



Muscular system

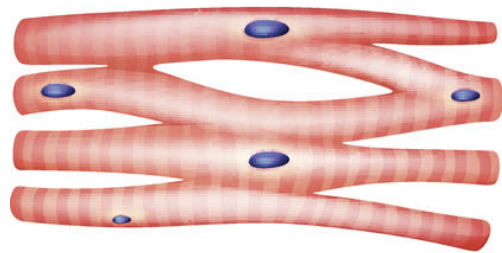
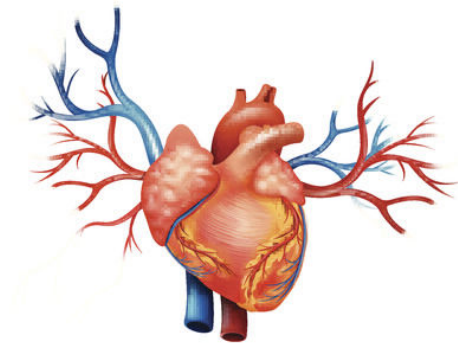
Anatomy Department
Beni-Suef University

Intended learning objectives (ILOs)

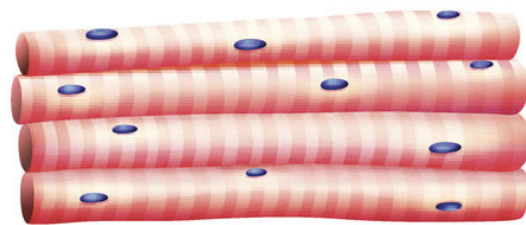
By the end of this lecture the student will be able to:

1. Compare between the three types of muscles
2. Identify the functions, attachments, forms and action of skeletal muscles.
3. Describe blood and nerve supply of the skeletal muscles.

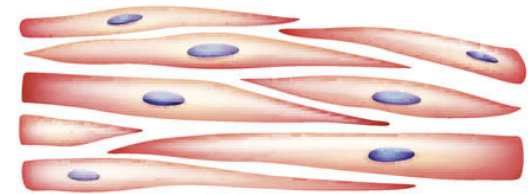
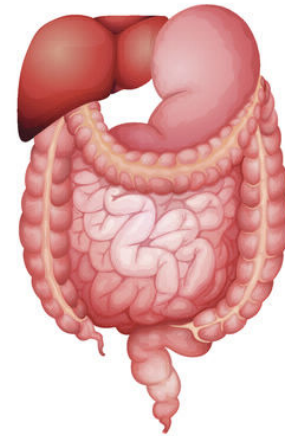
Types of Muscle



Cardiac muscle



Skeletal muscle



Smooth muscle

Skeletal muscles

- Functions:
 1. Movements
 2. Stabilize joints
 3. Maintain position
 4. Heat production

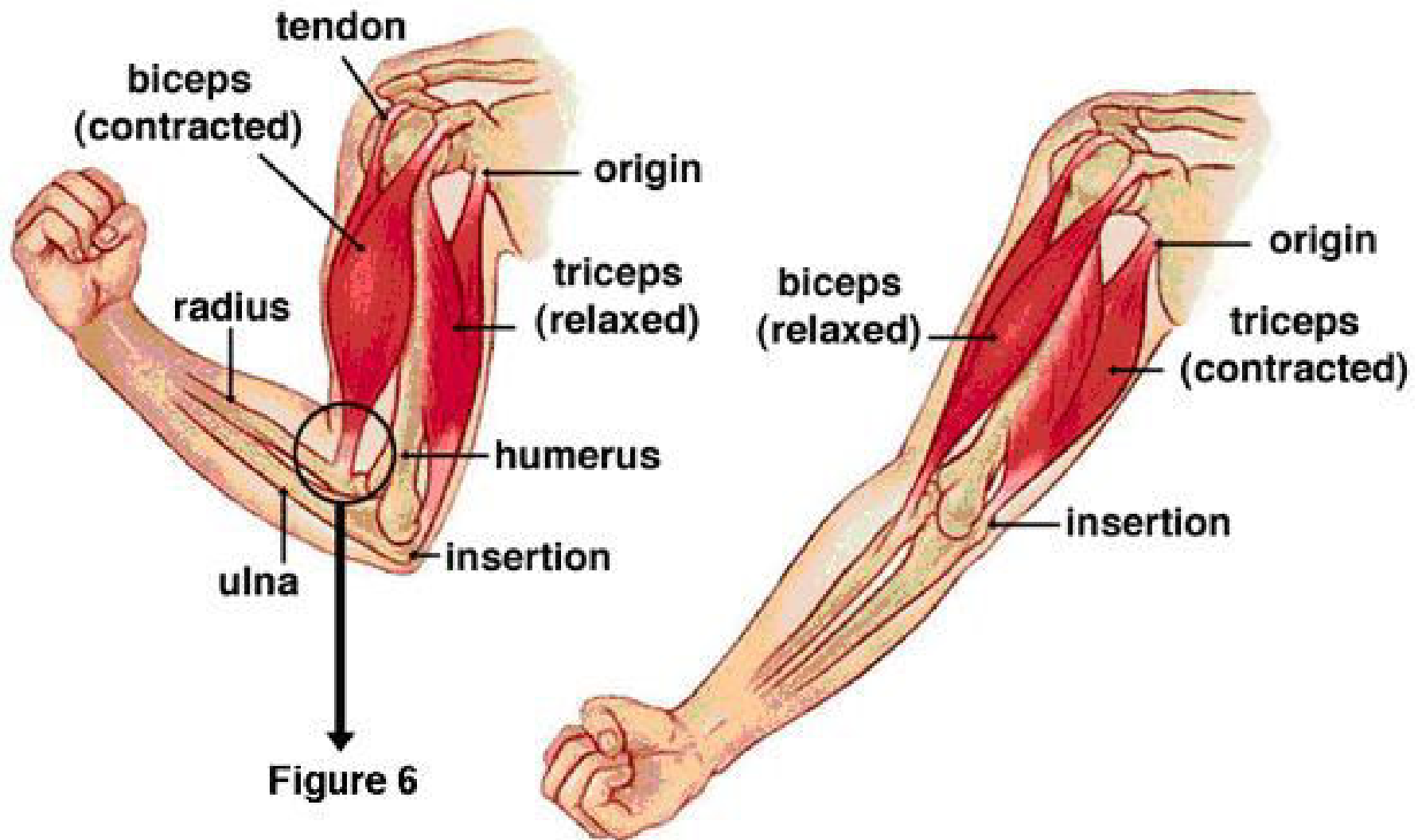
- Attachment:
 - Origin
 - insertion
- Types of attachment:
 - To bone
 - To cartilage
 - To skin
 - To intermediat tendon
 - To fibrous raphe

Muscle action

- Action and power
- Range of movement (length)
- Force of contraction (number of fibres)

Types of action:

- Prime mover
- Antagonist
- Fixator
- synergist

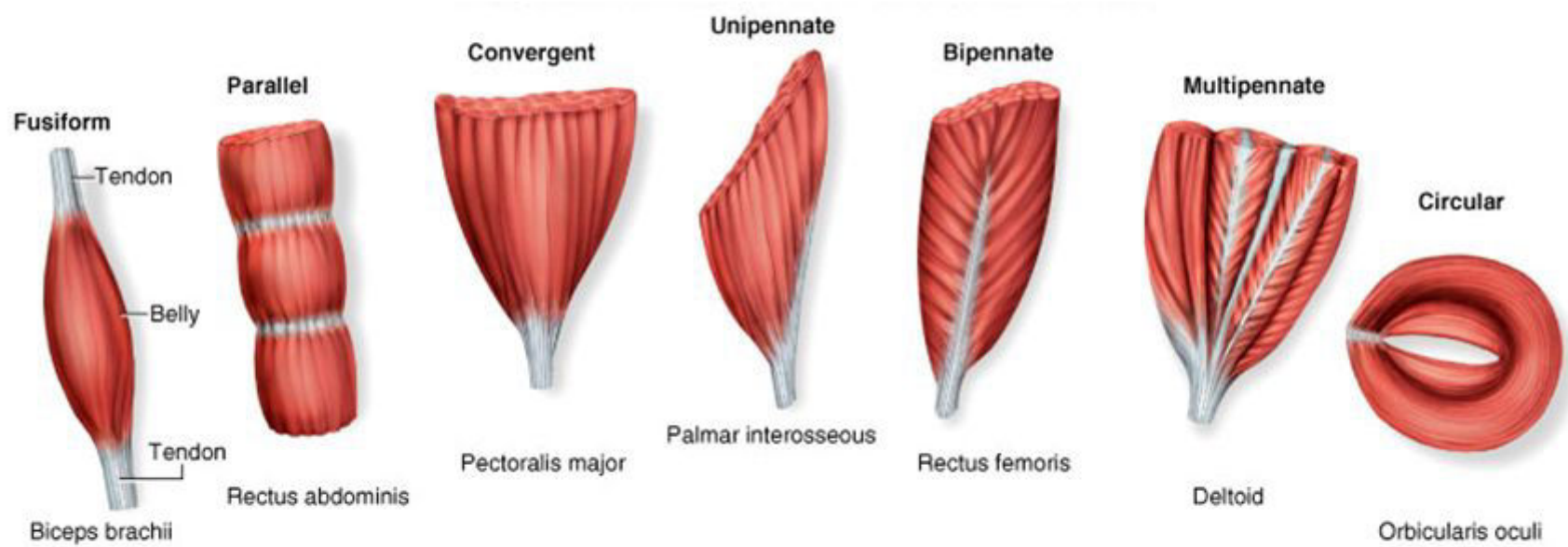


- Blood supply
- Nerve supply:
 1. Motor
 2. Sensory
 3. sympathetic

Form of skeletal muscles

- Parallel to line of pull:
(flat short, long strap, fusiform)
- Oblique to line of pull:
 1. Pennate
 2. Not pennate

Skeletal Muscle Shapes



tendons

- Structure, blood and nerve supply
- Bursa
- Synovial sheath
- Aponeurosis

Clinical correlation

1. Atrophy (disuse, denervation)
2. hypertrophy

Quiz

1. An example of bipennate muscle is:
 - a. Rectus abdominis
 - b. Rectus femoris
 - c. Sartorius
 - d. Deltoid
 - e. Tibialis anterior

2. Regarding smooth muscles one is correct:
- a. Fibers are spindle-shaped
 - b. Involuntary
 - c. Supplied by the autonomic nervous system
 - d. All of the above
 - e. None of the above

3. An example of strap-like muscle is:

a. Rectus abdominis

b. Sartorius

c. Deltoid

d. Supinator

4. An example of multipennate muscle is:

- a. Deltoid
- b. Tibialis anterior
- c. Rectus anterior
- d. Supinator
- e. Sartorius

Thank you