

Learning Goals and Outcomes for REACH-DL Physiology Exercises

HEART

General Goals and Outcomes per HAPS (<http://www.hapsweb.org>)

With respect to the electrocardiogram (EKG or ECG):

1. Identify the waveforms in a normal EKG.
2. Relate the EKG waveforms to the normal mechanical events of the cardiac cycle.
3. Relate the waveforms to atrial and ventricular depolarization and repolarization and to the activity of the conduction system.
4. Relate the EKG waveforms to the normal mechanical events of the cardiac cycle.
5. Relate the heart sounds to the events of the cardiac cycle.
6. Given the heart rate, calculate the length of one cardiac cycle.
7. Discuss the influence of positive and negative chronotropic agents on HR.

The Diving Reflex

Learning Goals:

1. Students will be able to successfully record a pulse and ECG.
2. Students will be able to record and look at the effects of apnea, and facial immersion into both room temperature and cold water on the pulse wave.
3. Students will continue to be successful at using the LabScribe software to move cursors, analyze data, record data to the Journal, and add functions to the Analysis window.

Outcomes: Students who have successfully completed this exercise will:

1. have recorded a recognizable pulse wave and heart rate trace on a resting individual.
2. have recorded a recognizable pulse wave and heart rate trace on an individual during apnea and facial immersion into room temperature and cold temperature water.
3. be able to calculate the pulse rate of an individual from the recorded data and understand the effects of the diving reflex.
4. feel comfortable transferring data to the Journal and interpreting that data to answer questions about their recordings.
5. have used the functions available in the Analysis window to determine values necessary for this exercise.
6. as an optional exercise have been able to examine and interpret the effects of apnea, and facial immersion into both room temperature and cold water on respiration rate and depth.