

Review: Muscle Contraction Terms:

What is the order of a twitch contraction?

Latent period, contraction period, refractory period, relaxation period.

In a twitch contraction, what is the latent period

The time between applications of the a stimulus at the neuromuscular junction and the beginning of the contractions. Calcium is being released from the sarcoplasmic reticulum and the myofilaments rearrange. This lasts about 2 milliseconds.

In a twitch contraction, what is the contraction period?

The muscle fibers are shortening in length by the thin filaments sliding against the thick filaments. Lasts about 10-100 milliseconds.

In a twitch contraction, what is the refractory period?

The muscle has temporarily lost it's ability to be excited. If muscle has two stimuli arrive one right after the other, it will not respond to the first. Skeletal muscles have shorter ones, cardiac muscles have longer ones

In a twitch contraction what is the relaxation period?

The calcium ions are actively transported back into the sarcoplasmic reticulum, and the filaments slide back to their original resting position.

What is a motor unit?

Portion of muscle that includes a motor neuron(nerve) and the muscle fibers it stimulates. May involve 10 -3000 muscle fibers

What is the “all or none at all” principle?

If an individual muscle fiber receives a signal to contract, it will contract to it's fullest extent.

Skeletal muscle has a short refractory period and a long relaxation period.

What is wave summation?

When a second contraction is stronger than the first.

What is incomplete tetanus?

Muscles can only relax partially between each nerve stimuli.

What is complete tetanus?

When nerve action potentials arrive so quickly that the muscle relaxation cannot occur.

What is muscle tone?

The firmness of skeletal muscle.

What is muscle atrophy?

The decrease in muscle diameter may be due to disease, disuse, lack of blood supply, cell (fiber) death etc.

SOURCE (edited):

<http://quizlet.com/3150937/108-and-109-flash-cards/>