

Anatomy and Physiology I Exam III

Instructor: Brian Cambron

What are the individual organs of the muscular system?

What are the four primary functions of muscles?

What are the three major types of muscle tissue?

What is “deep fascia”?

What do we call a muscle that provides the major force for a particular movement? What do we call a muscle that would oppose or reverse that movement?

What do we call the group of muscles that are small and weaker, but aid agonists by promoting the same movement or reducing undesirable or unnecessary movements?

What is the specific name, as an example, of the muscle that is attached to the mastoid process of the skull, the sternum, and the clavicle? Why is it named that way?

What are the two criteria for which the biceps brachii is named?

Thousands of muscle fibers are bound together into discrete functional units of a muscle called what?

What is another name for the plasma membrane of a muscle fiber?

What does SR stand for? What is it?

What mineral is necessary for a muscle contraction to occur?

Where is the mineral stored inside the muscle fiber?

Muscle contraction depends on what two primary contractile proteins found in muscle?

What are the long strands of contractile proteins called inside the muscle fiber? They make up an organelle inside the muscle that is responsible for contracting the fiber called what?

What are your three basic types of “levers” found in the skeletal system?

What is “load” and “effort” in reference to Lever Systems?

What do we call the cytoplasm of a muscle fiber?

What do we call the red, oxygen binding protein found in muscle fibers?

What do we call the carbohydrate based chemical that is used for fuel storage inside a muscle fiber?

What do we call the place where a neuron meets a muscle fiber?

What do we call the point of attachment of a muscle where it attaches to a less or immovable bone?

What do we call the point of attachment of a muscle where it attaches to the movable bone?

An individual muscle fiber is a bundle of thousands of these organelle structures used for contraction?

A muscle shape in which the fibers are fanning out from a central point is referred to as?

The thin myofilament is composed mainly of what protein?

The thick myofilament is composed mainly of what protein?

What is the structure of a myosin molecule like? What is the structure of an actin molecule like?

What are the two regulatory proteins found in muscles called?

Which myofilament contains these proteins?

What is the purpose or function of tropomyosin?

What is the purpose or function of troponin?

This type of muscle category contains muscles responsible for immobilizing a bone?

This type of muscle category provides the major force for a specific movement?

What are the criteria is used to name a muscle?

What part of the SR is responsible for storing and releasing valuable minerals needed for contraction?

What does calcium do in the muscle fiber, what is its role?

The active part of the myosin molecules is called the heads or the?

In striations of muscle fibers, the dark bands are referred to as?

In striations of muscle fibers, the light bands are referred to as?

The thin filament has two regulatory proteins associated with it; one is tropomyosin, which functions to? The other is troponin, which functions to?

Nerve impulses (electrical) from nerve endings propagate along the muscle fiber membrane and down these extensions of the membrane to the deepest regions of the muscle fiber, directly between the terminal cisternae?

What are the individual contracting units, segments which a myofibril is divided into, called?

What is the term used for the recharging of the myosin head with energy?

Troponin, when combined with calcium, is responsible for moving what protein out of the way for myosin during contraction?

The amount of oxygen needed to support the conversion of lactic acid to glycogen, recharge myoglobin and resaturate the blood is called the?

When myosin and actin bind together it causes the hydrolysis and release of this molecule from myosin, which generates the power stroke for muscle contraction? (Also known as the energy molecule)

What are the muscles of the quadriceps group?

What are the muscles of the hamstring group?

What muscles are used for chewing?

What is tetanus, or a titanic contraction? What is full tetanus?

What do we call the pale area inside the dark band where only the thick filament is found?

What do we call the line that separates one sarcomere from another sarcomere?

Which myofilament is the one actually moving during a muscle contraction?

What eventually happens to the intracellular calcium once the contraction is over?

Does each myosin head attach, detach and reattach many times during a single contraction?

Can muscles basically go forever without oxygen because they store it in their own red pigmented oxygen-binding molecules?

What is considered an organ in the Muscular System?

What causes the burning sensation when you overwork your muscles?

The mechanics of muscle movement is referred to as lever systems?

What mineral is absolutely essential for muscle contraction?

Where do we find the triceps brachii? What in the name would indicate this?

Is the muscle cell referred to as the *muscle fiber*?

When is ATP needed by a muscle fiber?

What is the Refractory Period?

Can a muscle be stimulated to contract at 100% strength voluntarily?

What are the epimysium, perimysium, and endomysium? What do they cover?

Be able to match up the three muscle tissue types with their characteristics.

What are Fast Twitch muscles? What are Slow Twitch muscles?

Describe what the meaning is for the four special *functional characteristics* of muscles, excitability, contractility, extensibility and elasticity, which are the basis for muscle response (not muscle functions!).

Many toxins, drugs and diseases interfere with events occurring at the neuromuscular junction. What would happen to a muscle if a toxin caused the nerve to continuously send an impulse to it? Think of what we talked about with Acetylcholine.

What is *rigor mortis*? How is the body capable of undergoing *rigor mortis* after it dies? You will find this in the textbook.