

# **Gross Anatomy & Physiology of Selected Skeletal Muscles**

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Human Anatomy & Physiology I

## Disclaimer

This series of slides is intended to help you understand the overlying functional actions of selected skeletal muscles. Some figures shown are not required of you but allow you to see the muscle in much better detail. You should learn the *exact* figures noted in the *student guide to selected skeletal muscles* which was given to you during lab.

A- Look at page 174 in your manual to study the types of body movements produced by muscle contraction.

B- Read the origin, insertion and actions on each slide.

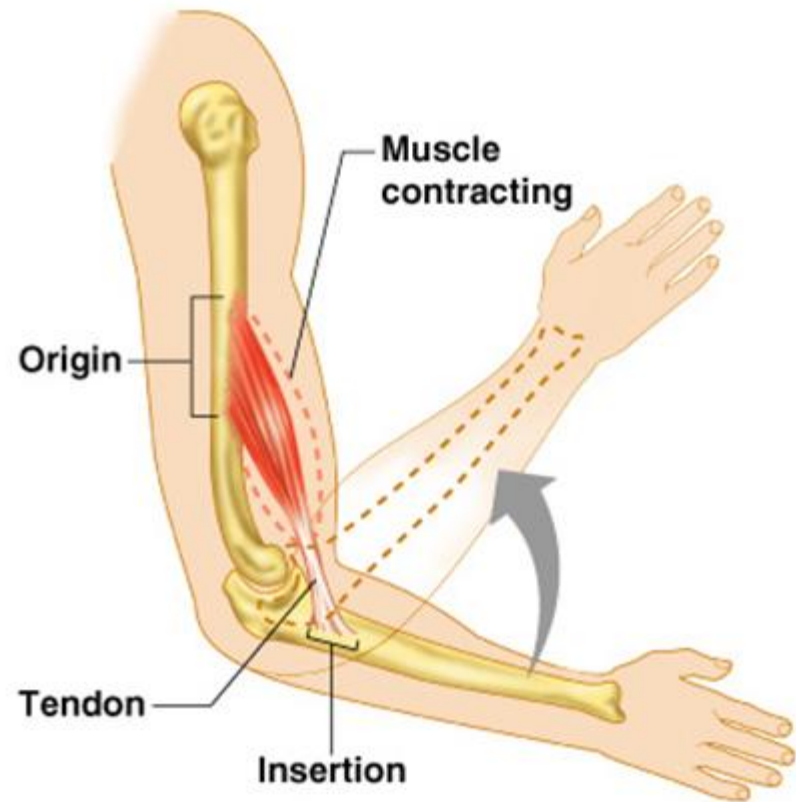
C- Using page 174 and the arrows on each slide follow the actions/movements of each muscle after the insertion moves towards the origin of the muscle (this is called contraction) and results in body movements.

While studying these actions of muscles, recall the most basic principle in skeletal muscle physiology:

***The insertion of a muscle moves toward it's origin to produce action.***

If questions, simply email:

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# EXAMPLE SLIDE:

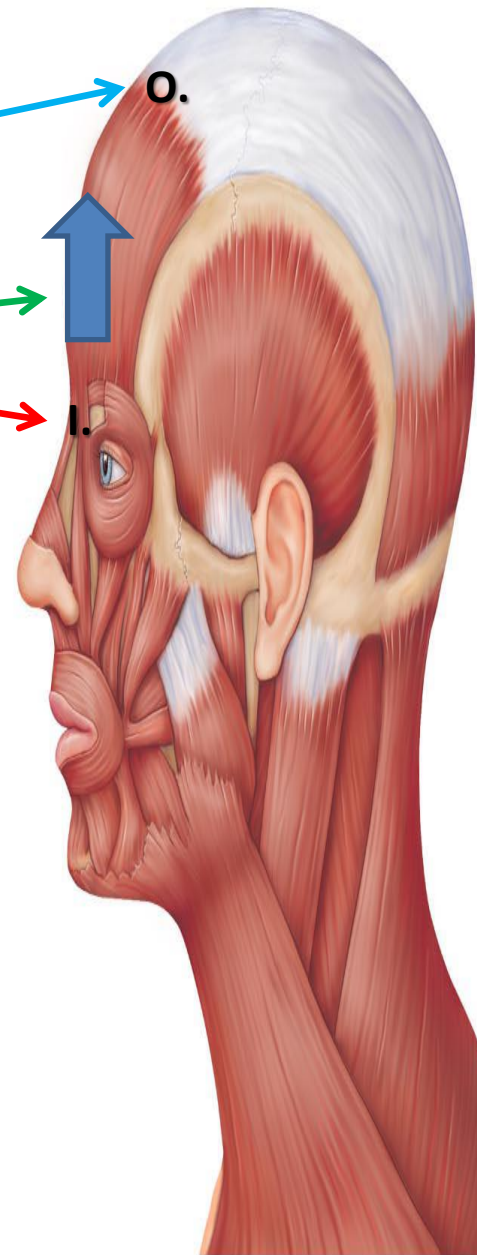
## Frontalis

O: Galea aponeurosis

I: Skin above the supraorbital margin

A: Raises the eyebrows

[The arrow shows the movement that occurs after/during contraction]

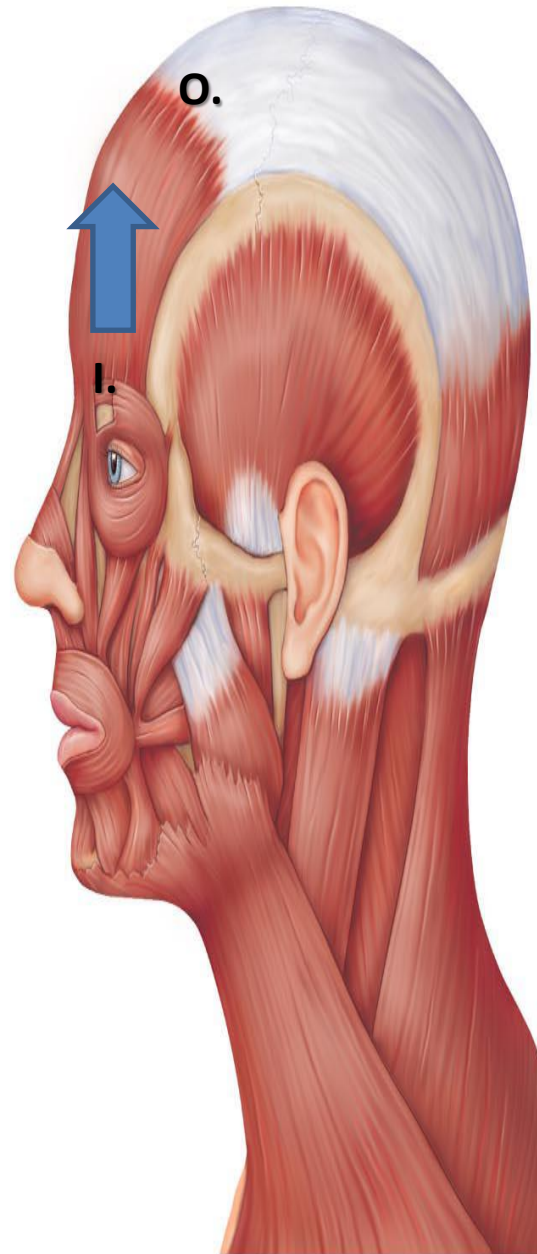


## Frontalis

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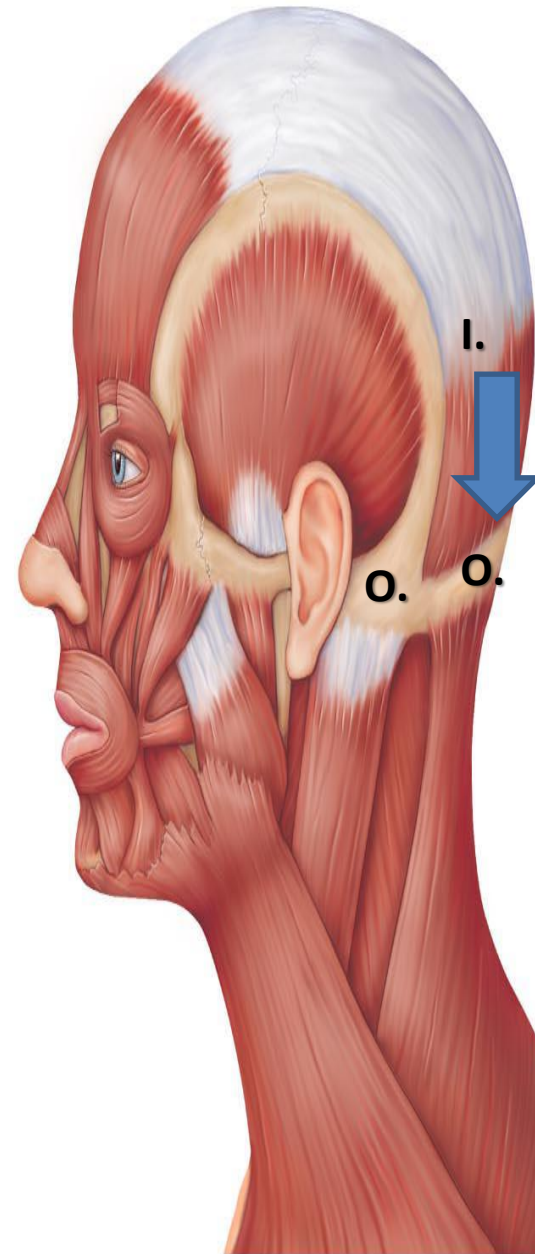


## Occipitalis

O: Occipital bone and mastoid process

I: Galea aponeurosis

A: Pulls scalp posteriorly

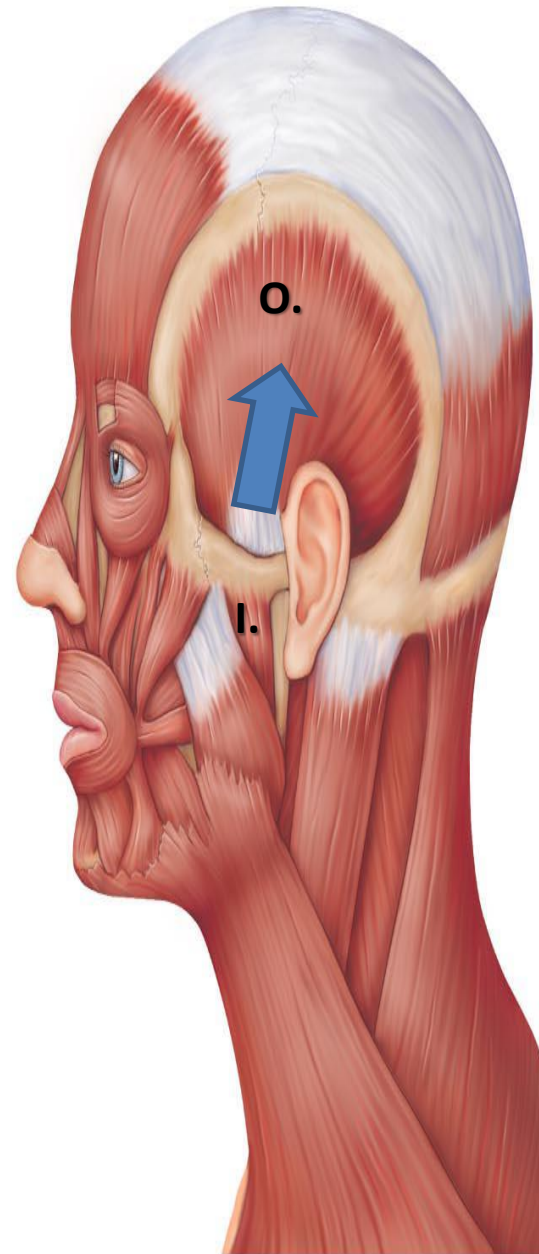
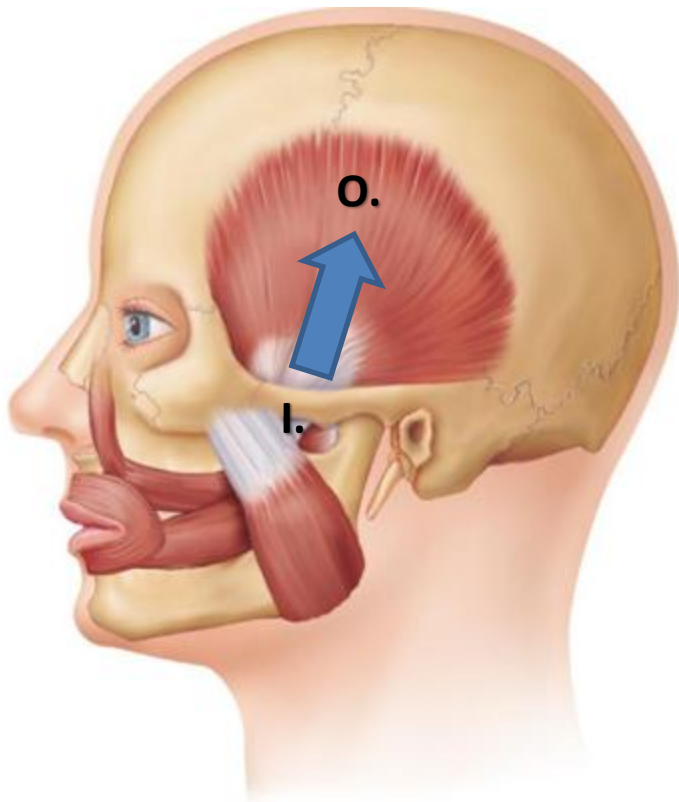


# Temporalis

O: Temporal bone

I: Coronoid process of the mandible

A: Elevates the jaw

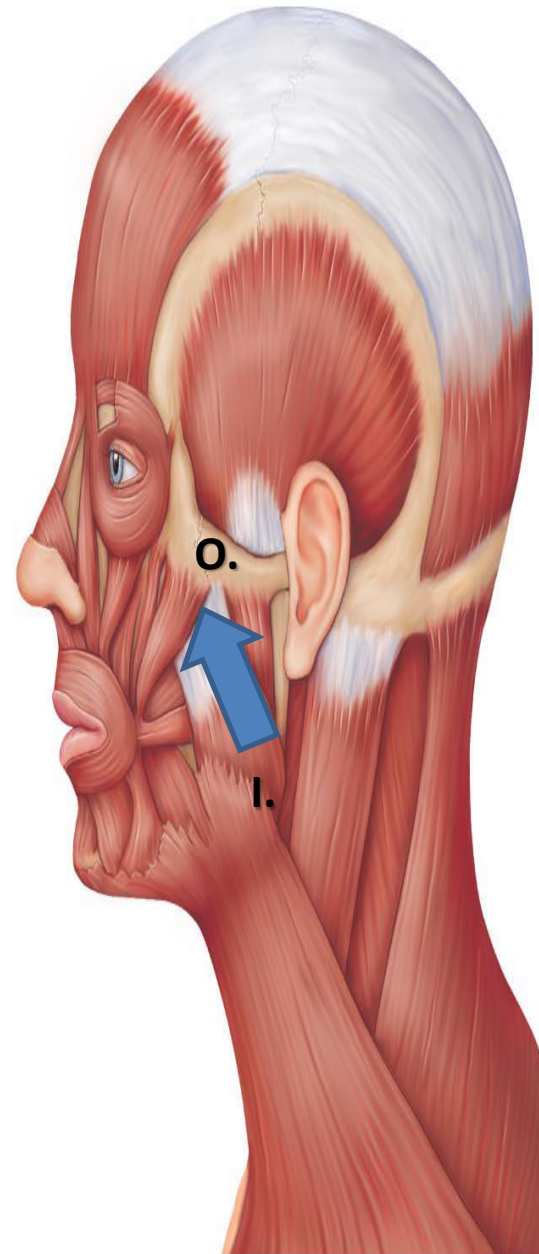
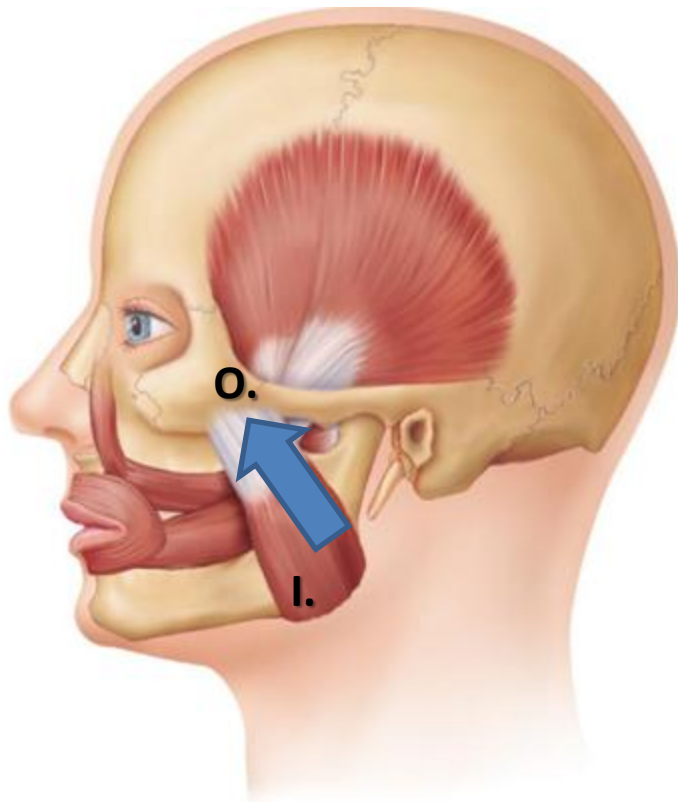


## Masseter

O: Zygomatic arch

I: Angle and ramus of the mandible

A: Elevates the jaw



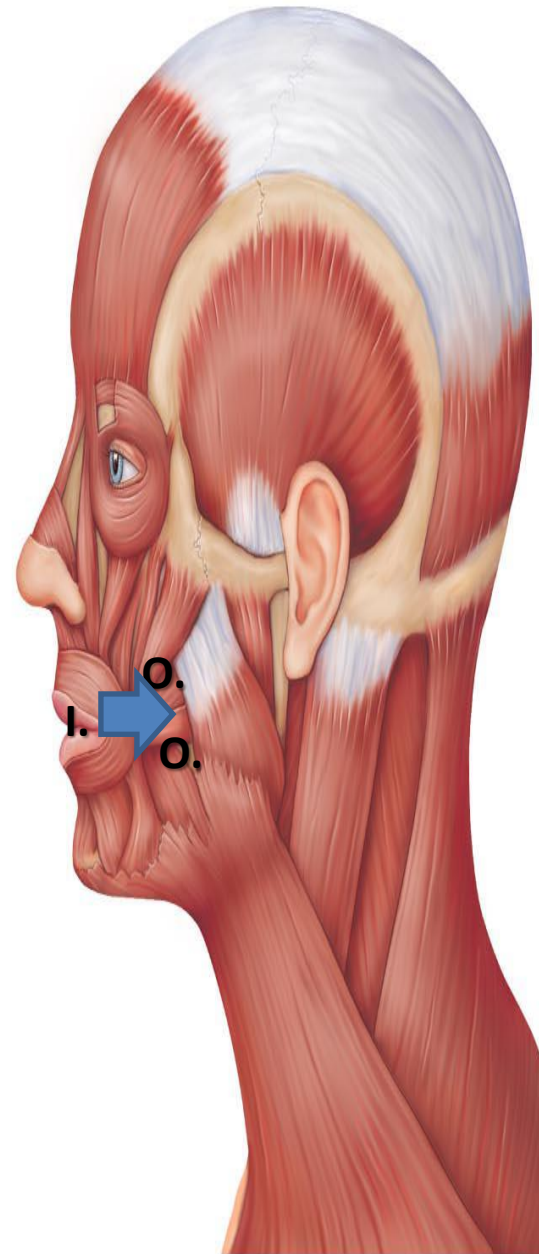
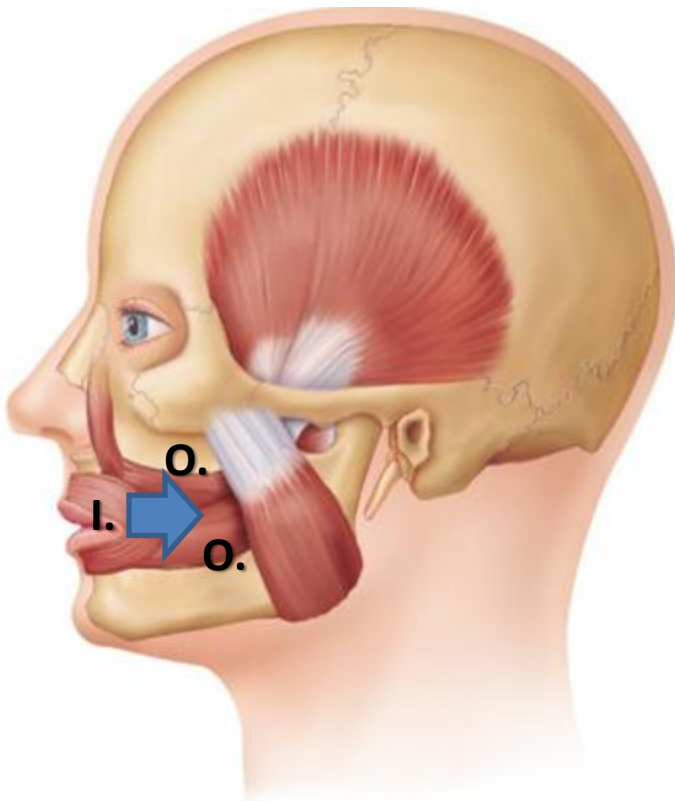
## Buccinator

“Trumpeter’s Muscle”

O: Alveolar processes of the posterior mandible and maxillae

I: Orbicularis oris muscle

A: Compresses the cheek when blowing and sucking



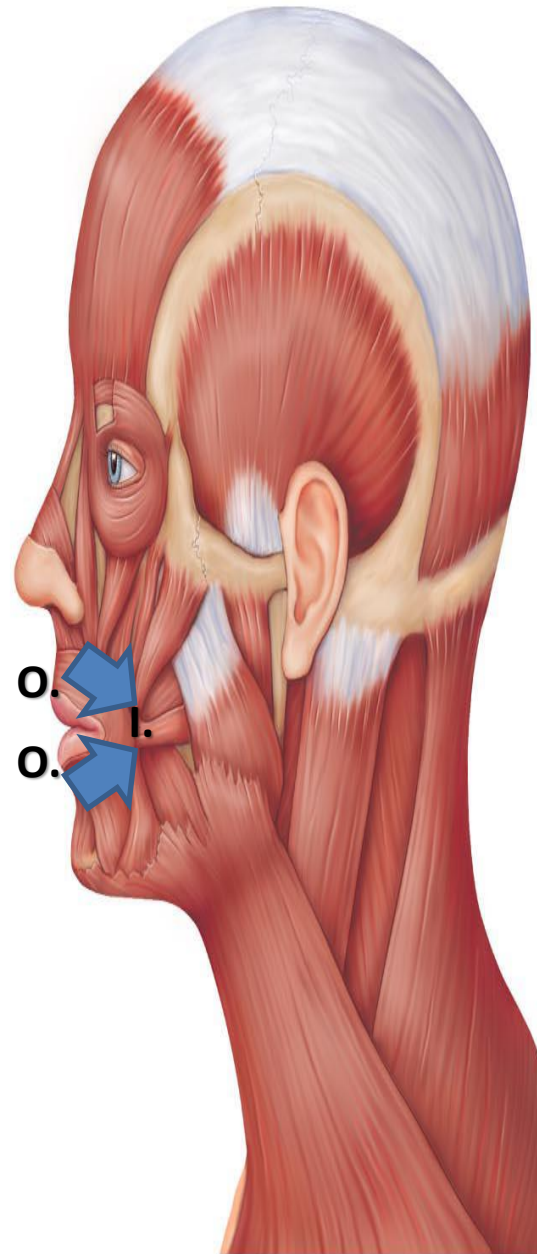
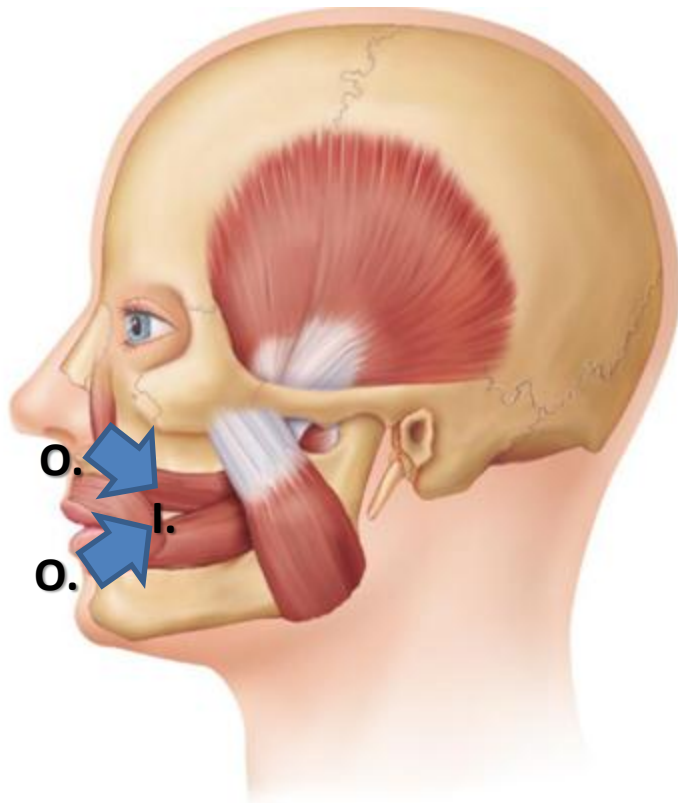


## Orbicularis Oris

O: Fascia associated with the maxillae, mandible and lips

I: Muscles and skin at the angle of the mouth

A: Purses and puckers the lips

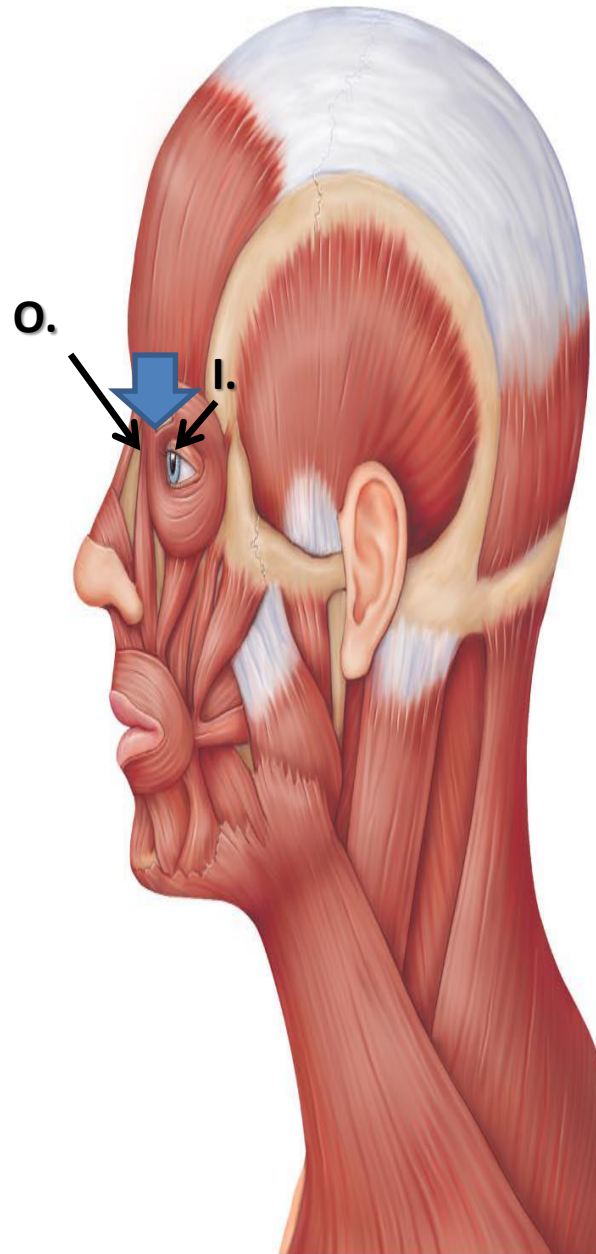
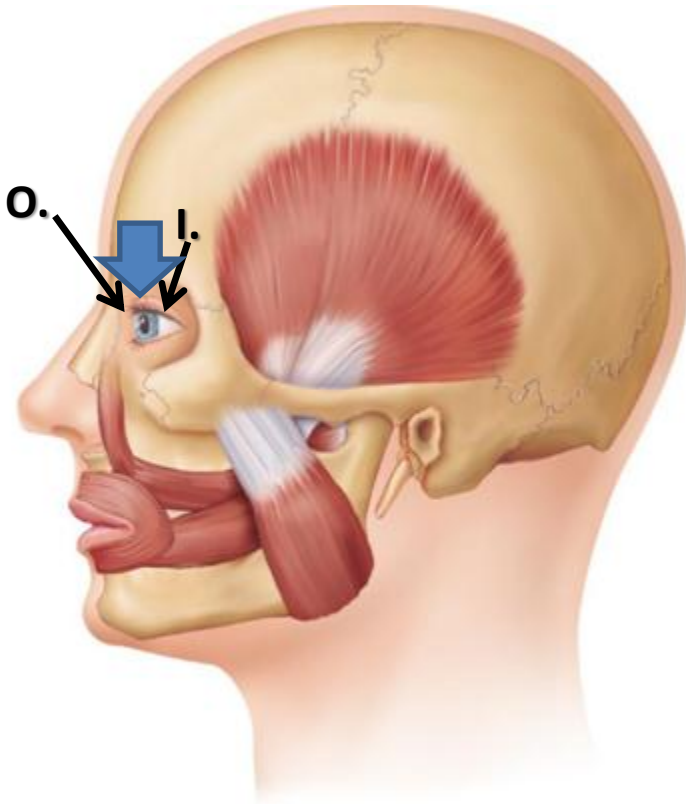


## Orbicularis Oculi

O: Medial wall of the orbit

I: Tissue of the eyelid

A: Closes the eye



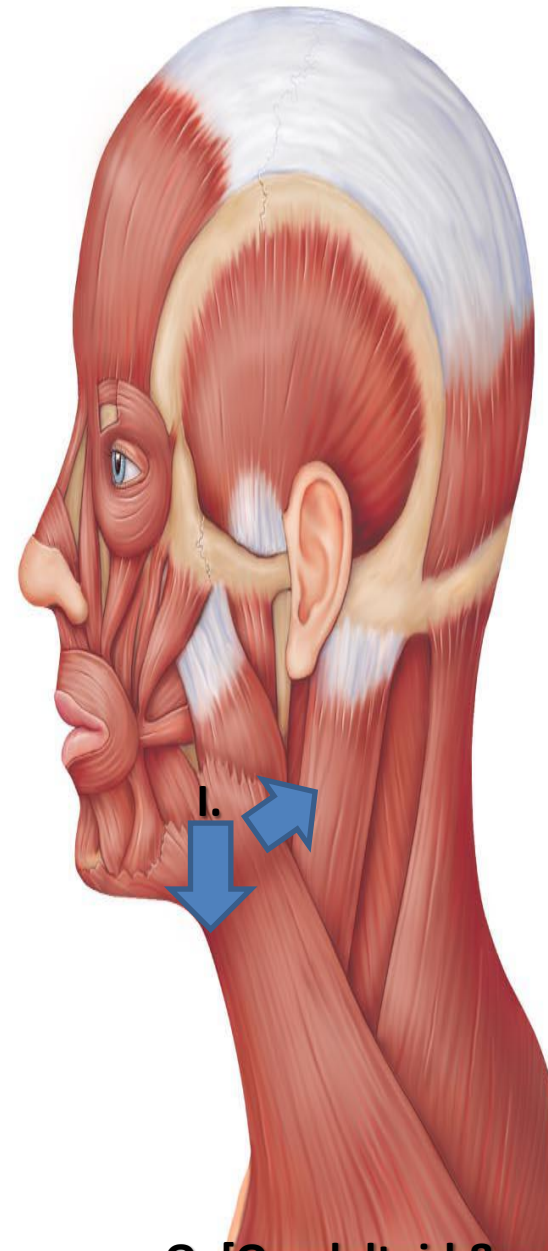
# Platysma

“Pouting Muscle”

O: Fascia of the deltoid and pectoralis major muscles

I: Mandible and skin of the corners of the mouth

A: Pulls the corners of the mouth down and back



**O. [On deltoid & pectoralis major]**

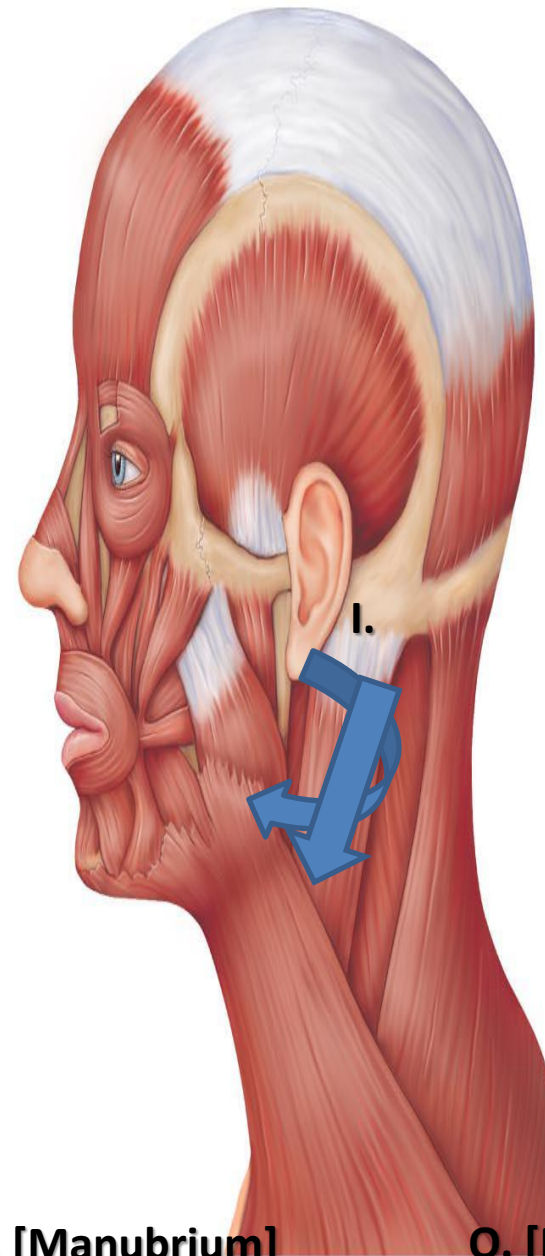
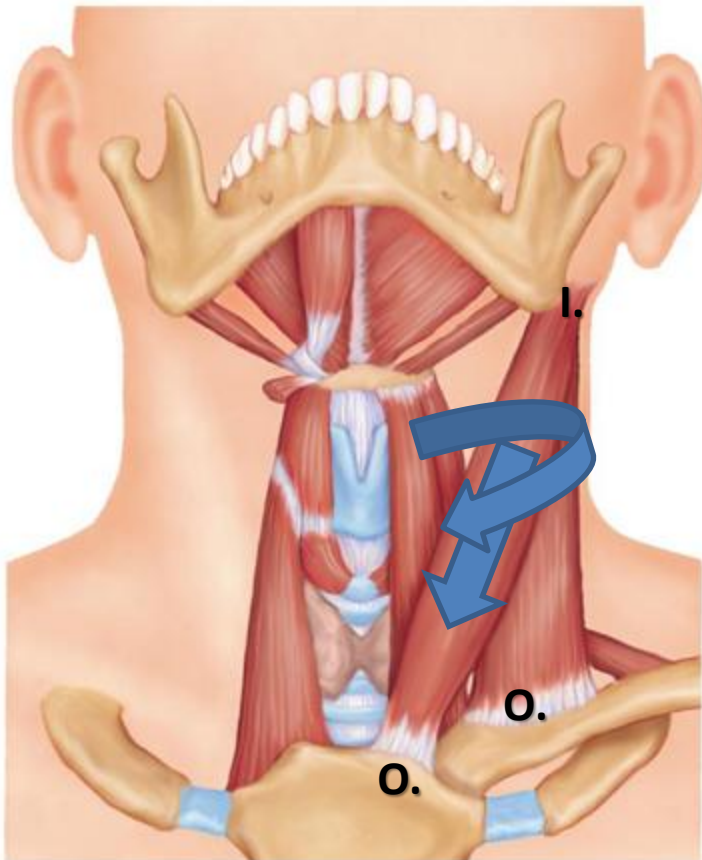
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## Sternocleidomastoid

O: Mid-clavicle and manubrium of sternum

I: Mastoid process of the temporal bone

A: Flexes and rotates the head



O. [Manubrium]

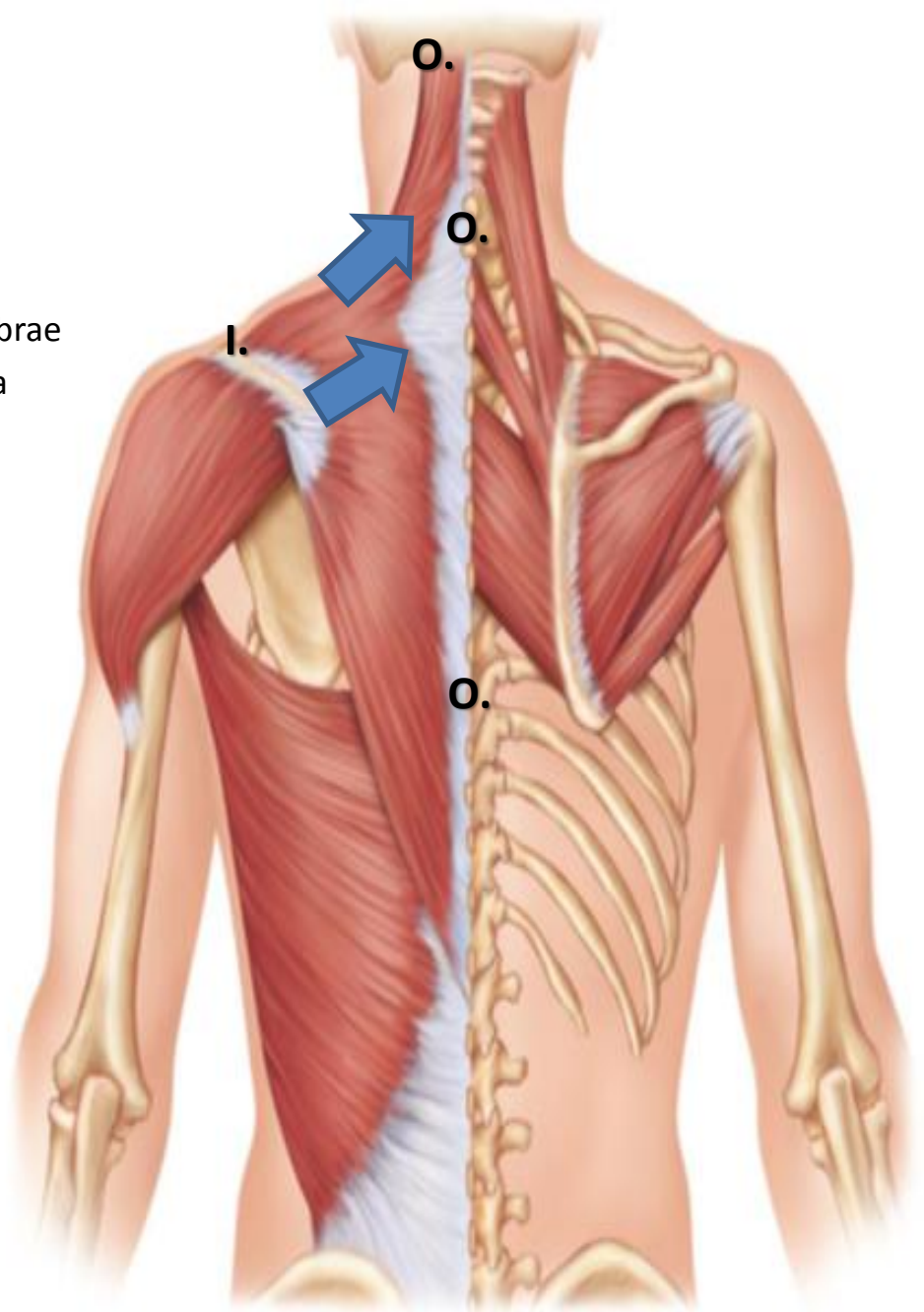
O. [Mid-clavicle]

## Trapezius

O: Occipital bone and spines of C7-all thoracic vertebrae

I: Clavicle, and the acromion and spine of the scapula

A: Extend the head and shrug the shoulder

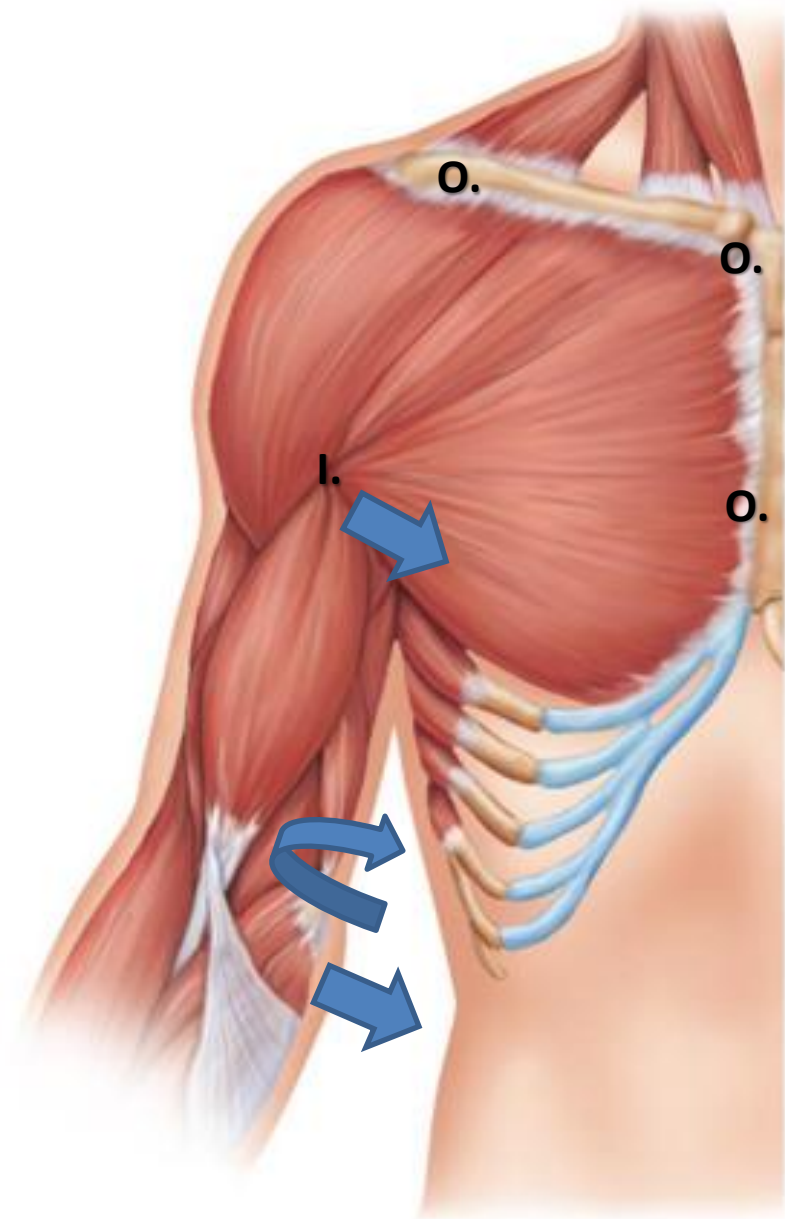
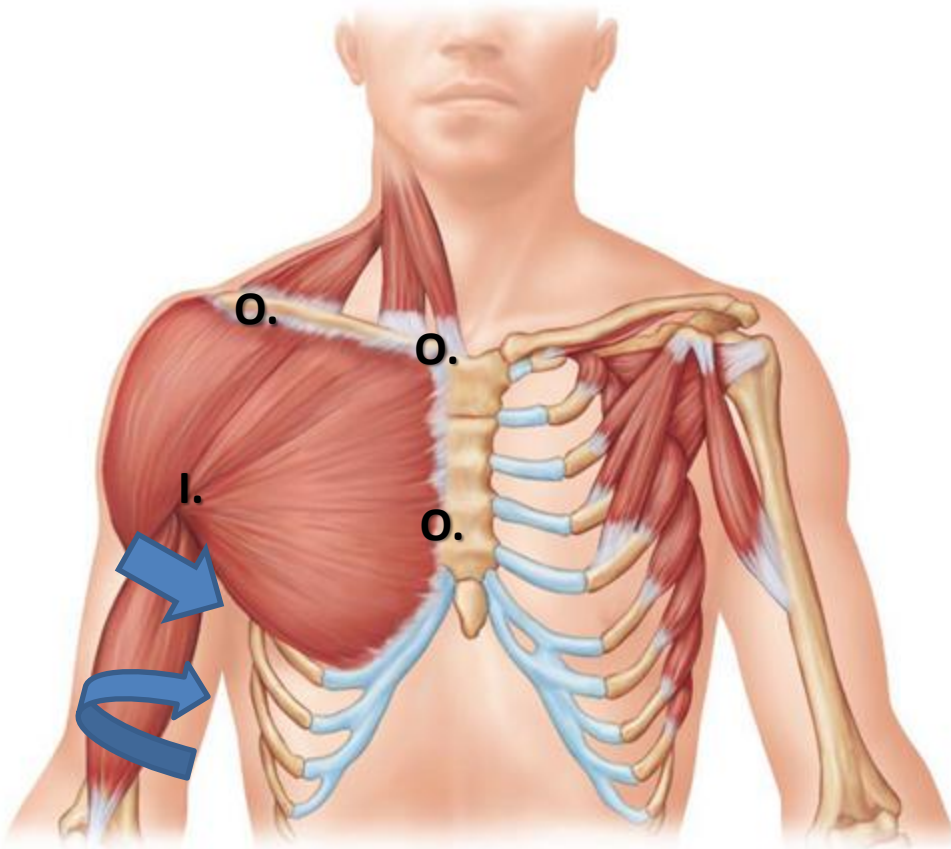


## Pectoralis Major

O: Clavicle, sternum and the cartilages of the 1<sup>st</sup> 6 ribs

I: Greater tubercle

A: Flex, adduct and rotate the arm

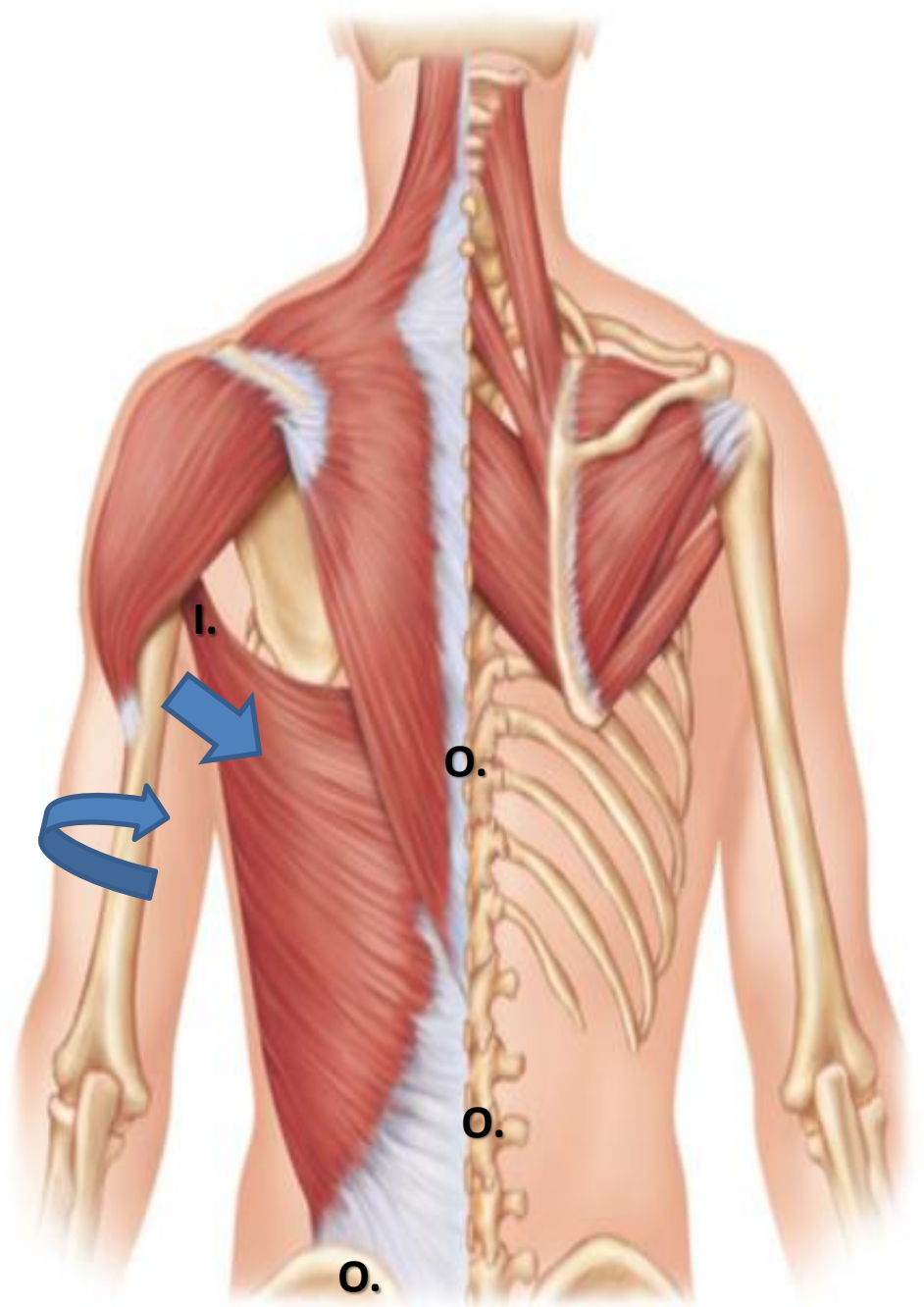


## Latissimus Dorsi

O: Spines of T6-L5, iliac and sacral crests

I: Intertubercular groove

A: Extend, adduct and rotate the arm

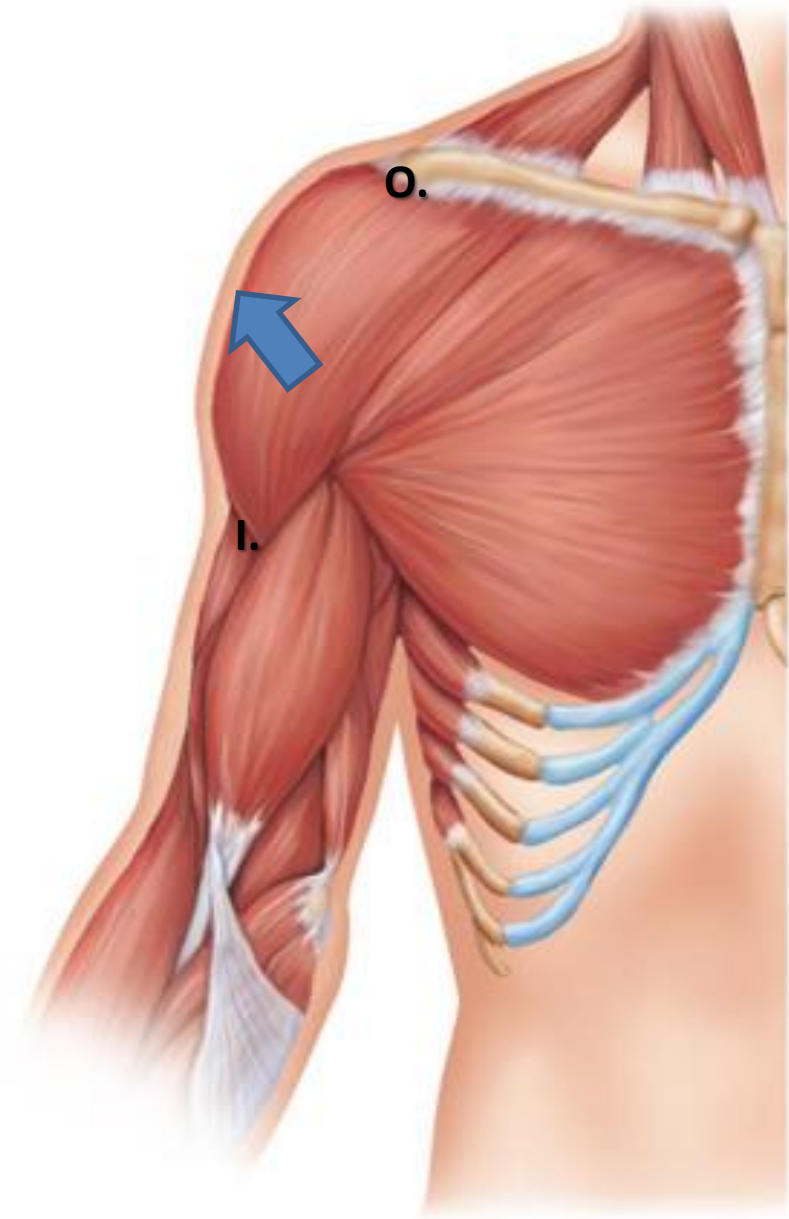
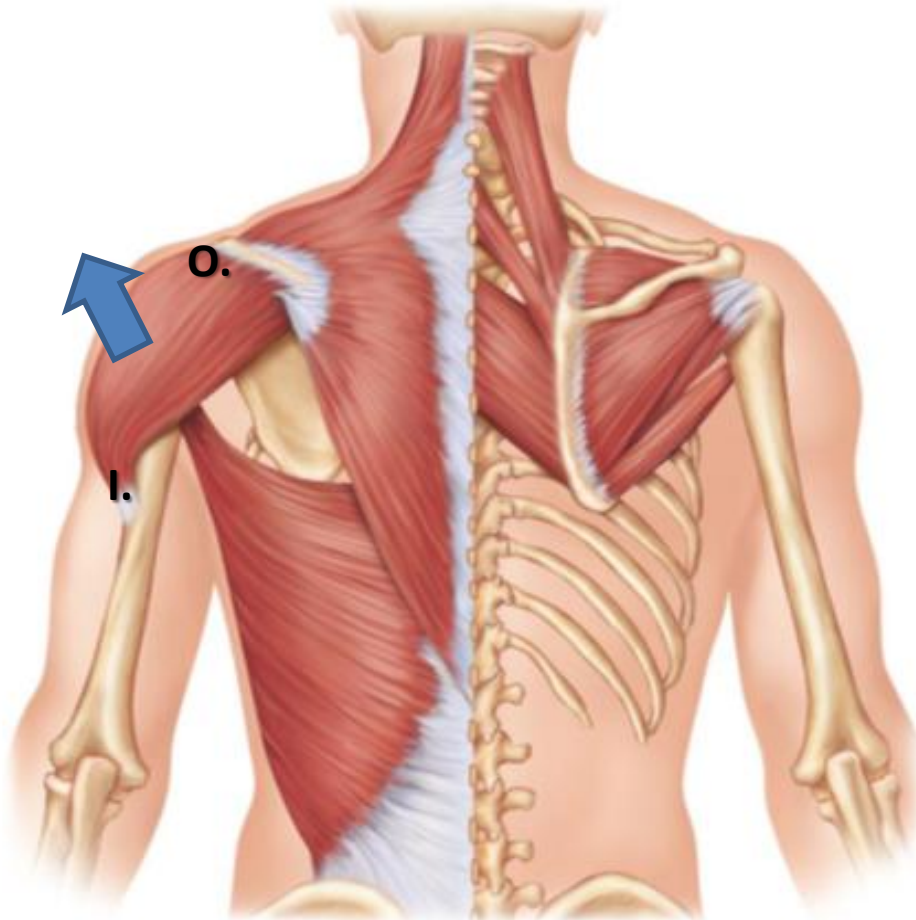


## Deltoid

O: Clavicle, and the acromion and spine of the scapula

I: Deltoid tuberosity

A: Abduct the arm



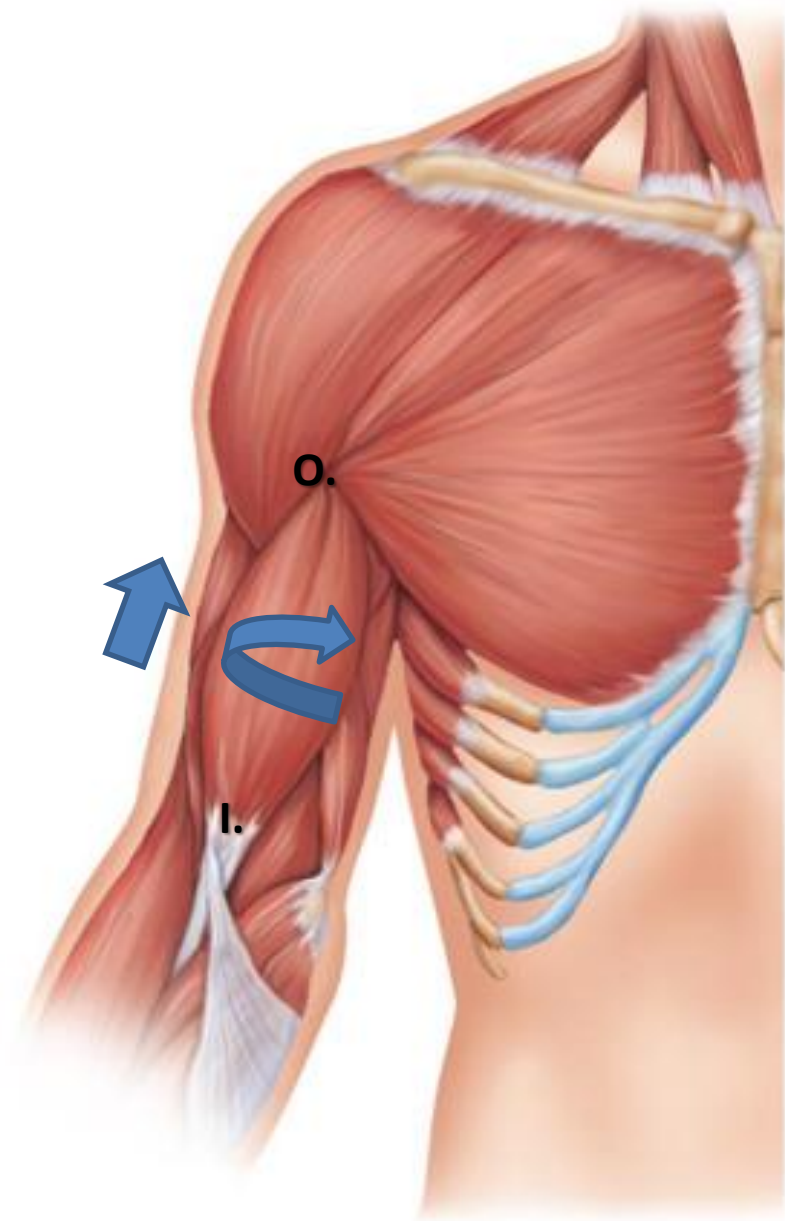
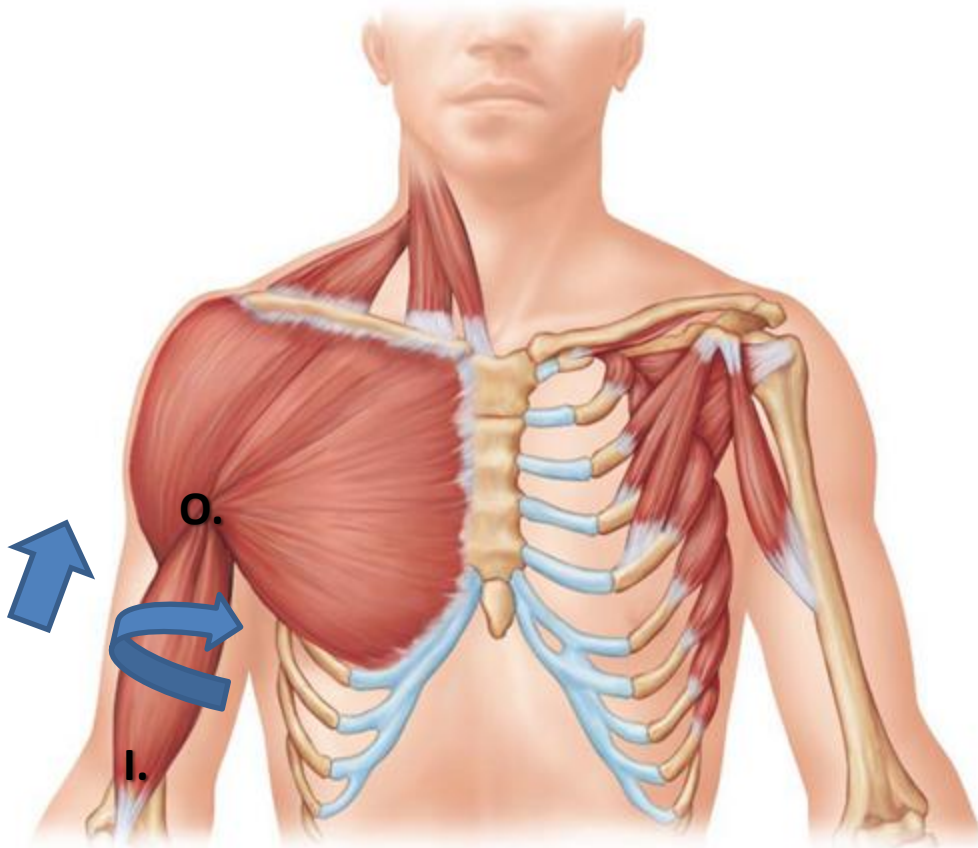


## Biceps Brachii

O: Supraglenoid tubercle and coracoid process

I: Radial tuberosity

A: Flex and supinate the forearm

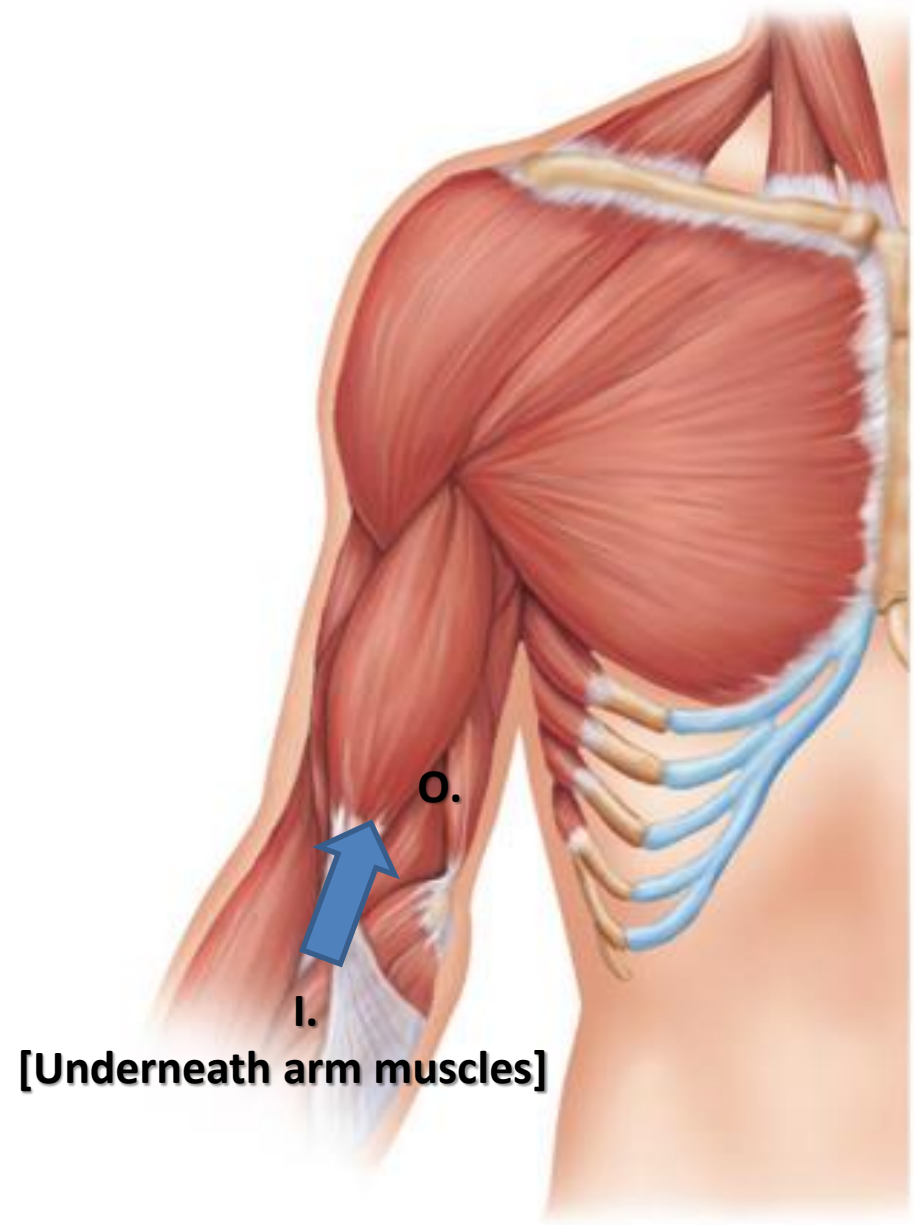


## Brachialis

O: Distal, anterior humerus

I: Coronoid process of the ulna

A: Flex the forearm

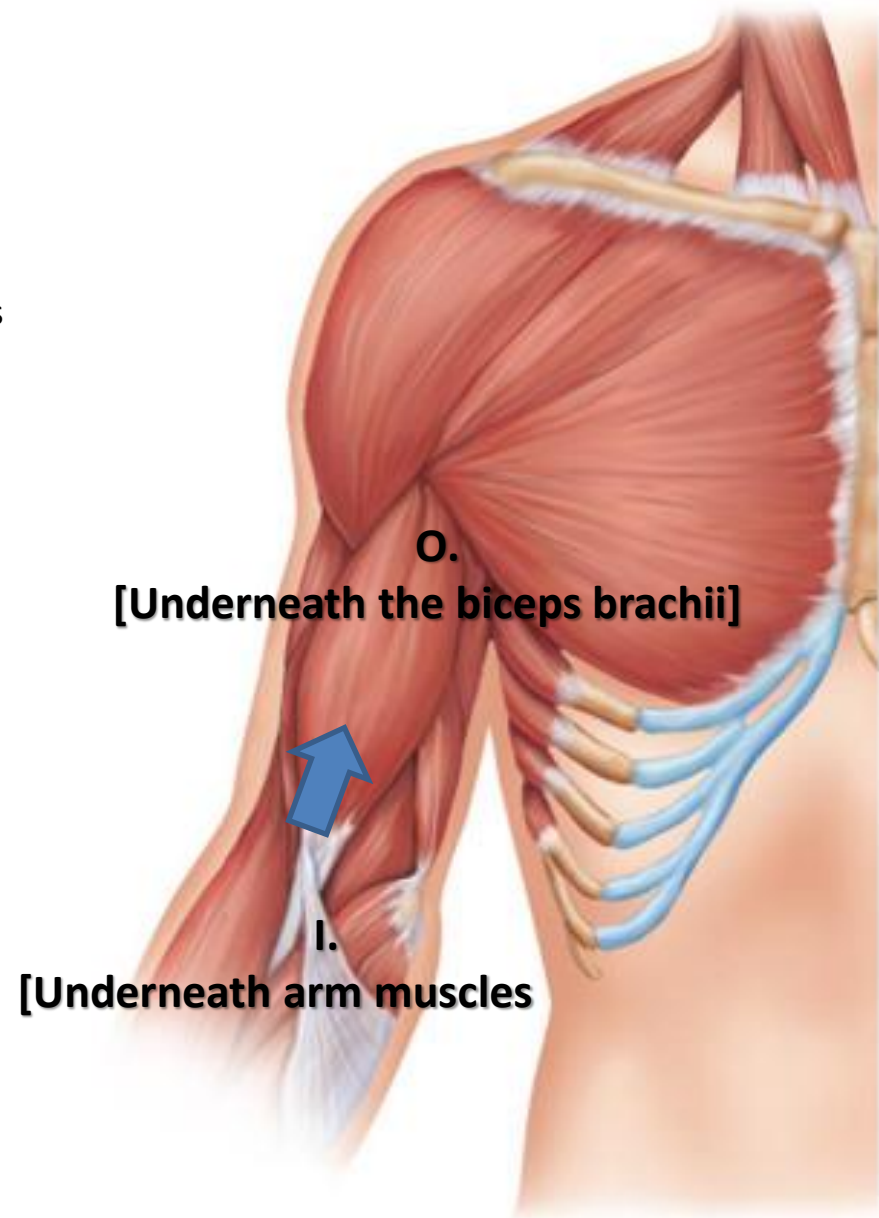
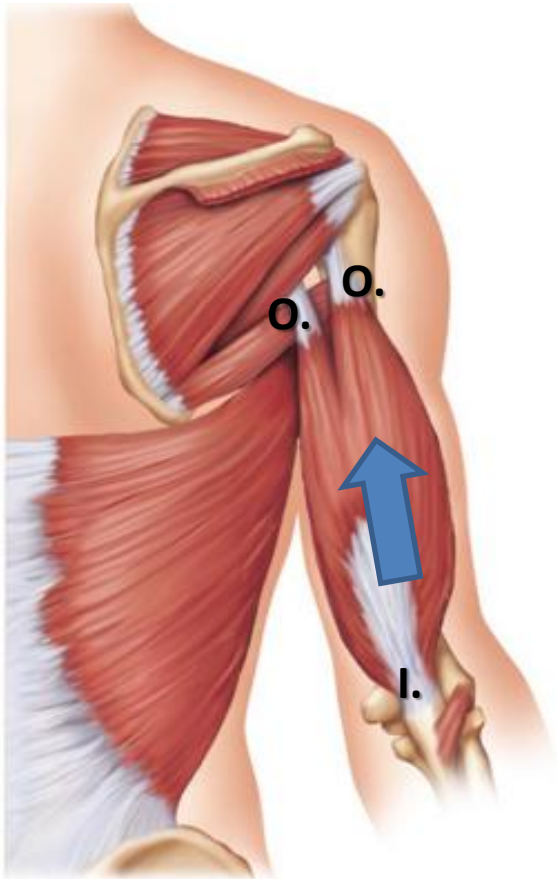


## Triceps Brachii

O: Infraglenoid tubercle and posterior body of the humerus

I: Olecranon process

A: Extend the forearm

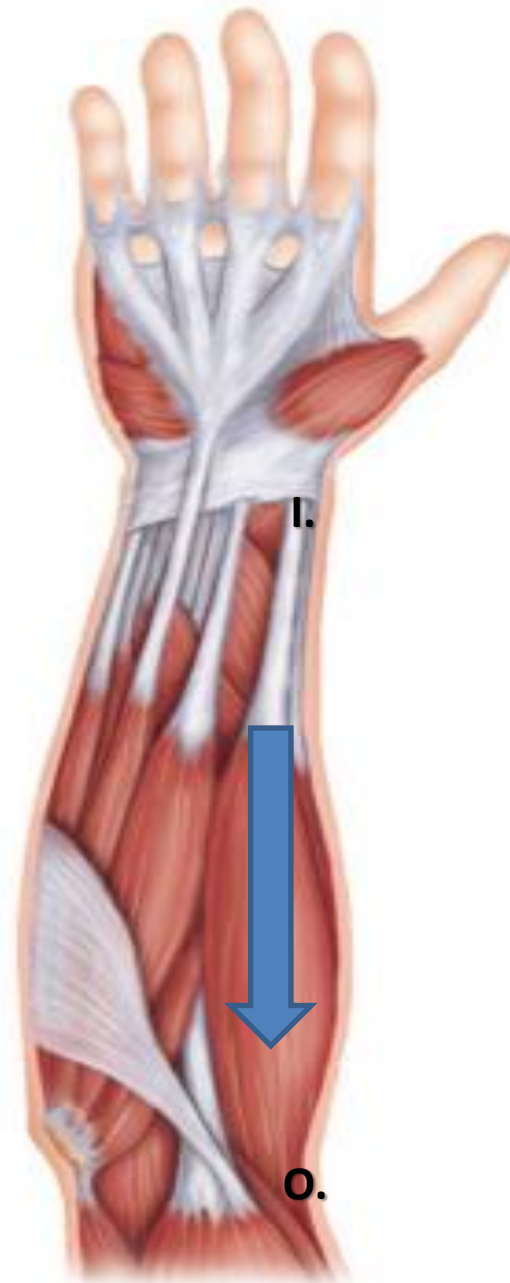


## Brachioradialis

O: Lateral ridge of the distal humerus

I: Styloid process of the radius

A: Flex the forearm



## Flexor Carpi Radialis

O: Medial epicondyle of the humerus

I: 2<sup>nd</sup> and 3<sup>rd</sup> metacarpals

A: Flex the wrist and abduct the hand

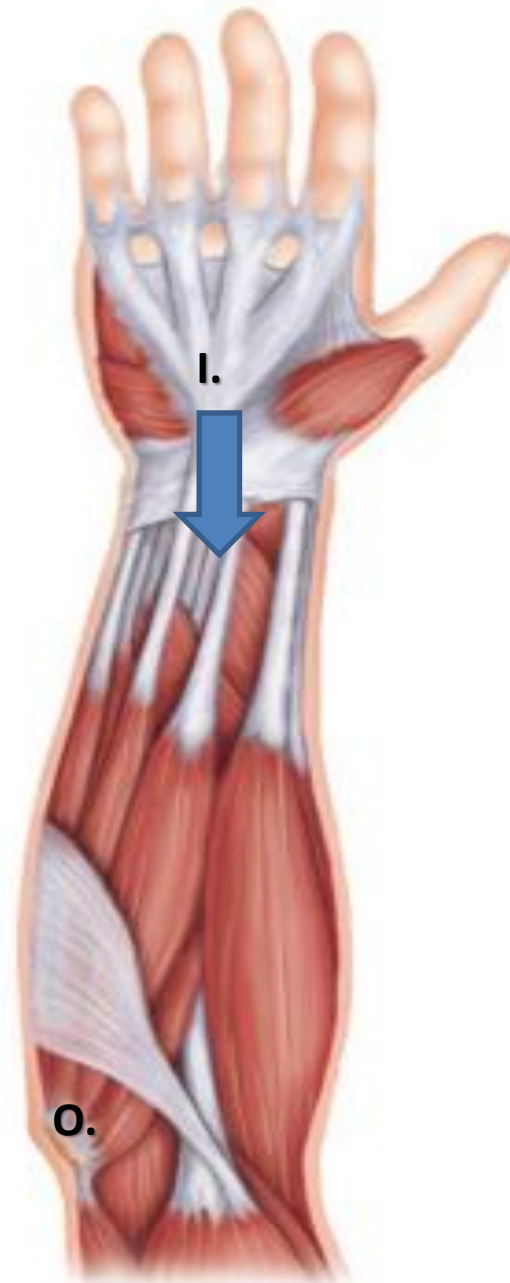


## Palmaris Longus

O: Medial epicondyle of the humerus

I: Palmar aponeurosis

A: Flex the wrist



## Flexor Carpi Ulnaris

O: Medial epicondyle of the humerus and the olecranon process

I: 5<sup>th</sup> metacarpal

A: Flex and adduct the wrist

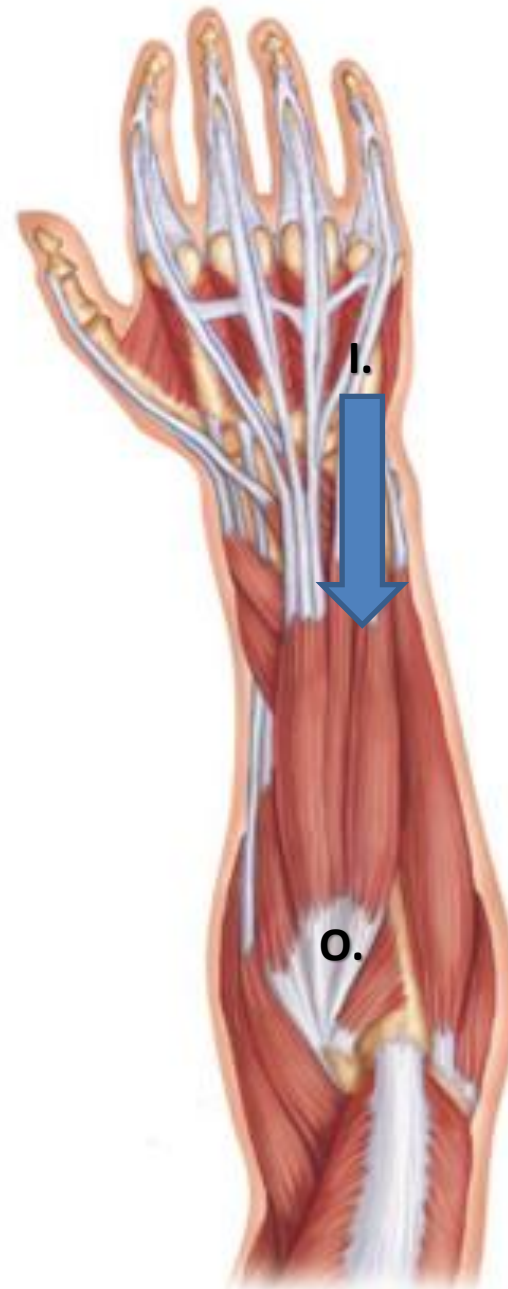


## Extensor Carpi Ulnaris

O: Lateral epicondyle of humerus

I: 5<sup>th</sup> metacarpal

A: Extend and adduct the wrist





## Extensor Digitorum

O: Lateral epicondyle of the humerus

I: 2<sup>nd</sup>-5<sup>th</sup> mid-phalanges

A: Extends the phalanges

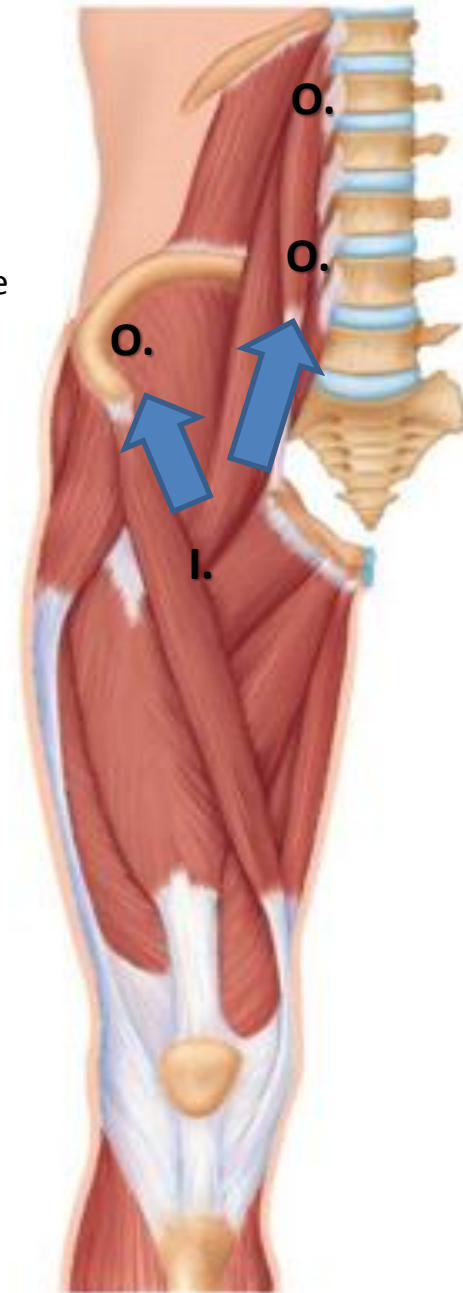


## Iliopsoas

O: Iliac fossa and the bodies and discs of vertebrae T12-all lumbar vertebrae

I: Lesser trochanter

A: Major flexor of thigh, and flexes trunk on thigh



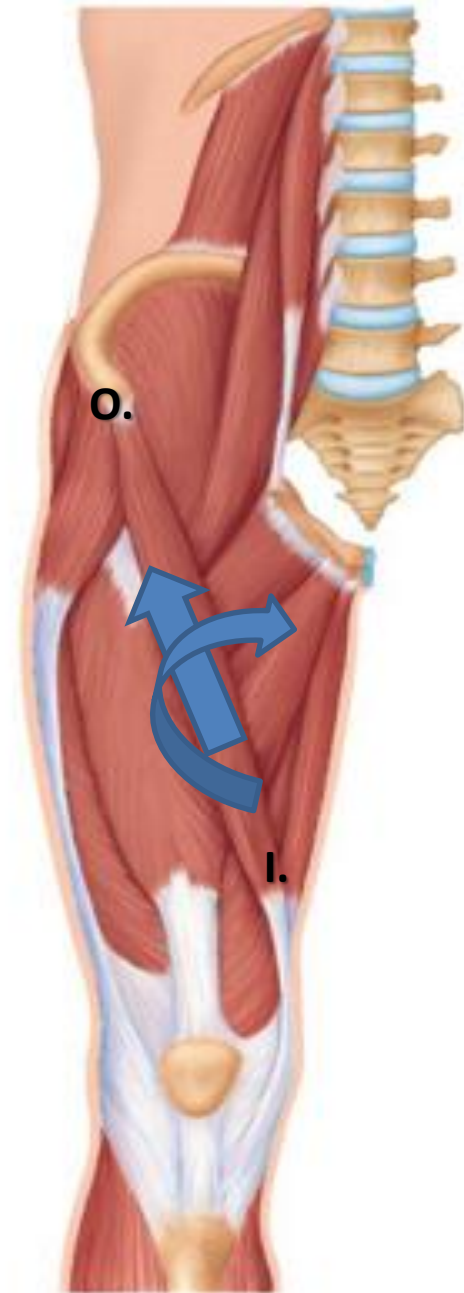
## Sartorius

“Tailor’s muscle”

O: Anterior superior iliac spine

I: Medial proximal tibia

A: Flex the leg; and flex and rotate the thigh

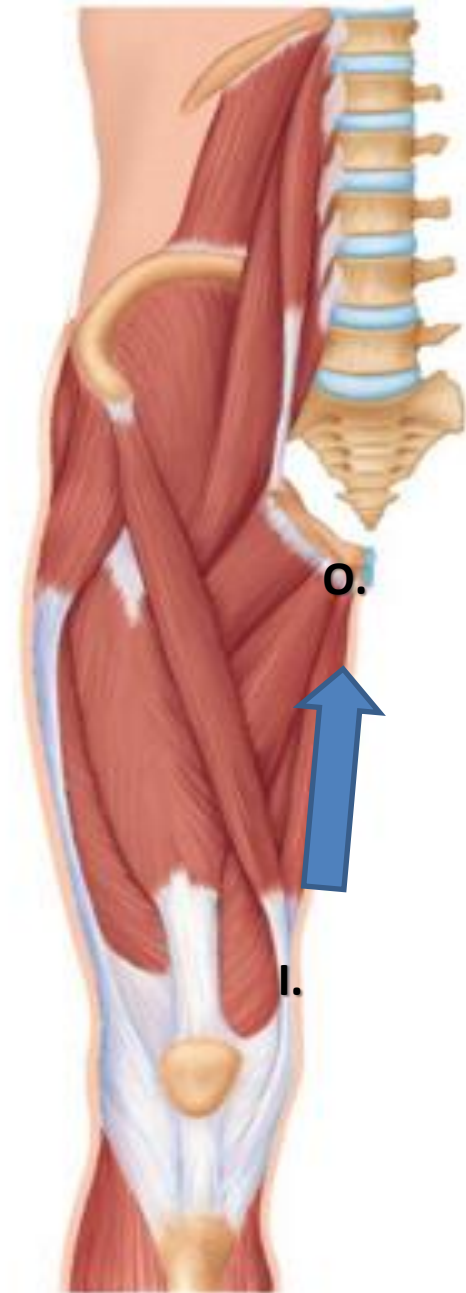


## Gracilis

O: Inferior ramus and body of the pubic bone

I: Medial condyle of tibia

A: Adduct the thigh and flex the leg

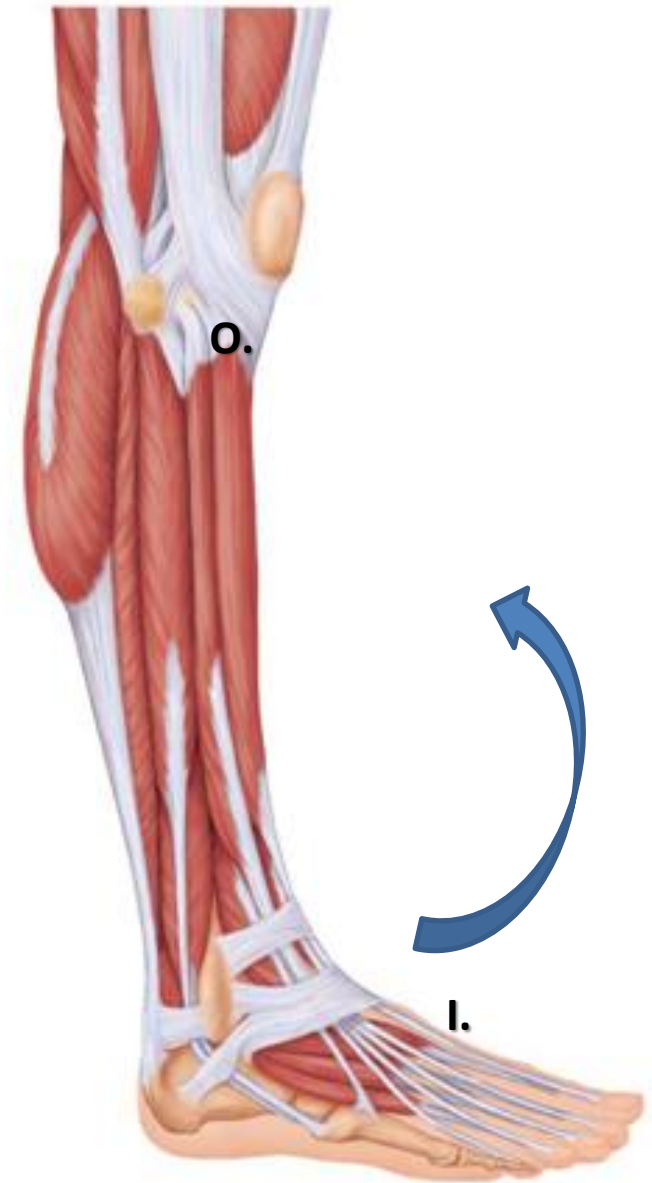


## Tibialis Anterior

O: Lateral condyle and body of the tibia

I: 1<sup>st</sup> metatarsal and tarsal bones

A: Dorsi-flex and invert the foot

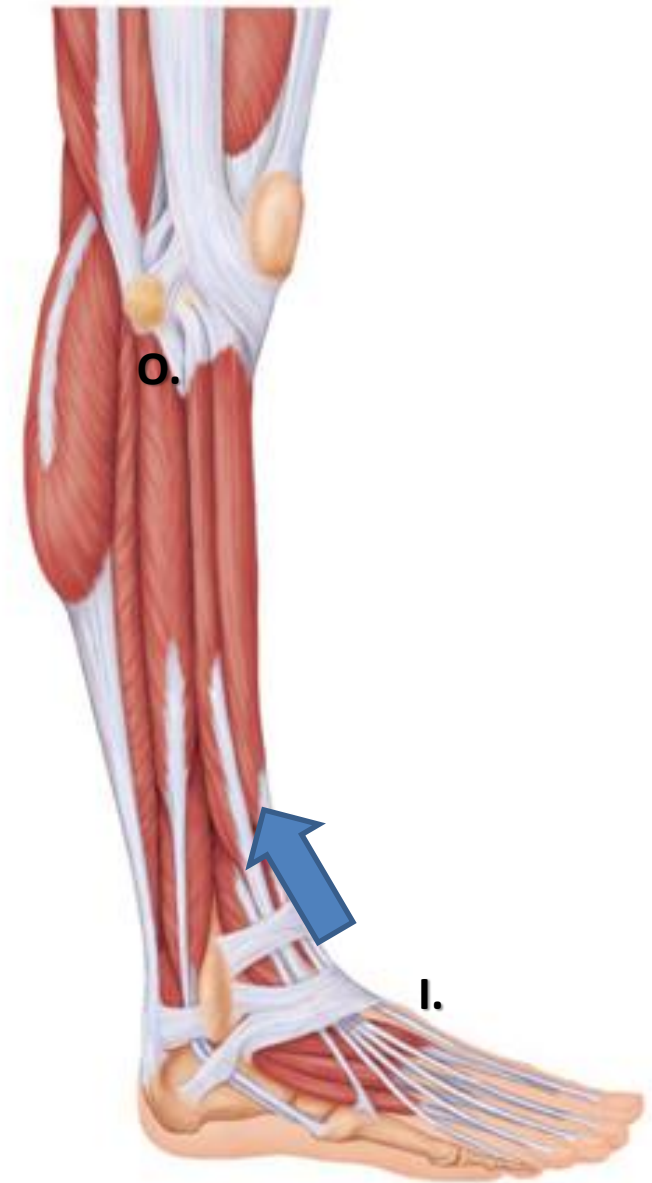


## Fibularis Longus

O: Head of the fibula

I: Underfoot to 1<sup>st</sup> metatarsal and tarsal bones

A: Plantar flex and evert the foot



# Gastrocnemius

O: Lateral and medial condyles of the femur

I: Calcaneus

A: Plantarflex the foot and flex the leg



## Soleus

O: Head of the fibula, and the medial, proximal tibia

I: Calcaneus

A: Plantarflex the foot (most important kicking muscle)



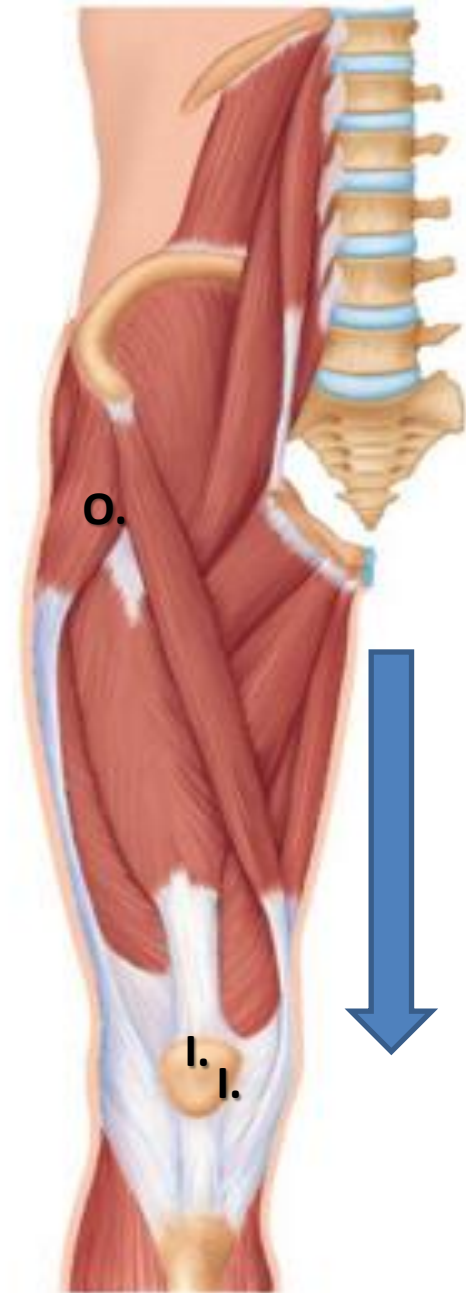


## Rectus Femoris

O: Anterior inferior iliac spine

I: Tibial tuberosity and patella

A: Flex the thigh and extend the leg

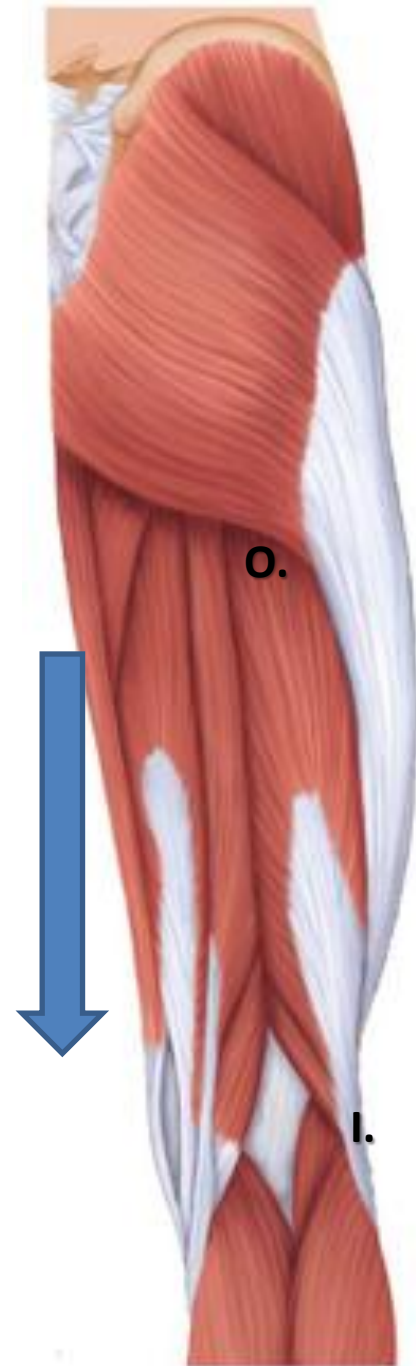


## Biceps Femoris

O: Ischial tuberosity and linea aspera

I: Head of the fibula, and lateral condyle of the tibia

A: Extend the thigh and flex the leg

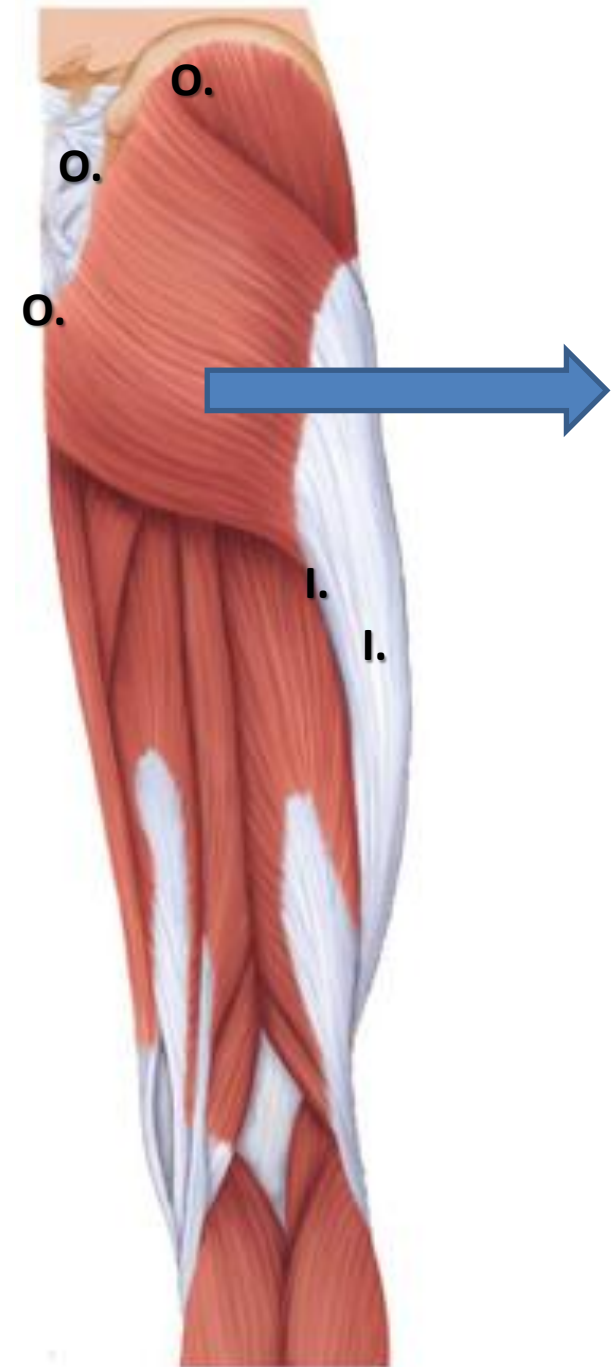


## Gluteus Maximus

O: Ilium, sacrum and coccyx

I: Gluteal tuberosity and iliotibial tract

A: Major extensor of the thigh, and abducts the thigh



## Adductor Group

O: Ischium and pubic bone

I: Linea aspera

A: Adduct, flex and rotate the thigh

