• Valves
  • bicuspid valve (mitral valve)
  • tricuspid valve
  • pulmonic semilunar valve
  • aortic semilunar valve

The student will identify the layers of the heart wall:
  • endocardium
  • myocardium
  • epicardium

The student will identify the electrocardiogram waves and explain what each wave represents.
  • P wave
  • QRS complex
  • T wave

The student will recognize slides and specific structures & layers as follows:
  ☑ cardiac muscle - intercalated disc
  ☑ artery - elastin fibers
  ☑ vein - valve
  ☑ tunica interna, tunica media, and tunica externa (on vein & artery)

The student will identify the structures & layers on the blood vessel models:
  • artery
  • vein - valve
  • tunica externa (adventitia)
  • tunica media (smooth muscle)
  • tunica intima (intima) – location of endothelial cells

The student will locate the following on the cat, fetal pig or >models and identify as right or left and as artery or vein: (> symbol represents identify on models only and < symbol represents to identify cat in addition to model and fetal pig)
  • < coronary arteries
  • ascending aorta
  • decending aorta (3 divisions)
    • < aortic arch
    • < thoracic aorta
    • < abdominal aorta (after it passes thru diaphragm)
  • < pulmonary trunk
  • right/left pulmonary artery
  • right/left pulmonary vein
  • < superior vena cava (anterior vena cava on cat and pig (4 legged animals))
  • < inferior vena cava (posterior vena cava on cat and pig (4 legged animals))
  • < brachiocephalic artery (to right side from arch)
  • < right/left brachiocephalic veins
  • < right/left common carotid artery
  • < right/left external jugular vein
  • < right/left subclavian artery & vein
  • < right/left renal artery & vein
• C right/left common iliac artery & vein
• C right/left femoral artery & vein
• umbilical artery & vein (fetal pig only)
  • right/left brachial artery & vein
  • right/left ulnar artery & vein
  • right/left radial artery & vein
  • right/left popliteal artery
  • right/left great saphenous vein
  • right/left median cubital vein
  • splenic artery & vein
  • superior & inferior mesenteric artery & vein

The student will know the following fetal shunts
  • foramen ovale/fossa ovalis
  • ductus arteriosus/ligamentum arteriosum
  • ductus venosus/ligamentum venosum
  • umbilical vein/ligamentum teres
  • umbilical arteries/umbilical ligaments

The student will know the procedure for taking blood pressure and will recognize and explain how the following instruments are used:
  • EKG machine
  • Sphygmomanometer
  • Stethoscope
  • Sounds of Korotkoff
  • Auscultation

The student will understand completely and be able to explain pressures and relationship to ventricular systole & ventricular diastole:
  • systolic pressure
  • diastolic pressure

The student will identify which artery is occluded when measuring blood pressure.

How do blood pressure and heart rate correspond to increasing workloads as investigated in the bike exercises/treadmill?

The student will identify the normal changes in blood pressure occurring during the following:
  • Posture changes- from standing to lying down; lying down to standing (orthostatic hypotension)
  • Cold
  • Exercise
  • Smoking

The student will be able to trace a drop of blood on route through the heart and identify each structure (include chambers, valves, vessels) from a labeled heart model.
  • The student will be asked to identify which was the last or next structure blood passed (or will pass) from a specific labeled point.

The student will be able to describe the procedures and explain each exercise done in lab