

1) Draw the muscles of the abdominal wall.

2) Describe the fascicle arrangement of the muscles of the abdominal wall. How do they relate to one another?

3) Lifting weights is an activity that many people do to increase their strength and muscle size. But what does that mean? Describe your body's physiological and anatomical response in 3-5 sentences.

4) Botulism is a rare but serious paralytic illness caused by a nerve toxin that is produced by the bacterium *Clostridium botulinum*. Botulism intoxication can be fatal and is considered a medical emergency. Botulism toxin blocks the release of acetylcholine.

A. Discuss how the events that occur at the neuromuscular junction and during excitation-contraction coupling would change in a person with botulism intoxication. **Please include all events up through the sarcomere shortening and contraction.**

B. What symptoms do you think a physician will look for?

5) Using the diagram, draw the muscles of the shoulder that protract and retract the humerus.

