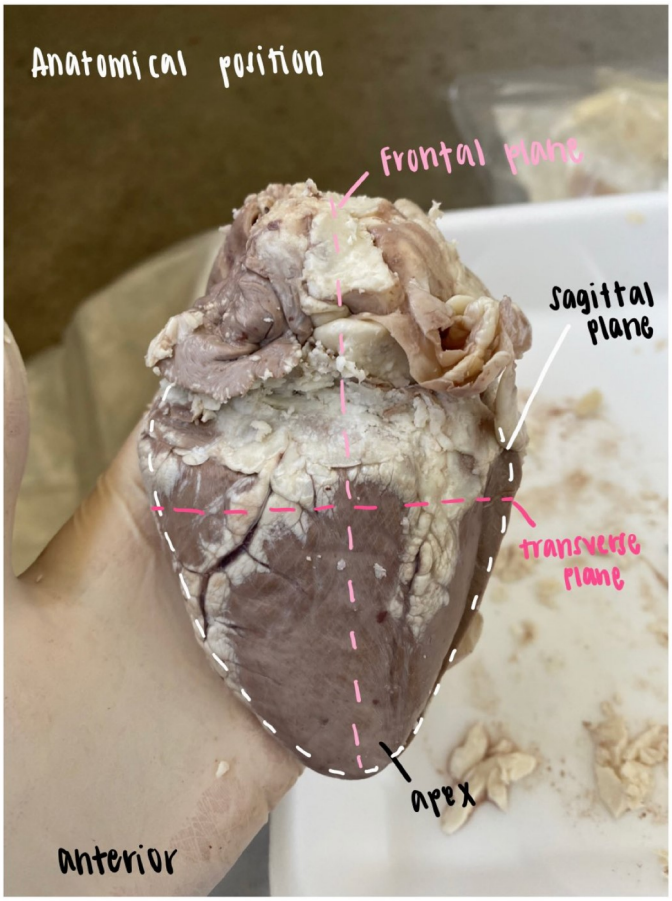
Mammalian Heart Dissection Answer Sheet

Observations

External Observations of the Heart

Insert a photograph of the heart in the correct anatomical position (as described in your lab manual). Identify the apex and the planes of the heart in your photo.

Refer to the front of the dissection mat to identify the external features and orient your heart.



Insert a photograph of the large vessels of the heart here. Include a caption that identifies each vessel. (Crayons make great vessel identifiers. Stick a crayon in each vessel and identify that vessel by the crayon color [*dispose of the crayons when you're done*]).

Refer to the front of the dissection mat to find those vessels.

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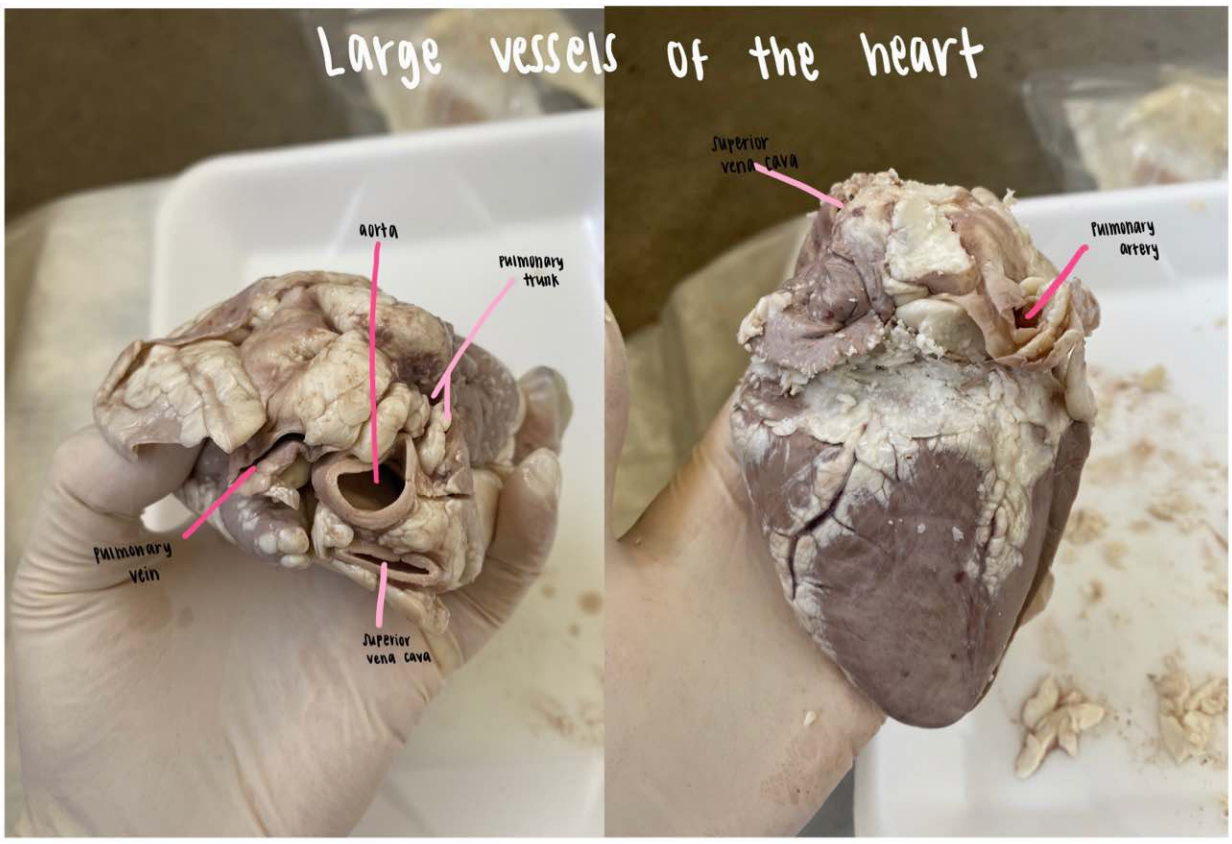

Insert a photograph of the heart with the external structures identified as listed in your Lab Manual Activity 1, Step 2. (You may include a caption noting the structures and identify their locations in the photo)

Refer to the front of the dissection mat to find those structures.

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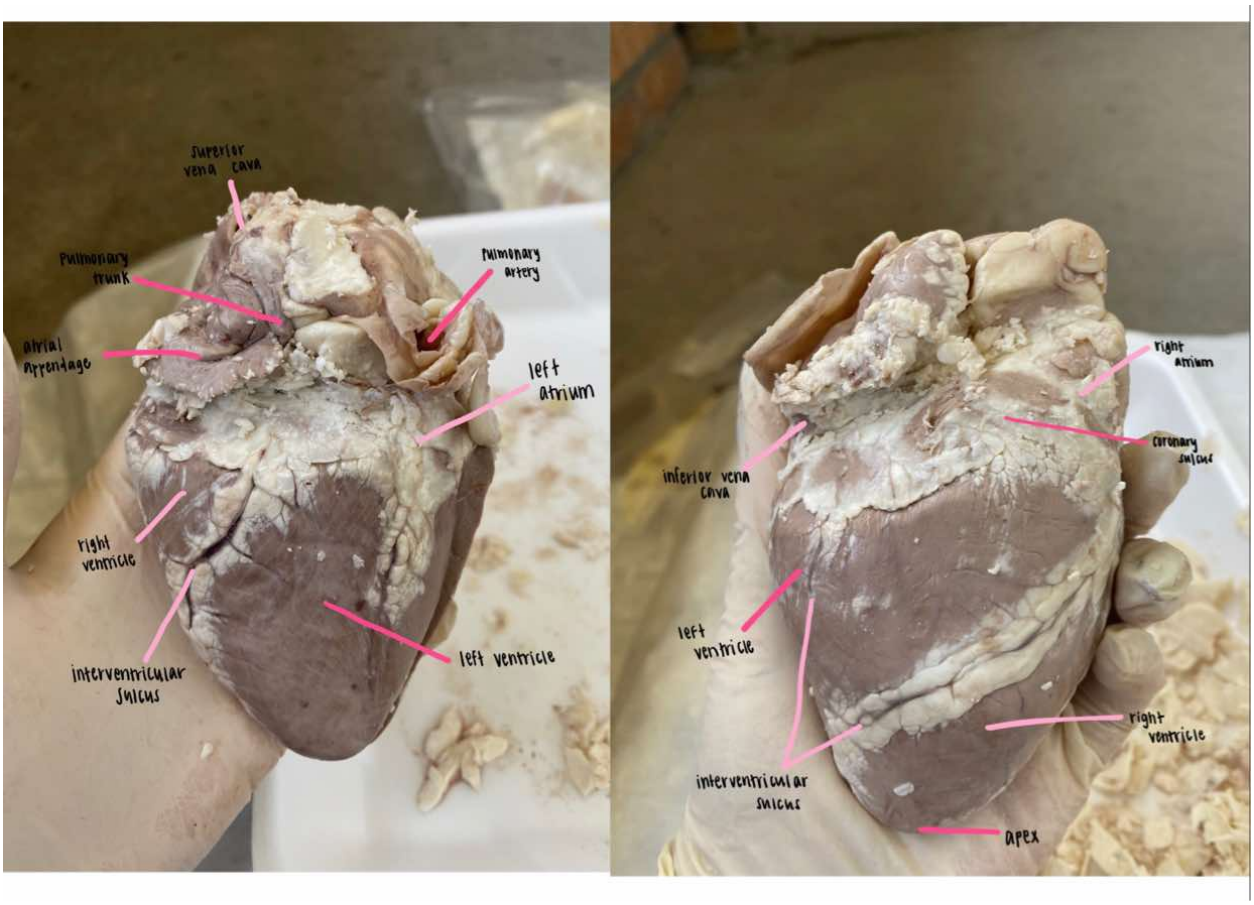

Internal Observations of the Heart

Insert your photograph of the interior view of the heart. Label each of the structures listed in Activity 1, Step 4 of your lab manual. You may identify them in a caption and identify their locations in the photo.

Refer to the front of the dissection mat to find those structures.

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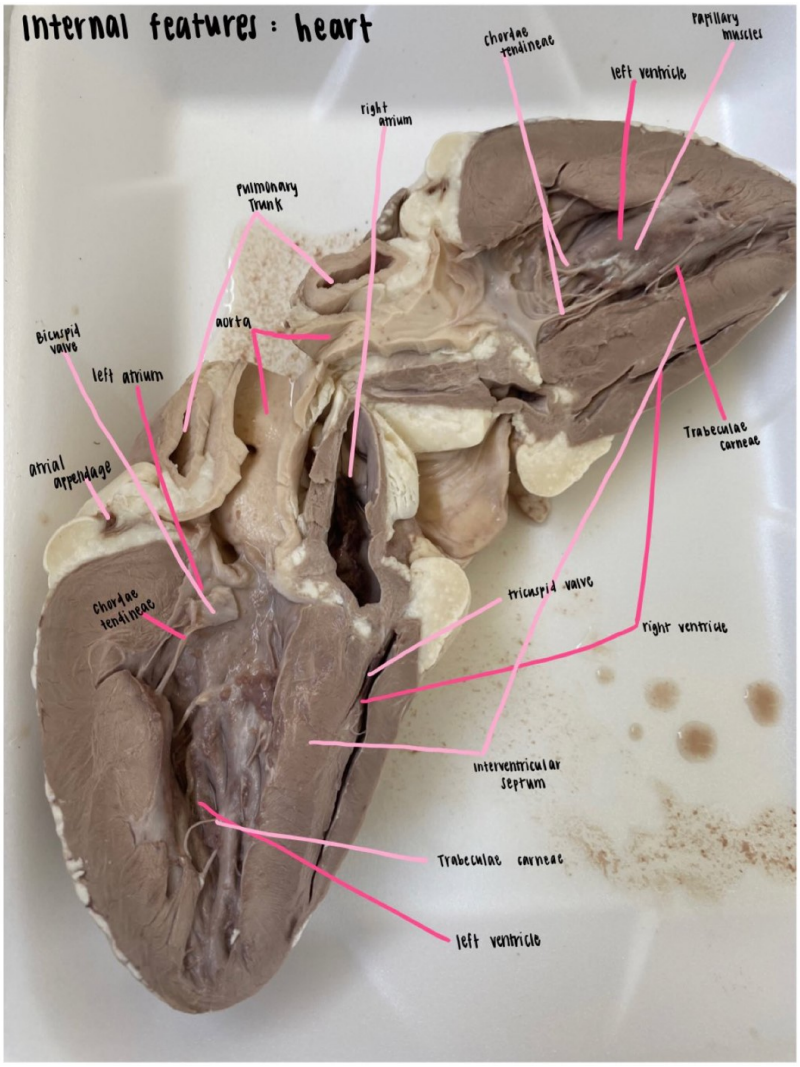

Questions

1. Which of the four heart chambers has the thickest myocardium? Why?

The left ventricle has the thickest myocardium because it is the biggest chamber out of the four. It needs to create a lot of pressure to pump blood into the aorta and throughout the body.

2. Mitral valve prolapse (MVP) is a medical condition characterized by symptoms such as dizziness, fatigue, and shortness of breath. What causes these symptoms?

People with MVP probably experience these symptoms because it may be that blood is leaking backward into the valve. The mitral valve bulges like a parachute with this condition so it cannot properly close and keep blood traveling one way.

3. In thls lab, we looked at the anatomy of the heart. We have also been discussing cardiac physiology. Differentiate between anatomy of the heart and the physiology of the heart. What is an example of an anatomic structure in the heart? Elaborate about how that structure allows the heart to work the way that it does.

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Heart anatomy is different from physiology because the anatomy talks about the different structures and components and where they are located in the body. Physiology is about how all those components work together to maintain homeostasis and carry out functions of the body to survive. An example of an anatomical structure of the heart would be the left ventricle. It is one of the largest chambers of the heart and contains the thickest myocardium. It is known as the major pumping chamber. That is why this chamber has such a thick muscle layer; because this chamber needs to be able to produce a great amount of pressure to pump blood to the aorta and through the rest of the circulatory system. The left ventricle contains oxygenated blood that came from the lungs and then circulates that to send out to the rest of the body.

4. Look at the ECG Abnormalities graphs in Figure 19.25 on page 862 of your textbook. Choose one of those abnormalities and sketch the ECG pattern below:

Third-degree block ECG pattern:

Label each wave on your sketch and identify the heart structure that is responsible for that part of the wave. Either insert a copy of your internal heart dissection photo or sketch the interior structure of the heart below and indicate on that photo or sketch where each structure is that causes each part of your abnormal wave.

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Third-degree block ECG pattern:

1, 2, 3: atrial rates; the action potentials created by the atria

a, b, c: ventricular rates; the ventricles never see action potentials that are generated from the atria, so they create their own; usually slower than atrial rates

- atria + ventricals do not associated w/ each other which is why the peaks look like that