventricles

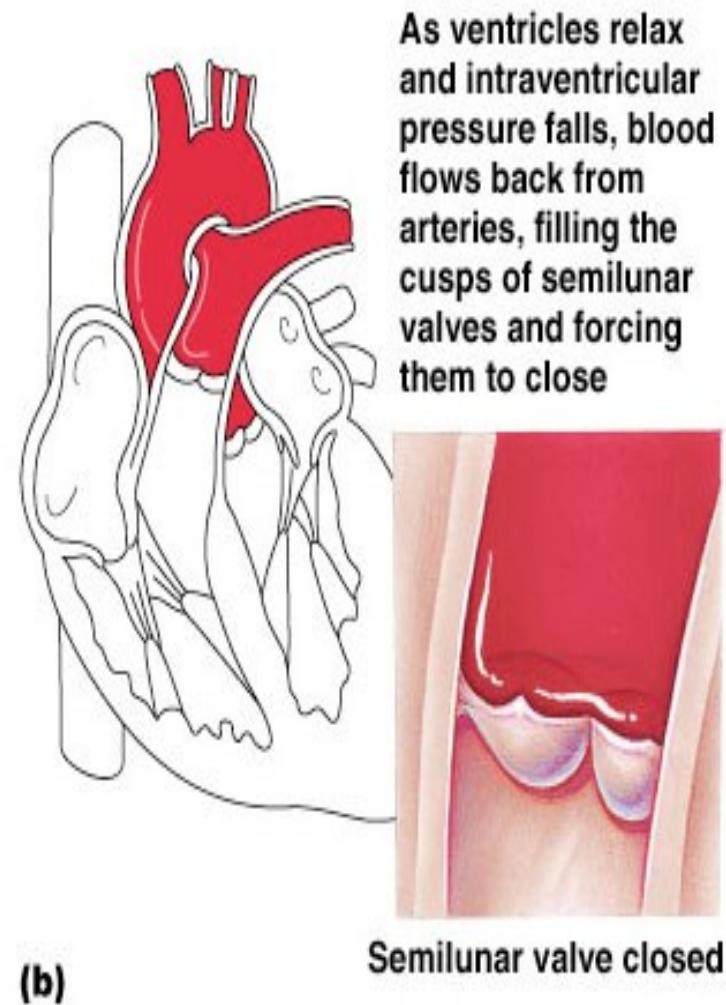
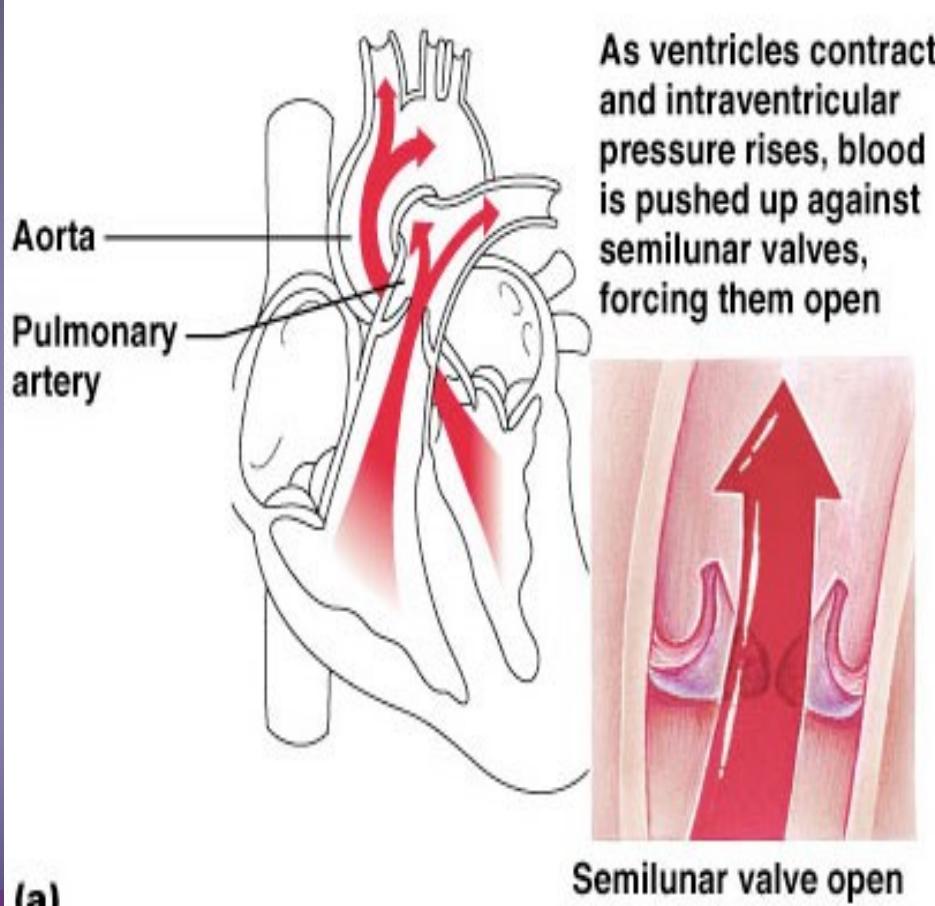
(a)

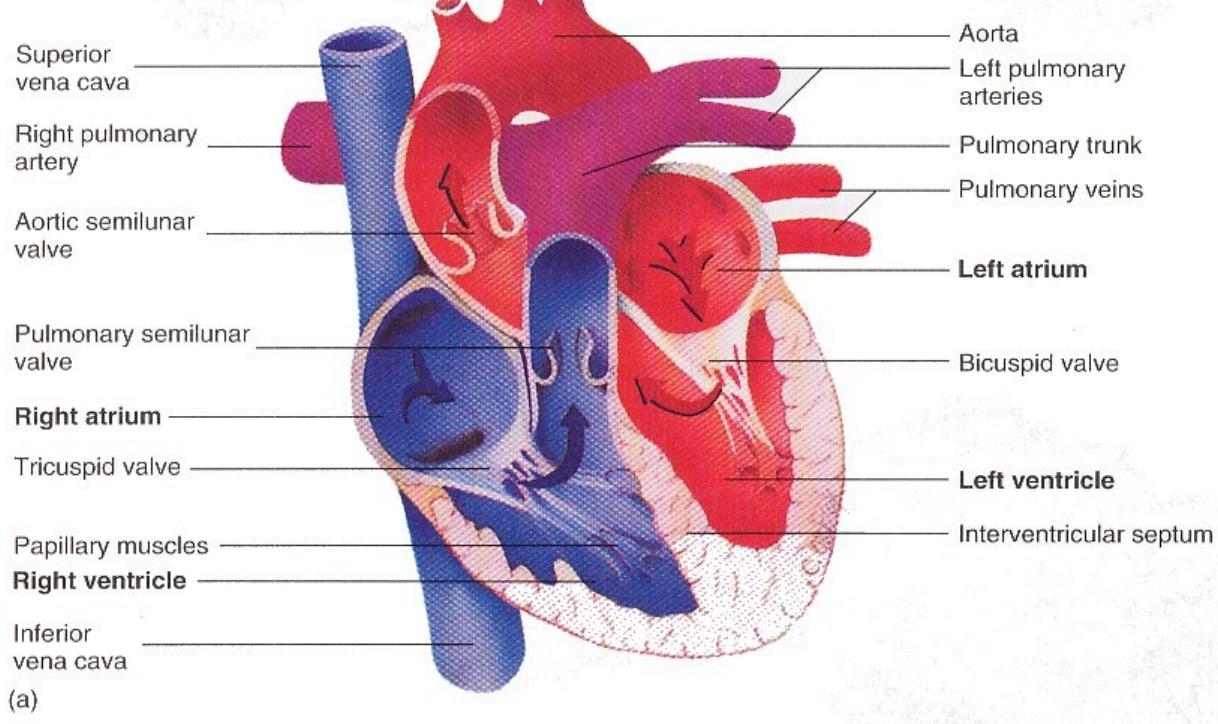


- ① Ventricles contract, forcing blood against atrioventricular valve cusps
- ② Atrioventricular valves close
- ③ Papillary muscles contract and chordae tendineae tighten, preventing valve flaps from everting into atria

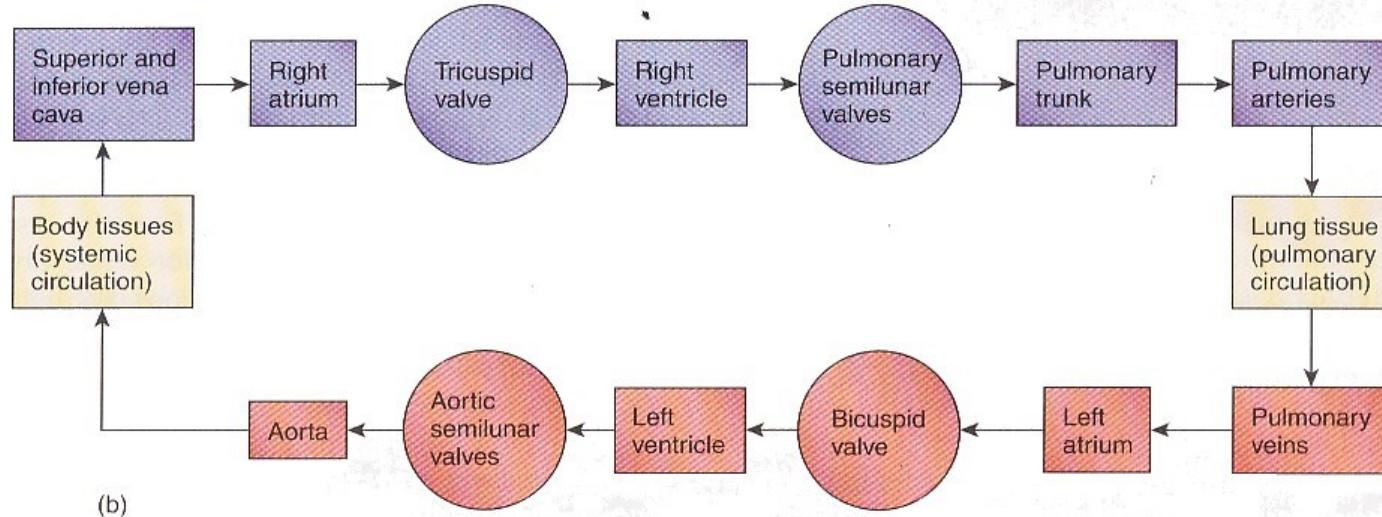


Semilunar Valve Function





(a)



(b)

PEMBULUH DARAH PD JANTUNG

A. MASUK KE JANTUNG

1. **vena cava**

- masuk ke atrium kanan dari seluruh tubuh
- vena cava superior dan inferior
- kaya CO₂

2. **vena pulmonalis**

- masuk ke atrium kiri dari paru-paru
- kaya O₂

B. KELUAR DR JANTUNG

1. aorta(Brachiocephalic,Left common carotid,Subclavian arteries)

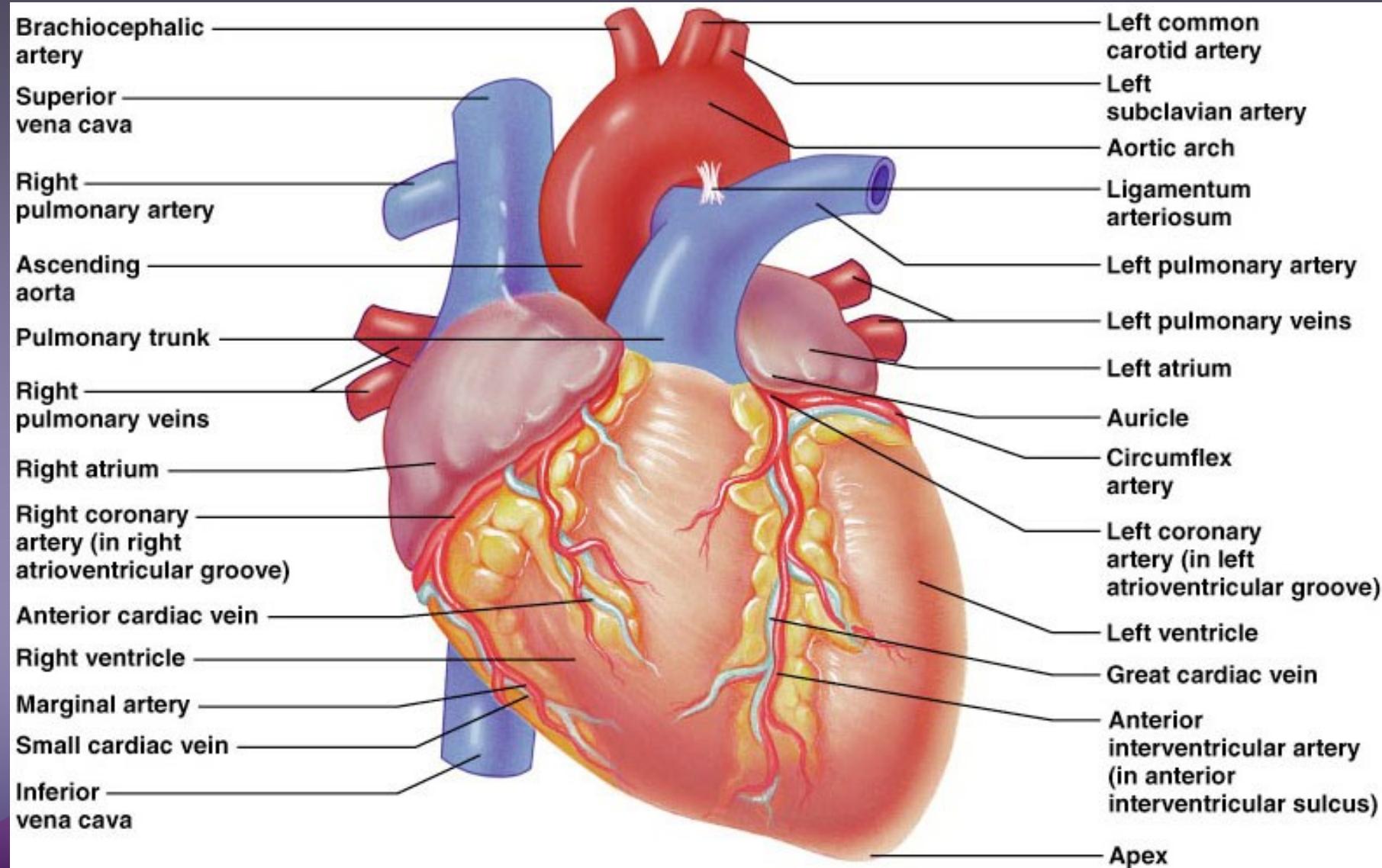
- keluar dr ventrikel kiri menuju seluruh tubuh
- kaya O₂

2. arteri pulmonalis (kanan dan kiri)

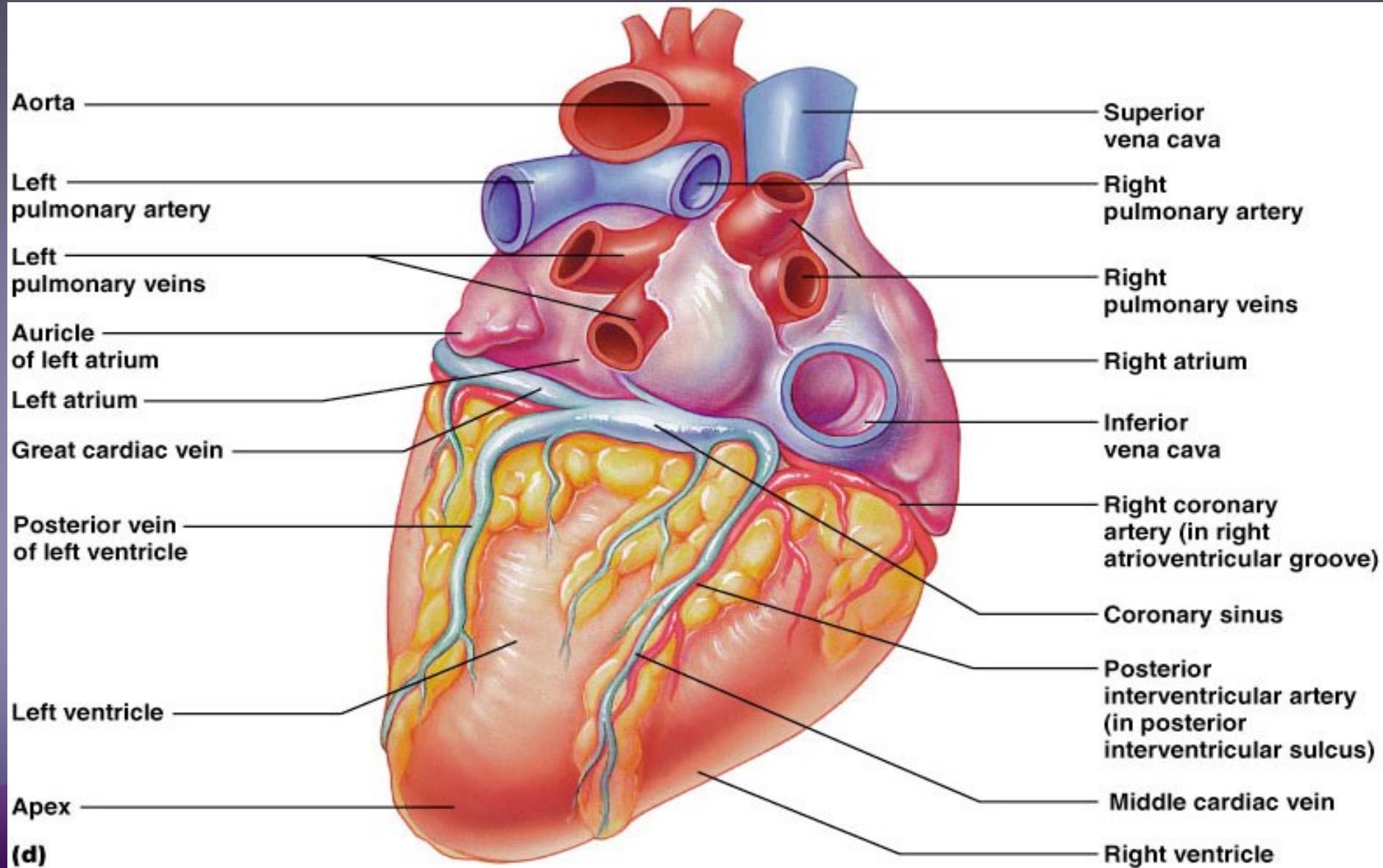
- keluar dr ventrikel kanan ke paru-paru
- kaya CO₂

ARTERI CORONARIA : pemb darah pd dinding jantung --- memberi nutrisi pd otot jantung

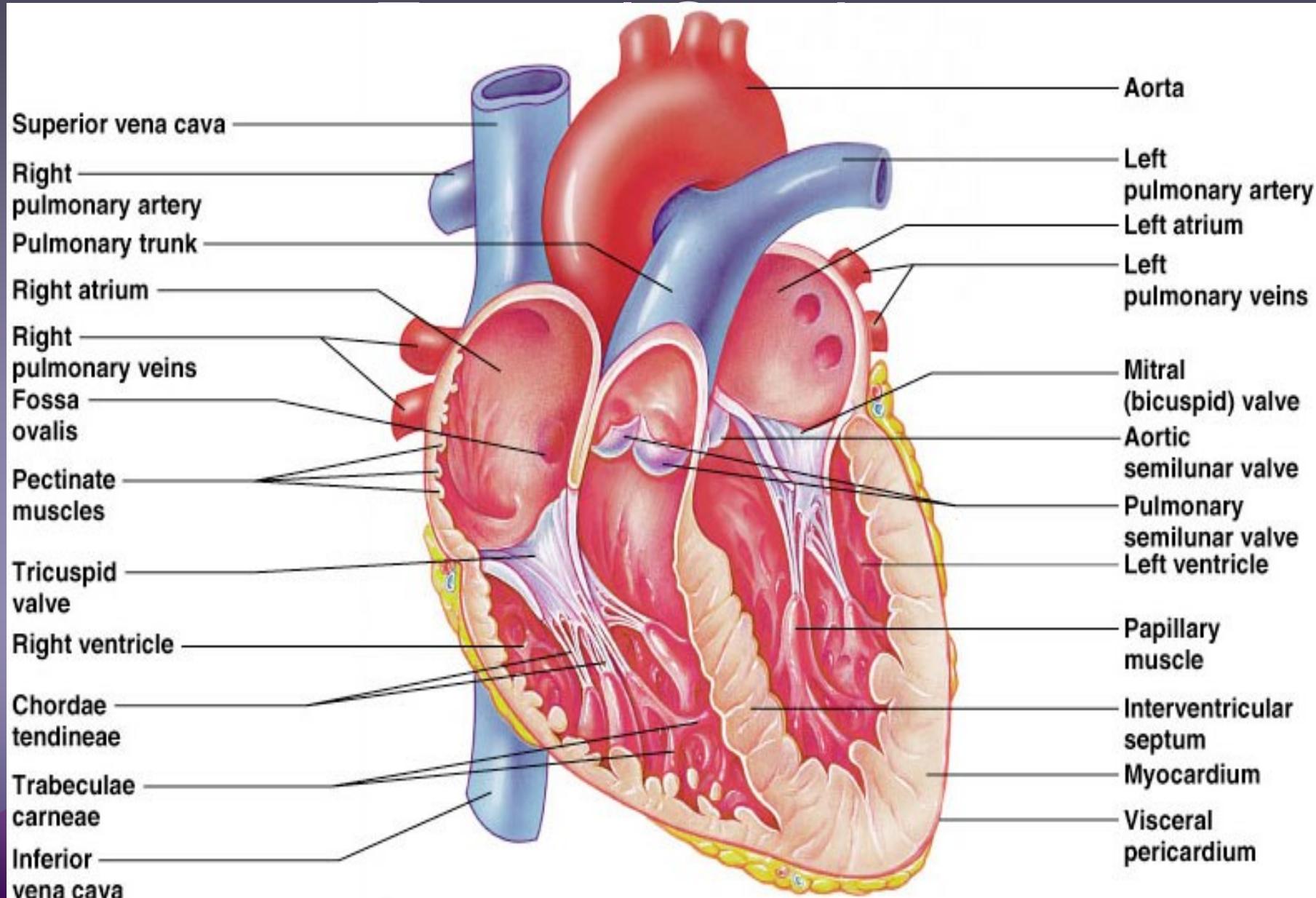
External Heart: Anterior View



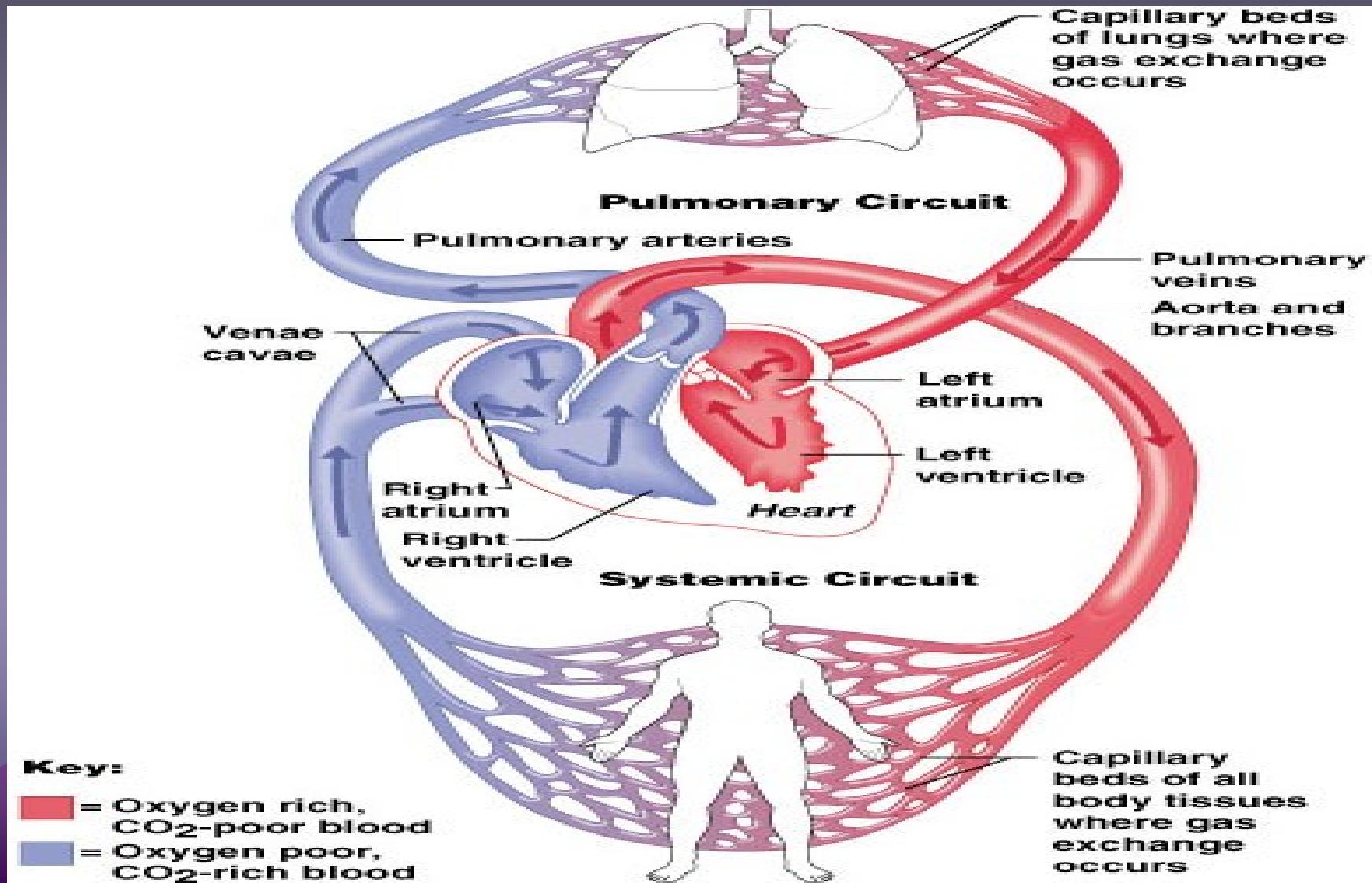
External Heart: Posterior View



Gross Anatomy of Heart:

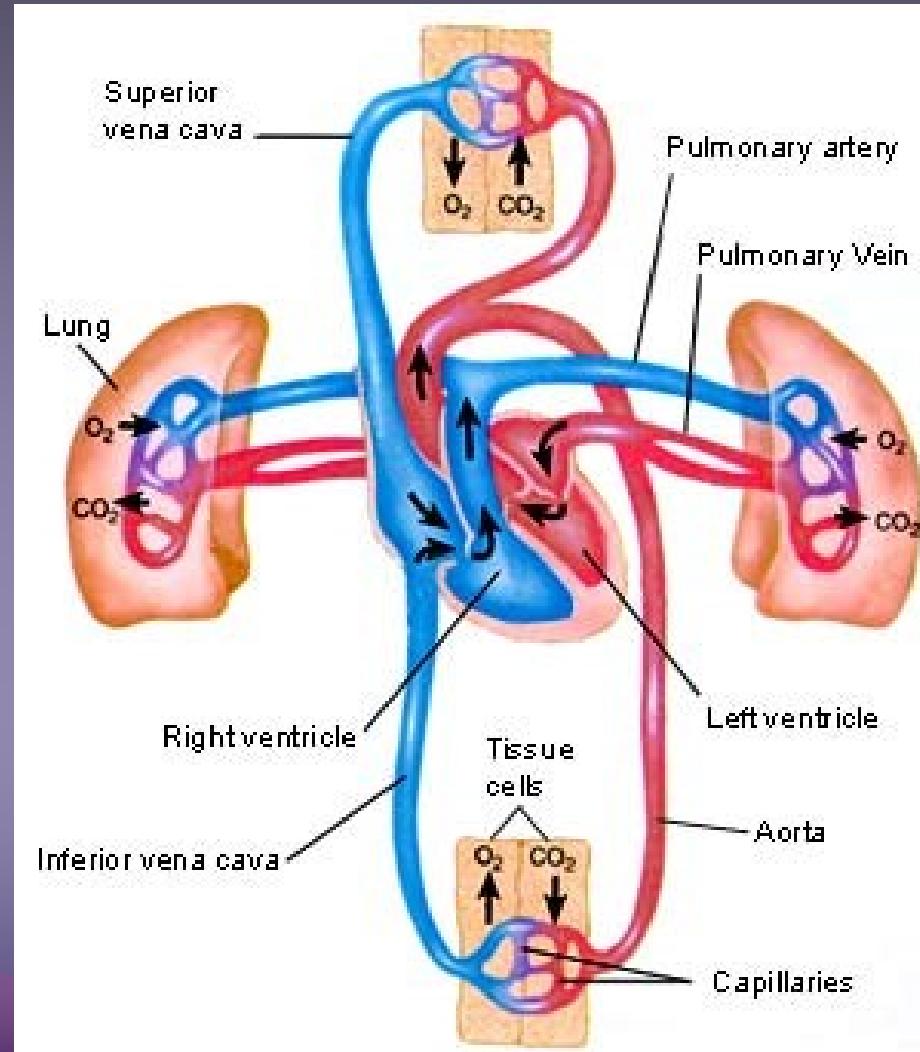


Pathway of Blood Through the Heart and Lungs



SYSTEMIC AND PULMONARY CIRCULATION

- LEFT SIDE IS A PUMP TO THE SYSTEMIC CIRCULATION.
- RIGHT SIDE IS A PUMP TO THE PULMONARY CIRCULATION.



External Heart: Vessels that Supply/Drain the Heart (Anterior View)

- **Arteries** – right and left coronary (in atrioventricular groove), marginal, circumflex, and anterior interventricular arteries
- **Veins** – small cardiac, anterior cardiac, and great cardiac veins

Coronary Circulation: Arterial Supply

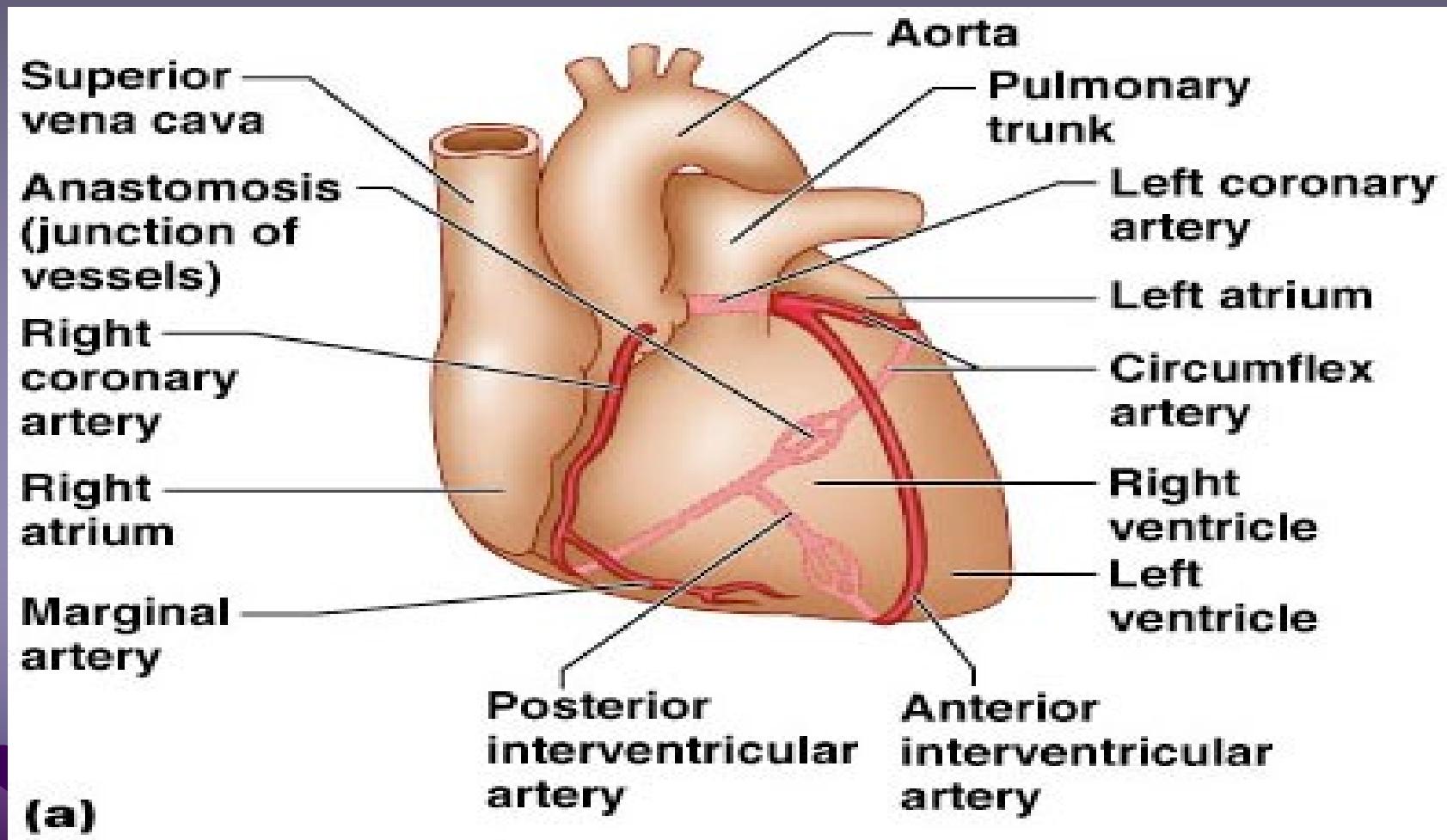


Figure 18.7a

Coronary Circulation: Venous Supply

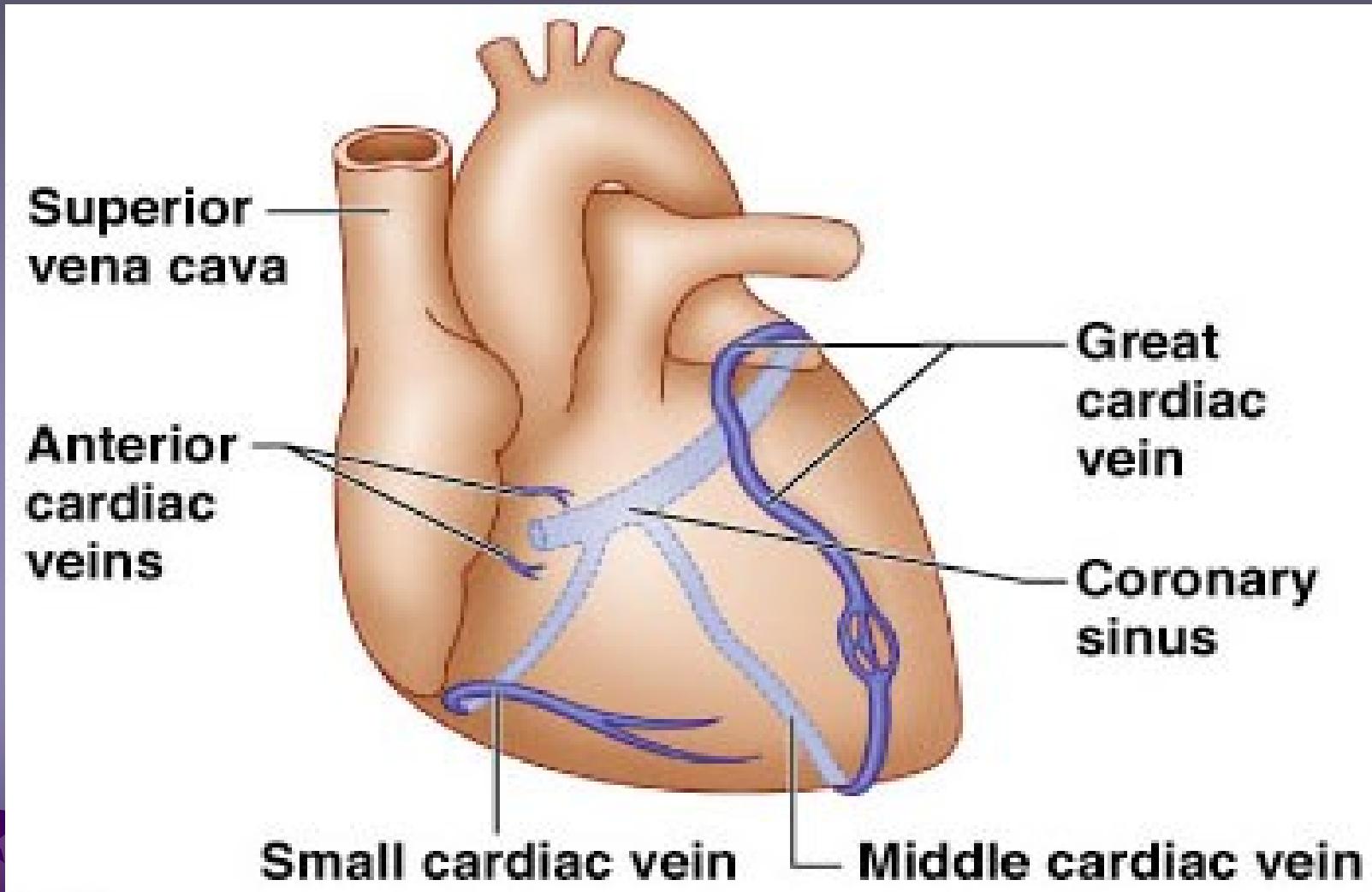


Figure 18.7b

PERSARAFAN JANTUNG

Disarafi oleh SARAF OTONOM

1. Saraf simpatis

merangsang (stimulasi) denyut
jantung menjadi kuat dan cepat

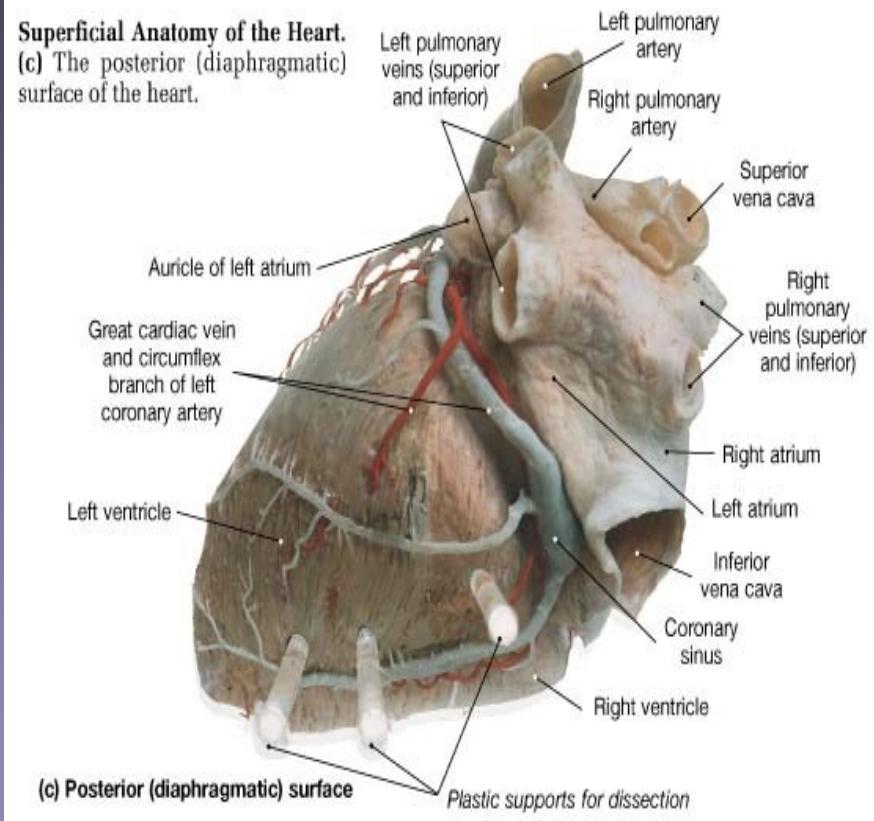
2. Saraf parasimpatis

menahan (inhibisi) denyut/kontraksi
jantung menjadi lemah dan lambat

WELCOME TO

FISIOLOGI JANTUNG

Superficial Anatomy of the Heart.
(c) The posterior (diaphragmatic) surface of the heart.





WASSALAM