

## Lecture 13: Active Learning Questions

1. What is a *neuromuscular junction (NMJ)*? What *chemical* is released at an NMJ? What does it do? Why is *calcium* important in *neuromuscular transmission*? What are the *best dietary sources* of calcium? What other important physiological processes *require calcium*?
2. How do *black widow spider venom* and *Botox* uniquely alter the *neuromuscular junction*? What are some of the *dangers* of black widow spider venom and Botox?
3. In skeletal muscle, what are *thick filaments* made of? ...*thin filaments*? What is the relationship among *thick* and *thin filaments*? Draw a cartoon of a *myosin* molecule and a sketch of an *actin* molecule nearby.
4. Identify 2 *regulatory proteins* within a skeletal muscle fiber. What do they do, that is, what is the *function* of each? What is a *cross-bridge cycle*? What is *calcium's* role in skeletal muscle *contraction* and *relaxation*?
5. What is *muscle hypertrophy*? What happens to *myofibrils* when a muscle hypertrophies due to strength training?