

## ORGANIZATION OF SKELETAL MUSCLE

### Skeletal Muscle tissue:-

- Most of skeletal muscles attached to bones & provides movement to bones of skeleton.
- Skeletal muscle tissue is striated (light & dark bands)
- It mainly works in a voluntary manner  
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Its activity can be consciously controlled by neurones (nerve cells) that are part of somatic (voluntary) division of nervous system.
- Some skeletal muscles are also controlled subconsciously to some extents.

For E.g.:- Diaphragm continues to alternately contract & relax without conscious control so that you do not stop breathing.

### organization of skeletal muscle:-

- Each skeletal muscle is a separate organ composed of hundred to thousands of cells called **Muscle fibers**
- It also contains connective tissue surrounding muscle fibers, and whole muscle, blood vessels & nerves.

#### 1) connective tissue components:-

- Surrounds & protects muscular tissue

Fascia:- Dense sheet of Irregular CT

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Allows free movement of muscles, carries nerves, blood vessels, lymphatic vessels & fills space b/w muscles.

- Three layers of CT extended from fascia protect & strengthen skeletal muscle.

Epimysium:- outermost layer, encircling the entire muscle

↓ Dense Irregular CT  
Perimysium:- Surround group of 10-100+ more muscle fibers separating them into bundles called fascicles.

Endomysium :- Thin sheath of <sup>areolar</sup> CT that separate Individual muscle fibers from one another.

- The Epimysium, Perimysium, Endomysium all are continuous to CT and attaches skeletal muscle to other structures like bone (or) other muscle.

fore y:- All '3' layers extend beyond muscle fibers to form a tendon



Attach muscle to periosteum of bone

(a) Nerve and Blood supply:-

- Skeletal muscles are well supplied with Nerves & blood vessels.

- Generally An artery and one (or) two veins with each nerve penetrates a skeletal muscle.

- The Neurons that stimulate skeletal muscle contraction are Somatic Motor Neurons.

- Each somatic Motor Neuron has a threadlike Axon that extends from brain (or) spinal cord. to group of skeletal muscle fibers.

- The blood capillaries (a) Bring in  $O_2$  and nutrients (a) Bring out Heat & waste products of muscle Metabolism.