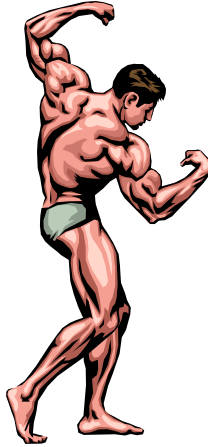


Bio& 241 A&P 1

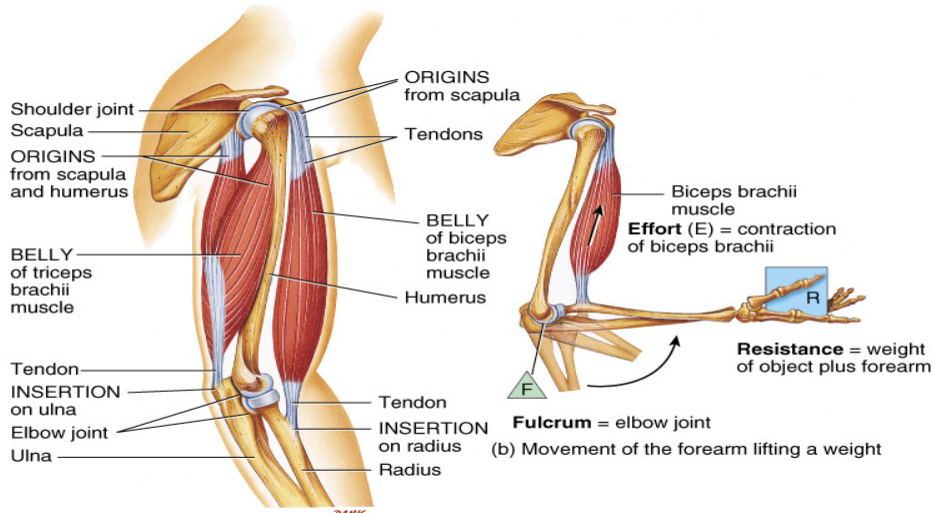
Unit 3 Lecture 1



Introduction to Muscles

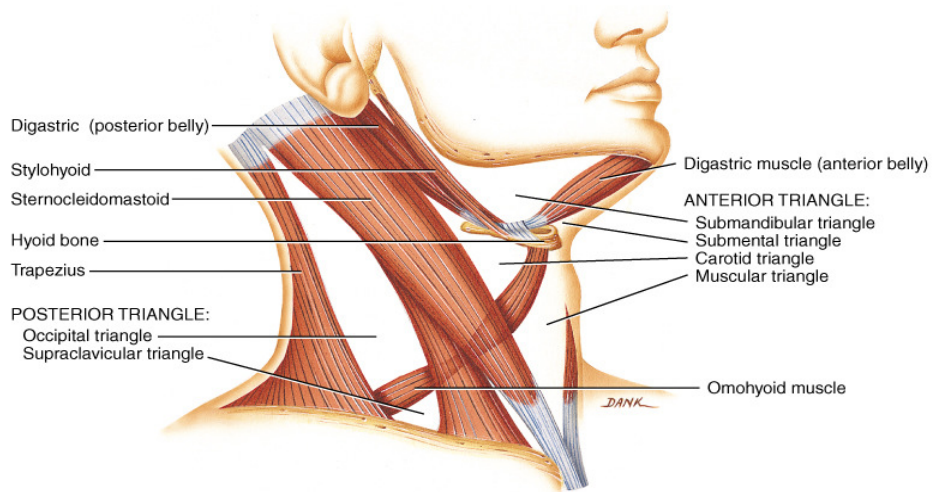
1. **Origin:** Attachment of a muscle tendon to the stationary bone.
2. **Insertion:** Attachment of the other muscle tendon to the movable bone.
3. **Action:** The movement that occurs at the joint due to muscle contraction.

Origin and Insertion



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Belly



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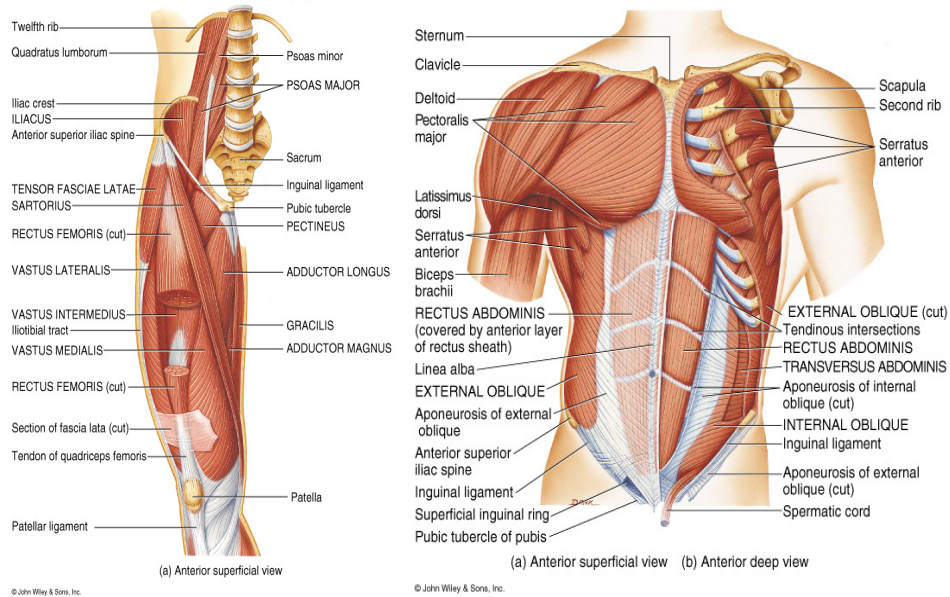
Characteristics Used to Name Muscles

- **Direction of Fibers**
- **Size of Muscle**
- **Shape of Muscle**
- **Action of Muscles**
- **Number of Origins of Muscle**
- **Location of Muscle**
- **Origin and Insertion of Muscle**

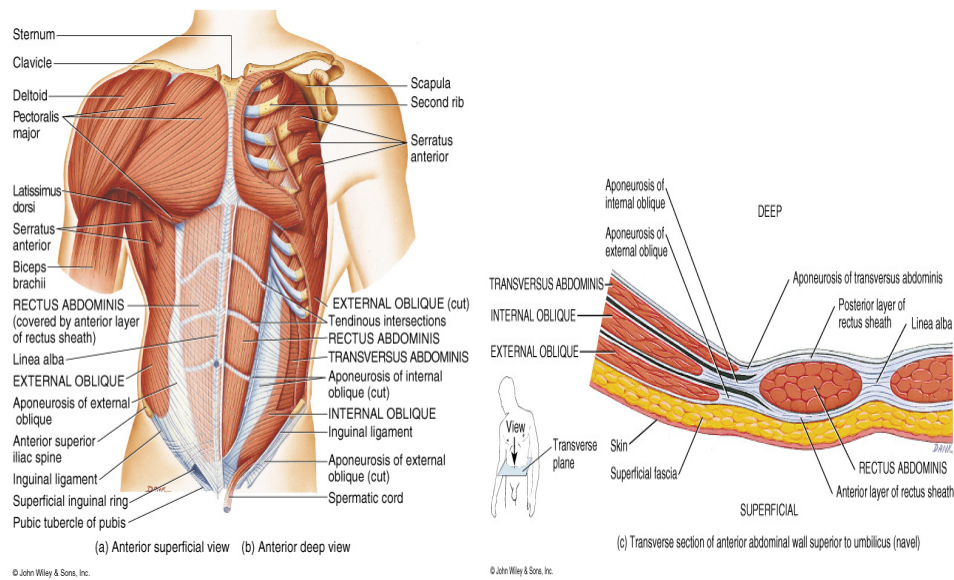
Characteristics Used to Name Muscles

- **Direction of Muscle Fibers**
 - **Rectus: Parallel to midline**
 - **Transverse: Perpendicular to midline**
 - **Oblique: Diagonal to midline**

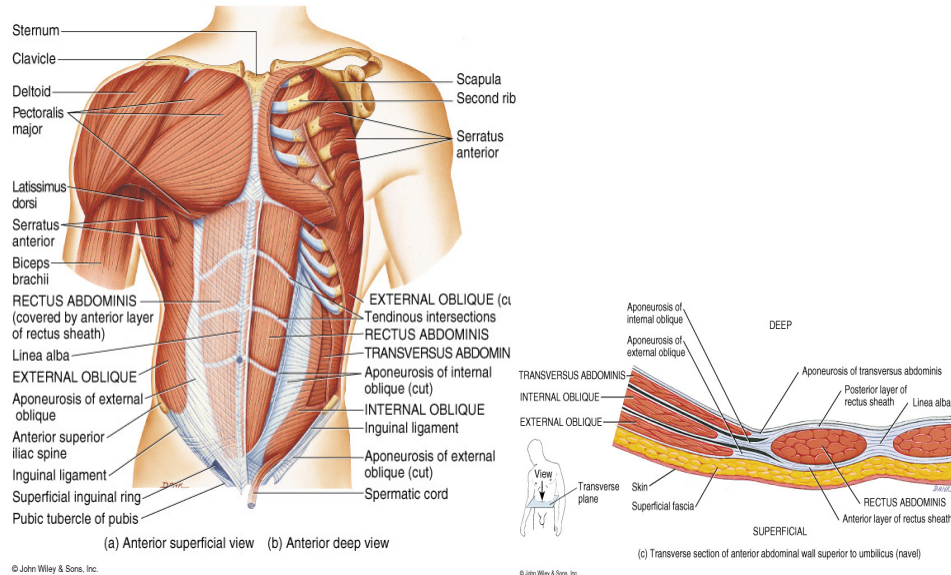
Rectus: Parallel to midline



Transverse: Perpendicular to midline



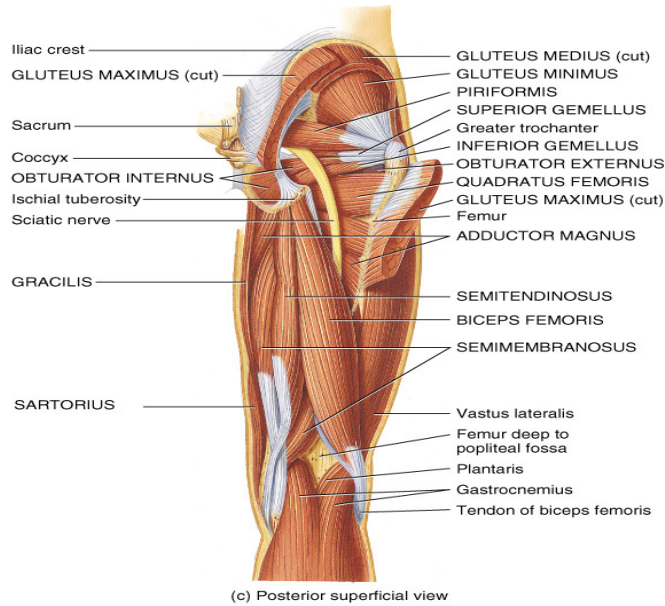
Oblique: Diagonal to midline



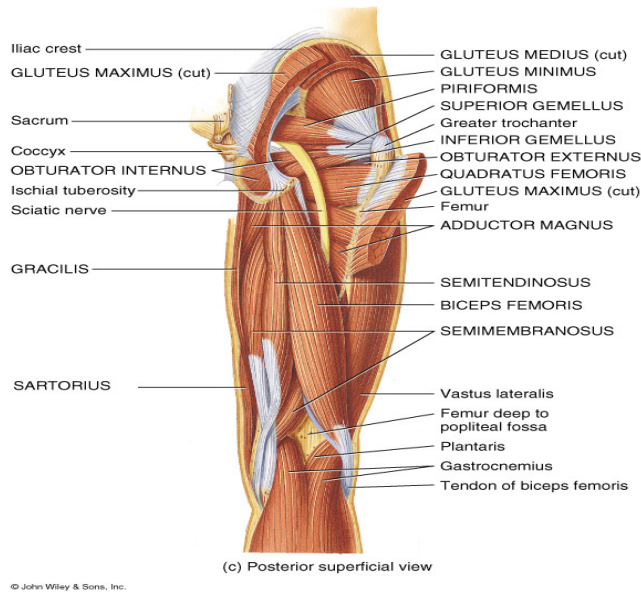
Characteristics Used to Name Muscles

- **Size of the Muscle:**
 - **Maximus:** Largest muscle in a group
 - **Minimus:** Smallest muscle in a group
 - **Longus:** Longest muscle in a group
 - **Brevis:** Shortest muscle in a group
 - **Latissimus:** Widest muscle in a group
 - **Magnus:** Largest muscle in a group
 - **Major:** Largest muscle in a group
 - **Minor:** Smallest muscle in a group
 - **Vastus:** Great or large muscle

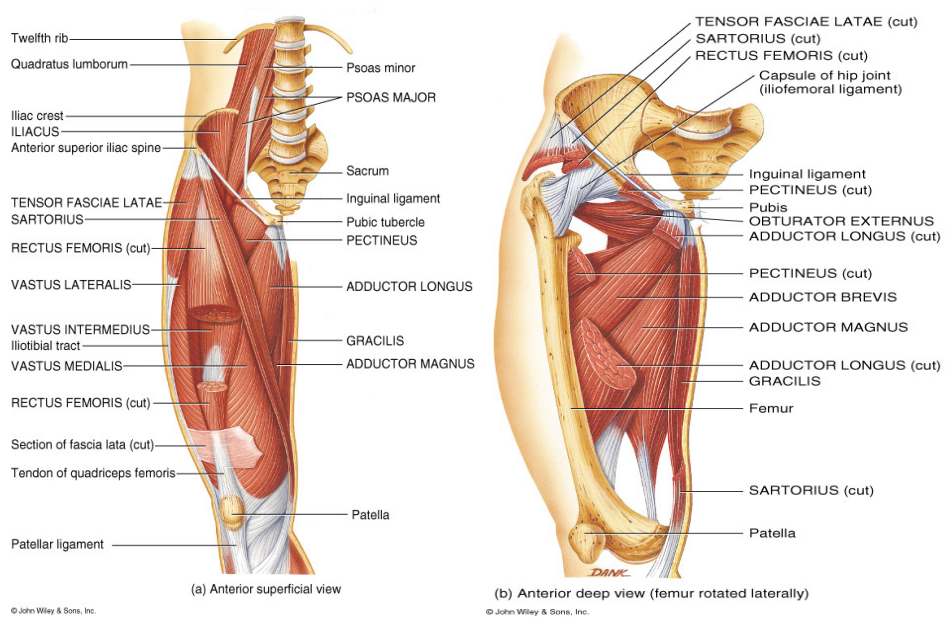
Maximus: Largest muscle in a group



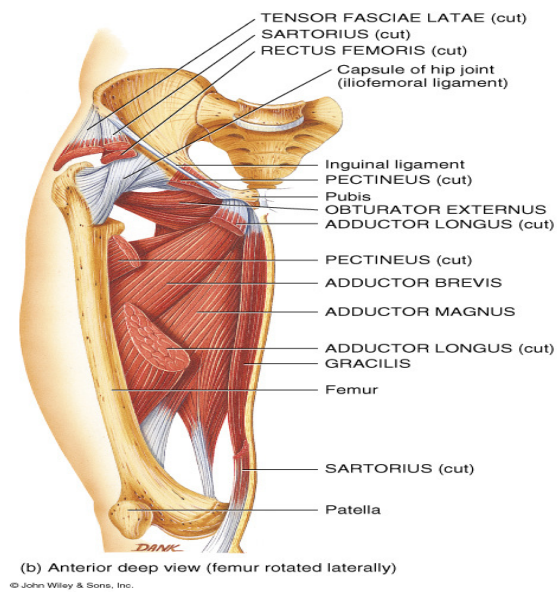
Minimus: Smallest muscle in a group



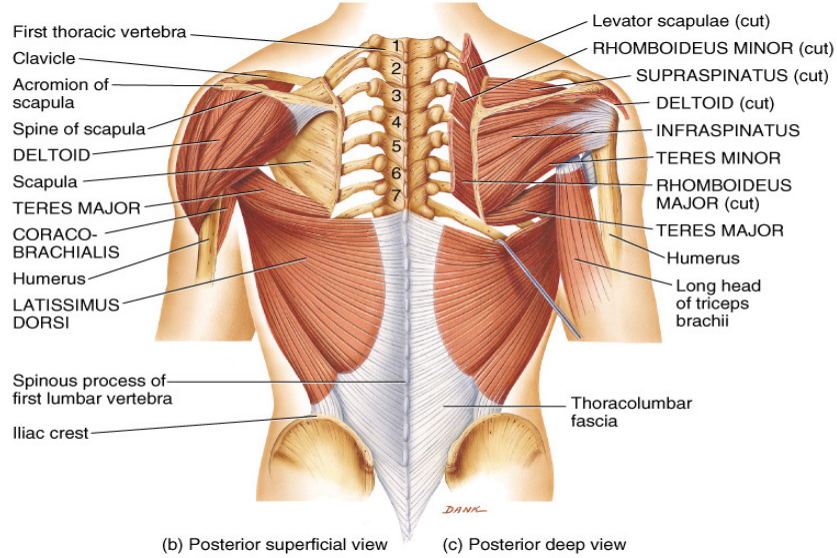
Longus: Longest muscle in a group



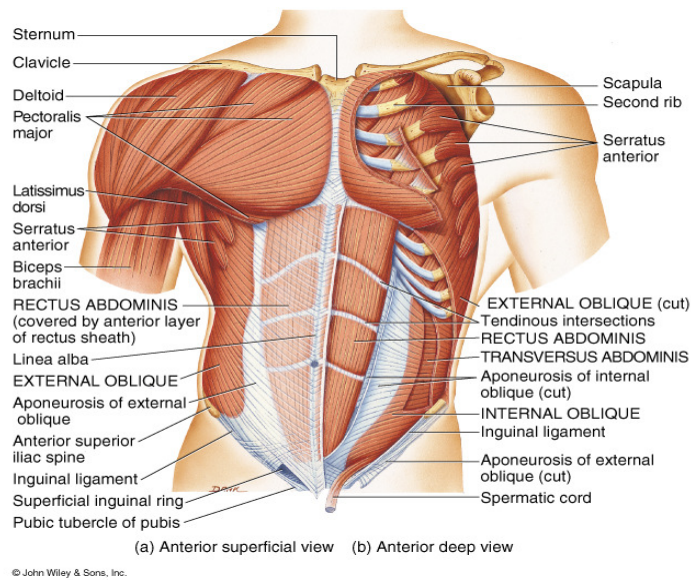
Brevis: Shortest muscle in a group



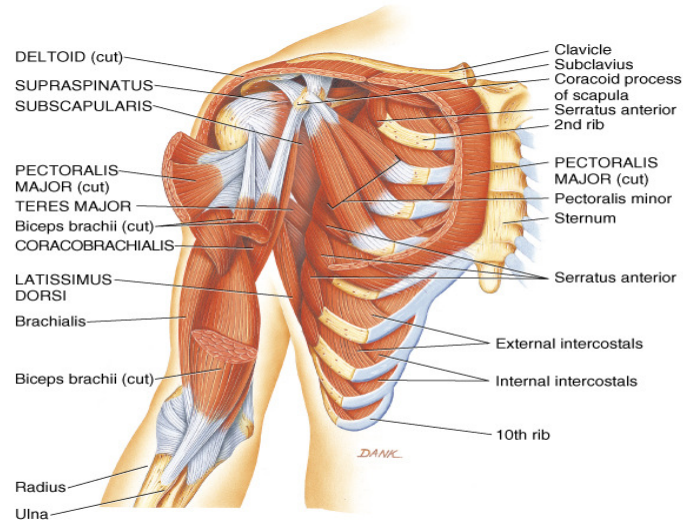
Latissimus: Widest muscle in a group



Major: Largest muscle in a group



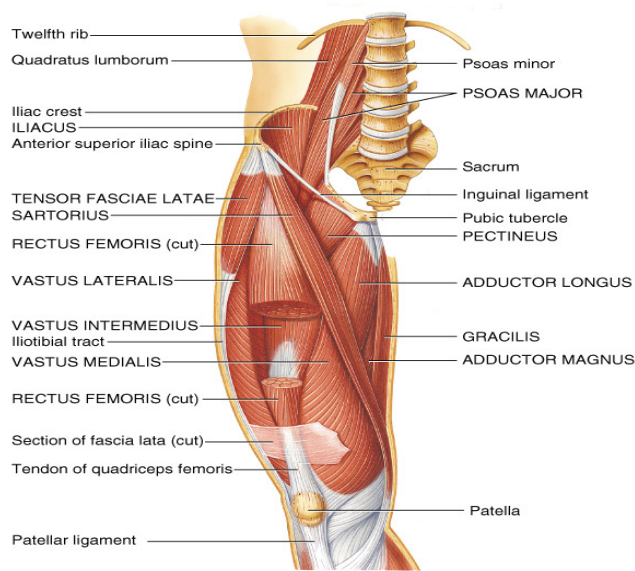
Minor: Smallest muscle in a group



(a) Anterior deep view (the intact pectoralis major muscle is shown in figure 11.10a)

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Vastus: Great or large muscle



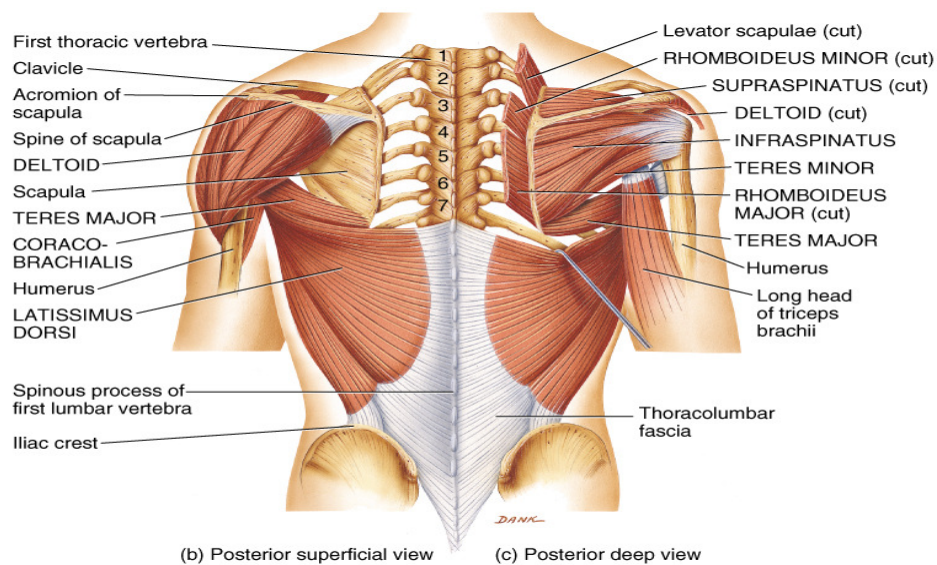
(a) Anterior superficial view

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Characteristics Used to Name Muscles

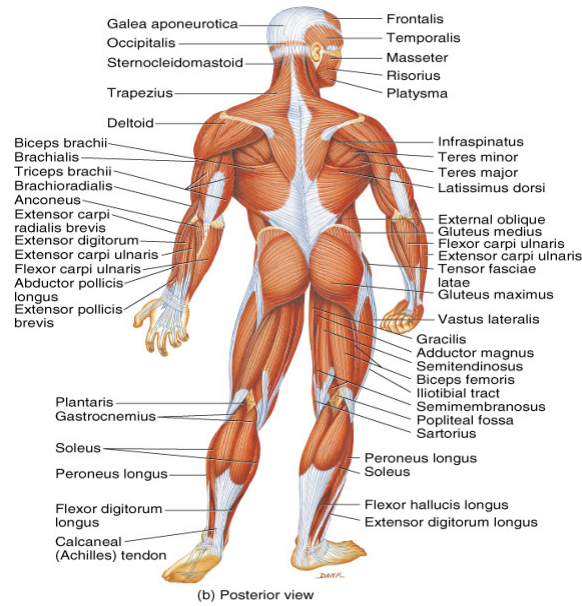
- **Shape of Muscle**
 - **Deltoid: Triangular shaped**
 - **Trapezius: Trapezoid shaped**
 - **Serratus: Saw-toothed muscle edge**
 - **Rhomboideus: Diamond shaped**
 - **Orbicularis: Circular shaped**
 - **Pectinate: Comblike shaped**
 - **Platys: Flat muscle**
 - **Quadratus: Square shaped**
 - **Gracilis: slender muscle**

Deltoid: Triangular shaped

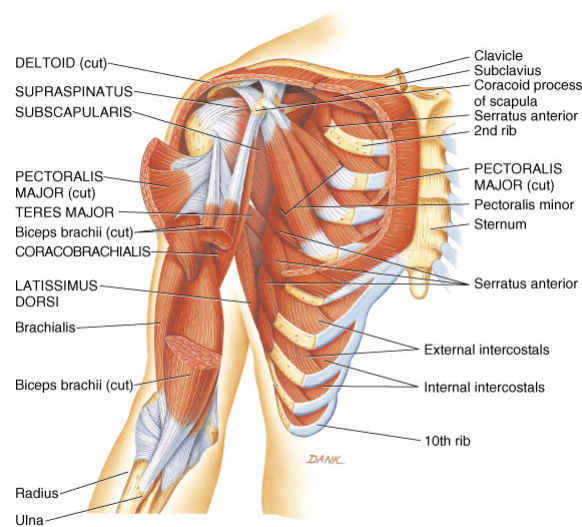


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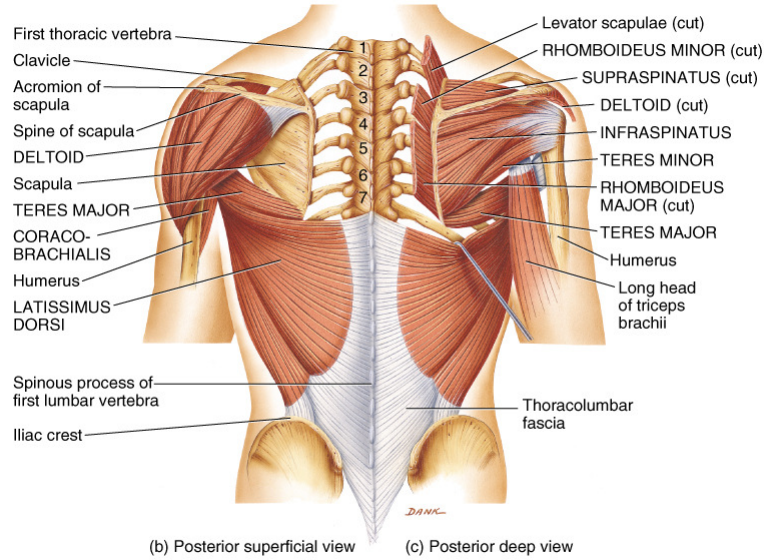
Trapezius: Trapezoid shaped



Serratus: Saw-toothed muscle edge

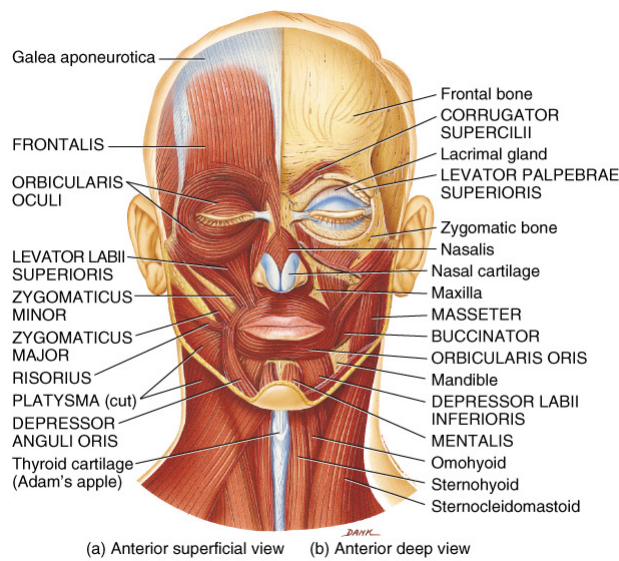


Rhomboideus: Diamond shaped



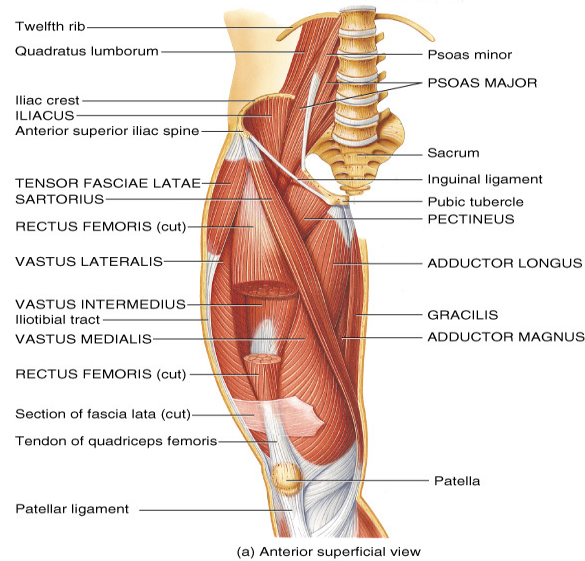
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Orbicularis: Circular shaped



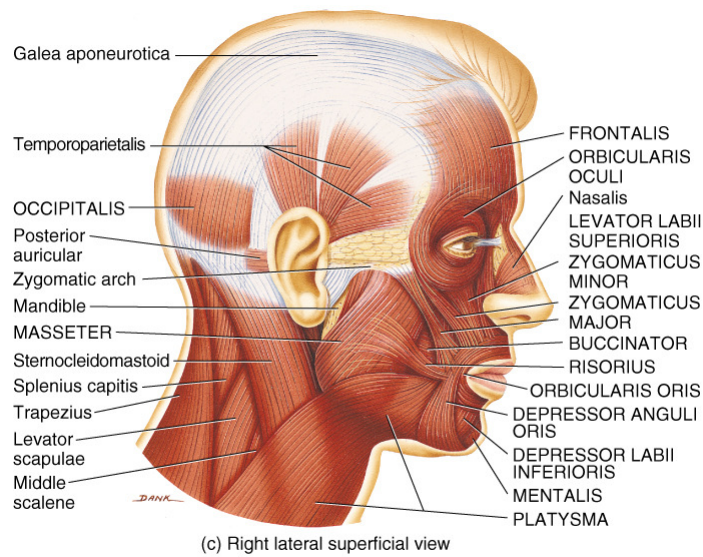
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Pectinate: Comblike shaped



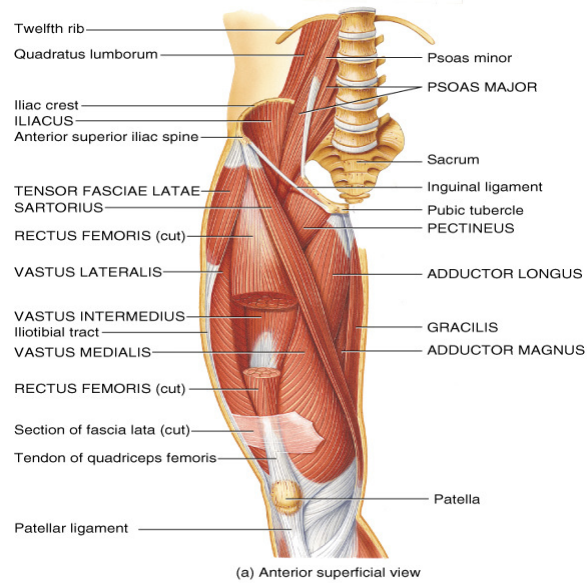
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Platys: Flat muscle

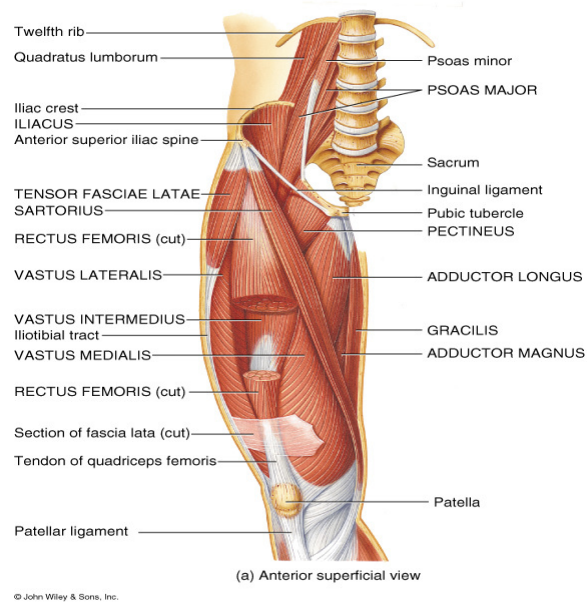


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Quadratus: Square shaped



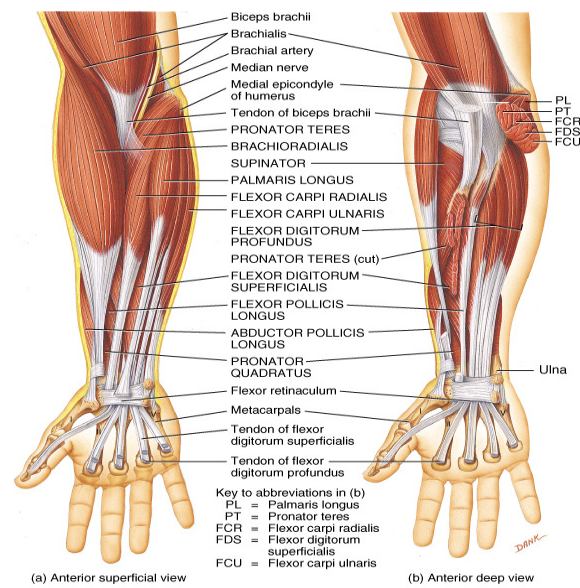
Gracilis: Slender muscle



Characteristics Used to Name Muscles

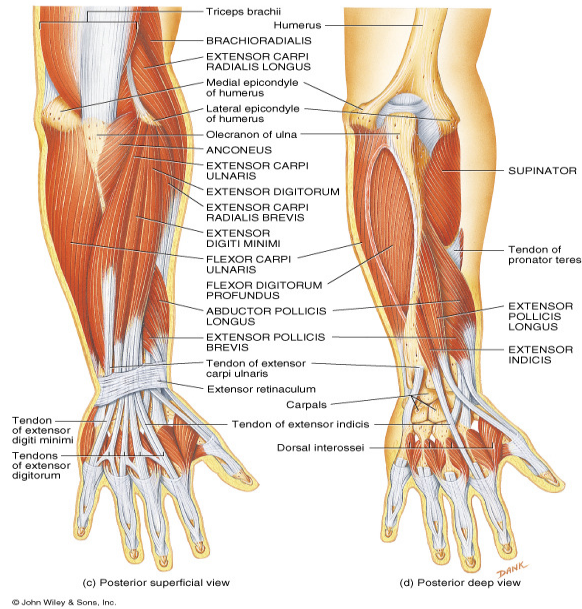
- **Action of Muscles**
 - **Flexor:** Decreases angle at joint
 - **Extensor:** Increases angle at joint
 - **Abductor:** Moves bone away from midline
 - **Adductor:** Moves bone toward midline
 - **Levator:** Produces superior movement
 - **Depressor:** Produces inferior movement
 - **Supinator:** Turns palm anteriorly
 - **Pronator:** Turns palm posteriorly
 - **Sphincter:** Decreases size of opening
 - **Tensor:** Makes a body part rigid
 - **Rotator:** Moves bone around an axis

Flexor: Decreases angle at joint

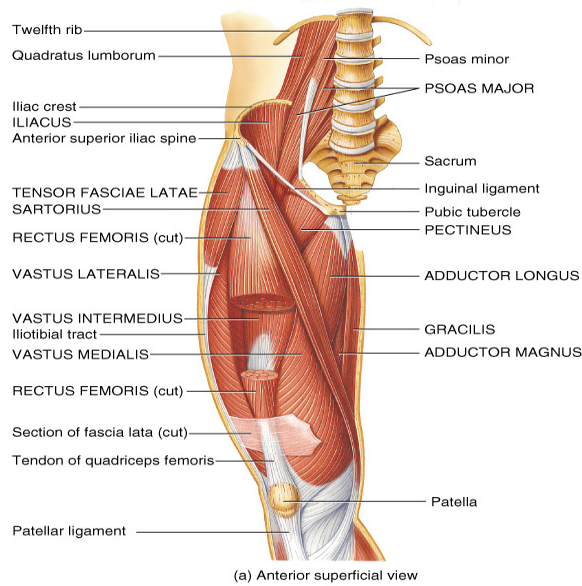


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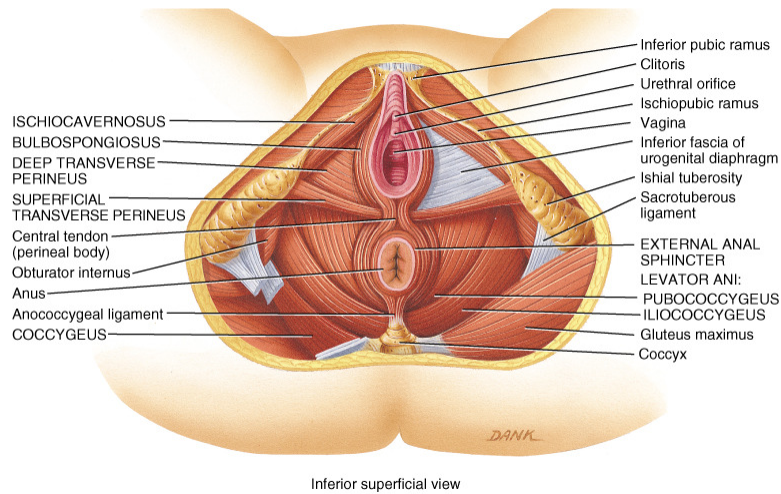
Extensor: Increases angle at joint



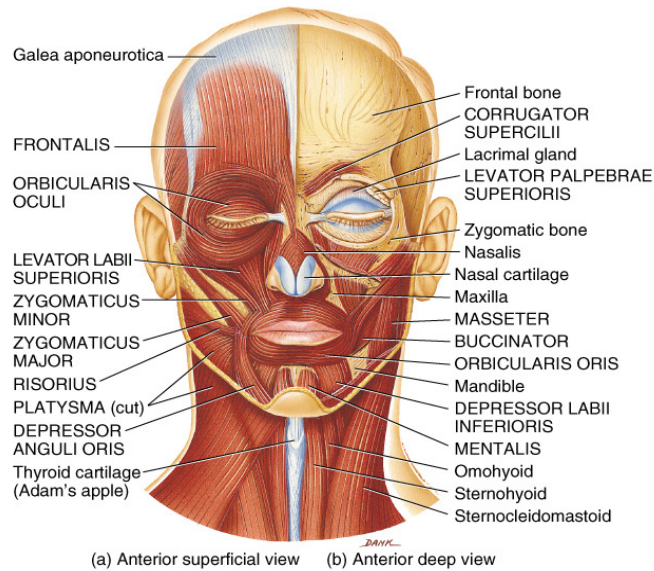
Adductor: Moves bone toward midline



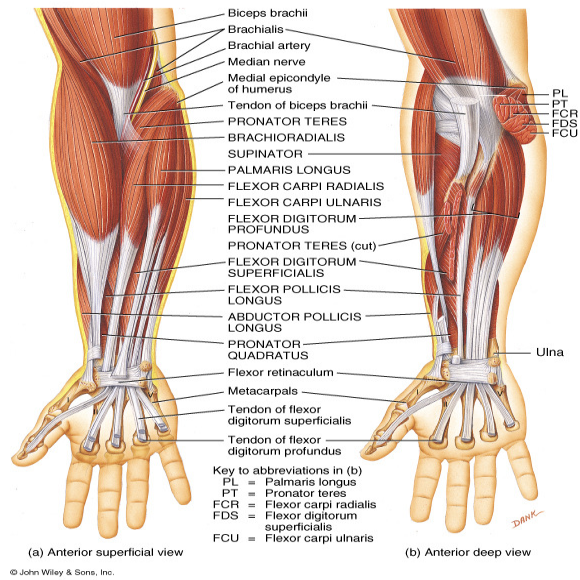
Levator: Produces superior movement



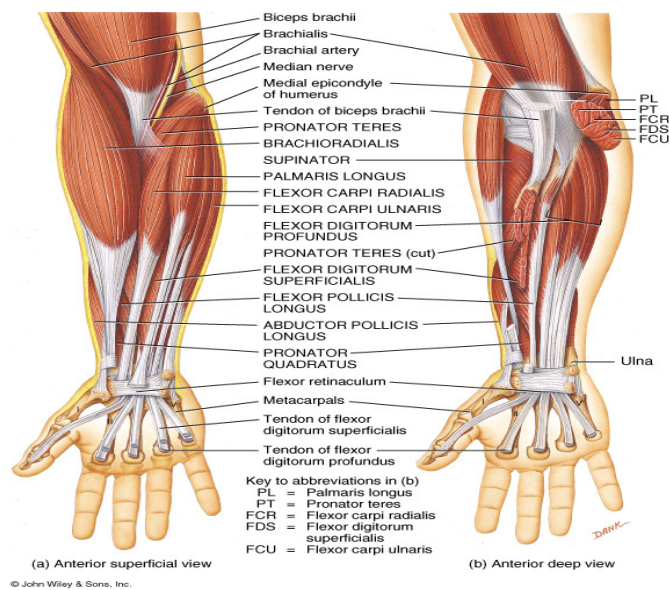
Depressor: Produces inferior movement



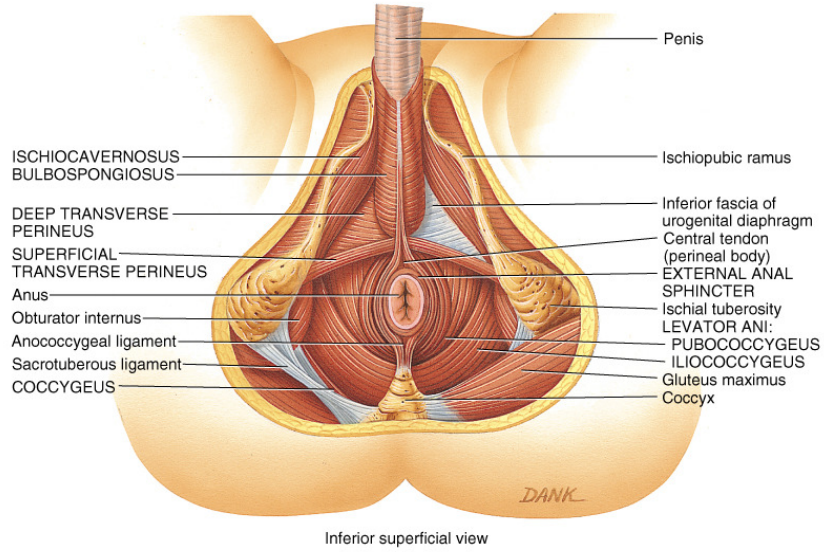
Supinator: Turns palm anteriorly



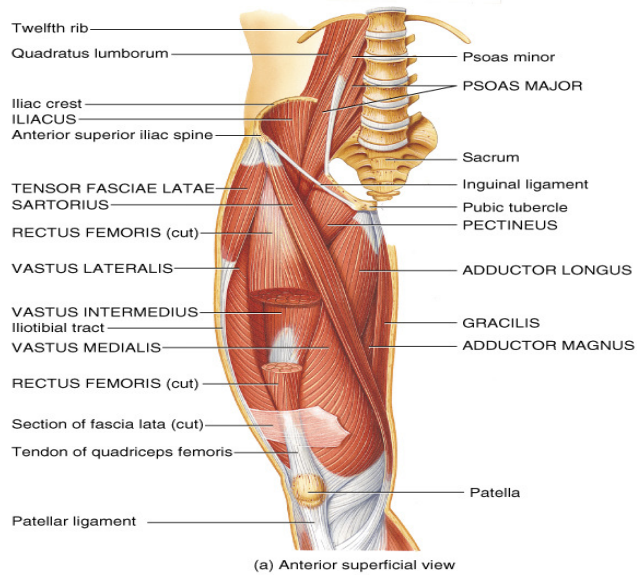
Pronator: Turns palm posteriorly



Sphincter: Decreases size of opening



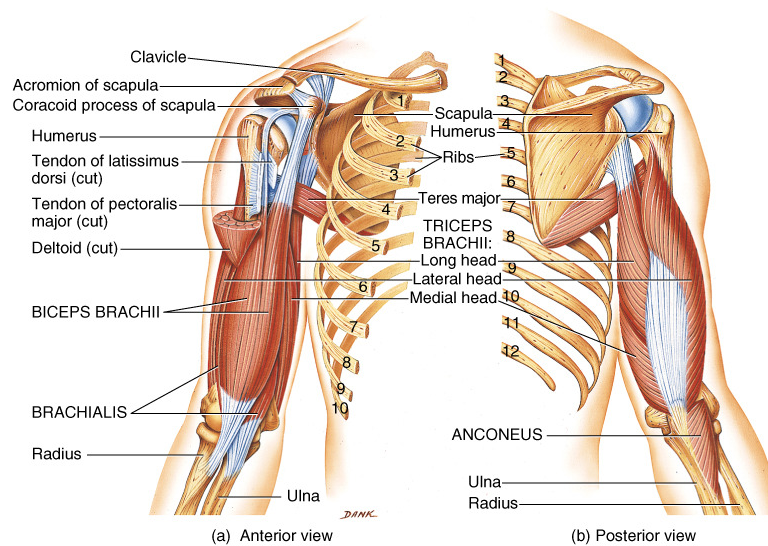
Tensor: Makes a body part rigid



Characteristics Used to Name Muscles

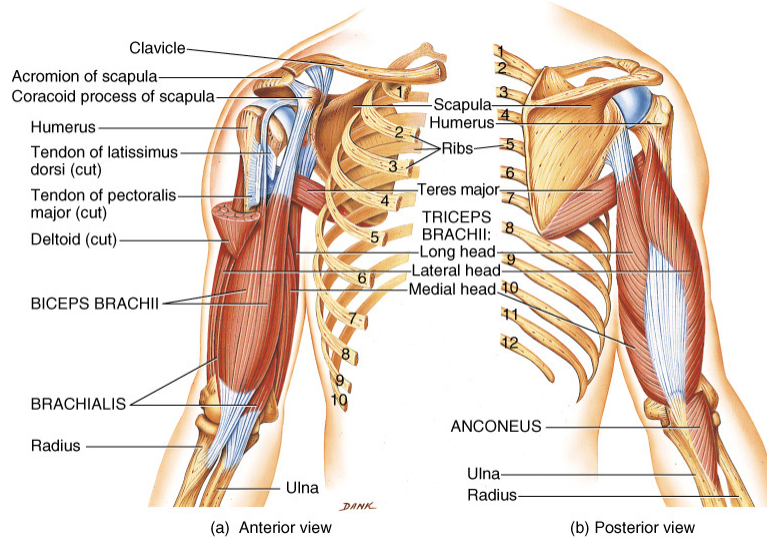
- **Number of Origins of Muscle**
 - **Biceps:** Muscle with two origins
 - **Triceps:** Muscle with three origins
 - **Quadriceps:** Muscle with four origins

Biceps: Muscle with two origins



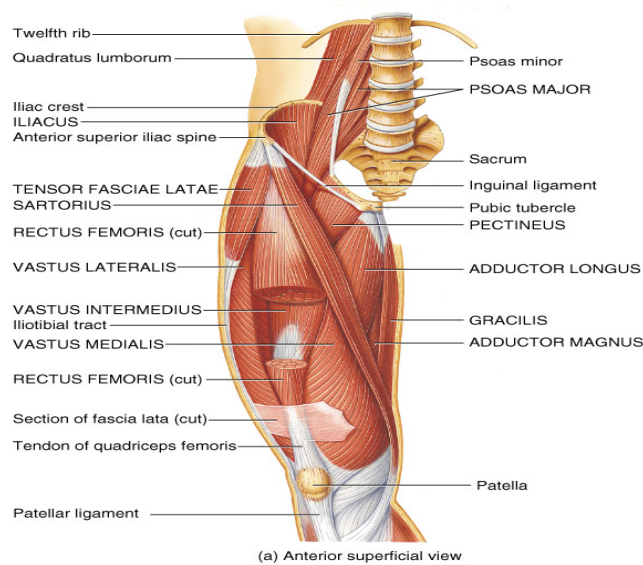
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Triceps: Muscle with three origins



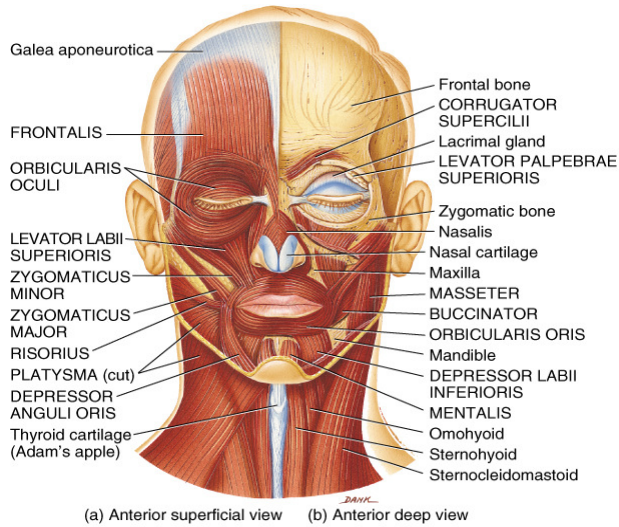
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Quadriceps: Muscle with four origins

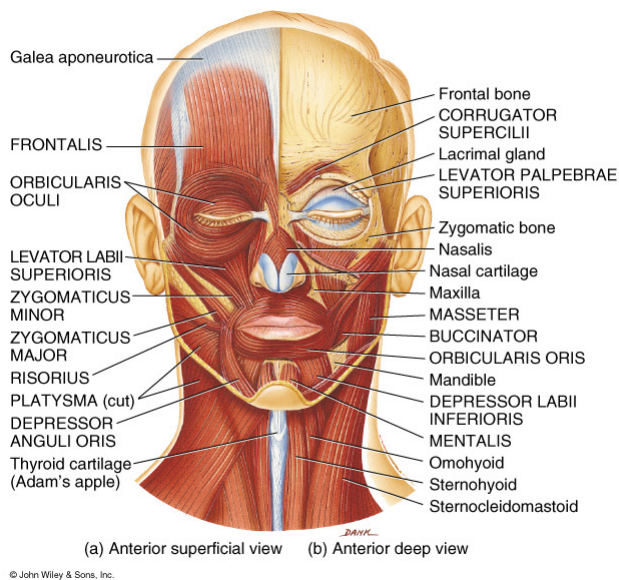


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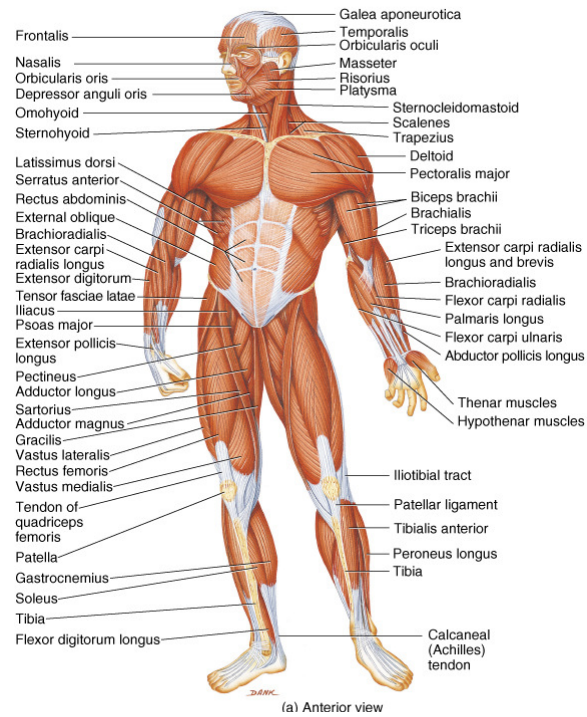
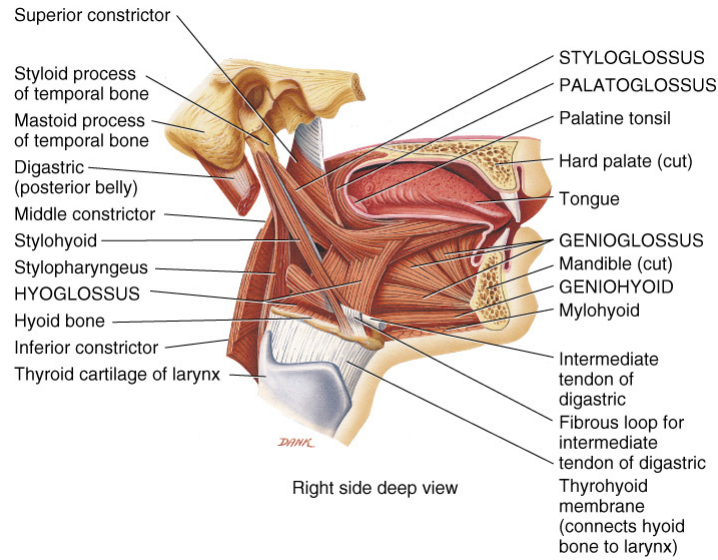
Location of Muscle

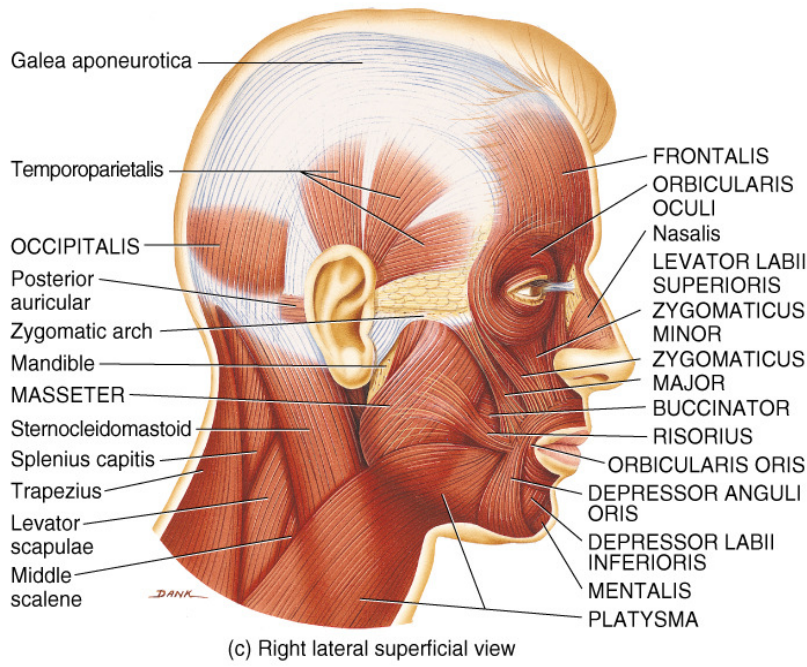
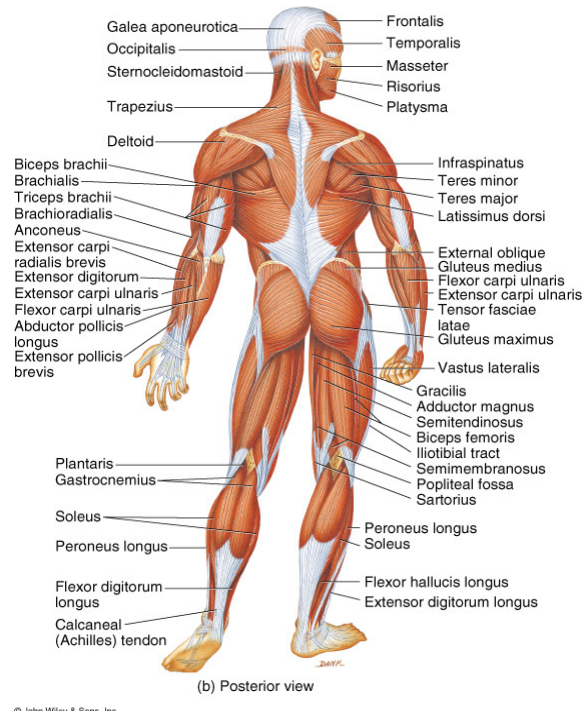


Origin and Insertion of Muscle

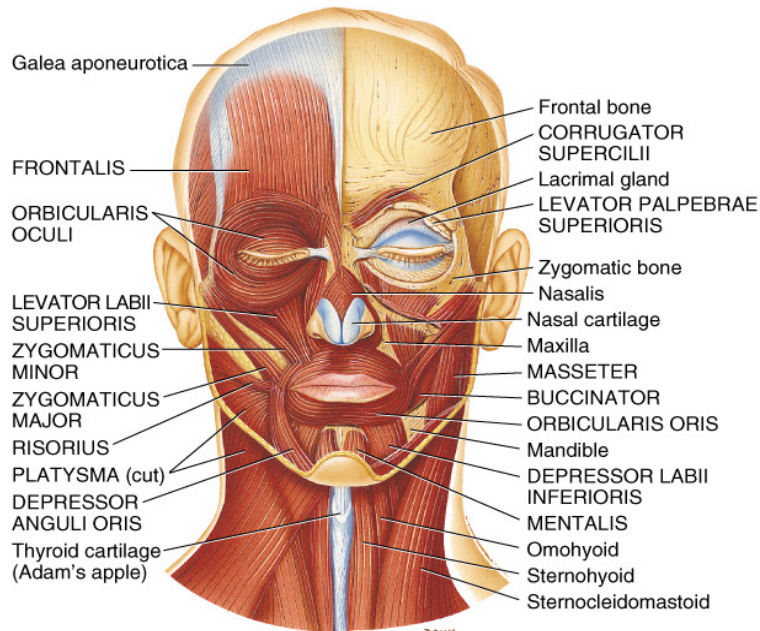


Origin and Insertion of Muscle



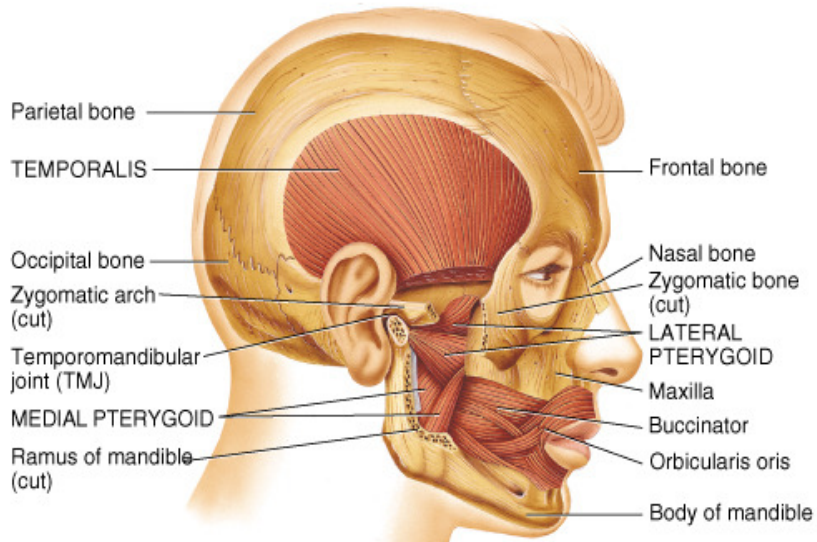


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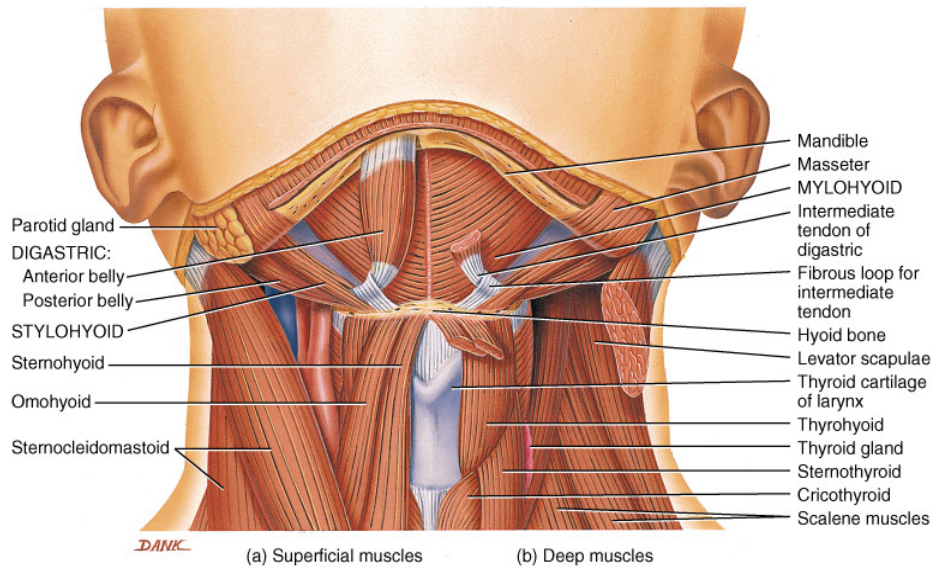
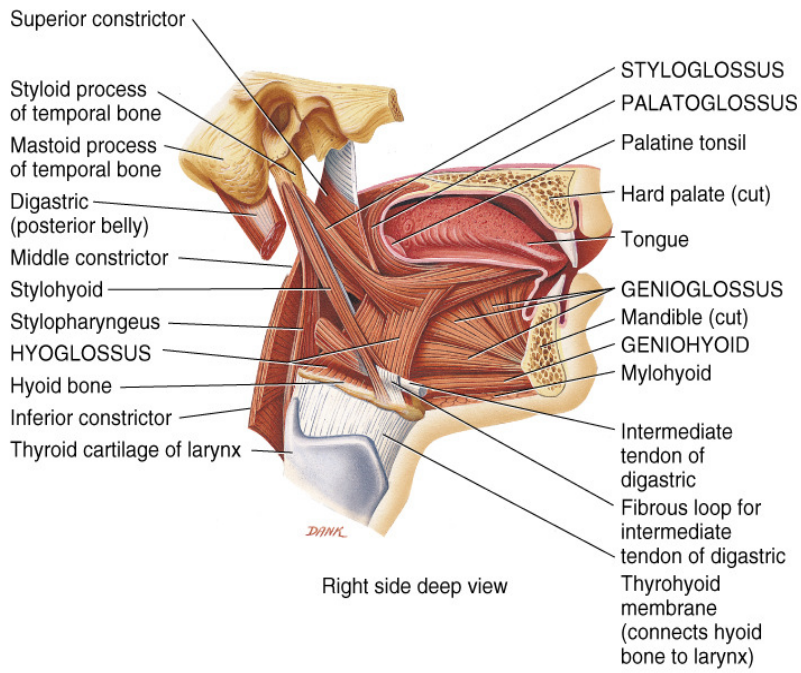
(a) Anterior superficial view (b) Anterior deep view

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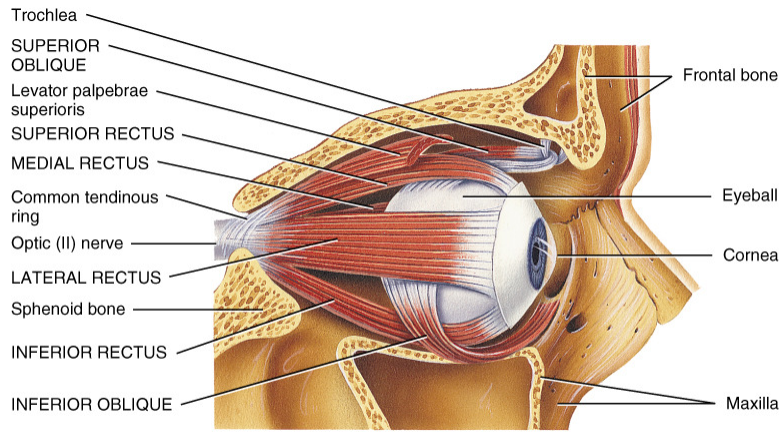


Right lateral deep view

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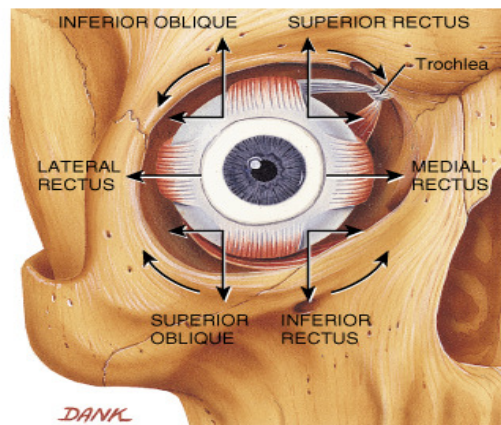
Extrinsic Muscles of the Eye



(a) Lateral view of right eyeball

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Extrinsic Muscles of the Eye



(b) Movements of right eyeball in response to contraction of extrinsic muscles

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