



MUSCLE TISSUE

Muscle tissue is composed of cells that are specialized to shorten in length by contraction.

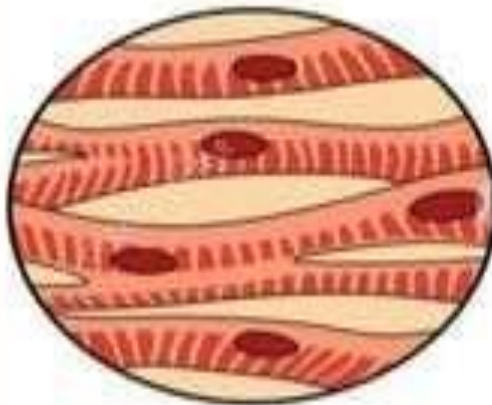
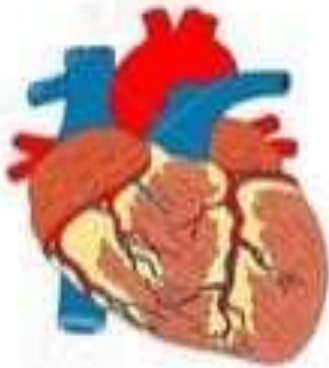
\*This contraction result in movement.

\*Muscle tissue is made up of cells called myocytes or muscle fibers.

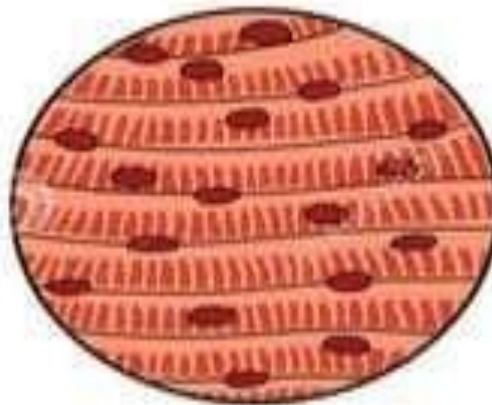
# CLASSIFICATION

1. Skeletal Muscle
2. Cardiac Muscle
3. Smooth Muscle

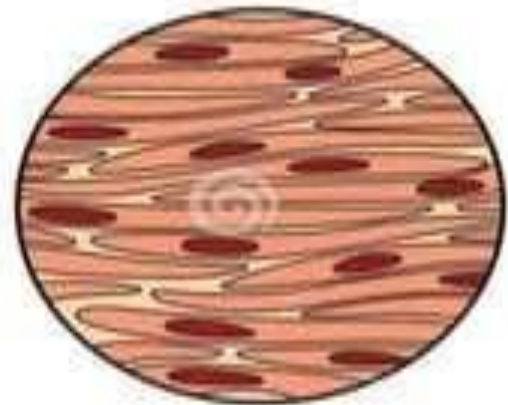
## Types of Muscle Tissue



**Cardiac Muscle Tissue**  
(Involuntary Control)



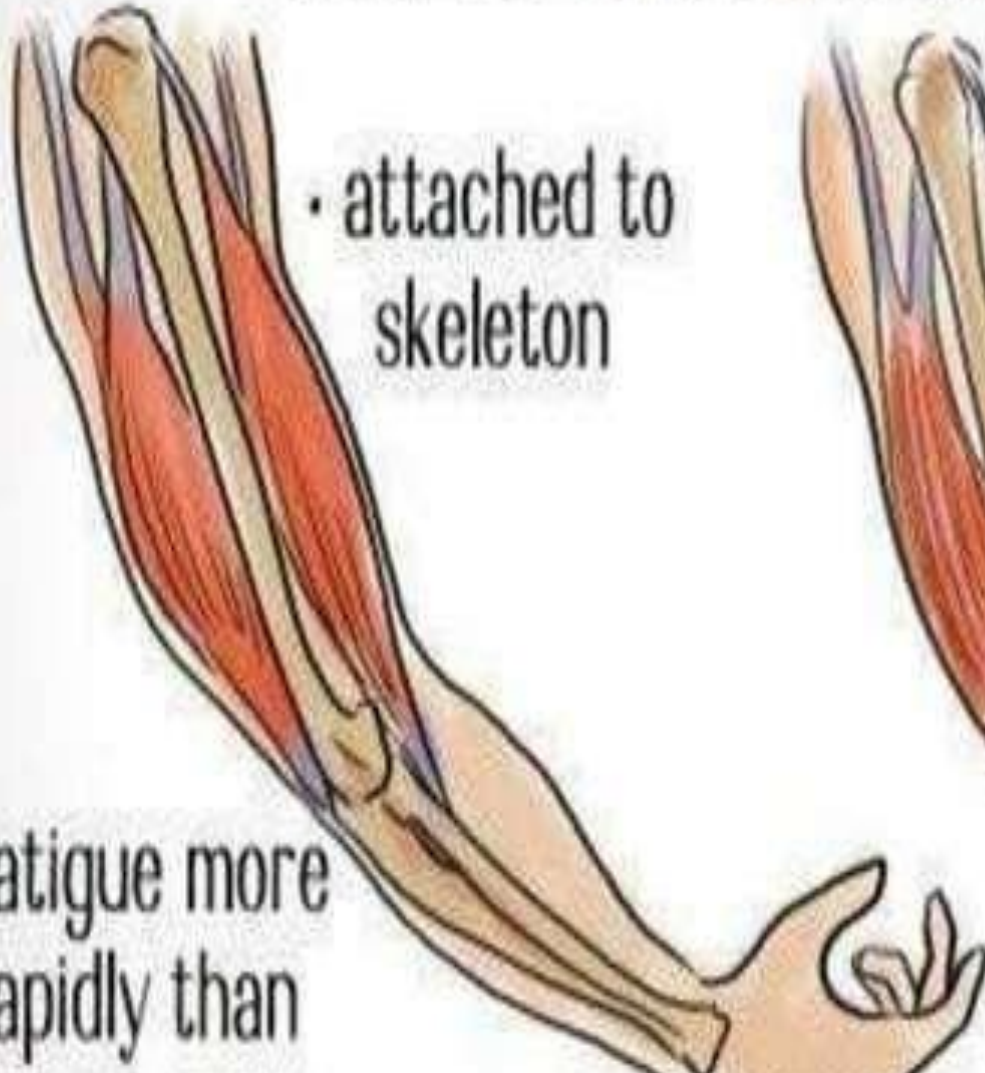
**Skeletal Muscle Tissue**  
(Voluntary Control)



**Smooth Muscle Tissue**  
(Involuntary Control)



# SKELETAL MUSCLES



- **Skeletal muscles** are called **striated muscles** because when we observed this **skeletal muscles** under the microscope they have a striped like appearance & they **also** show

- Skeletal Muscle is present in the limbs and body wall.  
Because of its close relationship to the bony skeleton this variety is called skeletal muscle.

# FEATURES OF SKELETAL MUSCLE

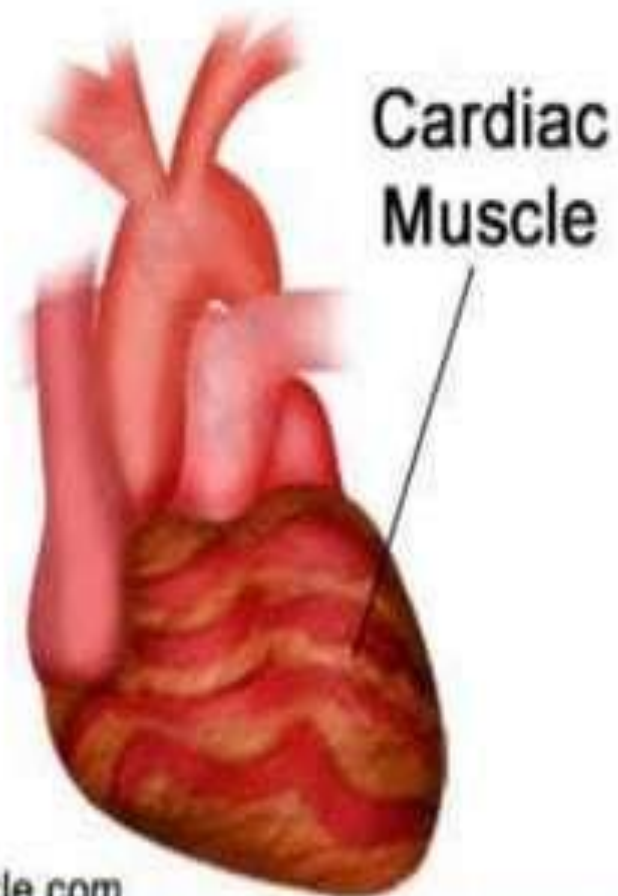
- They form about 40% of the total body weight.
- Nucleus : Multinucleate
- Capillary plexus : Rich
- Nerve supply : Somatic
- Contraction : voluntary
- Location : limbs and trunk



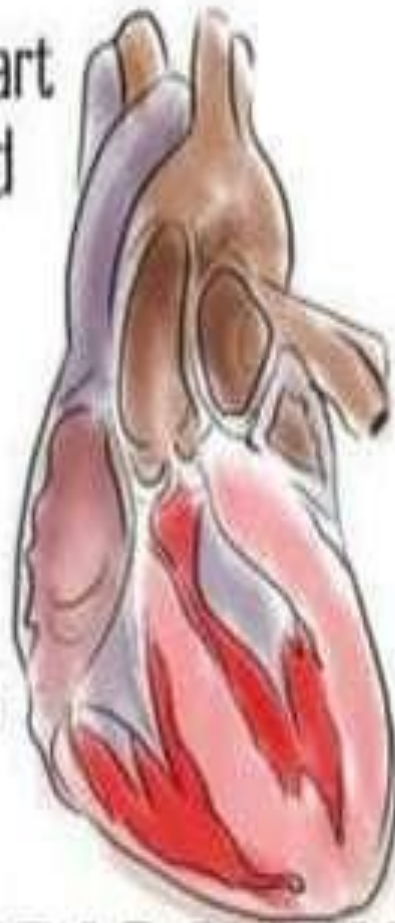
# FUNCTIONS

- Contraction : It is the ability to shorten and thicken.
- Elasticity : The skeletal muscle can be stretched by a weight, when the weight is removed, muscle returns to its normal length.
- Maintenance of posture

# CARDIAC MUSCLE



- found only in heart and tips of blood vessels



- controlled by central nervous system and "pacemaker" cells

- do not fatigue

## CARDIAC MUSCLES

# FUNCTIONS

- \*Involuntary heart movement

- \*Pumping blood

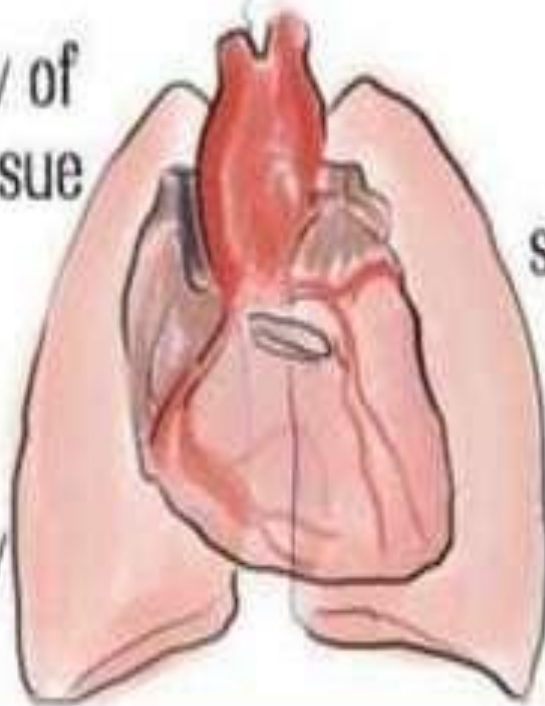
## Features of cardiac muscle

- ❖ Location : Myocardium
- ❖ Nucleus : single nucleus
- ❖ Capillary plexus : Extremely rich
- ❖ Nerve supply : ANS
- ❖ Contraction : involuntary

# SMOOTH MUSCLES

- maintain flow of fluids along tissue walls

- fatigue slowly



- found in lungs, stomach, esophagus, and intestines

**Smooth muscle** is also sometimes known as **Involuntary muscle** due to our inability to control its movements, or **non striated** as it as it does not have the stripy appearance of **Skeletal muscle**. **Smooth muscle** is found in found in the walls of hollow organs such as as the Stomach, Oesophagus, Bronchi and in and in the walls of blood vessels

# Muscle Tissue Types

## ■ Smooth muscle

### ■ Structure

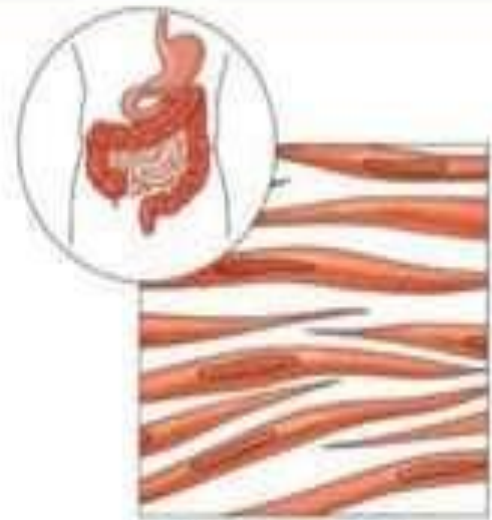
- **Shorter** cells
- One **nucleus** per cell
- No visible **striations**

### ■ Function

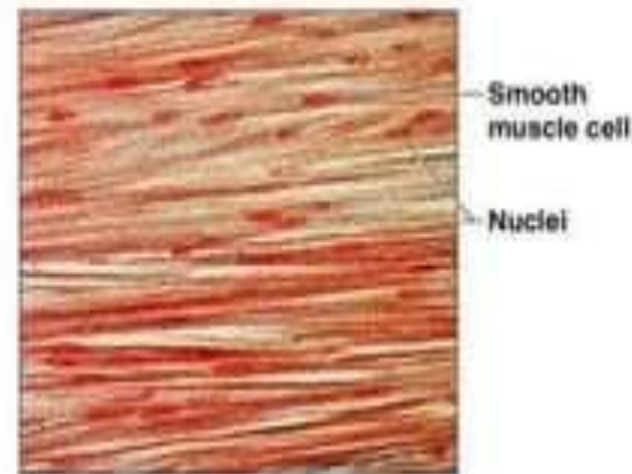
- **Involuntary movement**
- **Peristalsis**- wave-like movement pushes food through digestive system

### ■ Location

- **Walls of hollow internal organs**
- **Ex: Stomach, Intestines, Bladder, Uterus, Blood vessels**



(c) Diagram: Smooth muscle





THANK  
YOU

