

# Bio& 242, Unit 3/ Lab 2

## Cardiovascular System Anatomy

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(\*) = both models and heart dissection

### PERICARDIAL CAVITY and Related Structures:

Mediastinum	Pericardial cavity (*)	Fibrous pericardium
Parietal pericardium (*)		

### HEART External Anatomy:

Epicardium (*)	Lt & Rt Ventricles (*)	Lt and Rt Auricle (*)
Coronary sulcus (*)	Anterior interventricular sulcus (*)	
Lt and Rt Atria (*)	Apex (*)	Base
Anterior surface (*)	Inferior Surface	Right Border
Left Border	Posterior interventricular sulcus (*)	
Ligamentum arteriosum (remnant of ductus arteriosus) (**)		

### Blood Vessels

Superior vena cava (*)	Inferior vena cava (*)	Pulmonary trunk (*)
Lt & Rt pulmonary arteries (*)	Ascending aorta (*)	Lt & Rt pulmonary veins (*)
Aortic arch (*)	Brachiocephalic Trunk (*)	Lt Common Carotid Artery
Lt Subclavian Artery		

### HEART Internal Anatomy:

Epicardium (*)	Myocardium (*)	Endocardium (*)
Lt and Rt Atria (*)	Interatrial septum (*)	Fossa ovalis (*)
Pectinate muscles (*)	Lt & Rt Ventricles (*)	Interventricular septum (*)
Tricuspid valve (*)	Bicuspid valve (Mitral) (*)	Chordae tendinae (*)
Papillary muscle (*)	Trabeculae carneae (*)	Pulmonary semilunar valve (*)
Aortic semilunar valve (*)	Moderator band (*)	

### HEART conduction system:

SA node	Av node	Bundle of His (interventricular)
L & R Branch bundles	purkinje fibers	

**BLOOD FLOW THROUGH THE HEART: know blood flow and be able to identify:**

Superior vena cava (*)	Inferior vena cava (*)	Rt Atrium (*)
Tricuspid valve (*)	Rt Ventricle (*)	Pulmonary semilunar valve (*)
Pulmonary trunk (*)	Lt. & Rt. Pulmonary Arteries (*)	
Lungs	Lt & Rt pulmonary veins	Lt. Atrium (*)
Bicuspid Valve (*)	Rt. Ventricle (*)	Aortic semilunar valve (*)
Ascending aorta (*)	Aortic arch	Thoracic aorta
Abdominal aorta		

**CORONARY CIRCULATION: know blood flow and be able to identify:**

Left coronary artery	Circumflex artery
Right coronary artery	Marginal branch
Anterior interventricular branch	Coronary sinus
Posterior interventricular branch	Great cardiac vein
Middle cardiac vein	Small cardiac vein

**CARDIAC HISTOLOGY :**

**Slide 43**

Classic view of Cardiac muscle tissue. Note the branching appearance of cardiac tissue. Also note the Intercalated discs which are the junctions of neighboring cells. See if you can observe the following structures: (Muscle fibers (cells), single central Nucleus, Sarcolemma, I band, A band)

**Dissection of the Sheep Heart:**

Hearts available in lab should still be encased in the pericardial sac. The outer layer of this sac will be the Fibrous Pericardium and the inner layer will be the Parietal Pericardium. The space found between the Parietal Pericardium and the Epicardium on the surface of the heart is the Pericardial Cavity. As you examine the Pericardial sac you may find some parts of other organs still connected to it. These may include the Thymus, Trachea, Esophagus, or maybe Lung tissue. Note the Adipose tissue associated with the outside of the pericardial sac.

Carefully remove the Pericardial Sac. Examine the external anatomy of the heart and make sure you can find the structures from the above lists indicated by an (\*).

Once you have examined the external anatomy of the heart and are sure you have correctly identified the right and left atria and ventricles as well as the anterior and posterior surfaces, you are now ready to cut the heart into using a Coronal or Frontal section. Make sure you have correctly identified the Pulmonary Trunk and the Aorta. Cut the heart using a coronal section between these two arteries.

After you are done with your dissection, please clean up all your equipment and dispose of your heart as indicated by the instructor or save in a bag for future review.