

## Chapter 23

## STUDY GUIDE

## ● “Growing” Heart Valves

Complete the following sentences using the appropriate words from the textbook.

1. The heart has two sets of \_\_\_\_\_ that regulate the flow of blood within the heart's chambers.
2. Blood passes through an A-V valve as it moves between the \_\_\_\_\_ and ventricle in each half of the heart.
3. Blood passes through a \_\_\_\_\_ as it moves from the left ventricle into the aorta.
4. A \_\_\_\_\_ can cause blood to move back through a valve.
5. One cause for a heart murmur may be an infection due to \_\_\_\_\_.
6. Symptoms of improperly functioning valves include shortness of breath, fatigue, and sometimes \_\_\_\_\_.
7. Severe heart murmurs may require surgery to replace \_\_\_\_\_.
8. In the United States alone, nearly \_\_\_\_\_ heart valves are replaced each year.
9. One technological device used to replace a valve is a plastic \_\_\_\_\_ valve that allows blood to flow in only one direction.
10. Another method is to replace the valve with \_\_\_\_\_ a pig.
11. A problem with these methods is that the body often \_\_\_\_\_ the materials.
12. Other problems associated with standard treatments include a risk of infection and possible formation of \_\_\_\_\_.
13. An artificial valve lasts only from \_\_\_\_\_ years.
14. A new technique is to grow a replacement valve within the \_\_\_\_\_.
15. In this technique, \_\_\_\_\_ is taken from the patient's heart and cultured.
16. The cells that develop are placed into a material that serves as a \_\_\_\_\_ for the growth of a living heart tissue valve.
17. The damaged valve is \_\_\_\_\_ and the new cells in the framework material are placed in the valve area.
18. After six weeks, the framework material \_\_\_\_\_ and the newly grown valve takes over the blood flow function.