

E. Cardiac Cycle

Color and label:

- 1. ○ myocardium
- 2. ○ right atrium (blue)
- 3. ○ left atrium (red)
- 4. ○ right ventricle (blue)
- 5. ○ left ventricle (red)

Label:

- 6. systemic veins
- 7. pulmonary veins
- 8. pulmonary arteries
- 9. aorta
- 10. atrioventricular valves

11. semilunar valves

- a. diastole
- b. atrial systole
- c. ventricular systole (isovolumetric)
- d. ventricular systole (ejection)

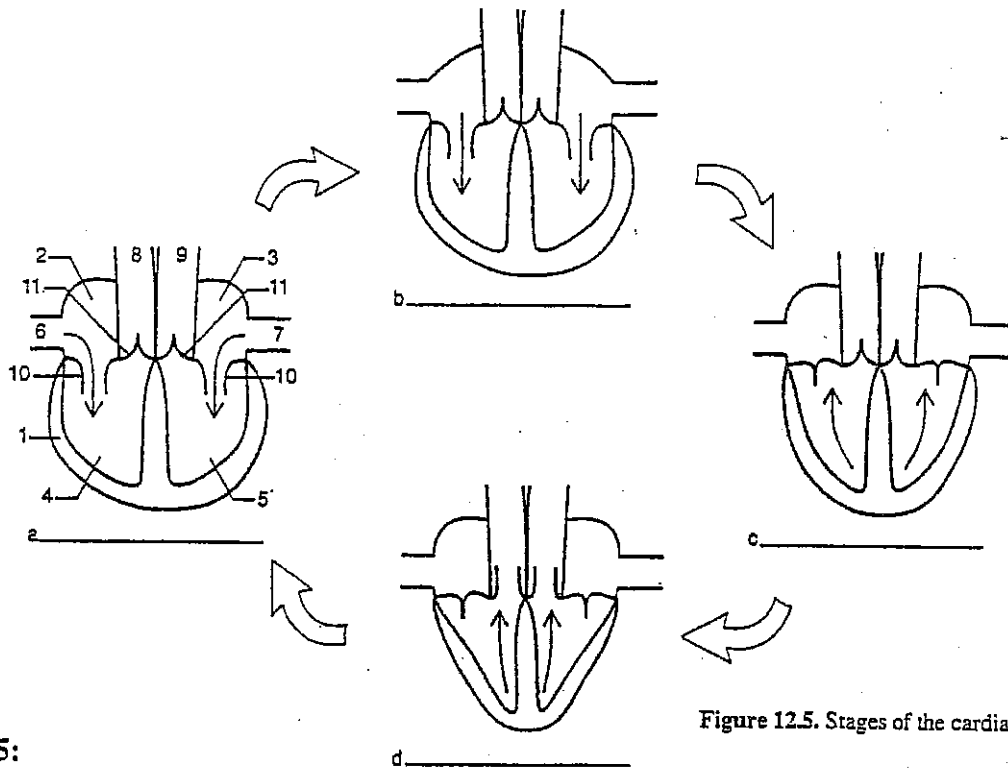


Figure 12.5. Stages of the cardiac cycle.

Exercise 12.5:

1. During diastole the myocardium is relaxed. (figure 12.5a)

- _____ a. This allows blood to flow into the heart from the _____ and _____ veins.
- _____ b. The semilunar valves are _____ (closed, open).
- _____ c. This means the pressure in the aorta and pulmonary arteries must be _____ (greater, less) than that of the ventricles.

2. When the atria contract, more blood is forced into the _____. (figure 12.5b)

_____ 3. When the ventricular myocardium begins to contract, the pressure in the ventricles _____ (increases, decreases). (figure 12.5c)

_____ a. The first effect of this rise in pressure is to cause the _____ valves to _____.

_____ b. The semilunar valves do not open until the pressure in the ventricles exceeds the pressure in the _____. (figure 12.5d)

4. The semilunar valves close when the pressure in the arteries becomes _____ (greater, less) than that of the ventricles. (figure 12.5a)

5. If the arterial blood pressure is elevated, it becomes (harder, easier) for the ventricles to eject blood.