

Cardiovascular System

الجهاز الدوري

Fig. 14-25 The cardiac cycle

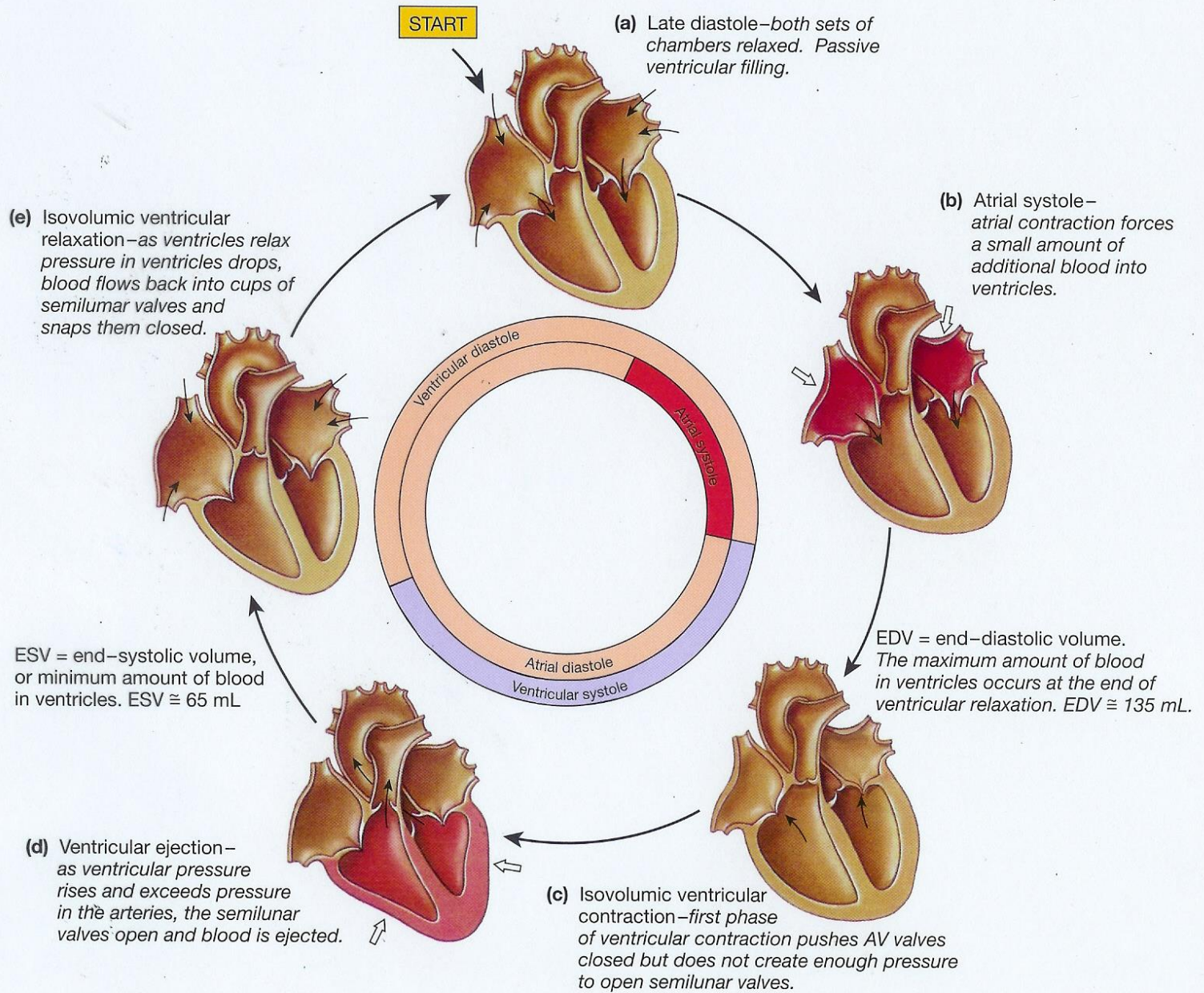
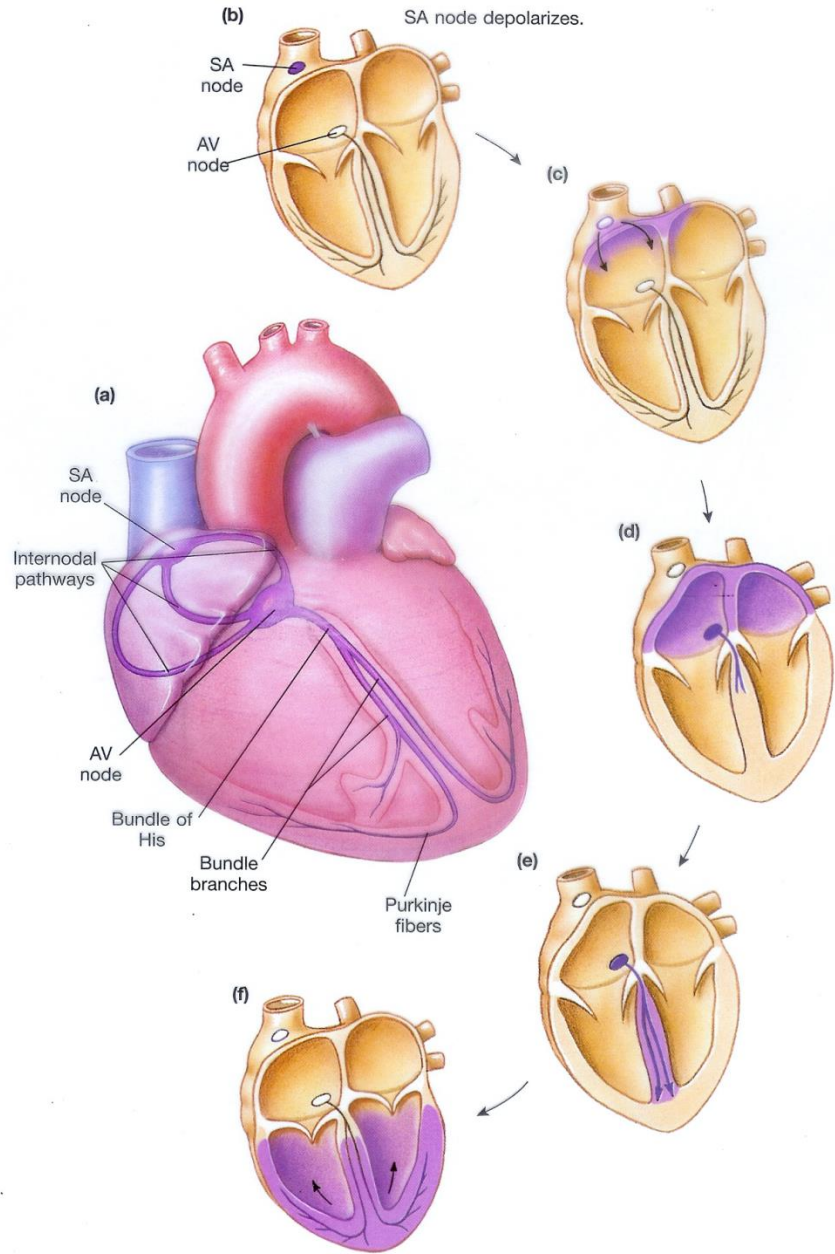
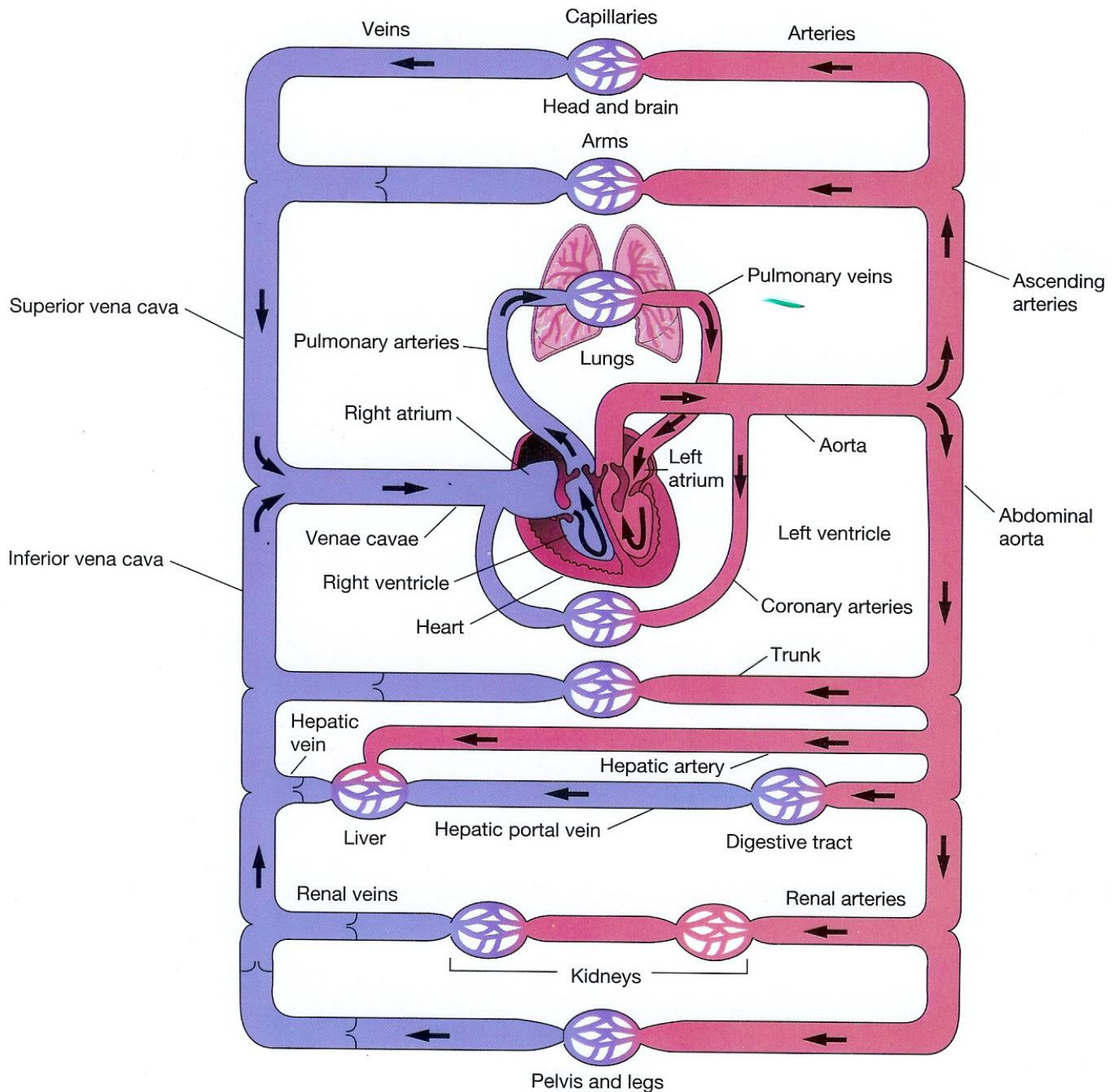
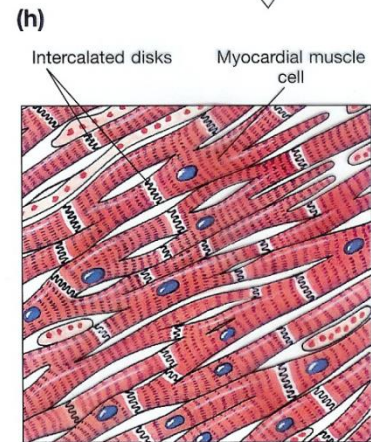
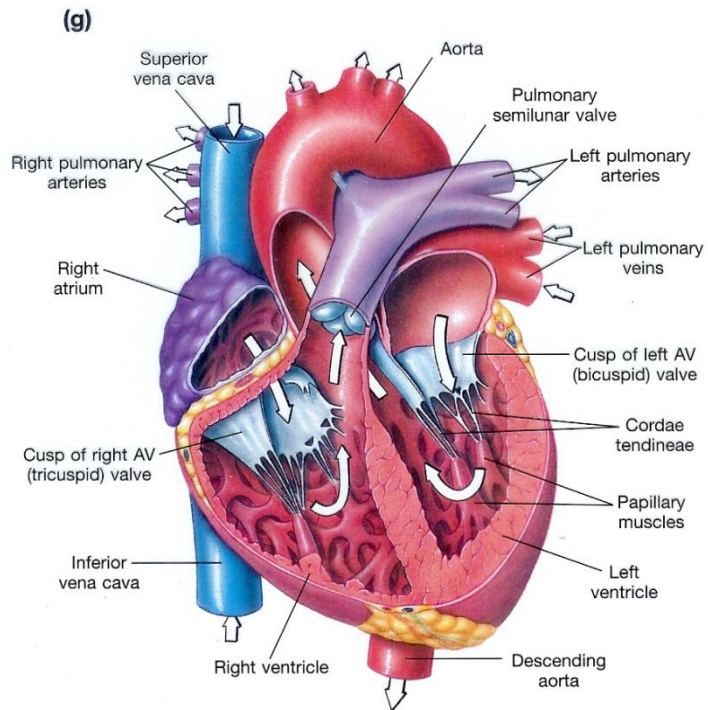
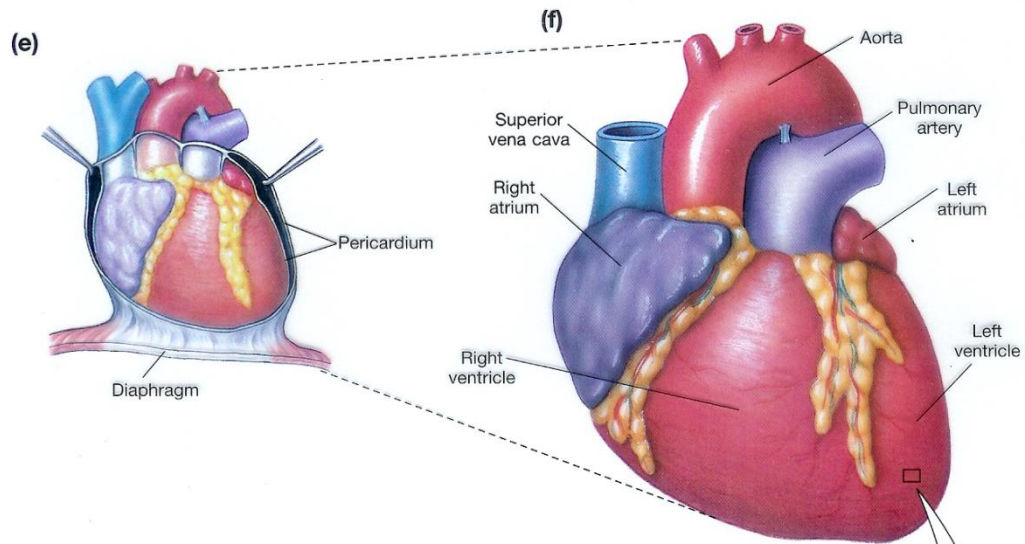


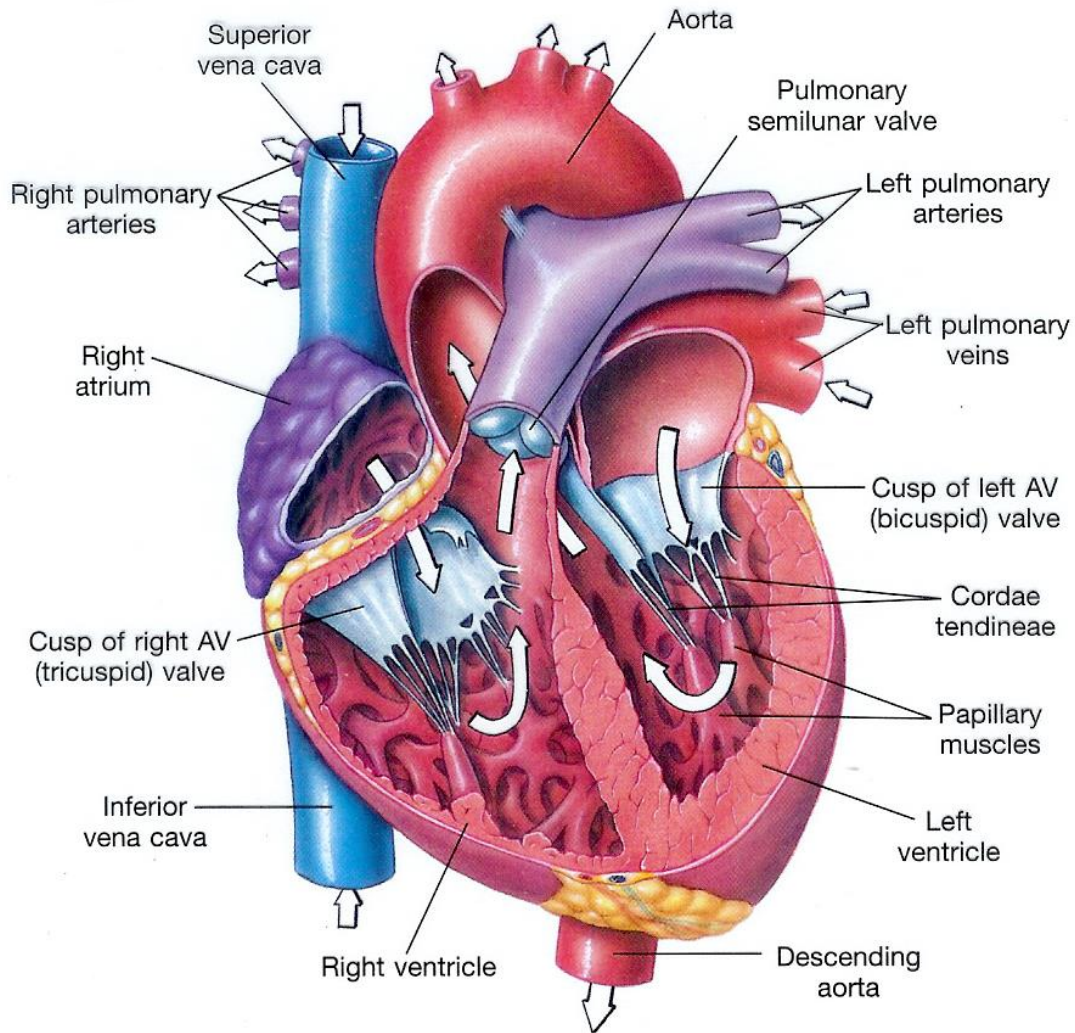
Fig. 14-19 Electrical conduction in the heart

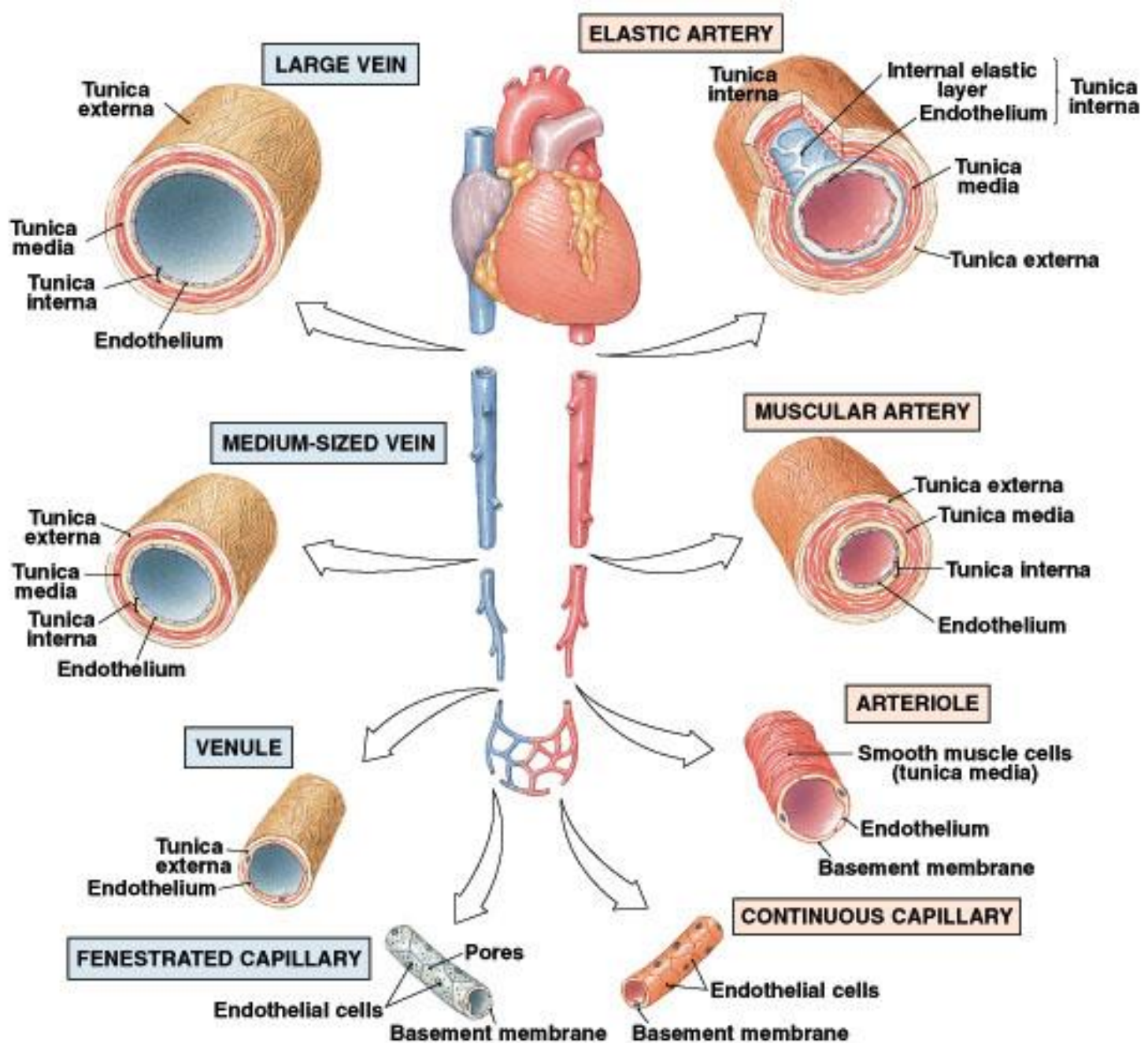


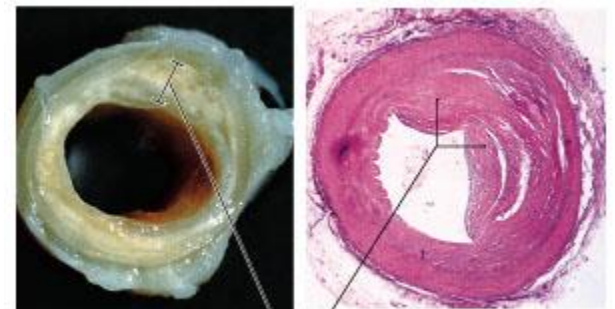
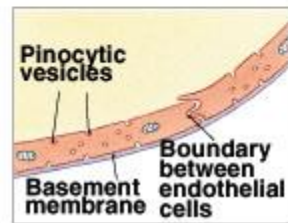
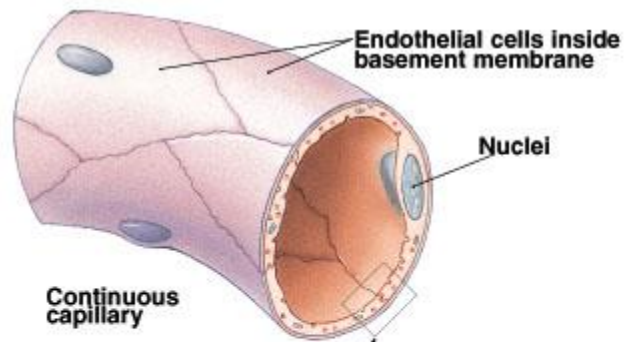
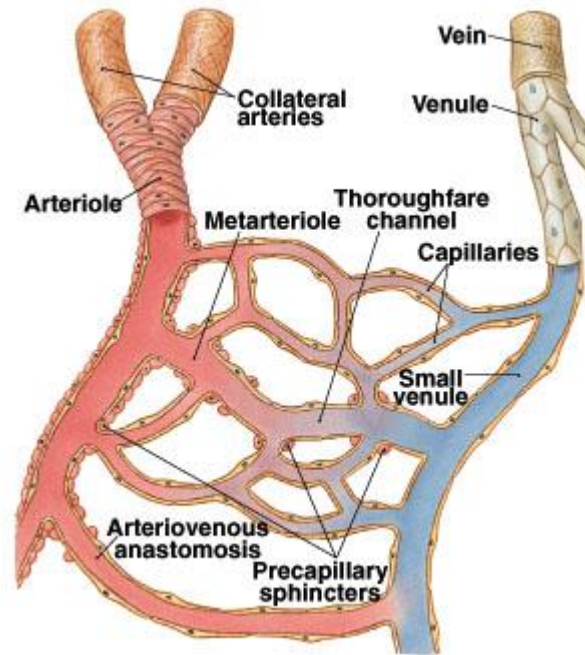




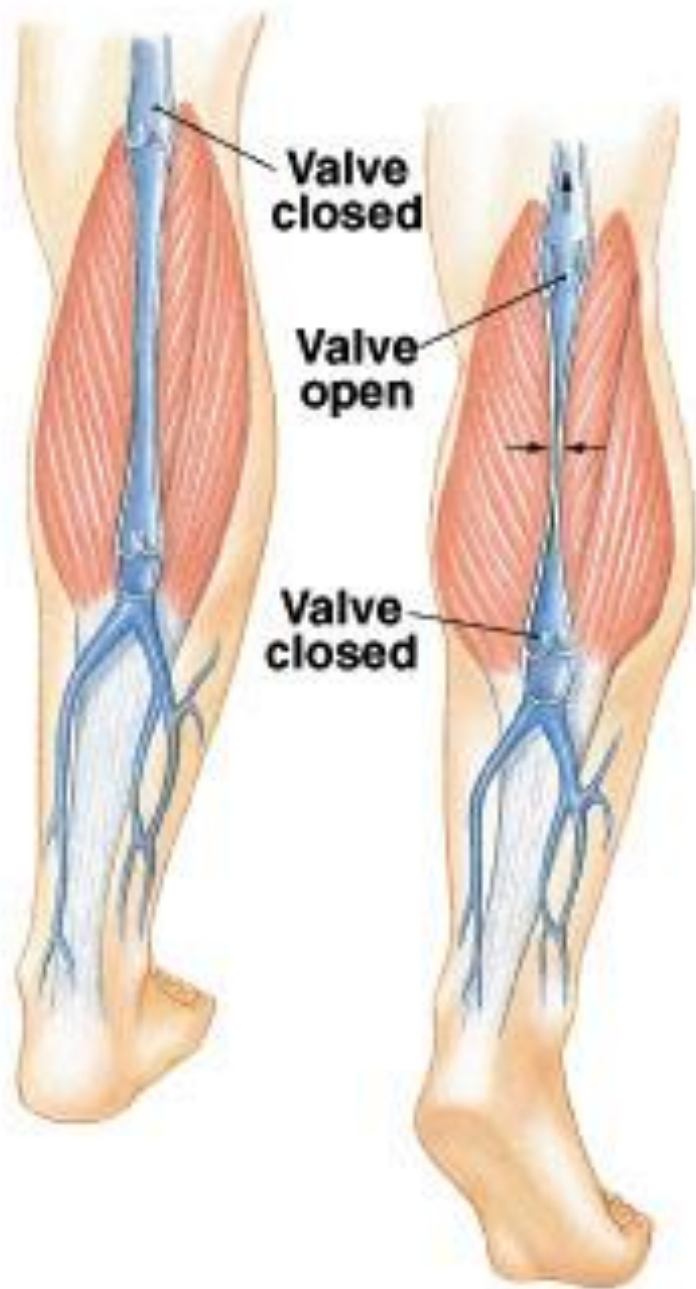
(g)



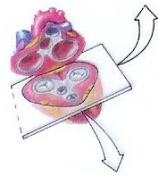
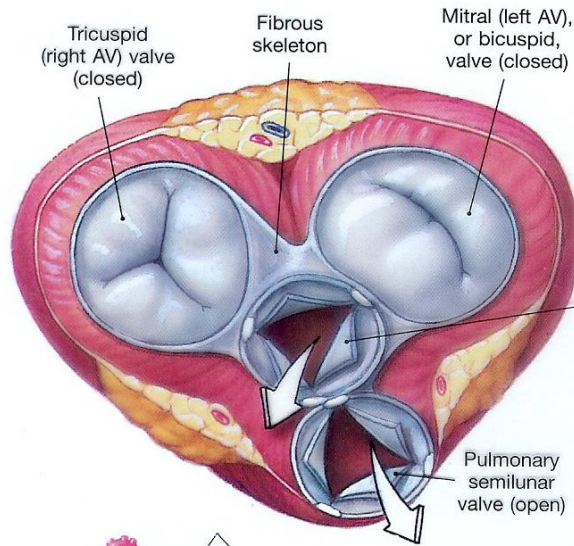




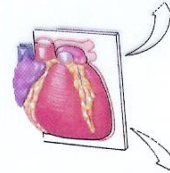
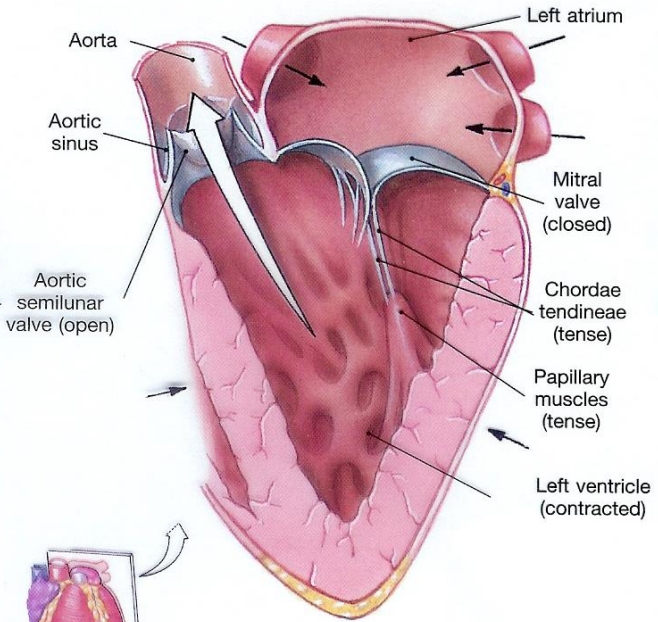
Plaque deposit in vessel wall



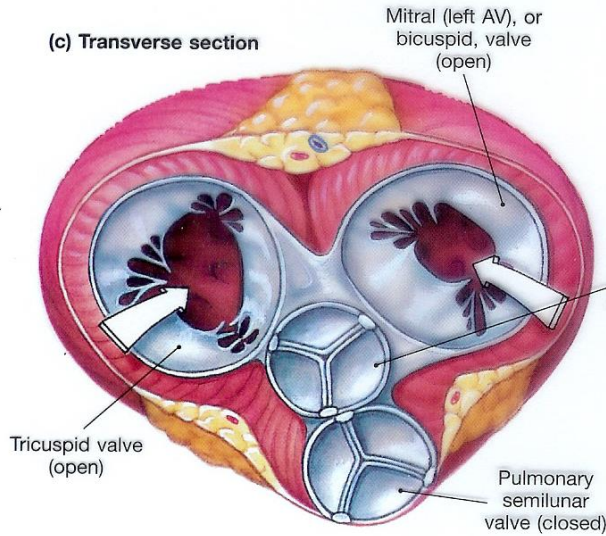
(a) Transverse section



(b) Frontal section



(c) Transverse section



(d) Frontal section

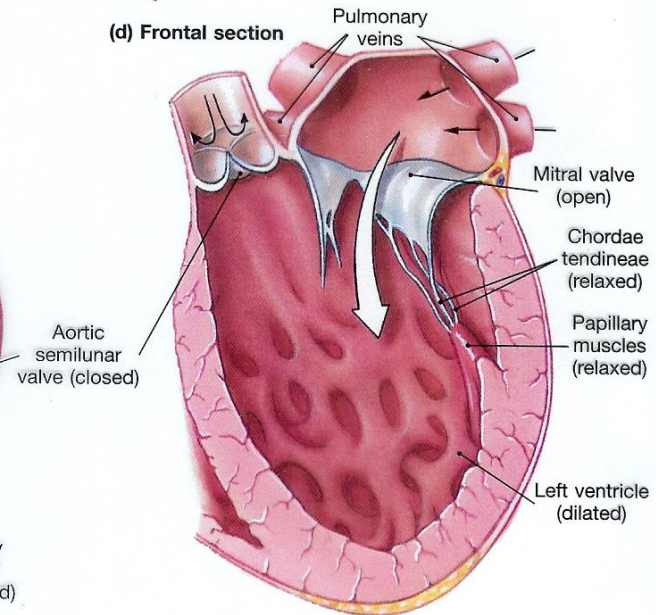


Fig. 15-1 Model of the cardiovascular system

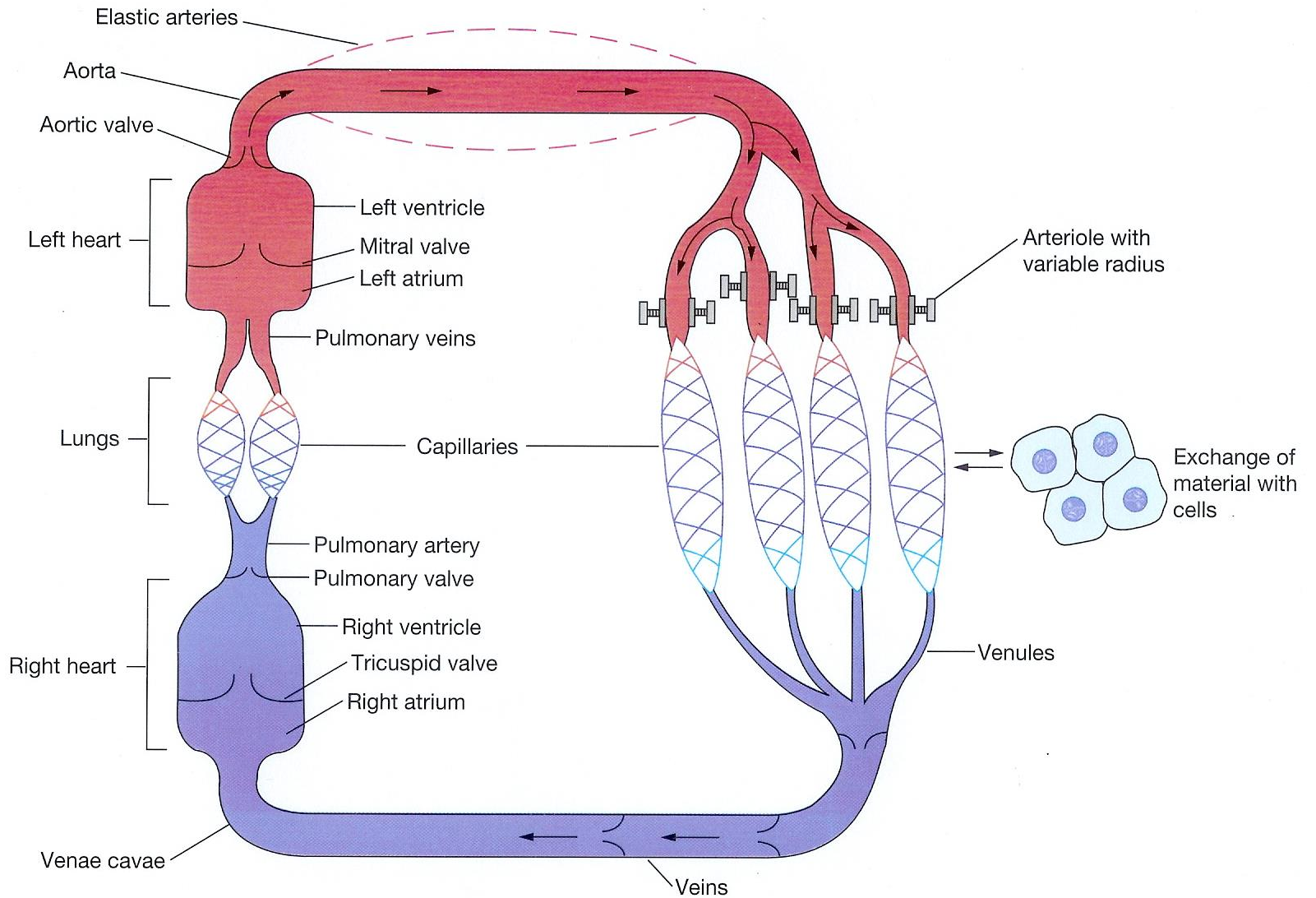


Fig. 15-8 Mean arterial pressure is a function of cardiac output and resistance in the arterioles

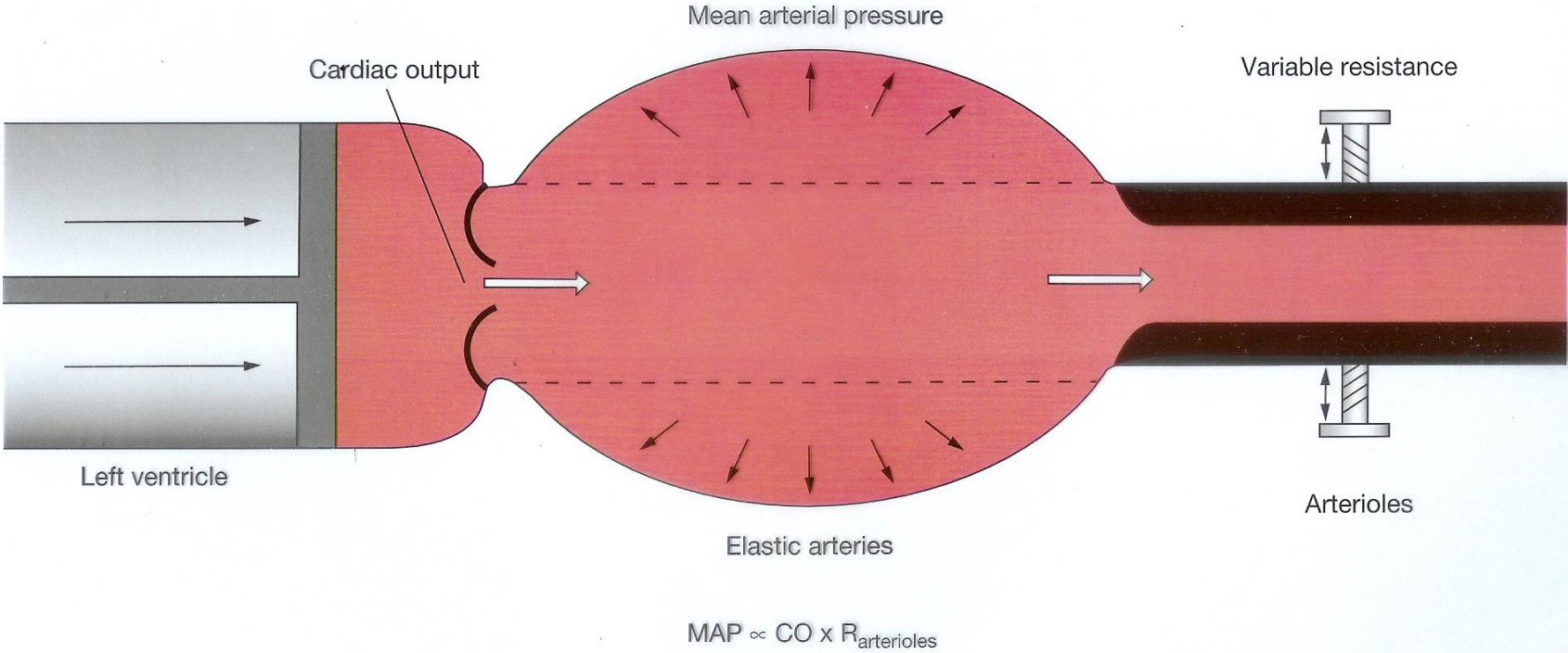
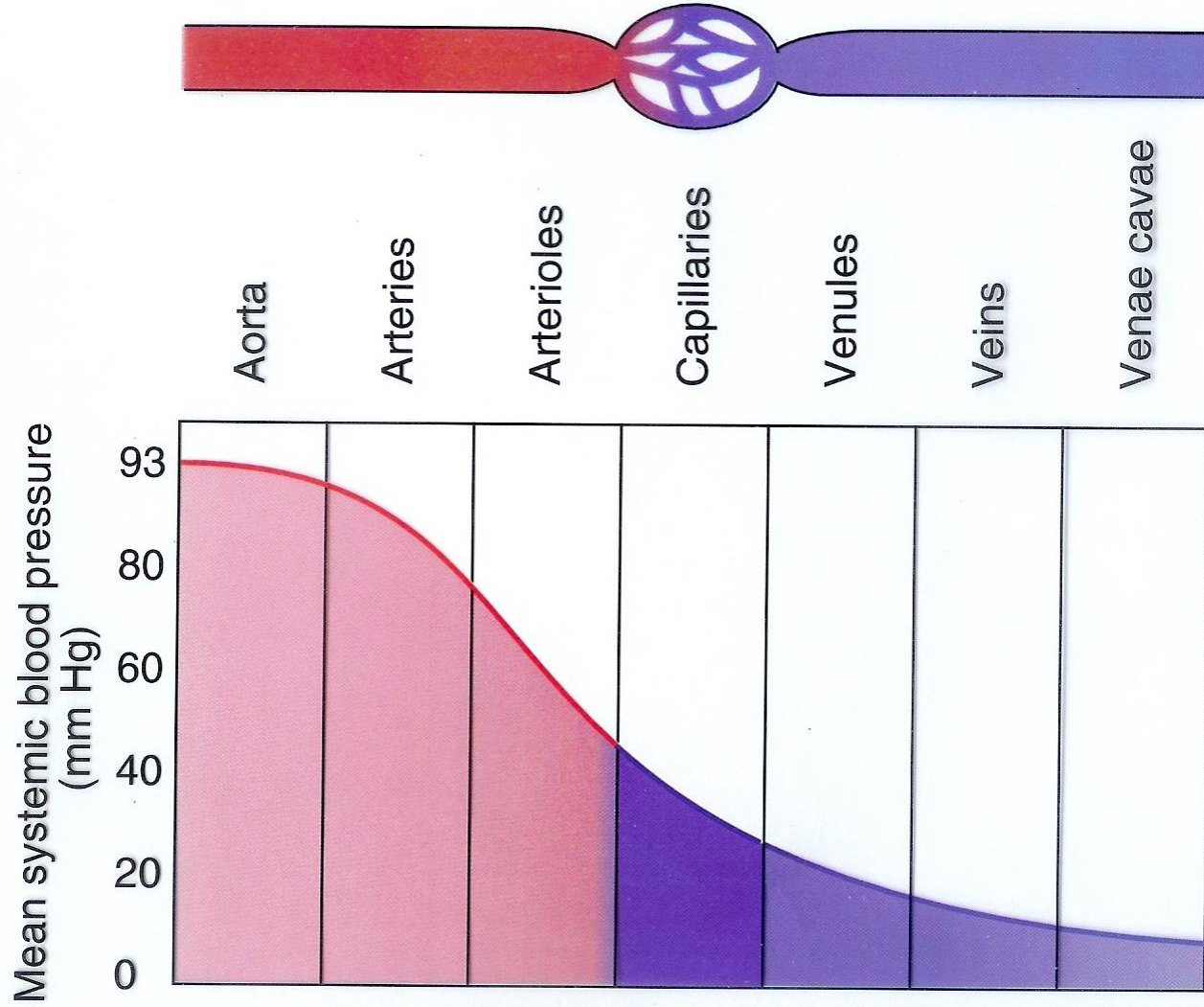


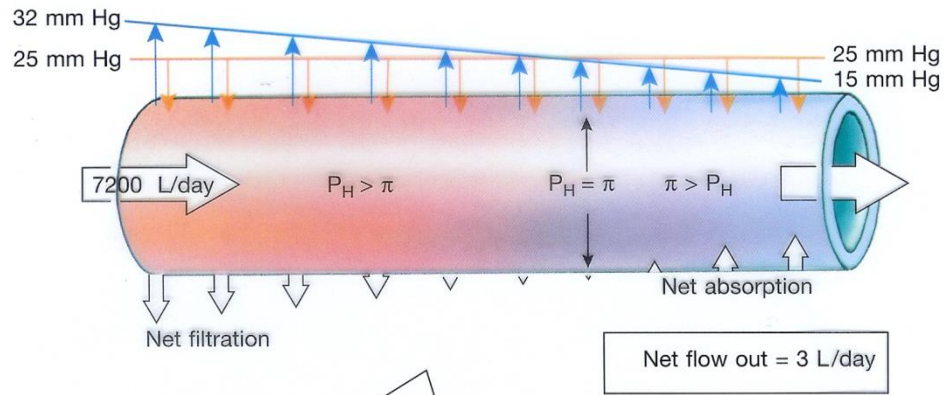
Fig. 14-2 Pressure gradient in the blood vessels



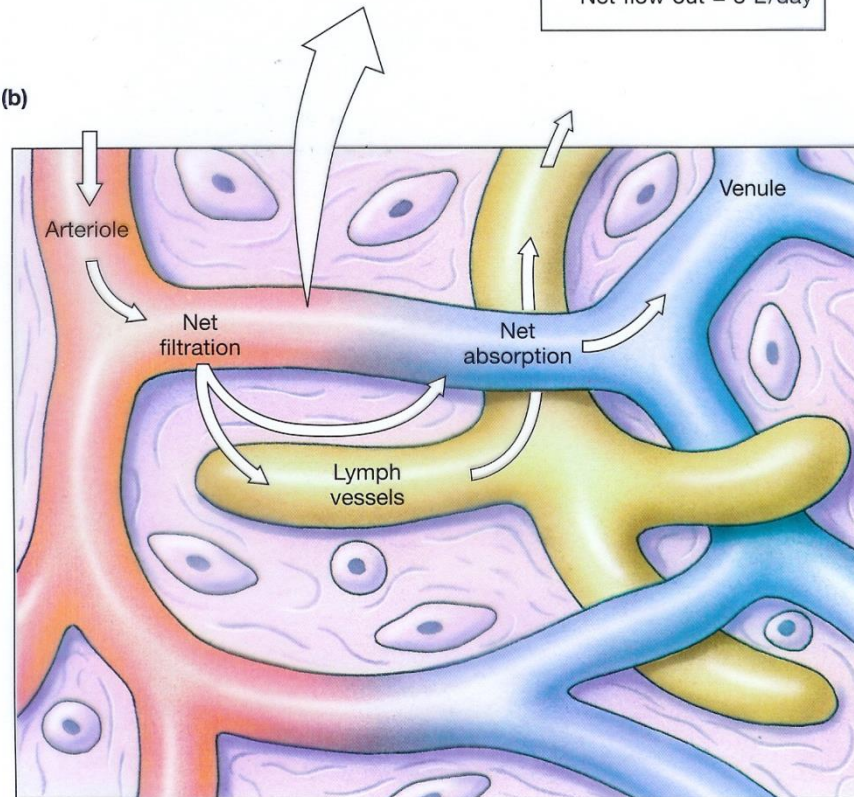
(a)

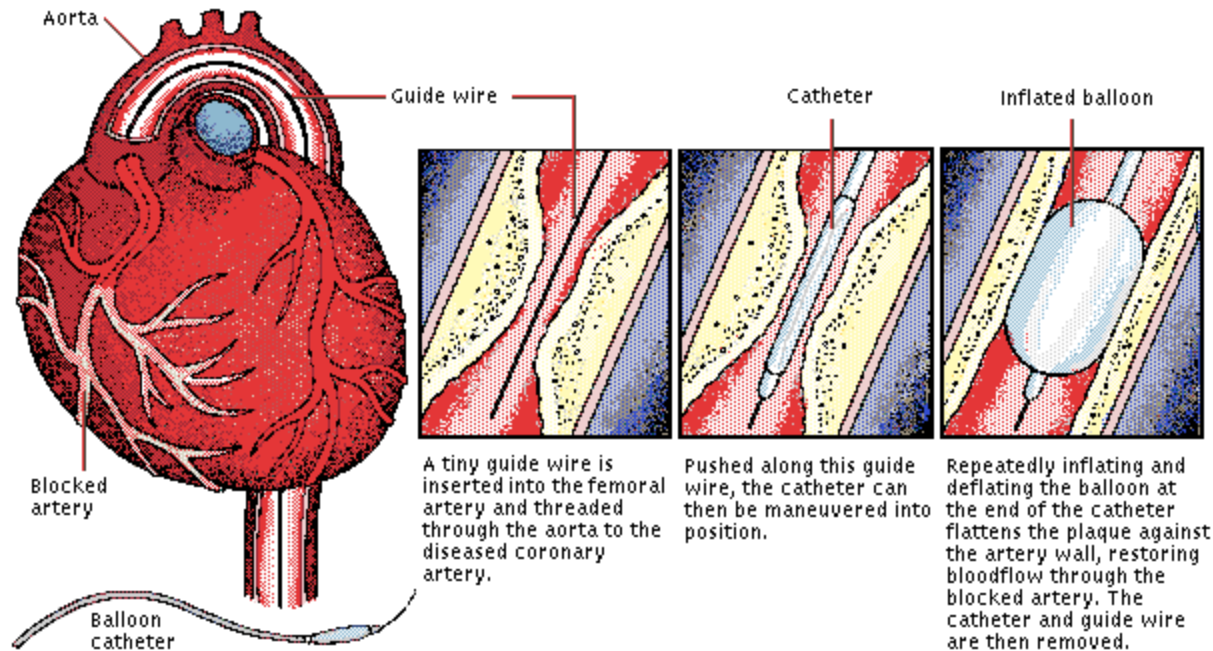
↓, π = Colloid osmotic pressure

↑, P_H = Capillary hydraulic pressure



(b)





One of the most prevalent causes of heart attack is the buildup of plaque in the arteries leading to the heart. Balloon angioplasty is a common surgical treatment for this condition. If successful, the procedure eliminates the need for more involved surgery such as coronary bypass.

b. Maintenance of arterial blood pressure:

- 1) Rate of the heart beat and force of the contraction
- 2) Elasticity of the vessel walls
- 3) Peripheral resistance
- 4) Blood volume
- 5) Blood viscosity

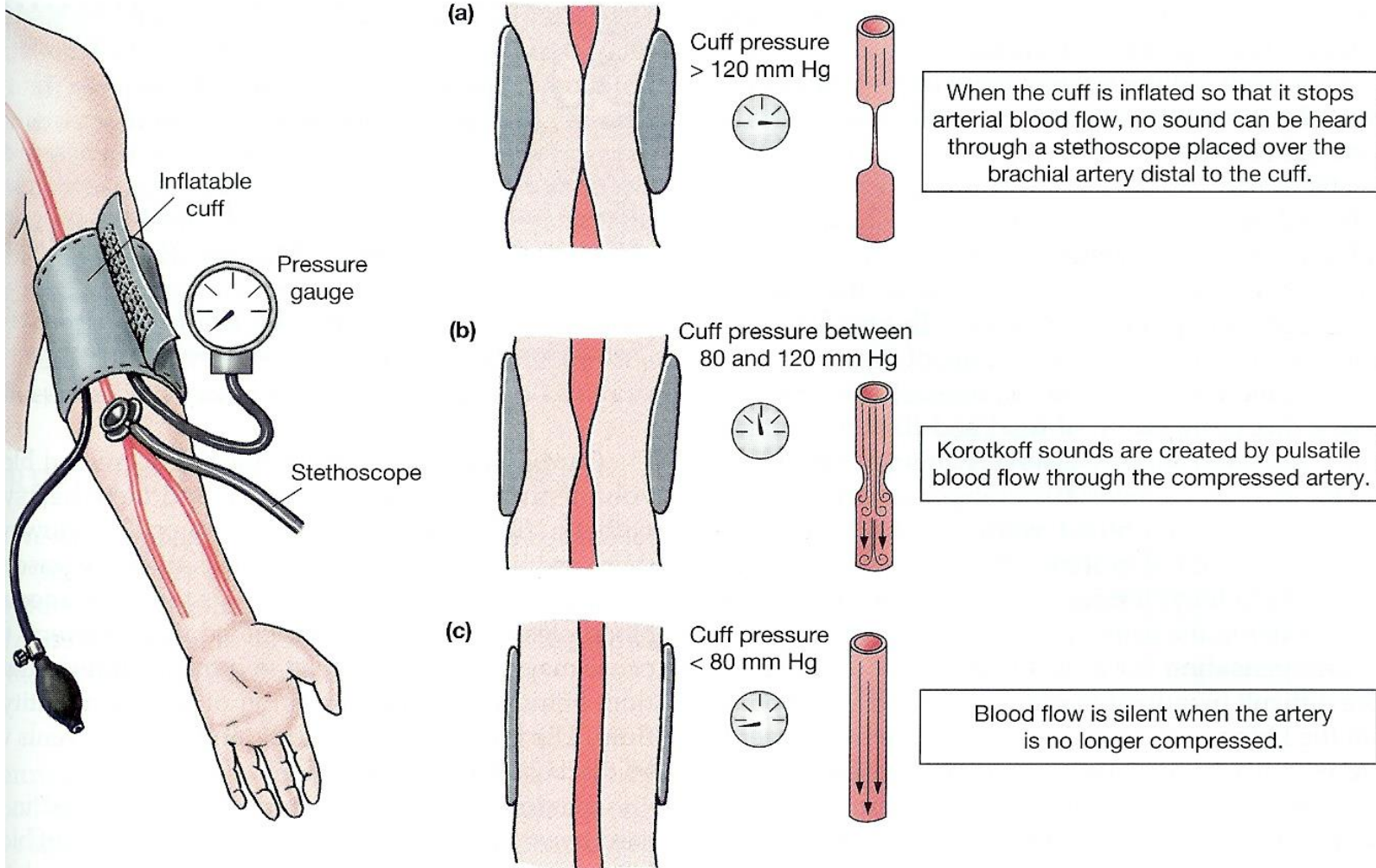


Figure 15-7 Measurement of arterial blood pressure Arterial blood pressure is measured with a sphygmomanometer, consisting of an inflatable cuff and a pressure gauge, and a stethoscope.

Normal BP= 120/80 mm Hg
Abnormal: Sys >140 and Dia >90 mm Hg