

Lab 3: The Heart

I. Dissections: Fetal Pig Heart and Calf Heart

GOALS:

You should be able to.....

- ★ Trace the flow of blood through the human heart.
- ★ Locate and identify the chambers, valves, and major vessels of a calf heart (see key terms below).
- ★ Compare and contrast blood flow through a fetal heart with blood flow through an adult heart.

Key Terms You Should Know:

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|--|-------------------------------------|
| ✓ right & left atria | ✓ semilunar valves |
| ✓ right & left ventricles | ✓ cardiac veins & coronary arteries |
| ✓ aorta | ✓ arterial duct |
| ✓ superior & inferior vena cavae | ✓ umbilical vein/umbilical arteries |
| ✓ pulmonary trunk & pulmonary arteries | ✓ placenta |
| ✓ pulmonary veins | |
| ✓ right & left atrioventricular valves | |

- Calf Heart: pp. 190-193 Read introduction, follow instructions, and fill in answers.
- Fetal Pig Heart: p. 176-178: Read, answer questions, view diagram, and fill out Table 14.3

II. Heartbeat & Blood Pressure

GOALS:

You should be able to.....

- ★ Explain what causes the “lub” and “dub” of a heartbeat.
- ★ State the normal pulse rate & blood pressure reading for a resting young adult.
- ★ State what the two numbers in a blood pressure reading represent.
- ★ Determine your pulse rate and explain how/why exercise affects it.
- ★ Determine your blood pressure and explain how/why exercise affects it.

Key Terms You Should Know:

- ✓ systole (systolic)
- ✓ diastole (diastolic)

- Heartbeat: pp. 195-196 Read, follow procedures, answer questions. **Note:** Use hallway/stairwells for exercising.
- Blood Pressure: p. 196- top of p. 198 Read manual, follow my instructions below, and answer questions in book.
Procedure: Determining Blood Pressure
 1. Strap cuff around upper arm and clip the pressure gauge dial in place on side of cuff.
 2. Slide stethoscope under cuff, so that you can listen for pulse.
 3. Pump the rubber bulb until you hear pulse, then can't hear pulse anymore.
 4. Release pressure and listen. When you hear pulse again, take the reading for systolic pressure. When the pulse disappears again, take the second reading for diastolic pressure.

III. Electrocardiogram (ECG)

GOALS:

You should be able to.....

- ★ Describe the path of electrical signals that pace the contraction of the heart.
- ★ Draw a normal ECG and describe what causes each wave.

Key Terms You Should Know:

- ✓ electrocardiogram (ECG)
 - ✓ depolarization & repolarization
 - ✓ SA node (pacemaker)
 - ✓ AV node
 - ✓ P wave, QRS wave, T wave
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- Observe the ECG demonstration.
 - Conduction System of the Heart: pp. 193- 194 & p. C49-C51- Read and answer questions