

## Chapter 12- Lab- Sheep Heart Dissection

/ 28.5 pts

You are a third year medical student and have been asked by a resident physician to create an instruction manual for first year medical students illustrating the external and internal structures of the heart. The resident physician has asked you to include the following structures of the heart in your instruction manual:

**External Structures****Anterior View**

Anterior interventricular sulcus  
 Aorta  
 Apex  
 Base  
 Left Atrium (4.5 pts.)  
 Left Ventricle  
 Pulmonary Trunk  
 Right Atrium  
 Right Ventricle

**Posterior View**

Posterior interventricular sulcus  
 Inferior vena cava  
 Left Atrium  
 Left Ventricle  
 Pulmonary veins (4 pts.)  
 Right Atrium  
 Right Ventricle  
 Superior vena cava

**Internal Structures****(Use only the Posterior Half of the heart)**

Aorta  
 Aortic semilunar valve  
 Bicuspid valve  
 Chordae tendinae  
 Interatrial septum  
 Interventricular septum  
 Left Atrium  
 Left Ventricle  
 Myocardium  
 Papillary muscle  
 Pulmonary semilunar valve  
 Right Atrium  
 Right Ventricle  
 Tricuspid valve

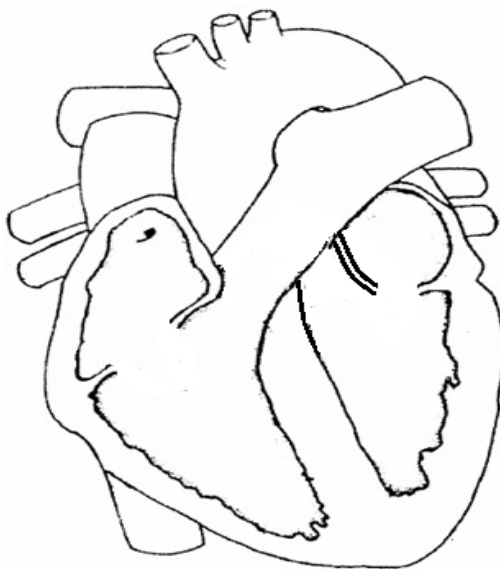
(7 pts.)

In order to identify the internal structures of the heart, you will need to dissect the heart into anterior and posterior halves. Go to the following URL, <http://youtu.be/n2T76cobgP4>, to watch the procedures of the dissection.

Using your own pictures of your heart, you will create a (sheep) heart instruction manual using a google document. None of your label lines may cross each other. You will make sure that all of your heart structures are identifiable (with as many pictures of different views as possible) and are clearly labeled. When you are finished, on a separate page of your manual, you will answer, explain, or label the following Analysis Questions:

**Analysis Questions:**

1. Observe the thickness of the vessel walls of the aorta and pulmonary trunk.
  - a. What major difference in thicknesses do you observe between the two vessels? (1 pt.)
  - b. Explain why this blood vessel's wall must be thicker. (1 pt.)
  
2. Observe the thickness of the **myocardium** of each of the ventricles.
  - a. What major difference between the 2 ventricles' myocardium do you observe? (1 pt.)
  - b. Explain why this difference exists. (1 pt.)
  
3. A **prolapsed** heart valve can cause **regurgitation** of blood within the heart.
  - a. Define or describe a prolapsed heart valve. (1 pt.)
  - b. Define or describe the term regurgitation. (1 pt.)
  - c. One of your patients has a mitral (bicuspid) valve prolapse. On the diagram below, draw a mitral (bicuspid) valve prolapse. (You may need to refer to your worksheet diagram of the heart to see the orientation of a normal mitral valve) (1 pt.)
  - d. What does this person's heart sounds sound like due to their mitral valve prolapse? (1 pt.)



4. Miles Parker has Marfan Syndrome. Because his connective tissue within his aorta is compromised he has an enlarged aortic root.
  - a. What does Mile's heart sounds sound like? (1 pt.)
  - b. What affect does an enlarged aortic root have on Mile's aortic semilunar valve? (1 pt.)
  - c. What affect does regurgitation of blood have on the size of the left ventricle? (1 pt.)
  - d. Knowing that the heart must pump the same volume of blood to the entire body if Mile's heart were normal, create a logical hypothesis as to what the heart will do anatomically to compensate for the change in size of the left ventricle. (2 pts.)