

# Muscles

Study*ladder*

# Voluntary and involuntary muscles



Did you know that muscles are working in your body without you even thinking about it? For example, when your heart beats or when food is squeezed by the muscles in your digestive system. We rarely notice that these muscles are working. We call these involuntary muscles.

Some muscles are controlled by your thoughts. You might feel like going for a run so your brain tells your muscles to move. You don't have to think about moving each individual muscle. They will work together to complete the action you are thinking about. These muscles are voluntary muscles.

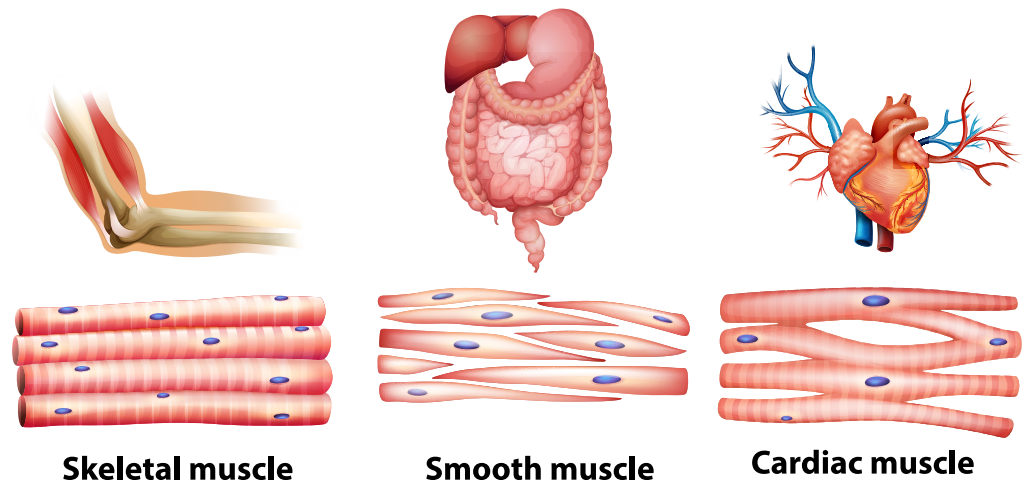
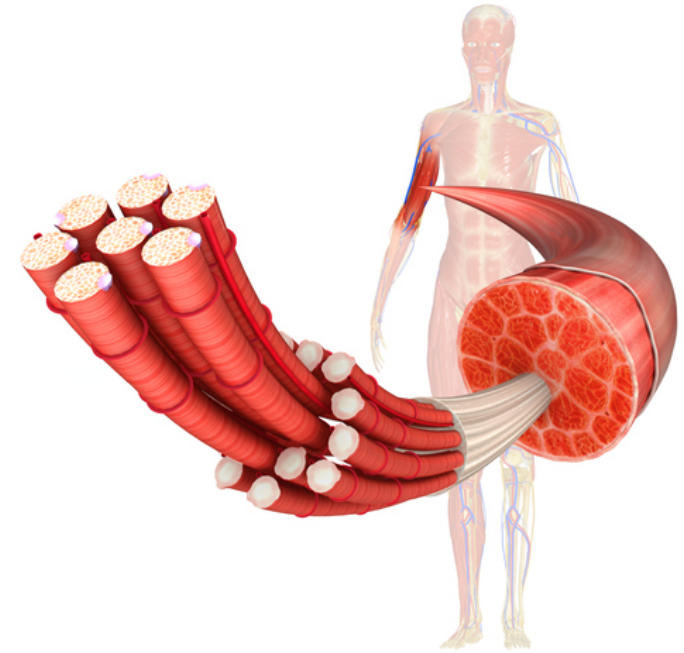
# What are muscles made of?

Muscles are made of bundles of muscle fibers called fascicles.

Each muscle in your body is made up of thousands of small fascicles which are bundled together. They are held together with connective tissues.

This structure makes the muscle stretchy and flexible.

There are different types of muscles in your body which are specific to their function in your body.

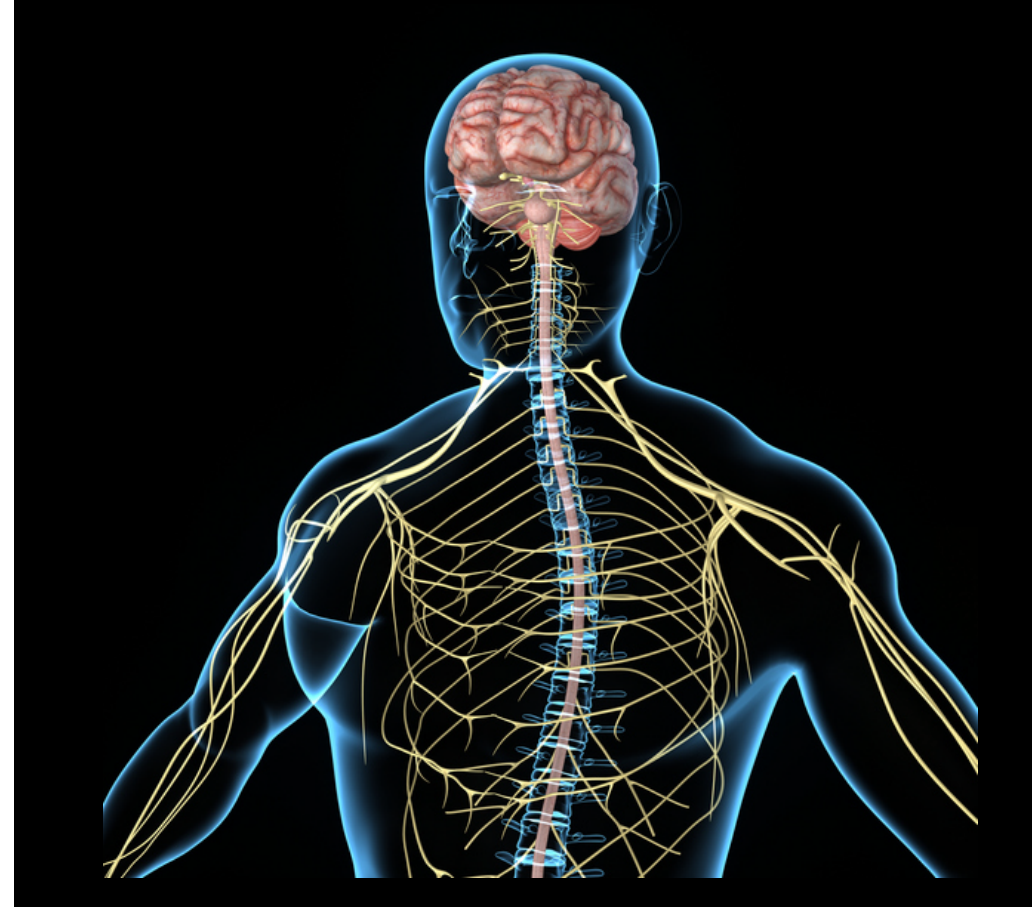


# How do muscles work?

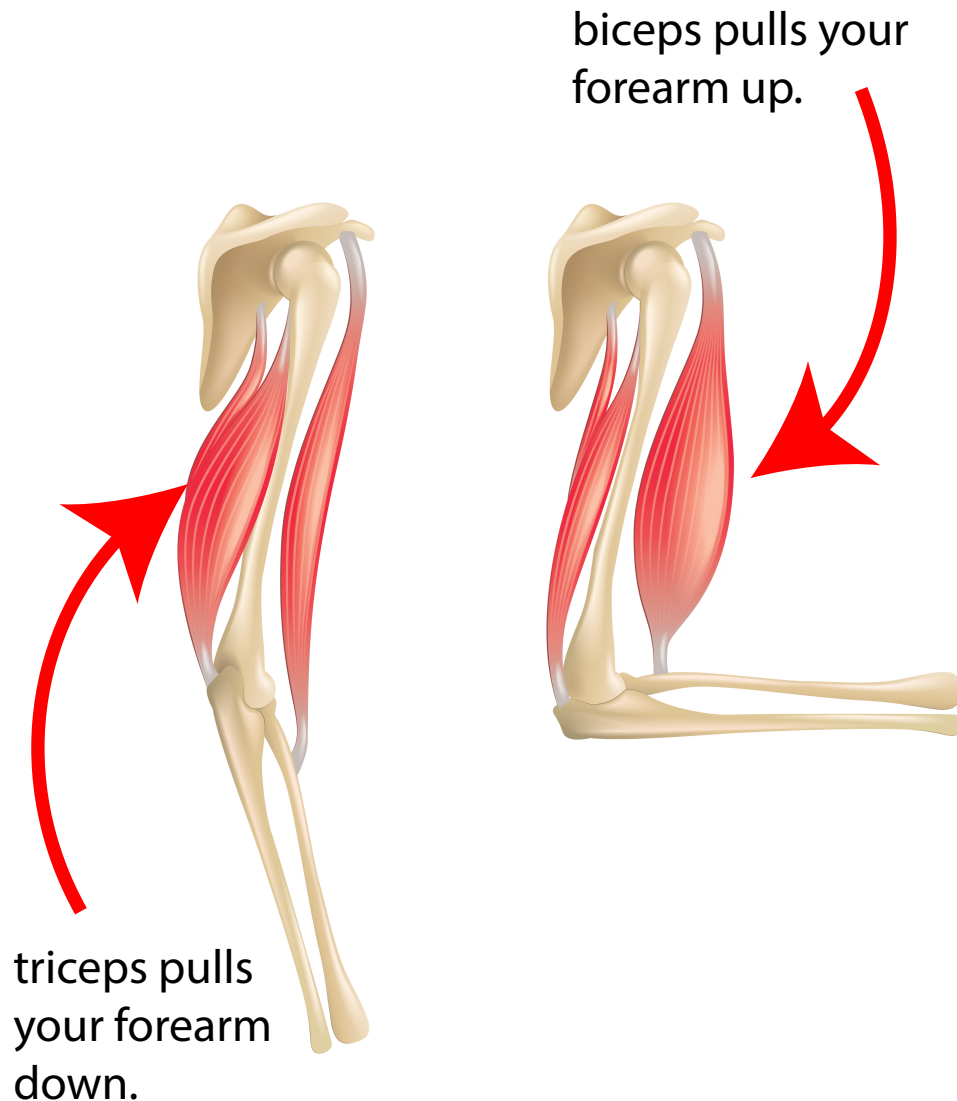
Your brain controls your body movements by sending messages to the muscles via a complex system of nerves.

If the nervous system becomes damaged, messages can no longer get to the muscles to tell them to move.

A person who injures their spinal cord and becomes paralyzed in the legs might need a wheelchair to move about. There is nothing wrong with their leg muscles themselves. Their brain just can't get messages through to the muscles to tell them to move.



# Pulling Muscles



Pulling muscles are attached to the bones and work in pairs. Each muscle can only pull in one direction so two are needed for up and down movements.

Your biceps muscle in the front of your upper arm pulls your forearm up. It contracts and becomes shorter while its pair, the triceps relaxes and becomes longer.

When you want to put your arm down again, your triceps muscle on the back of your upper arm does the pulling while your biceps relaxes.



There are over 650 skeletal muscles in the body. They are attached by ligaments to the bones of our skeleton. These types of muscles often overlap in layers, giving our bodies strength and structure.

Skeletal muscles are the reason why we can move our limbs. They help us laugh and smile and kick a ball to our friends. But these are not the only muscles in our bodies.

We have a different type of muscle that squeezes to keep things moving in our bodies. For example to regulate blood flow or to move food through our digestive system.