

# Learning Goals and Outcomes for REACH-DL Physiology Exercises

## MUSCLE

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

1. Interpret a myogram of a twitch contraction with respect to the duration of the latent, contraction and relaxation periods and describe the events that occur in each period.
2. Define the terms tension and contraction, with respect to muscles.
3. Define the term motor unit.
4. Interpret a myogram or graph of tension vs. stimulus intensity and explain the physiological basis for the phenomenon of recruitment.
5. Interpret a graph of the length-tension relationship and discuss the anatomical basis for that relationship.
6. Demonstrate isotonic and isometric contraction and interpret graphs of tension vs. time and muscle length vs. time for each type of contraction.
7. Differentiate among the three classes of levers in terms of the relative position of fulcrum, effort and load, as well as in terms of the relative power and range of motion.
8. Give examples in the human body of muscles and their associated joints to illustrate each type of lever system.

## EGG - Electrogastrogram

### *Learning Goals:*

1. Students will record an EGG on an empty stomach.
2. Students will record an EGG on a full stomach.
3. Students will analyze both frequency and power of the gastrogram waves.
4. 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. understand and be able to record an EGG.
2. understand how nerves send electrical signals to muscles to cause a response.
3. be able to determine the relationship between eating and gastric muscle movement.
4. have gained understanding of the relationship between frequency and power of gastric activity before and after eating.
5. feel comfortable transferring data to the Journal and interpreting that data to answer questions about their recordings.
6. have used the functions in the Analysis window to determine values necessary for this exercise.