

- b. The muscle changes in length.**
- c. ATP is broken down to make energy available.**
- d. Both a and c.**

C. "Size of a motor unit" refers to the:

- a. total cross-sectional area of muscle fibers in the motor unit**
- b. size of the alpha motor neuron**
- c. number of muscle fibers in the motor unit**
- d. average diameter of the muscle fibers in the motor unit**

A. Over the entire range of joint motion during contraction, isokinetic contractions involve constant:

- a. speed**

B. Which of the following always occur(s) when a skeletal muscle contracts under physiological conditions?

- d. Both a and c.**

C. "Size of a motor unit" refers to the:

- c. number of muscle fibers in the motor unit**

3) Describe how storage and release of acetylcholine are affected by the following: vesamicol, black widow spider venom, and botulinum toxin.

Vesicles are loaded w/ ACh by the transport protein in the vesicle membrane called VACHT - vesicular ACh transporter. This protein may be blocked by the drug called vesamicol. Treatment with vesamicol can decrease vesicular ACh but increases the level of ACh in the cytoplasm.

Release of ACh is affected by the various animal and bacterial toxins (toxin in venom of black widow) that leads to massive release of ACh at the synapses in PNS. Overactivity of