PERICARDIAL CAVITY and Related Structures:

Mediastinum
Parietal pericardium (*)

HEART External Anatomy:

Epicardium (*)
Coronary sulcus (*)
Lt and Rt Atria (*)
Anterior surface (*)
Left Border
Ligamentum arteriosum (remnant of ductus arteriosus) (*)

Blood Vessels

Superior vena cava (*)
Lt & Rt pulmonary arteries (*)
Aortic arch (*)
Lt Subclavian Artery

Inferior vena cava (*)
Ascending aorta (*)
Brachiocephalic Trunk (*)
Lt Common Carotid Artery

Pt. and Rt Auricle (*)
Anterior interventricular sulcus (*)
Apex (*)
Inferior Surface
Right Border
Posterior interventricular sulcus (*)

HEART Internal Anatomy:

Epicardium (*)
Lt and Rt Atria (*)
Pectinate muscles (*)
Tricuspid valve (*)
Papillary muscle (*)
Aortic semilunar valve (*)

Myocardium (*)
Interatrial septum (*)
Lt & Rt Ventrices (*)
Bicuspid valve (Mitral) (*)
Trabeculae carneae (*)
Moderator band (*)

Endocardium (*)
Fossa ovalis (*)
Interventricular septum (*)
Chordae tendinae (*)
Pulmonary semilunar valve (*)

HEART conduction system:

SA node
L & R Branch bundles
Av node
purkinje fibers

Bundle of His (interventricular)
**BLOOD FLOW THROUGH THE HEART:** know blood flow and be able to identify:

<table>
<thead>
<tr>
<th>Superior vena cava (*)</th>
<th>Inferior vena cava (*)</th>
<th>Rt Atrium (*)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tricuspid valve (*)</td>
<td>Rt Ventricle (*)</td>
<td>Pulmonary semilunar valve (*)</td>
</tr>
<tr>
<td>Pulmonary trunk (*)</td>
<td>Lt &amp; Rt. Pulmonary Arteries (*)</td>
<td></td>
</tr>
<tr>
<td>Lungs</td>
<td>Lt &amp; Rt pulmonary veins</td>
<td>Lt. Atrium (*)</td>
</tr>
<tr>
<td>Bicuspid Valve (*)</td>
<td>Rt. Ventricle (*)</td>
<td>Aortic semilunar valve (*)</td>
</tr>
<tr>
<td>Ascending aorta (*)</td>
<td>Aortic arch</td>
<td>Thoracic aorta</td>
</tr>
<tr>
<td>Abdominal aorta</td>
<td></td>
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</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Left coronary artery</th>
<th>Circumflex artery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right coronary artery</td>
<td>Marginal branch</td>
</tr>
<tr>
<td>Anterior interventricular branch</td>
<td>Coronary sinus</td>
</tr>
<tr>
<td>Posterior interventricular branch</td>
<td>Great cardiac vein</td>
</tr>
<tr>
<td>Middle cardiac vein</td>
<td>Small cardiac vein</td>
</tr>
</tbody>
</table>

**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 in 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 indicate by the instructor or save in a bag for future review.