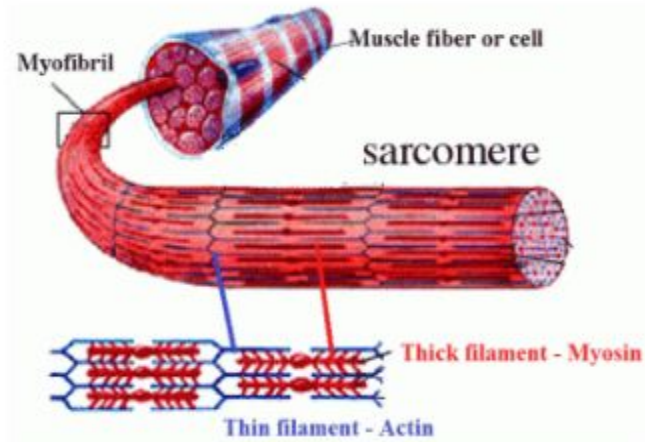


MAKING SENSE:

Read the following information about muscle cells to help you understand some of the ideas that came up in the video.



<https://andreaacollo.files.wordpress.com/2013/11/sarcomere.gif?w=358&h=244>

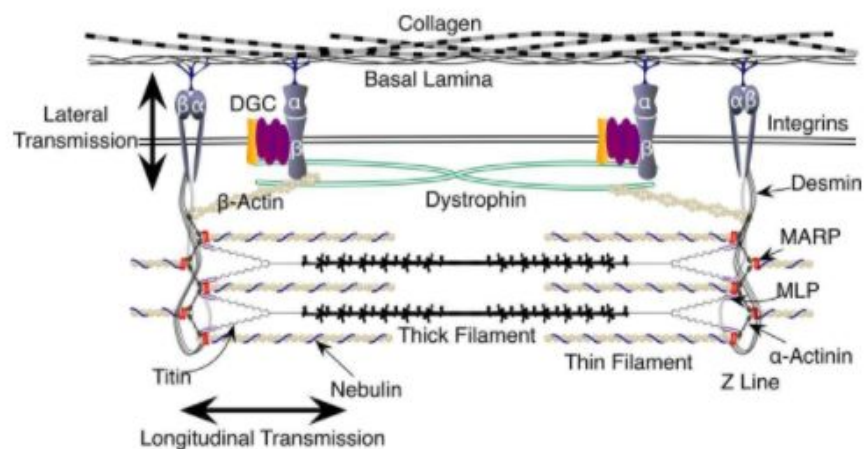
There are three types of muscle found in the human body: smooth, cardiac and skeletal. Smooth muscles are responsible for involuntary movements of body tissues like digestion or contraction of blood vessels. Cardiac muscles are responsible for the contraction of your heart. Skeletal muscles are responsible for the voluntary movements of the body (lifting, walking, running etc.)

Muscles are made of lots of long muscle cells. A muscle cell contains myofibrils which contain sarcomeres. Within a sarcomere are many

different types of proteins. Actin and myosin are two of these proteins that are responsible for muscle contractions. They are categorized as contractile proteins. Muscle fibers also contain structural proteins such as titin and dystrophin.

The sizes of muscles can change for a variety of reasons. When a person uses their muscles, some of the fibers tear. When muscle fibers are repaired, they are typically larger in size than they were before. This is how a person can increase their muscle size through exercise. Hypertrophy is a term for an increase in muscle size. On the other hand, when muscles are not used regularly, they can decrease in size. Atrophy is a term for a decrease in muscle size due to lack of use.

Finally, dystrophy is a term for muscle decrease. When people with Duchenne's Muscular Dystrophy exercise, their muscles do not get repaired and grow, and they break down and decrease in size over time.



<http://ajpendo.physiology.org/content/ajpendo/309/1/E1/F3.large.jpg>