



Muscles connecting Scapula with Humerus (Muscles of the shoulder)

By
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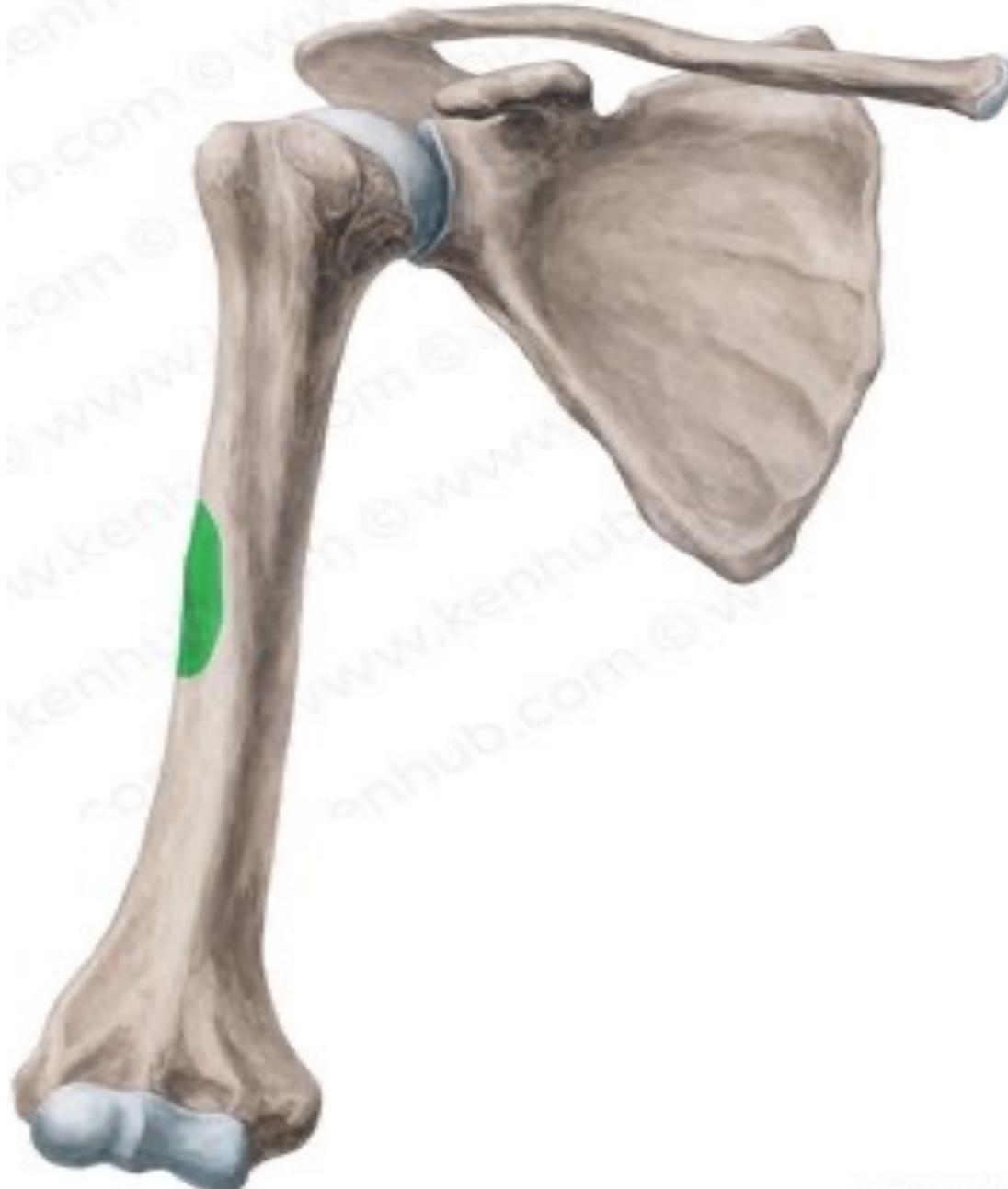
Muscles connecting Scapula with Humerus (Muscles of the shoulder)

Clinical Anatomy by Regions 9th ed. - R. Snell (Lippincott,2012 chapter 9 / page 349)

Learning Objectives

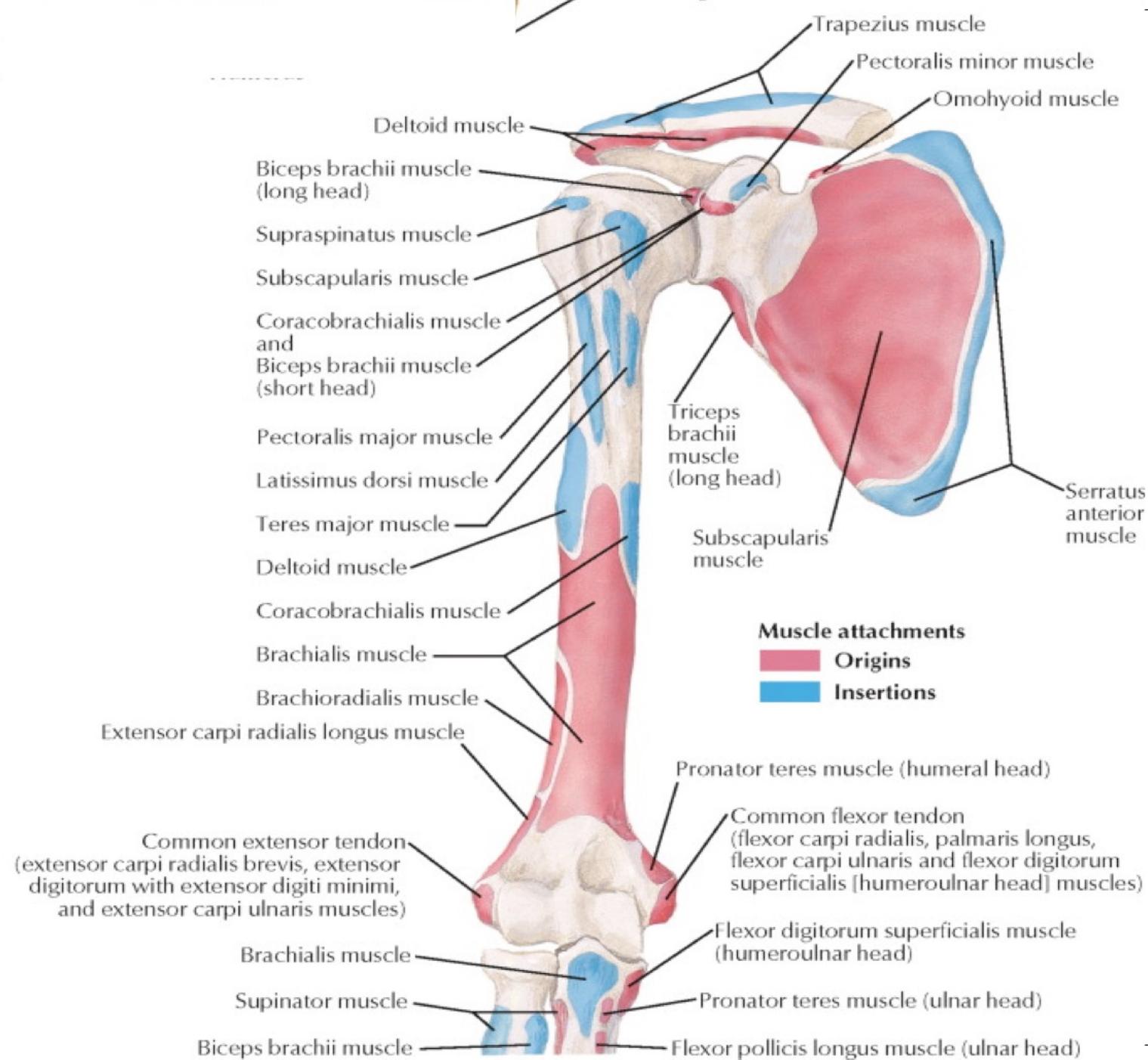
- 1-Identify shoulder muscles
- 2-Know shoulder movements
- 3- Identify Rotator cuff muscles
- 3- Know subacromial bursa

Deltoid tuberosity



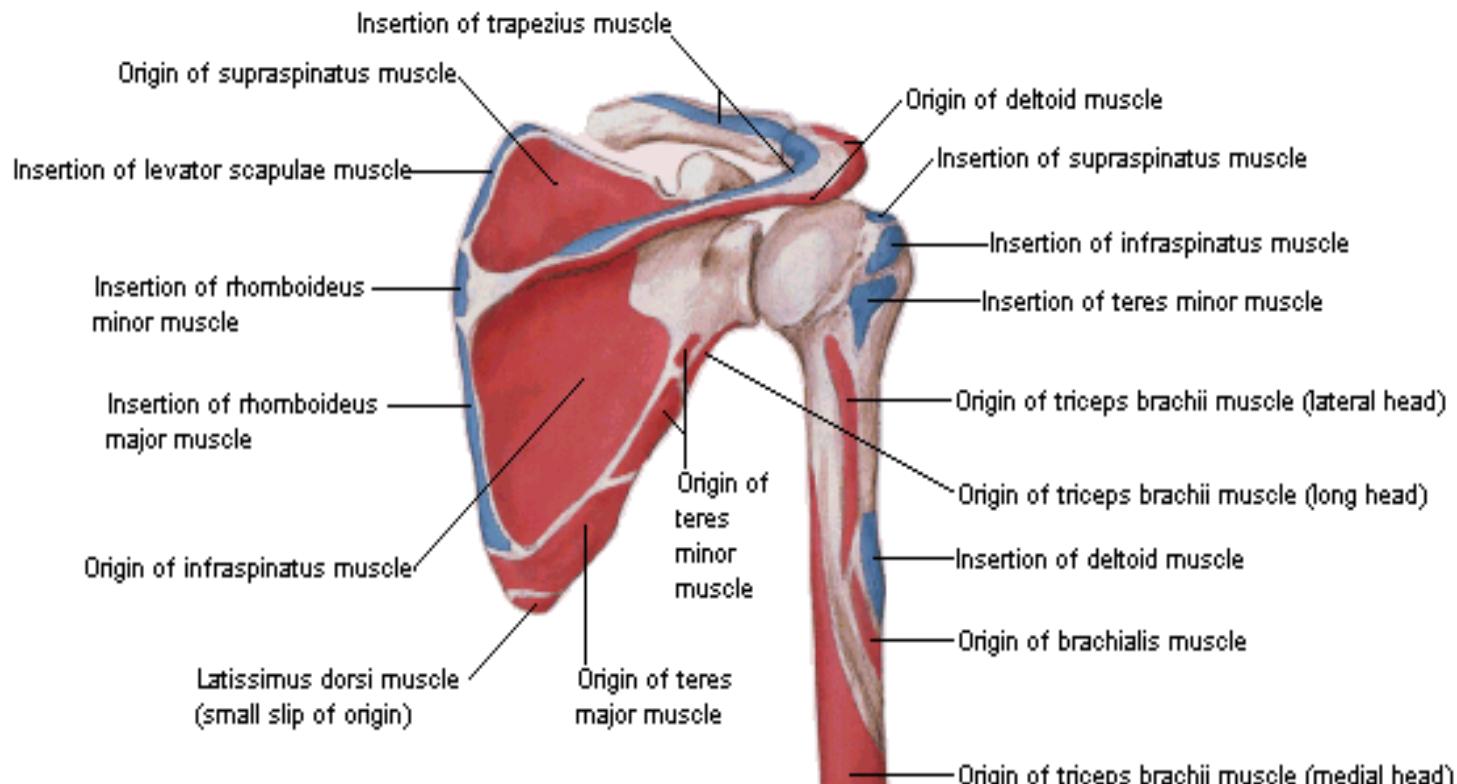
Shoulder Muscles

1. Deltoid
2. Supraspinatus
3. Infraspinatus
4. Teres minor
5. Teres Major
6. Subscapularis



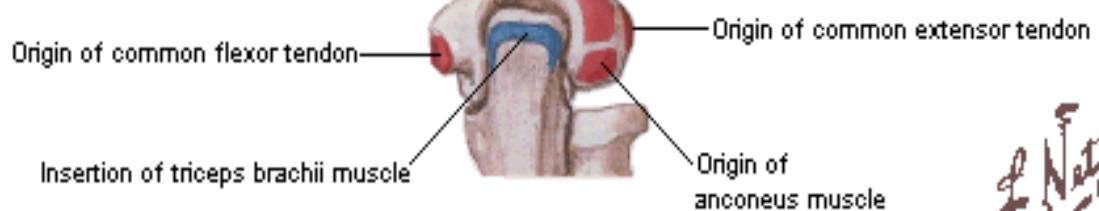
Humerus and Scapula

Posterior View - Muscle Attachments

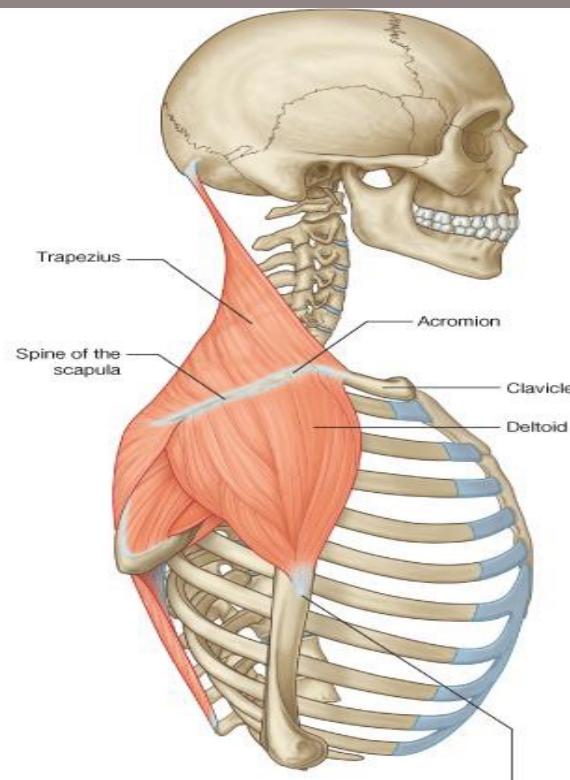
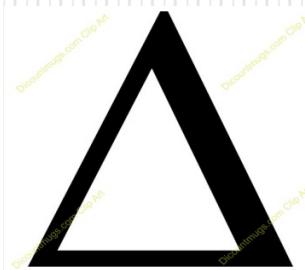


Muscle attachments

- Origins
- Insertions



Deltoid

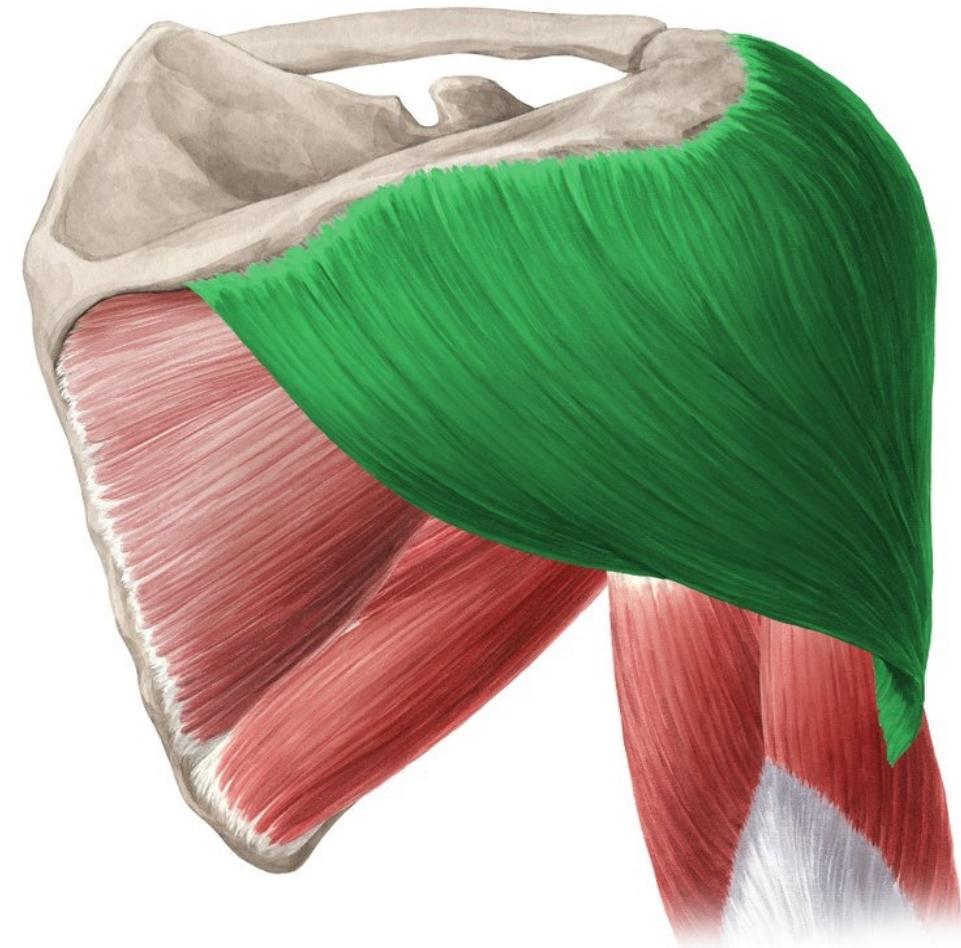


Origin (Opposite insertion of trapezius)

- Anterior border of lateral half of the Clavicle
- Lateral border of acromion
- Lower border of spine of scapula

Insertion

Deltoid tuberosity



Nerve supply:

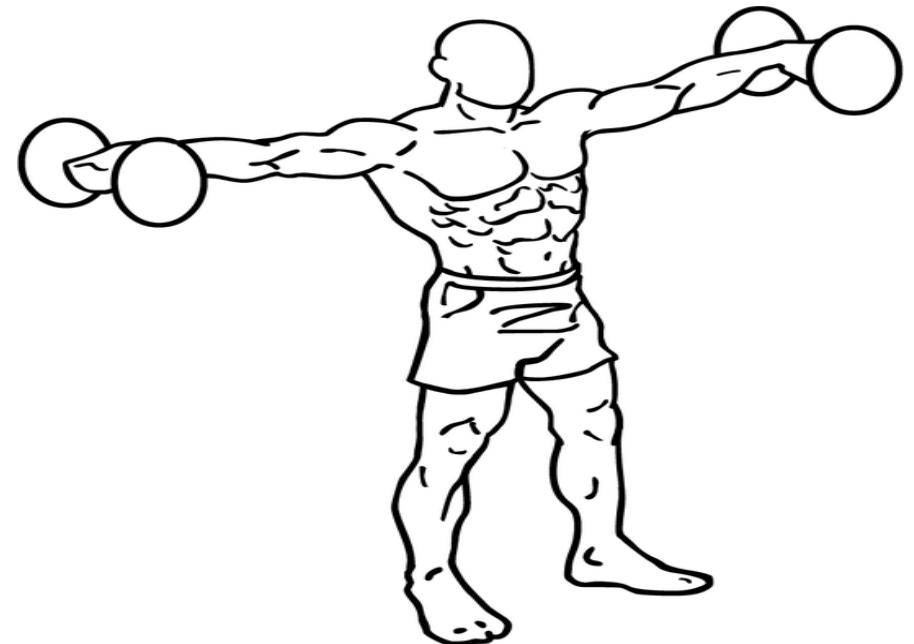
Axillary nerve .

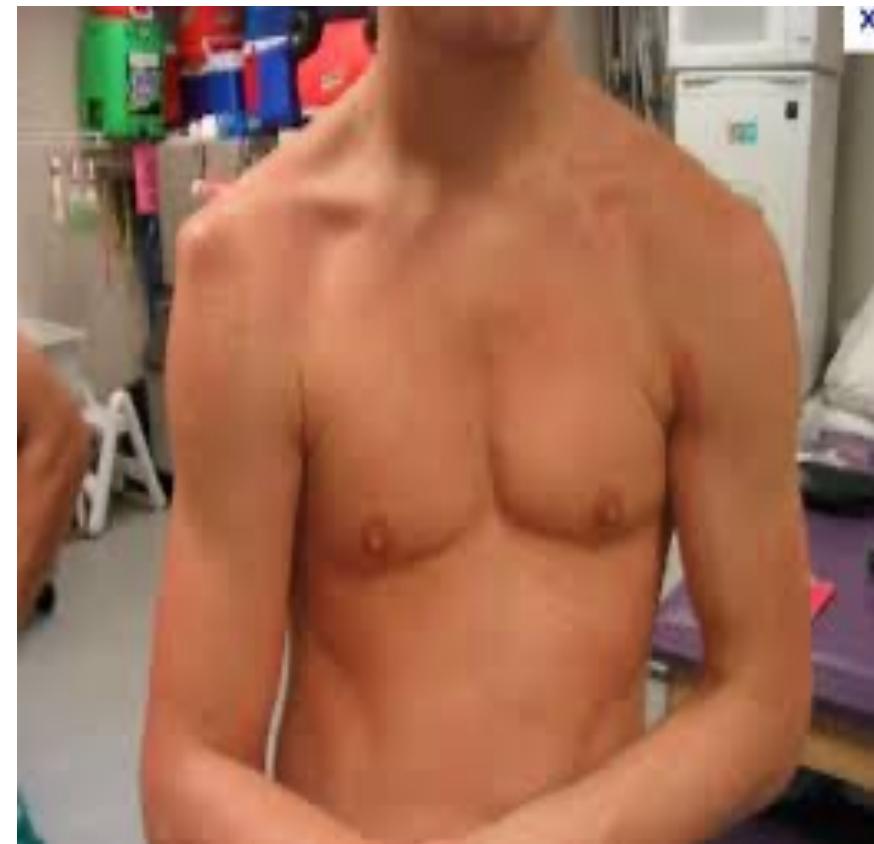
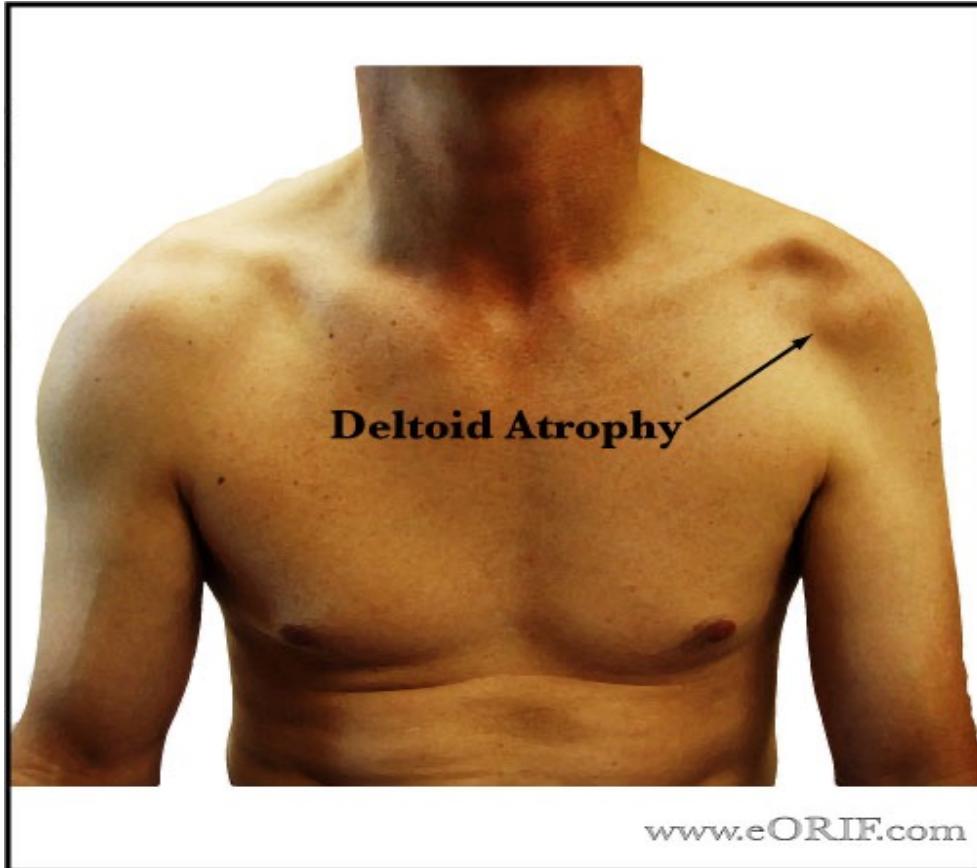
Action:

1-**Anterior** fibers flexes and medial rotates the arm.

2-**Middle** fibers Abductor of the arm (15° - 90°).

3- **Posterior** fibers extends & laterally rotates the arm.

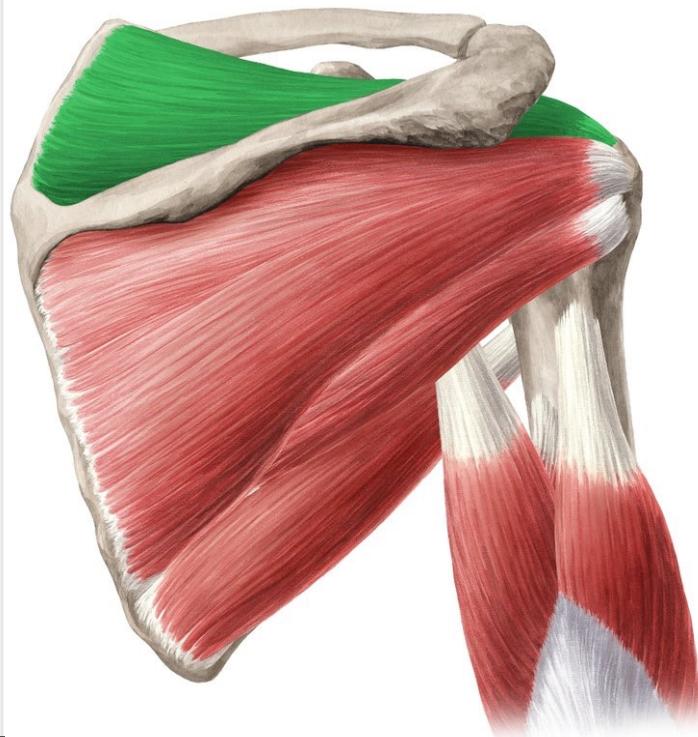




Deltoid muscle paralysis

- Atrophy of the shoulder
- Unable to abduct the arm to 90°

Supraspinatus

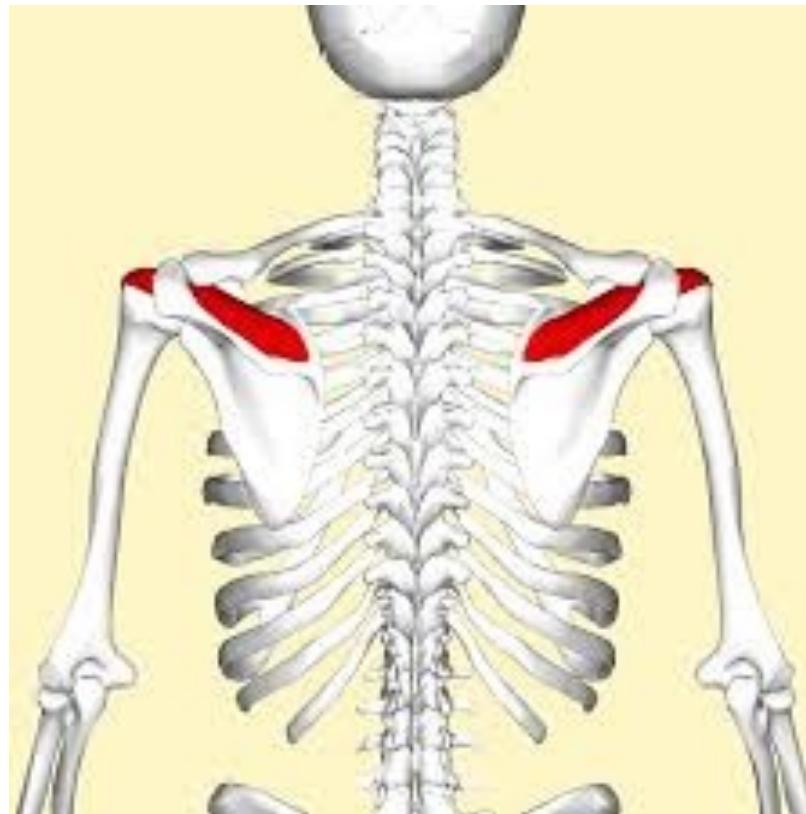


Origin

Supraspinous fossa

Insertion

Greater tuberosity of the humerus (upper impression)



Nerve supply:

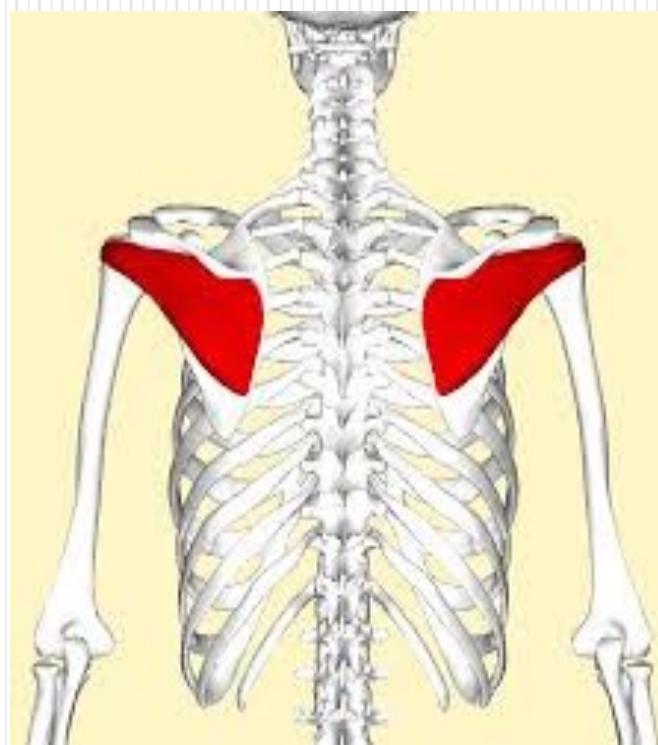
Suprascapular nerve .

Action:

Initiates abduction of the arm (from 0-15°)



Infraspinatus

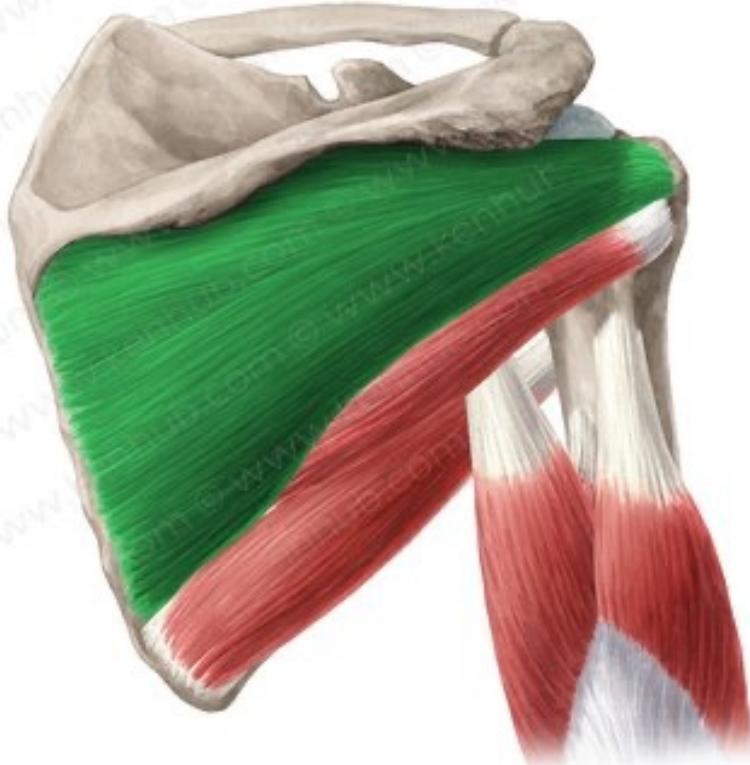


Origin

Infraspinous fossa

Insertion

Greater tuberosity of the humerus (Middle impression)

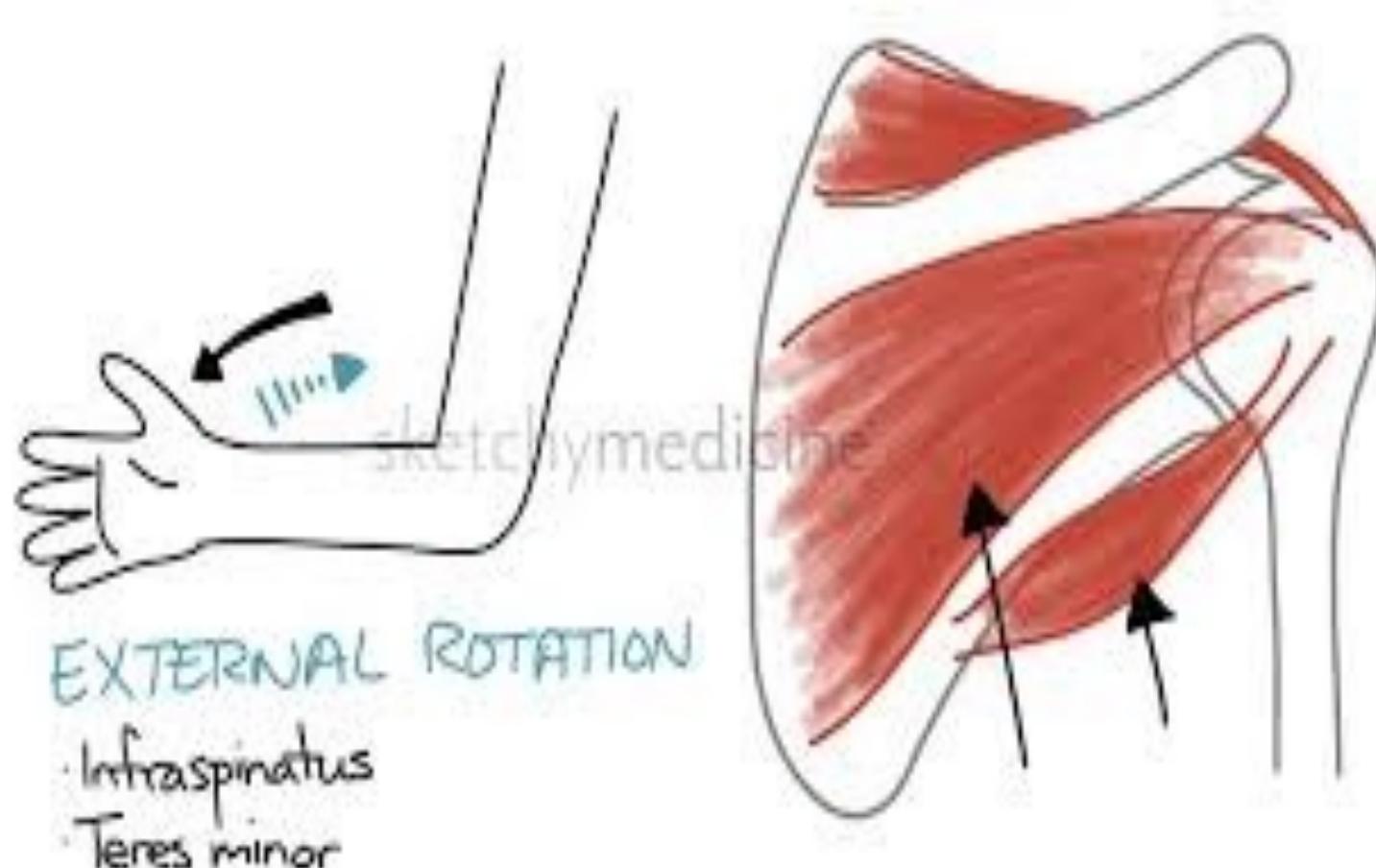


Nerve supply:

Suprascapular nerve

Action:

Lateral rotation of the arm



Teres Minor

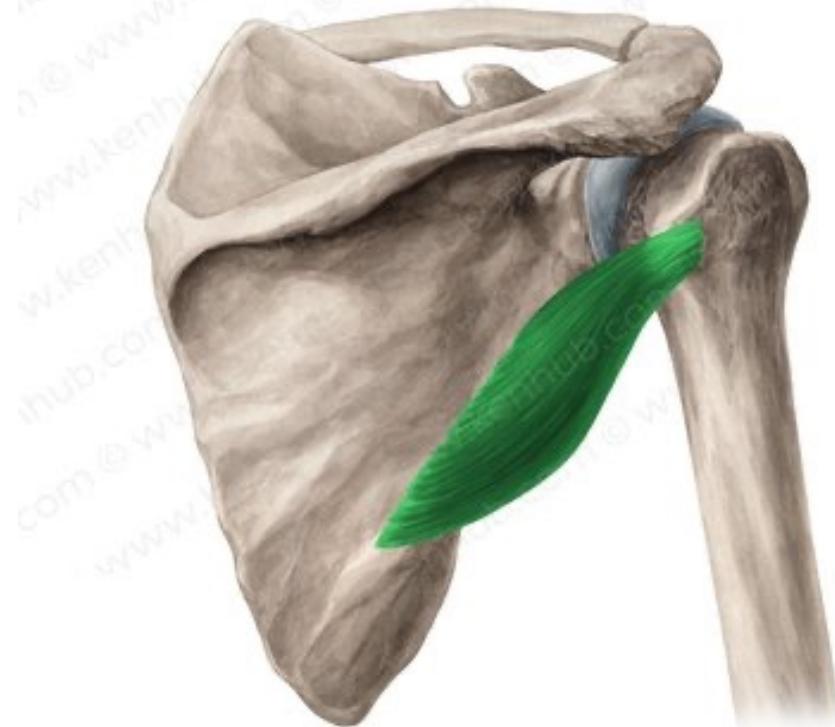


Origin

Dorsal aspect of Lateral border of the scapula (upper 2/3 thirds)

Insertion

Greater tuberosity of the humerus (lower impression).

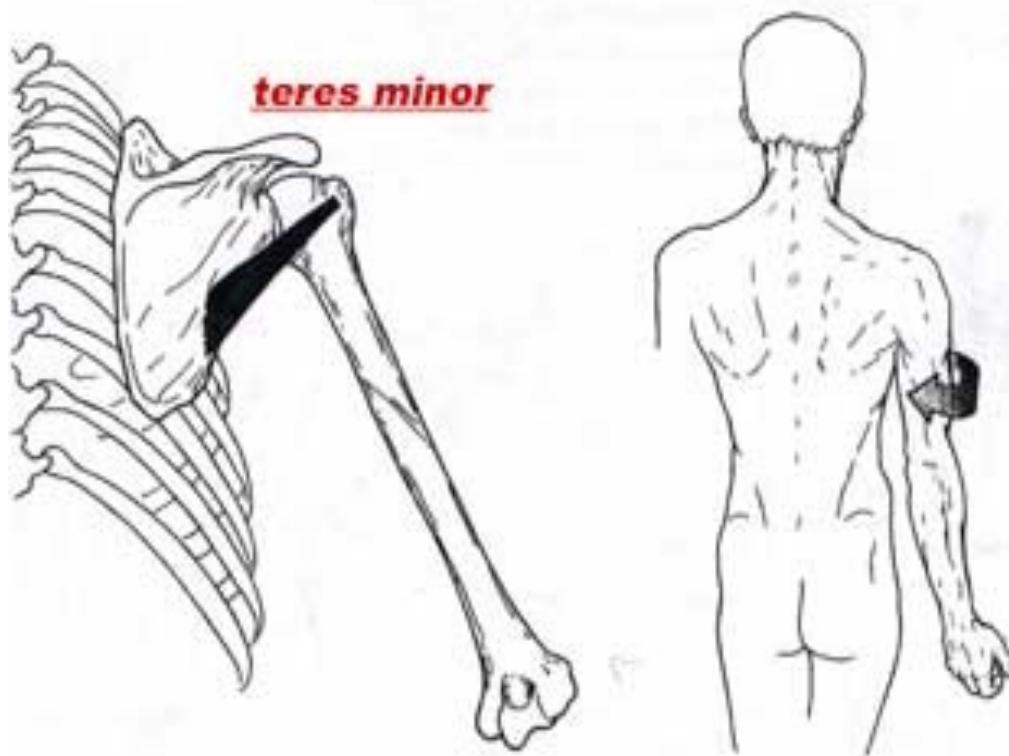


Nerve supply:

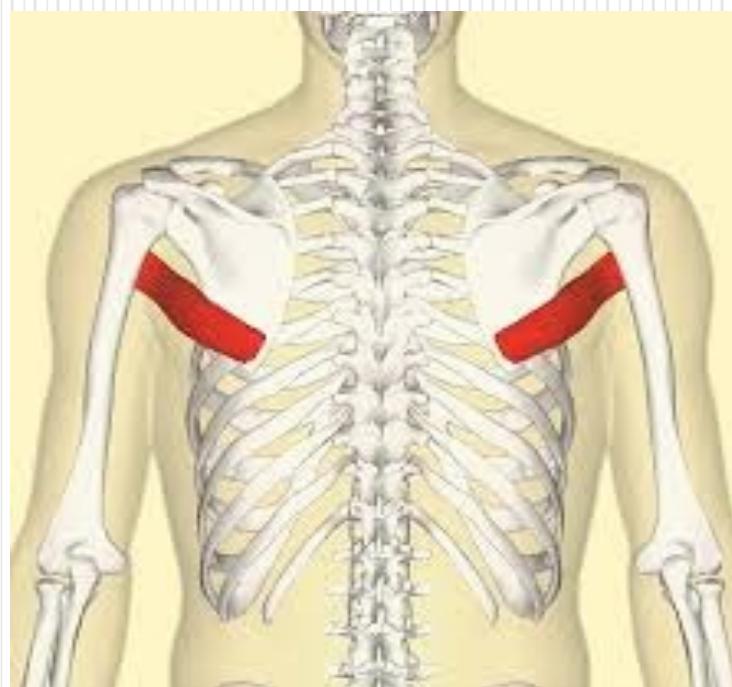
Axillary Nerve .

Action:

Adduction and lateral rotation of the arm.



Teres Major



Origin

Dorsal surface of the scapula above the inferior angle.

Insertion

Medial lip of bicipital groove.

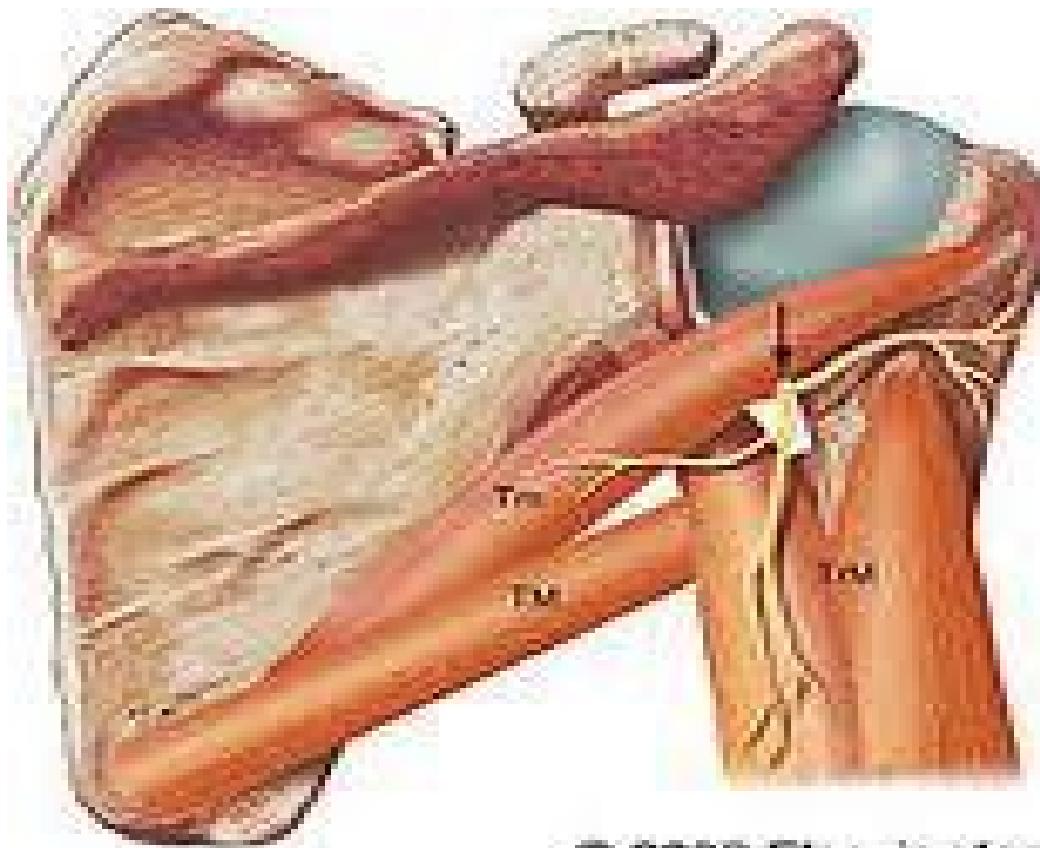


Nerve supply:

lower subscapular nerve .

Action:

Adduction, medial rotation.



Subscapularis

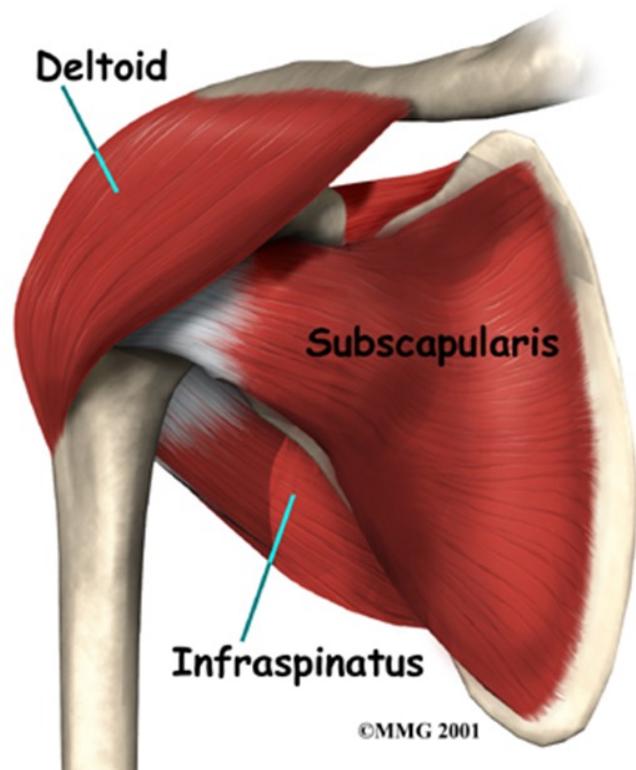


Origin

Subscapular Fossa

Insertion

Lesser Tuberosity.



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Nerve supply:

Upper and lower subscapular nerves.

Action:

Adduction and medial rotation of the arm.



The subscapularis muscle is used when the arm and shoulder rotate towards the body.

Origin and insertion for shoulder muscles

MUSCLE	ORIGIN	INSERTION
Deltoid	Opposite insertion of trapezius	Deltoid tuberosity
Supraspinatus	Supraspinous fossa	Greater Tuberosity
Infraspinatus	Infraspinous fossa	Greater Tuberosity
Teres minor	Dorsal, lateral, scapula	Greater Tuberosity
Teres major	Dorsal, inferior angle, scapula	Medial lip bicipital groove
Subscapularis	Subscapular fossa	lesser Tuberosity

Nerve supply and action for shoulder muscles

Supraspinatus (ABDUCTION)

Suprascapula Nerve

Infraspinatus (Lateral Rotation)

Teres minor (Lateral Rotation)

Axillary Nerve

Deltoid (ABDUCTION)

Subscapularis

Teres major

(Medial Rotation ,adduction)

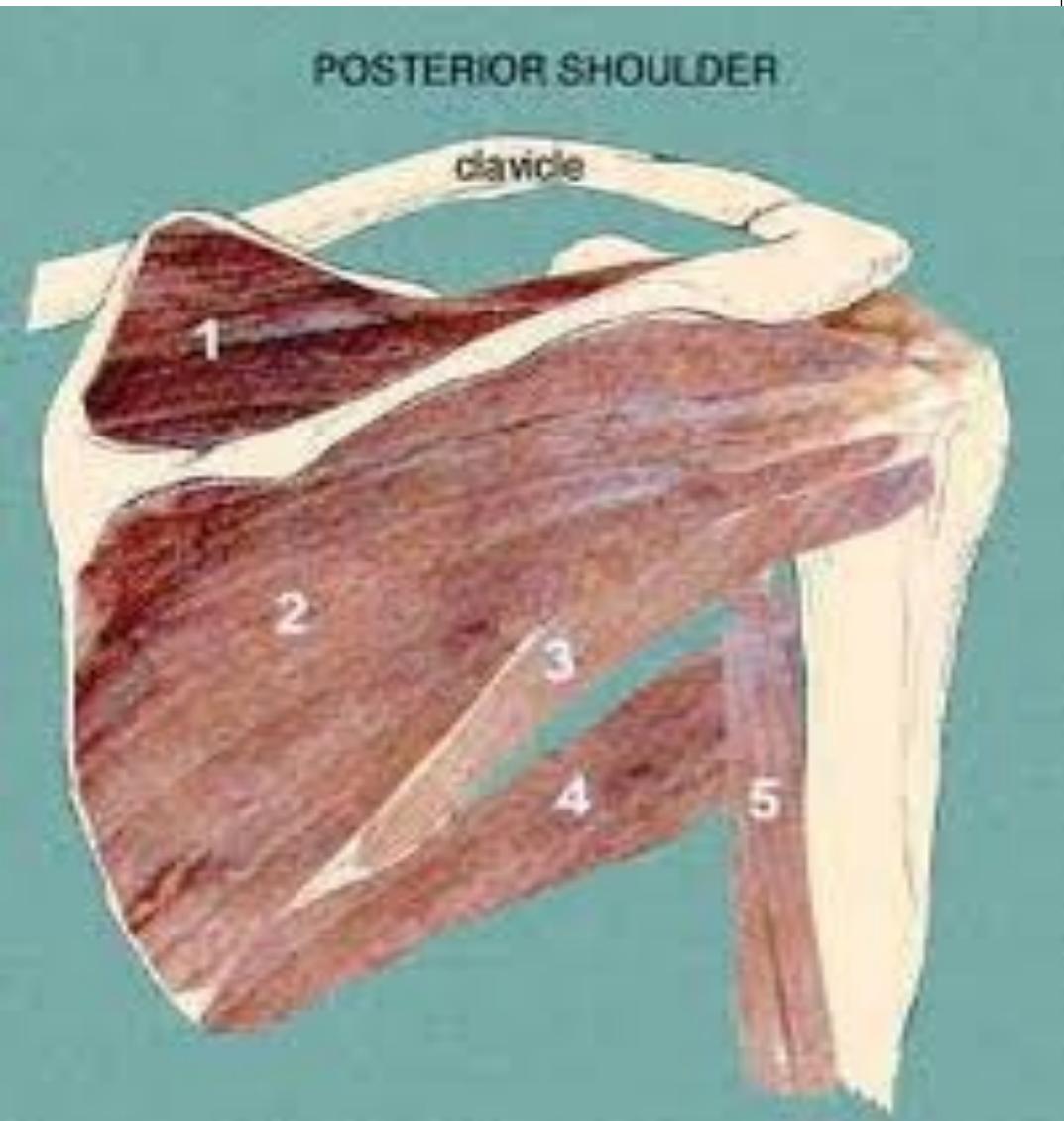
Subscapular Nerve

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	Origin	Insertion	Nerve Supply	Action
Deltoid				
Supraspinatus				
Infraspinatus				
Teres Minor				
Subscapularis				
Teres Major				

Identify the labelled muscles

1. Supraspinatus
2. Infraspinatus
3. Teres minor
4. Teres Major



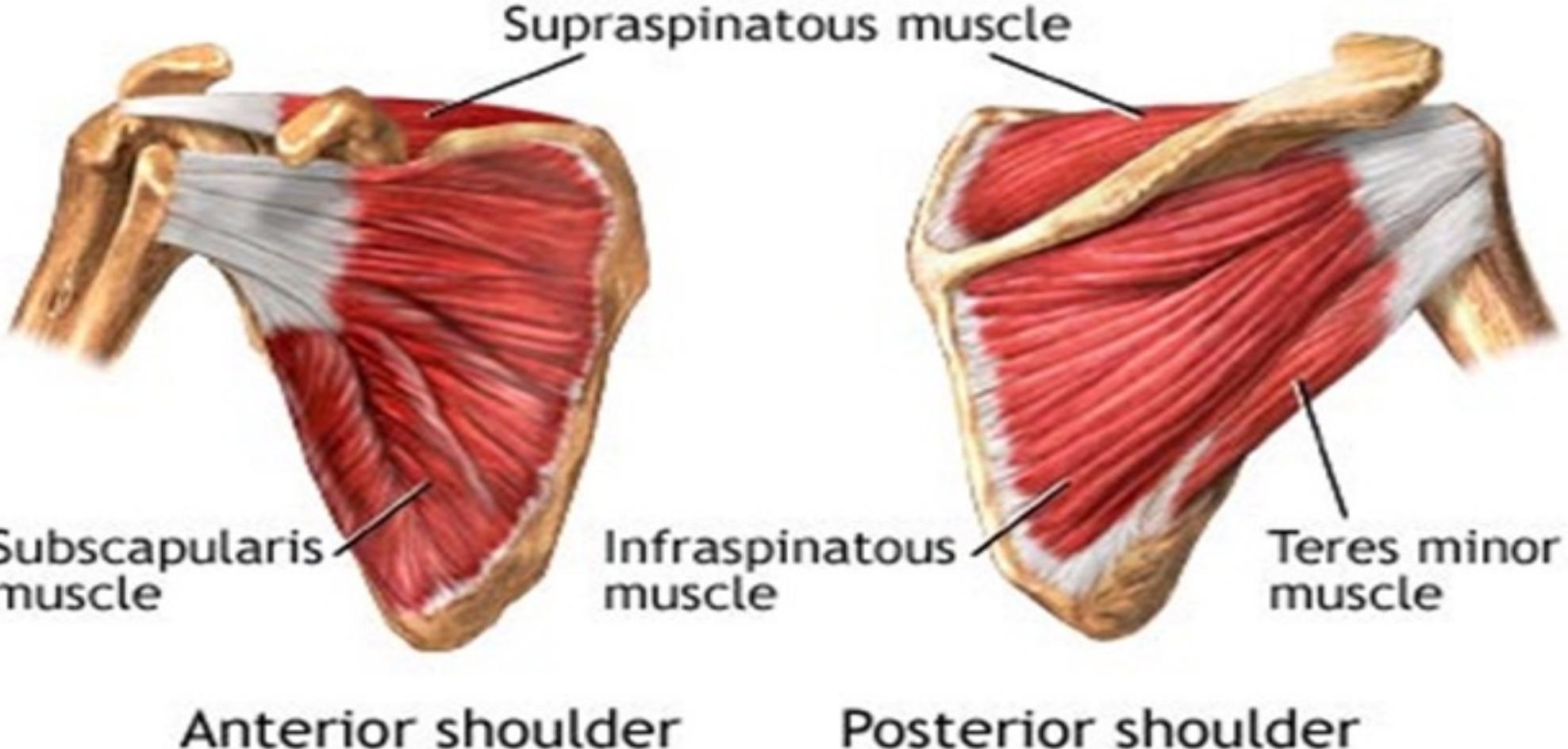
Rotator Cuff

They are muscles attached to greater and lesser tuberosities .

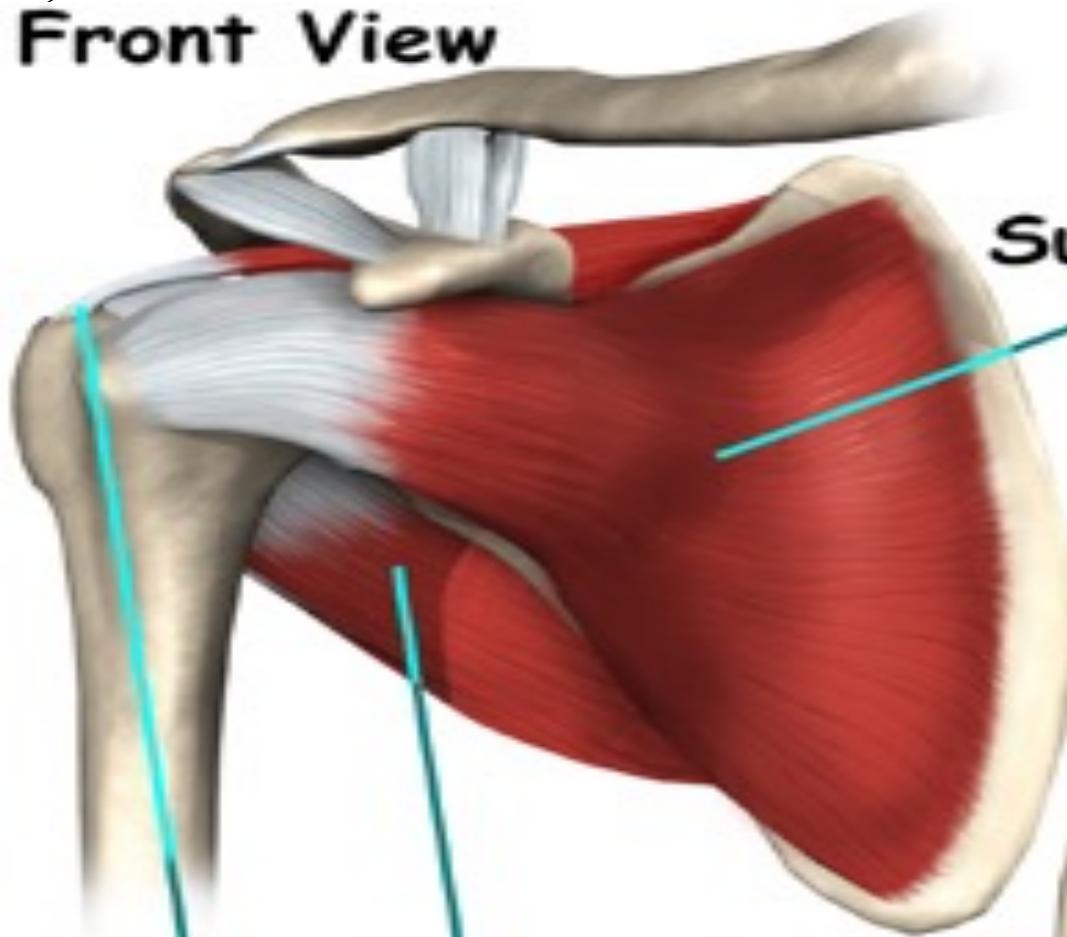
They blends with capsule of shoulder joint to strength it.

1. Supraspinatus
2. Infraspinatus
3. Teres minor
4. Subscapularis

Rotator cuff muscles



Front View

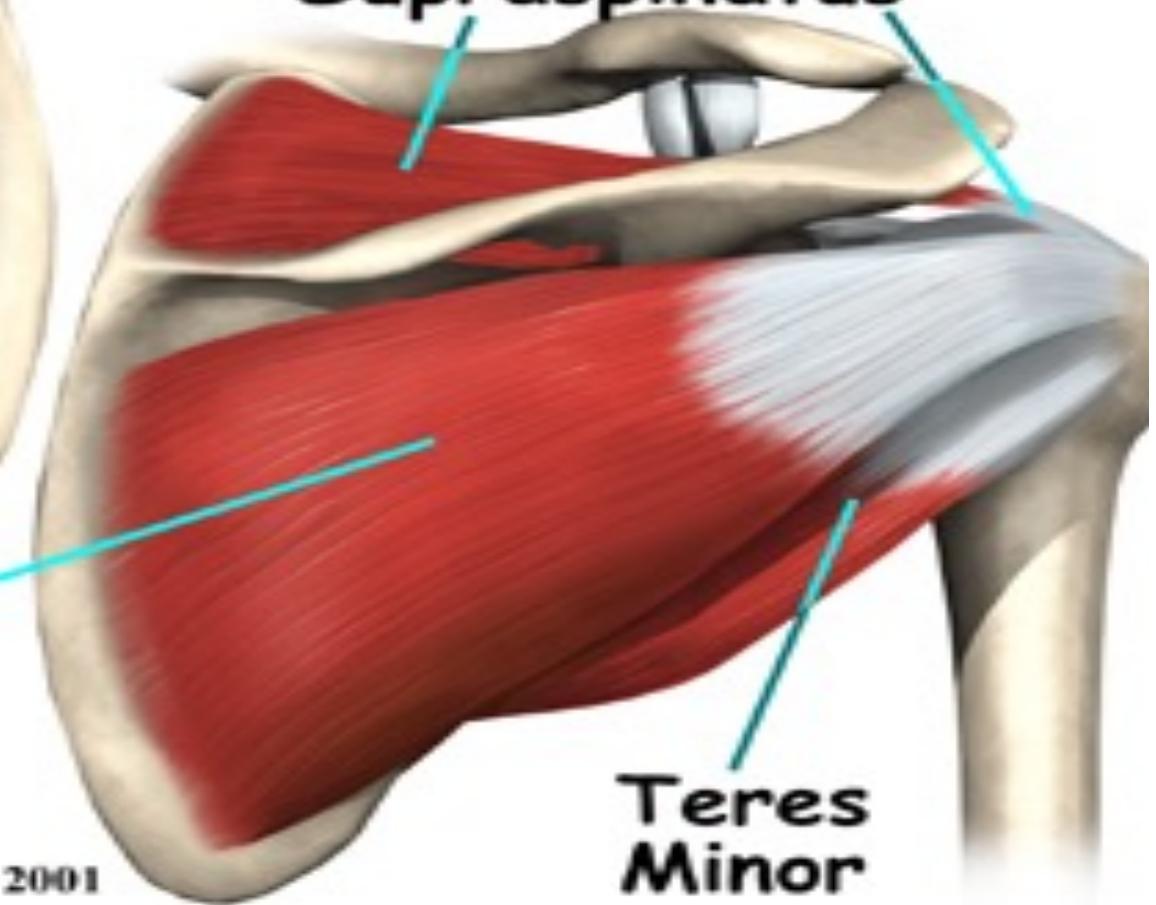


Muscles of the Rotator Cuff

Subscapularis

Back View

Supraspinatus



Infraspinatus
Supraspinatus

Teres
Minor

Rotator cuff Tendinitis



Symptoms : pain and swelling in the shoulder area, limited motion or weakness of the arm.

It occurs mostly in athletes playing sports that require lifting their arm over their head as:

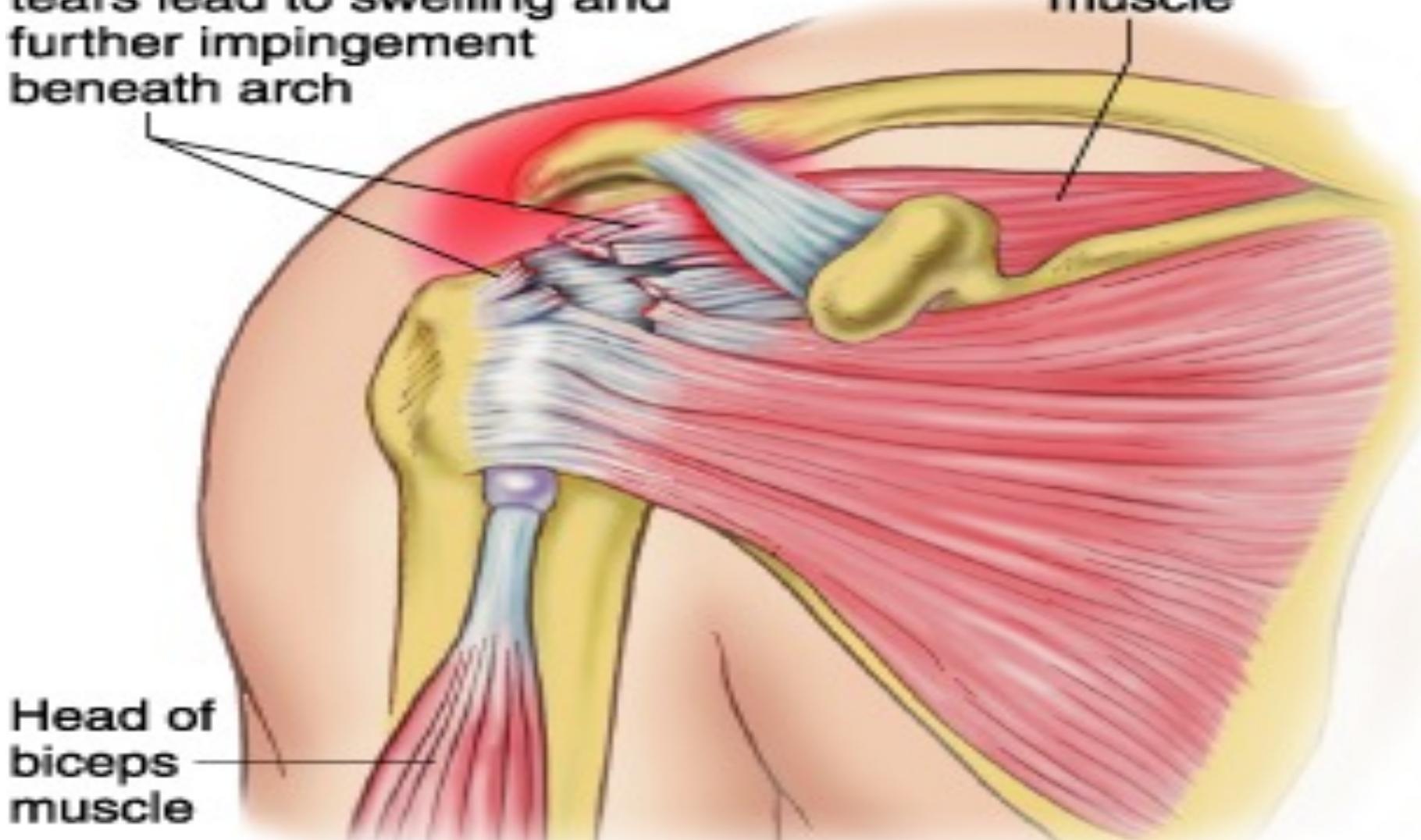
- swimmer's shoulder
- pitcher's shoulder
- tennis shoulder



Pitcher's shoulder

Rotator cuff tendon tears lead to swelling and further impingement beneath arch

Supraspinatus muscle



Head of biceps muscle

Anterior view of right shoulder

Subacromial Bursa

- **Situated Between**

1- Above

a) Coracoacromial arch

b) Deltoid Muscle

2-Below

a) Supraspinatus tendon

b) Greater tuberosity

- **Function**

1-Protection (supraspinatus)

2-Helping (Abduction)

**Shoulder
Bursa
(arm
raised)**

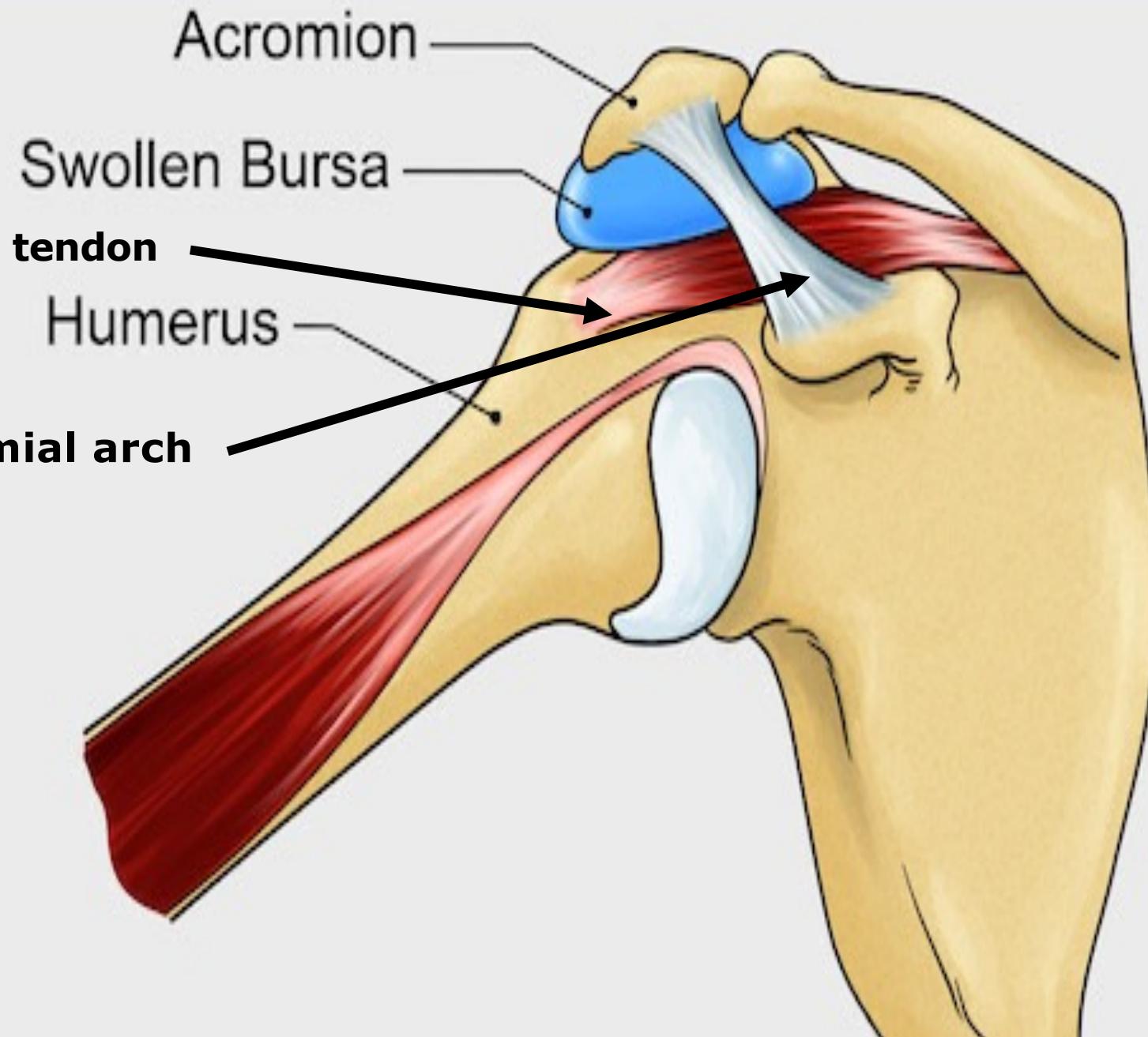
Acromion

Clavicle

Humerus

Coracoid
process

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Subacromial Bursitis



Dawbarn's test

Arm by side **Pain**

Right angle abduction **No Pain**

Abduction of The Arm

A- Zero -90 degree (movement of the humerus)

1. From Zero to 15 :Supraspinatus
2. From 15 -90 : Deltoid

B-From 90-180 degree (Rotation of scapula)

1. Trapezius
2. Serratus Anterior

Axillary Nerve

- It arises from posterior cord of the brachial plexus.
- It winds around **surgical neck of humerus**
- It ends under deltoid muscle by dividing into anterior and posterior terminal branches

Branches

Motor

Deltoid and teres minor muscles

Sensory

To skin over the lower half of deltoid muscle.



Axillary Nerve Injury

A-Causes

- 1-Compression by a Crutch
- 2-Fractures of surgical neck of humerus

B-Manifestation :

Loss of power of abduction at the shoulder.

C-Deformity:

Atrophy of the shoulder



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Thank You