



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

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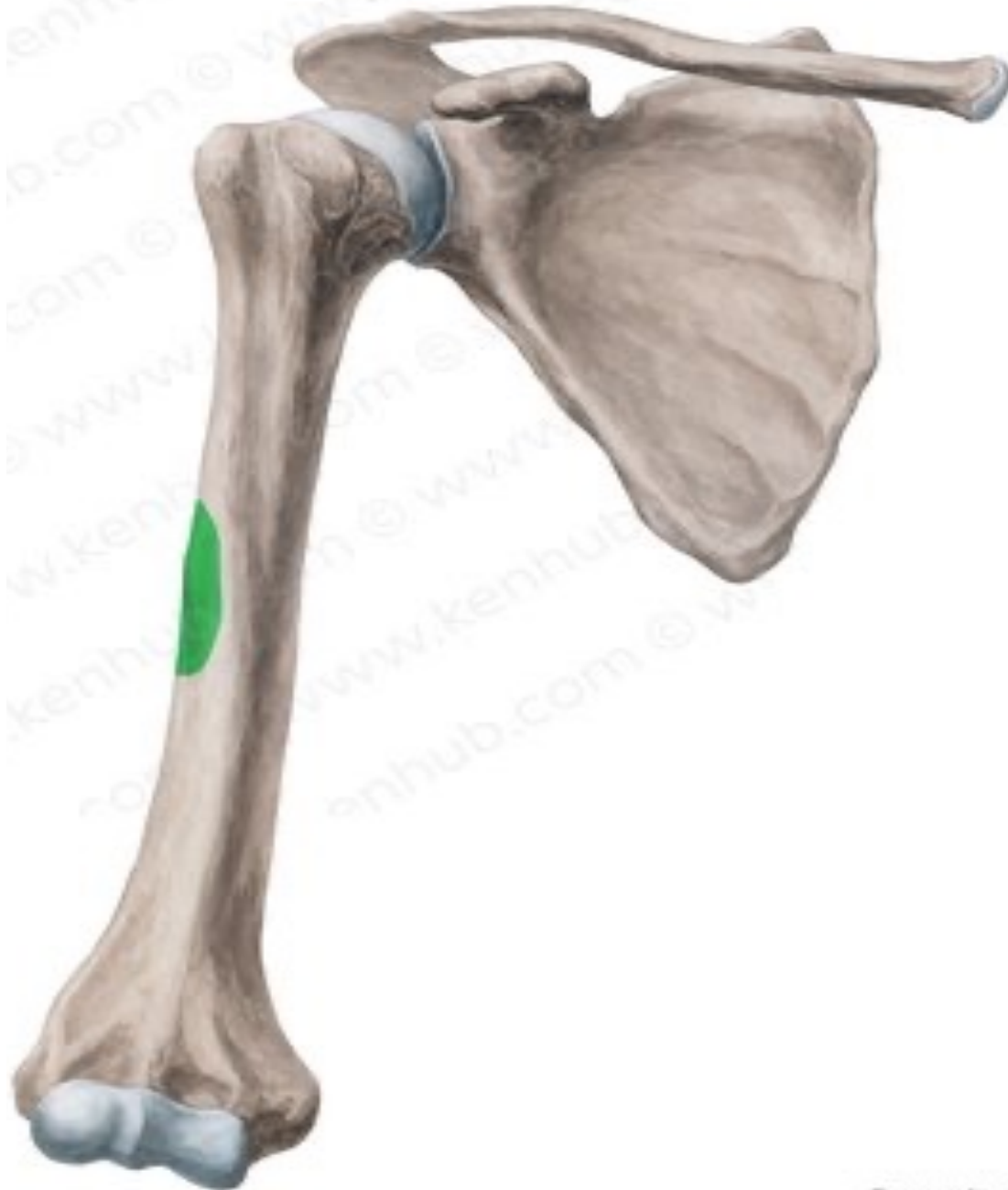
Clinical Anatomy by Regions 9th ed. - R. Snell (Lippincott, 2012 chapter 9 / page 349 )

# Learning Objectives

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

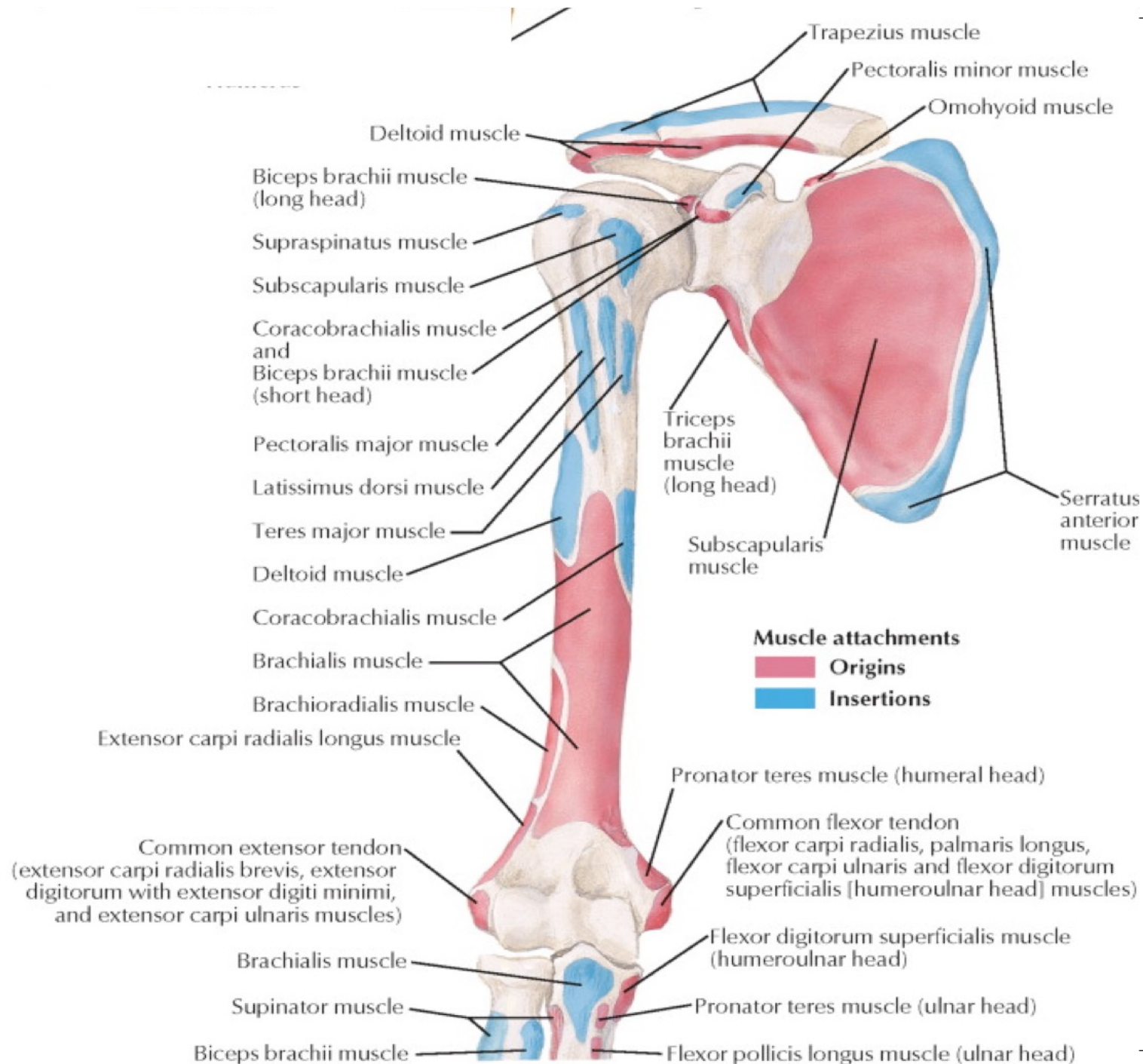
## **Deltoid tuberosity**



# Shoulder Muscles

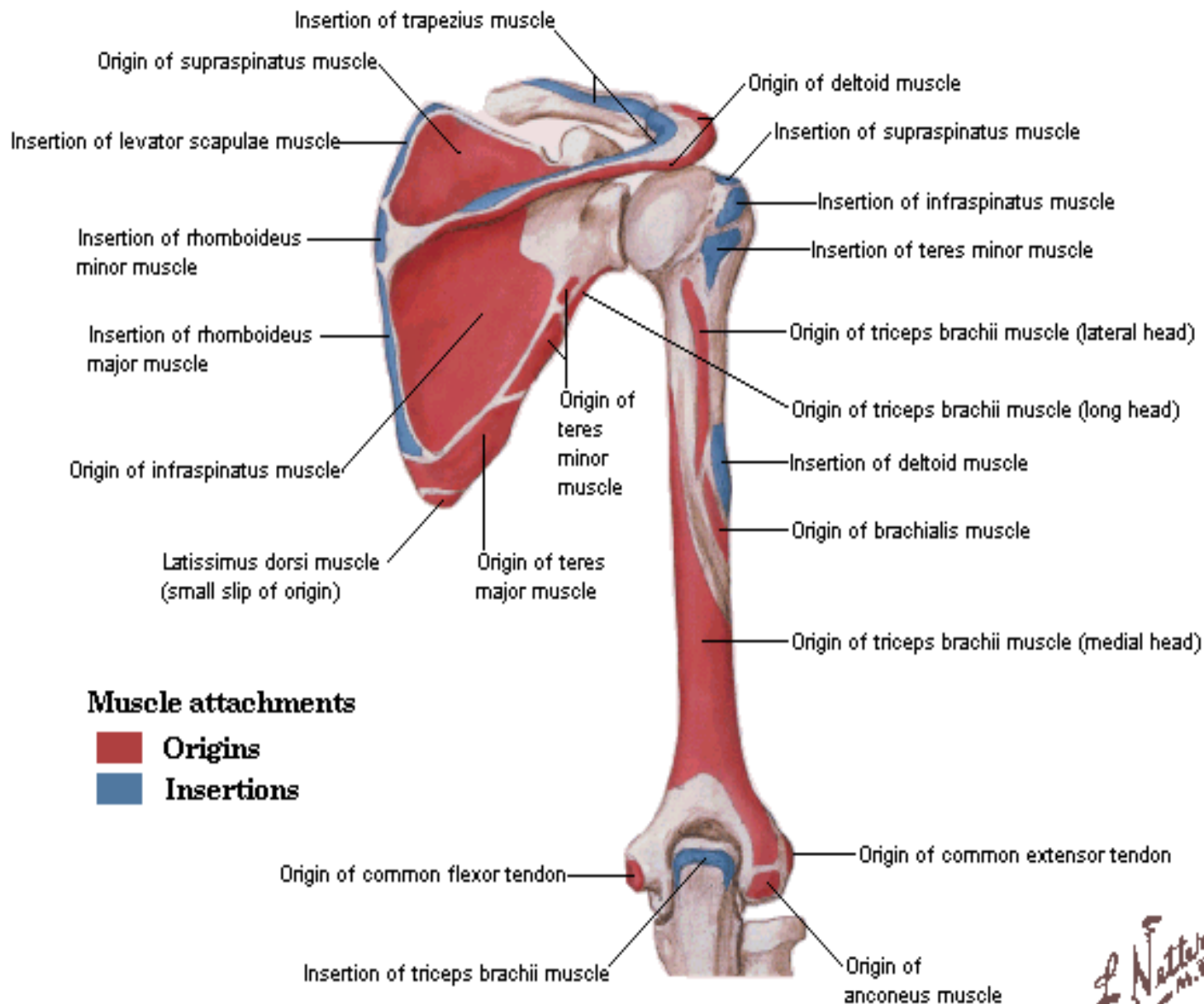
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1. Deltoid
2. Supraspinatus
3. Infraspinatus
4. Teres minor
5. Teres Major
6. Subscapularis



# Humerus and Scapula

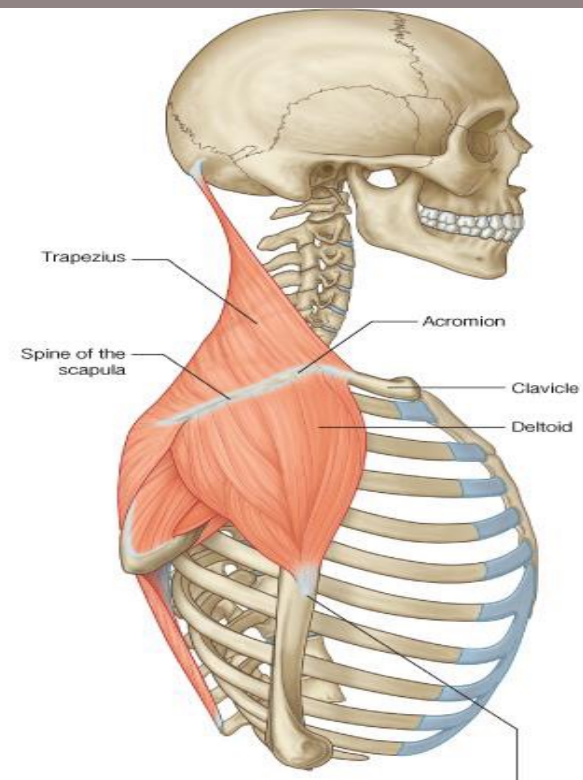
## Posterior View - Muscle Attachments



### Muscle attachments

- Origins
- Insertions

# Deltoid



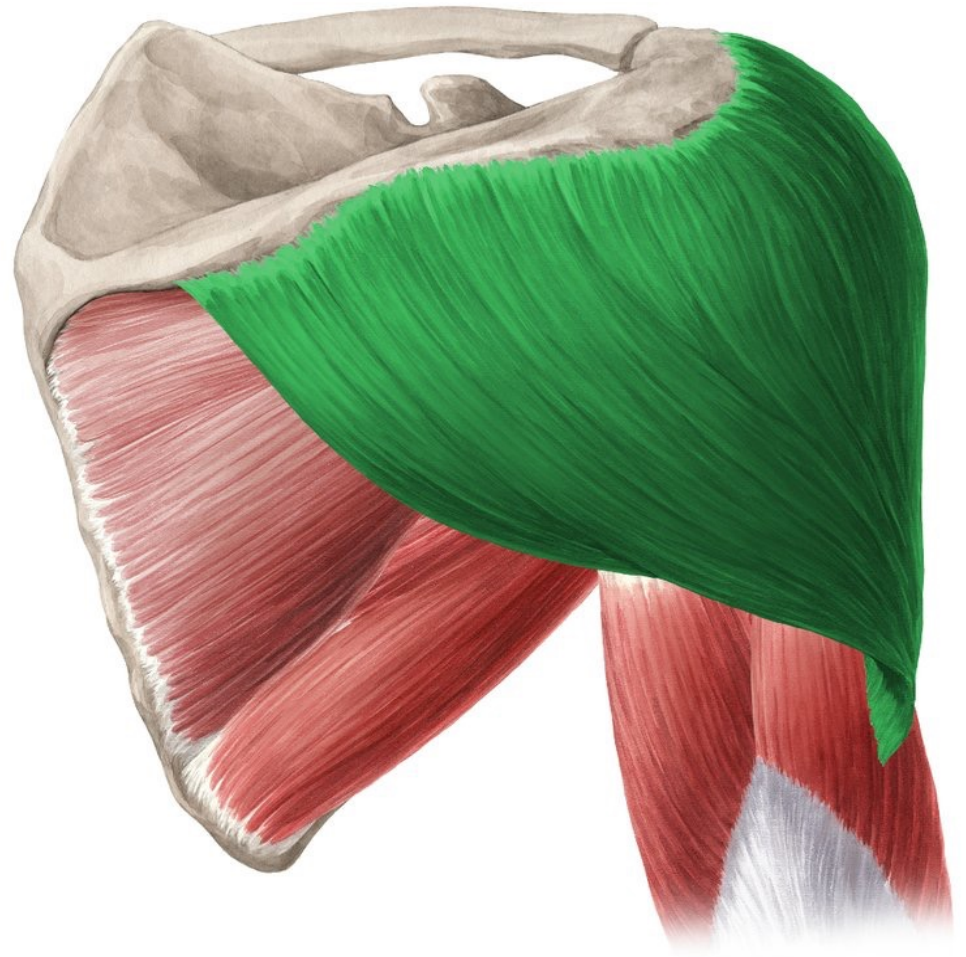


## **Origin** (Opposite insertion of trapezius)

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

## **Insertion**

Deltoid tuberosity

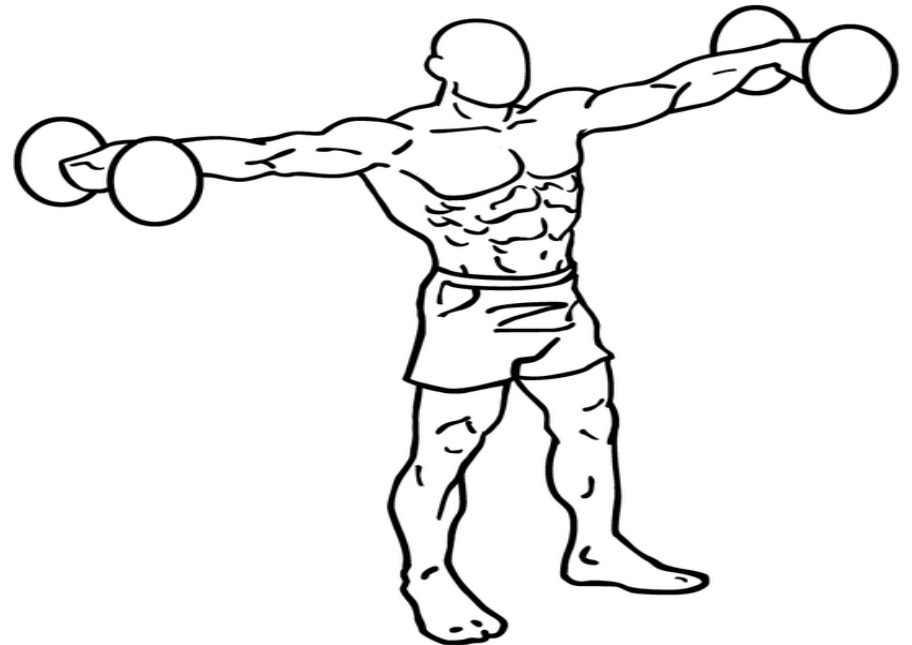


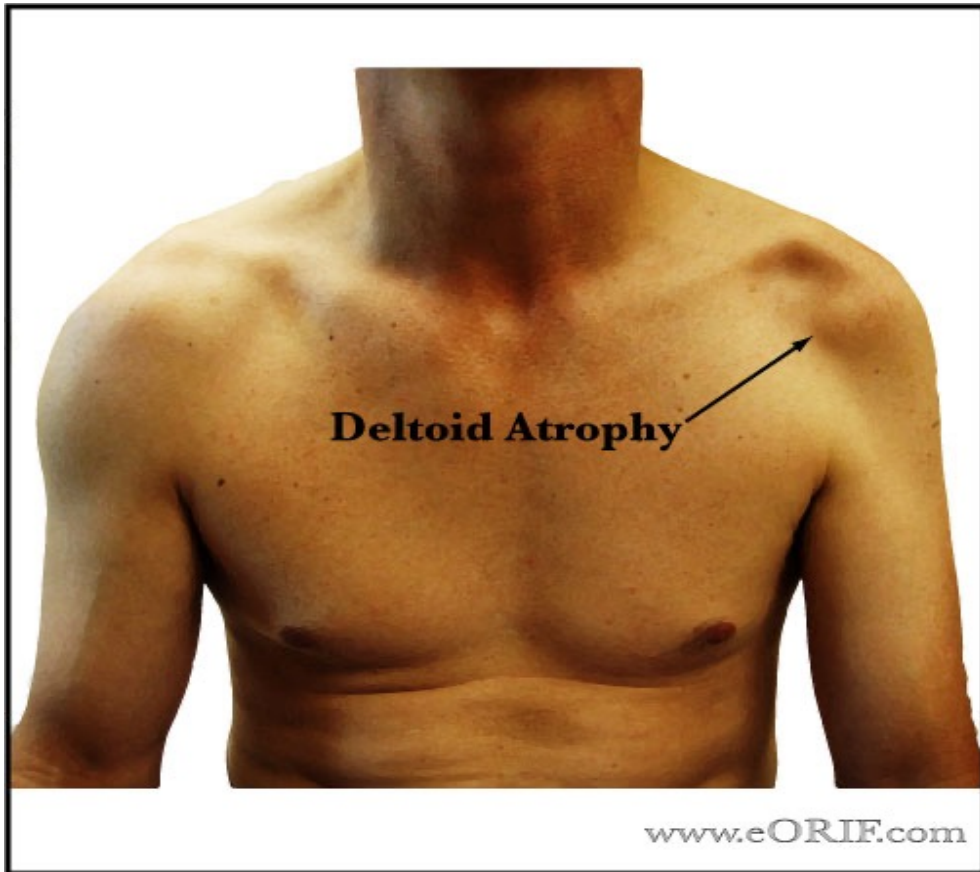
## Nerve supply:

Axillary nerve .

## Action:

- 1-**Anterior** fibers flexes and medial rotates the arm.
- 2-**Middle** fibers Abductor of the arm ( $15^{\circ}$ - $90^{\circ}$ ).
- 3- **Posterior** fibers extents & laterally rotates the arm.

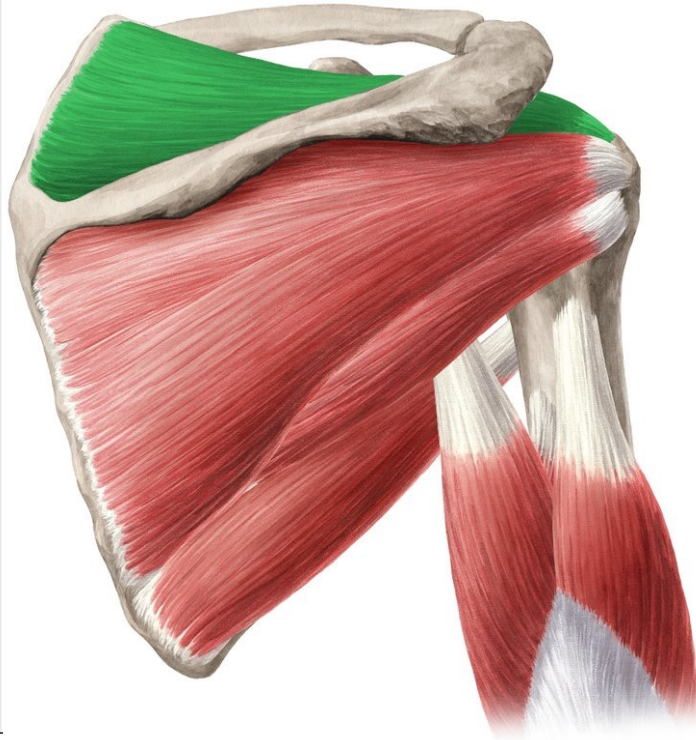




## **Deltoid muscle paralysis**

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

# Supraspinatus

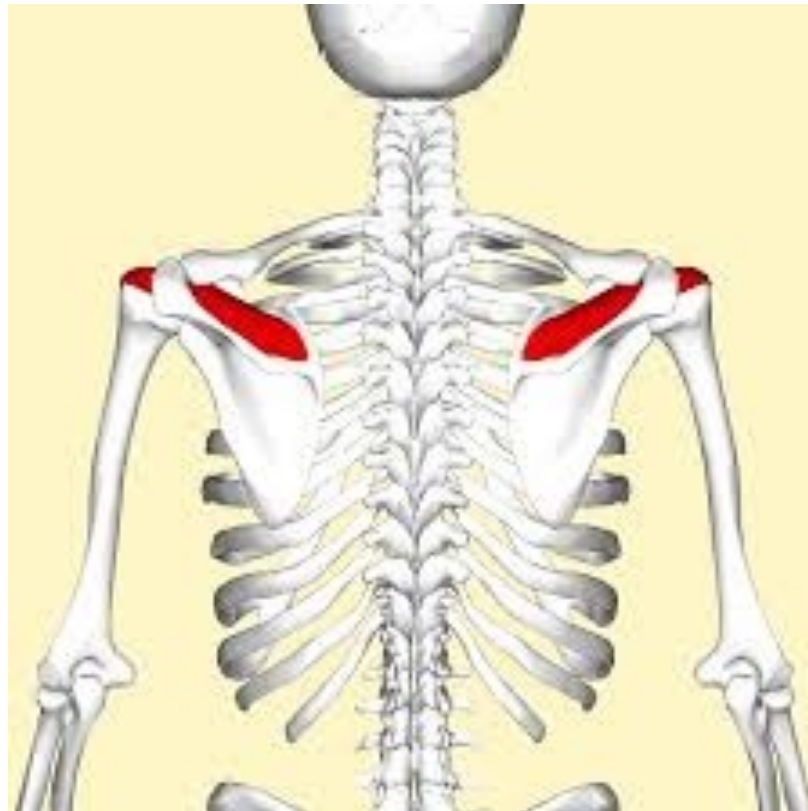


## **Origin**

Supraspinous fossa

## **Insertion**

Greater tuberosity of the humerus ( upper impression)





**Nerve supply:**

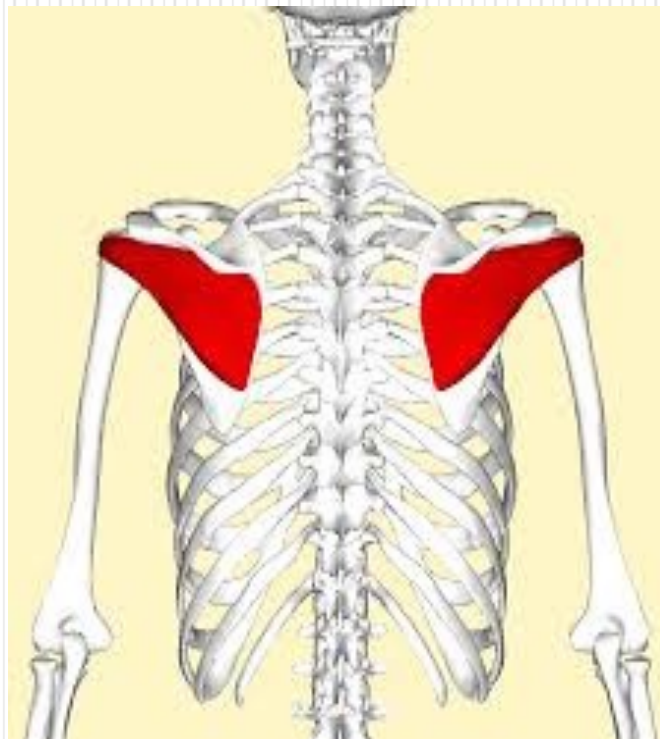
Suprascapular nerve .

**Action:**

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



# Infraspinatus

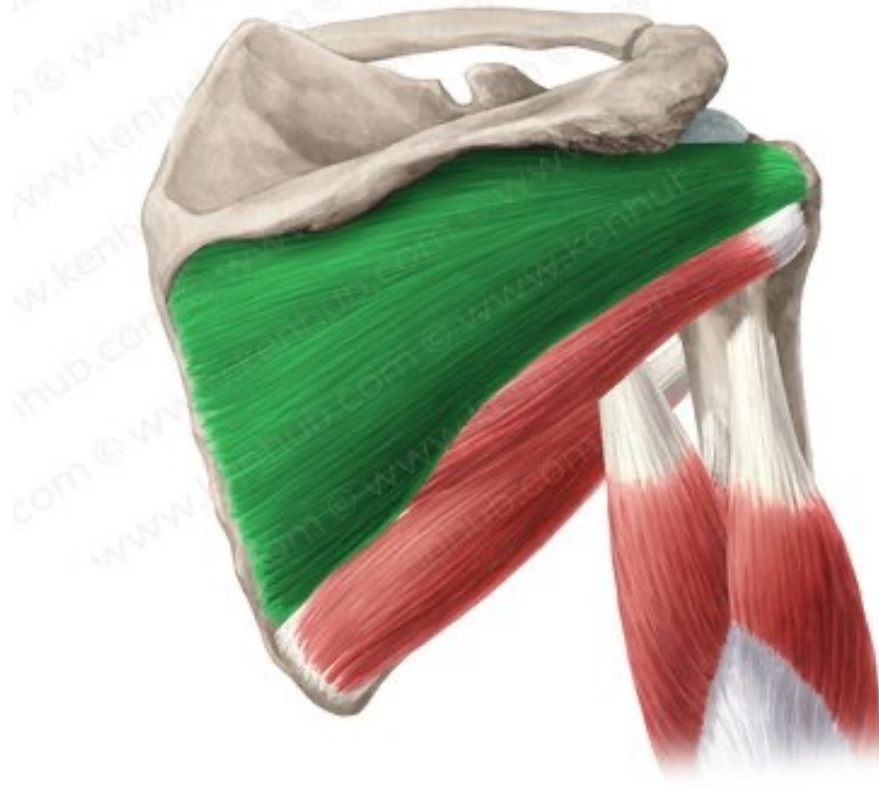


## Origin

Infraspinous fossa

## Insertion

Greater tuberosity of the humerus ( Middle impression)



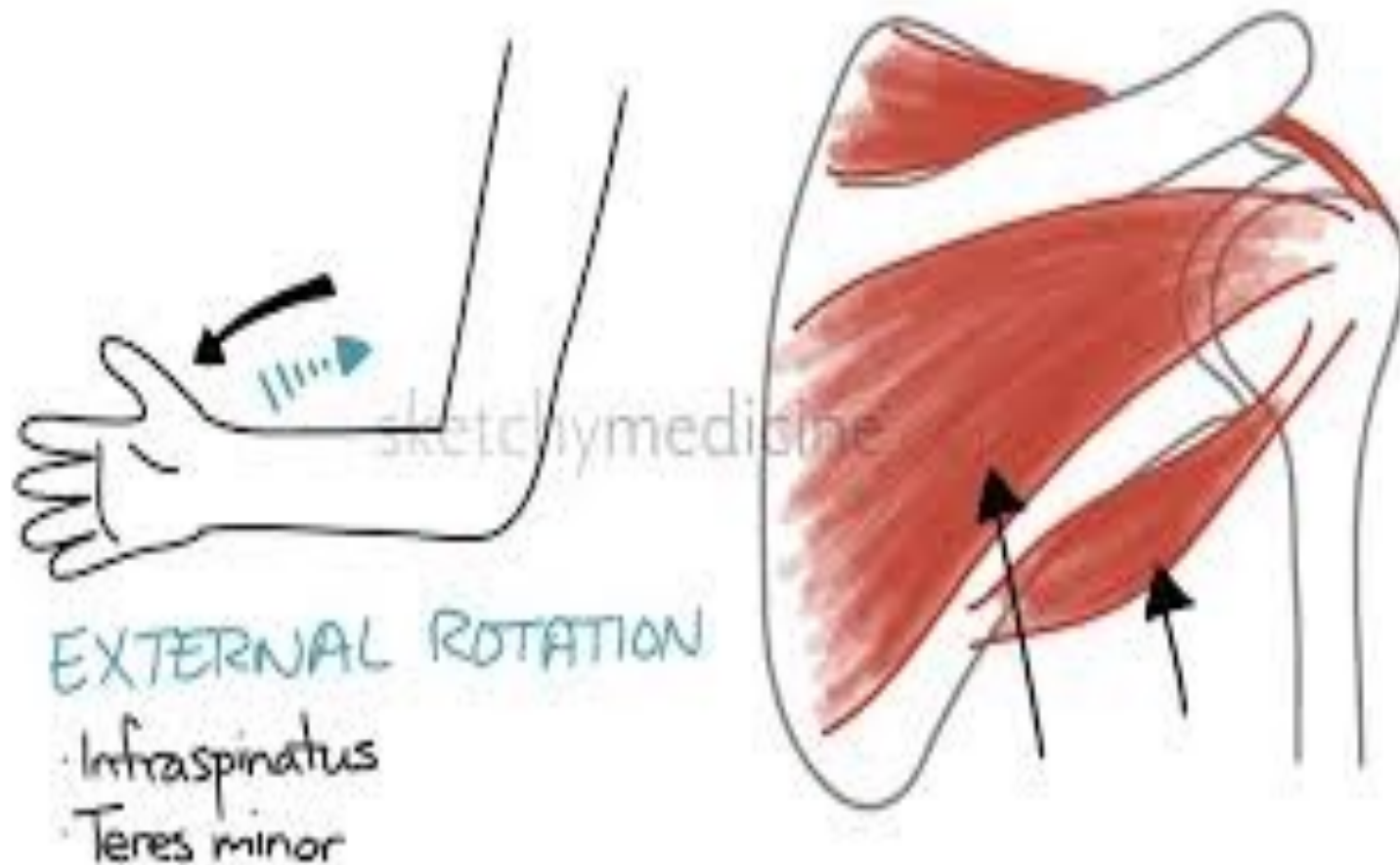


**Nerve supply:**

Suprascapular nerve

**Action:**

Lateral rotation of the arm



# Teres Minor

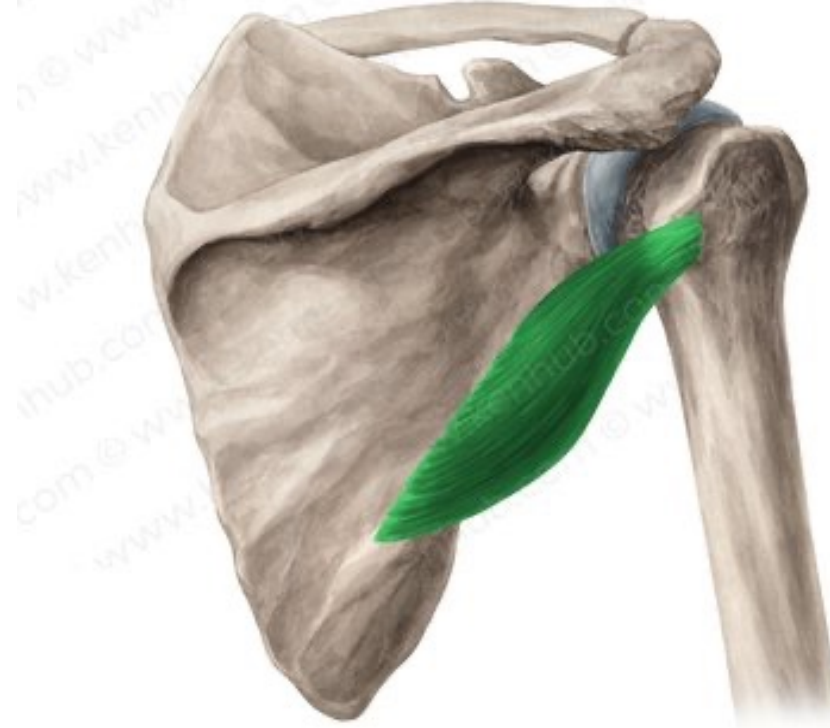


## **Origin**

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

## **Insertion**

Greater tuberosity of the humerus (lower impression).

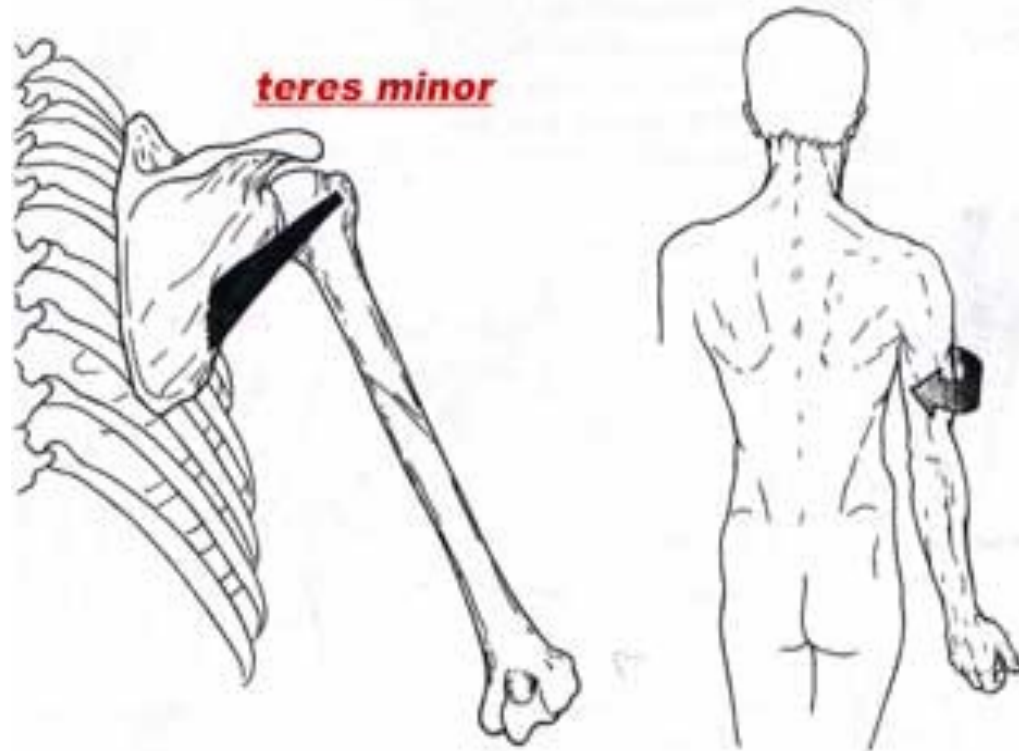


**Nerve supply:**

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.

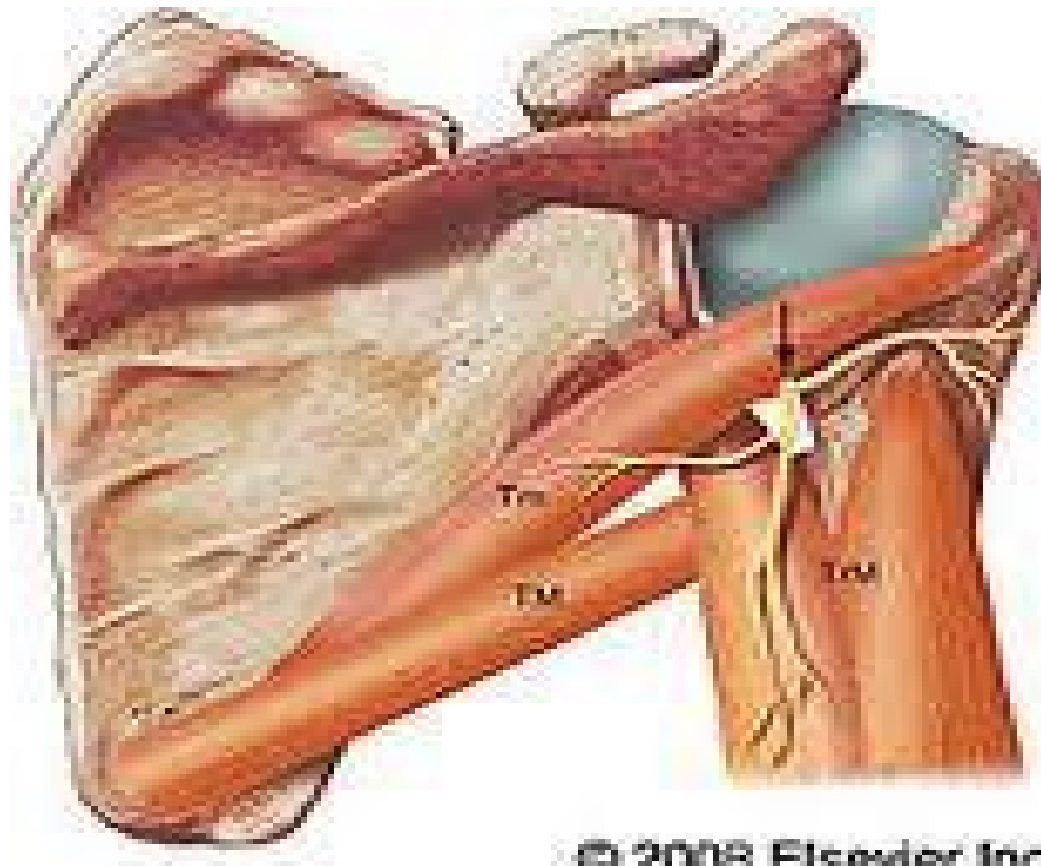


**Nerve supply:**

lower subscapular nerve .

**Action:**

Adduction, medial rotation.



# Subscapularis



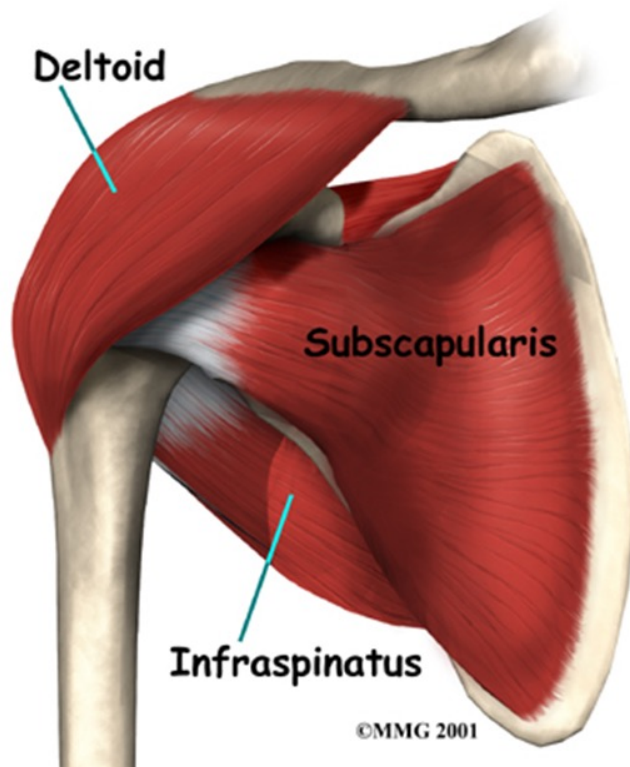


## Origin

Subscapular Fossa

## Insertion

Lesser Tuberosity.

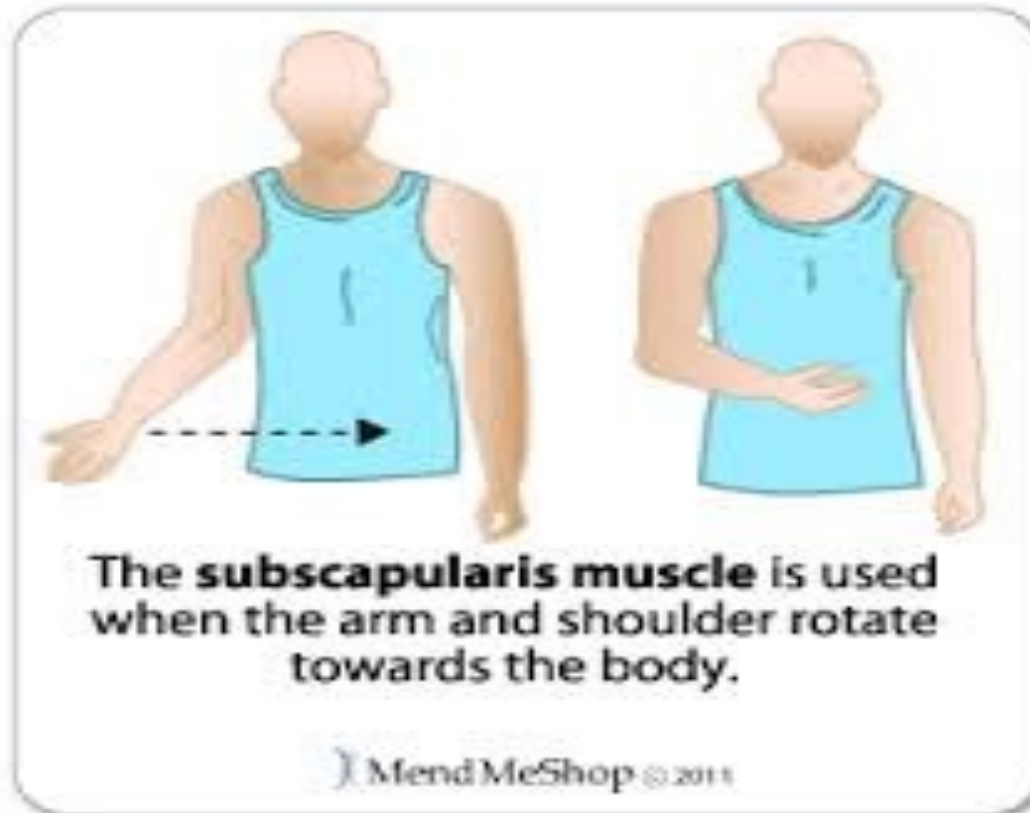


## **Nerve supply:**

Upper and lower subscapular nerves.

## **Action:**

Adduction and medial rotation of the arm.



## Origin and insertion for shoulder muscles

MUSCLE	ORIGIN	INSERTION
<b>Deltoid</b>	Opposite insertion of trapezius	Deltoid tuberosity
<b>Supraspinatus</b>	Supraspinous fossa	<b>Greater Tuberosity</b>
<b>Infraspinatus</b>	Infraspinous fossa	<b>Greater Tuberosity</b>
<b>Teres minor</b>	Dorsal, lateral ,scapula	<b>Greater Tuberosity</b>
<b>Teres major</b>	Dorsal,inferior angle ,scapula	Medial lip bicipital grove
<b>Subscapularis</b>	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)**

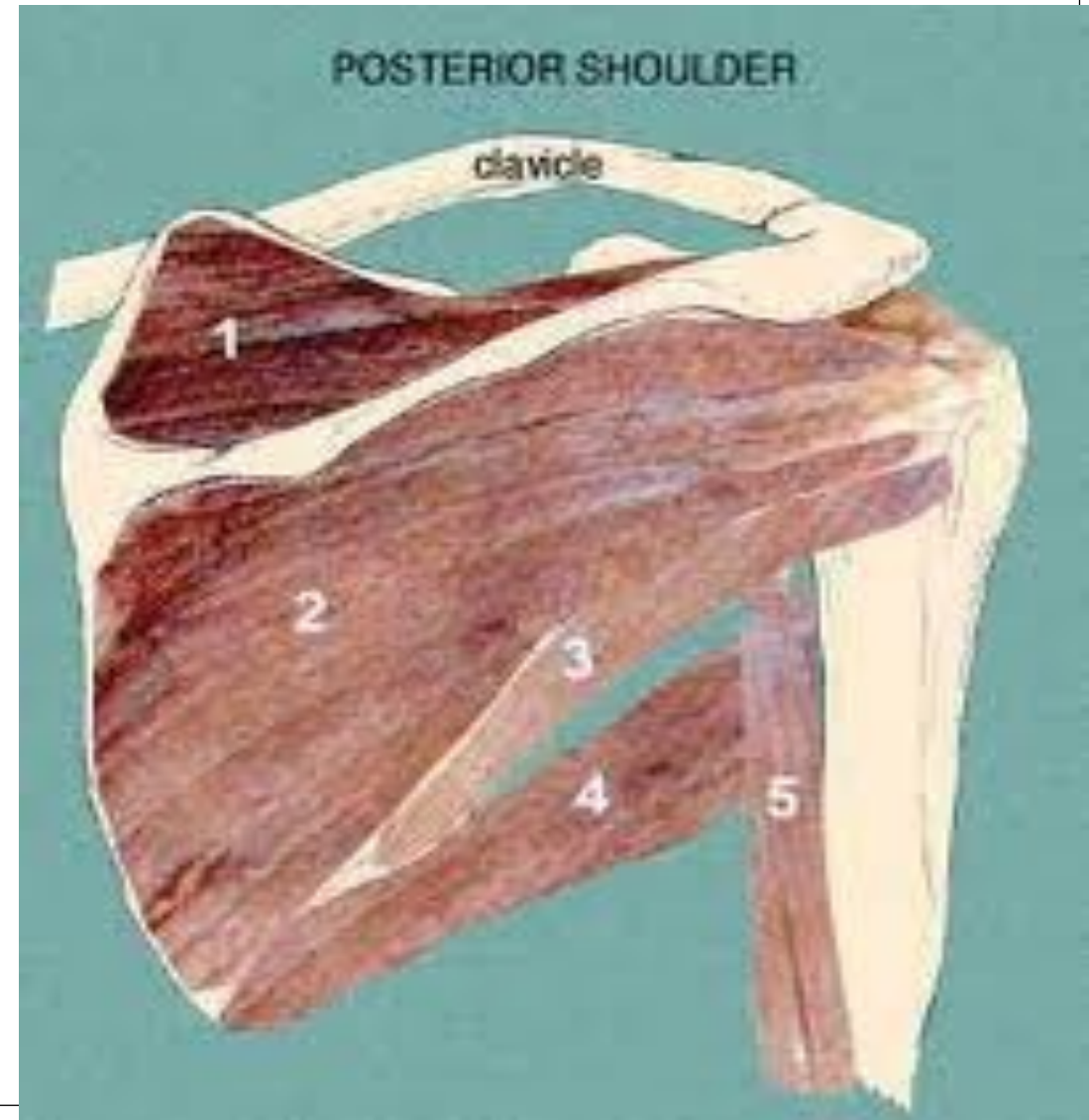
**Subscapularis  
Teres major  
( Medial Rotation ,adduction)**

**Subscapular Nerve**

	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



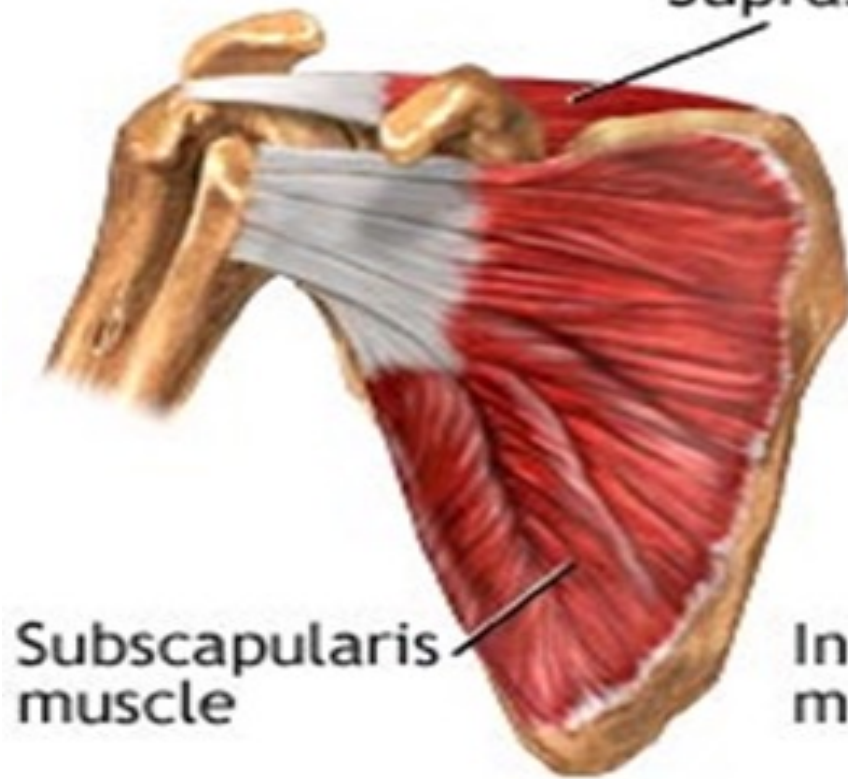
# Rotator Cuff

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

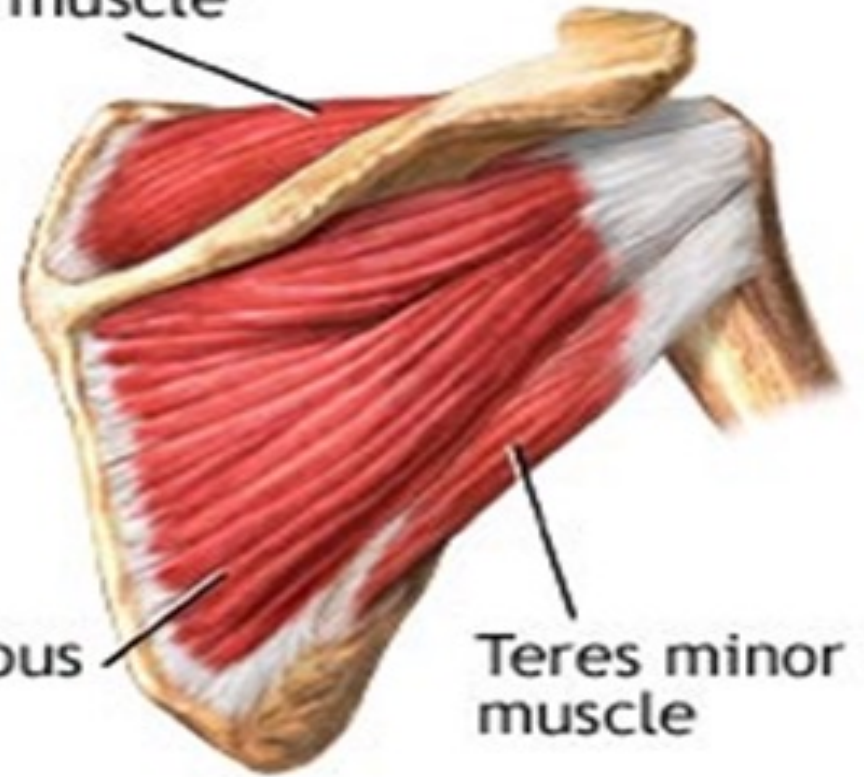
Supraspinatous muscle



Subscapularis muscle

Infraspinatous muscle

Anterior shoulder



Teres minor muscle

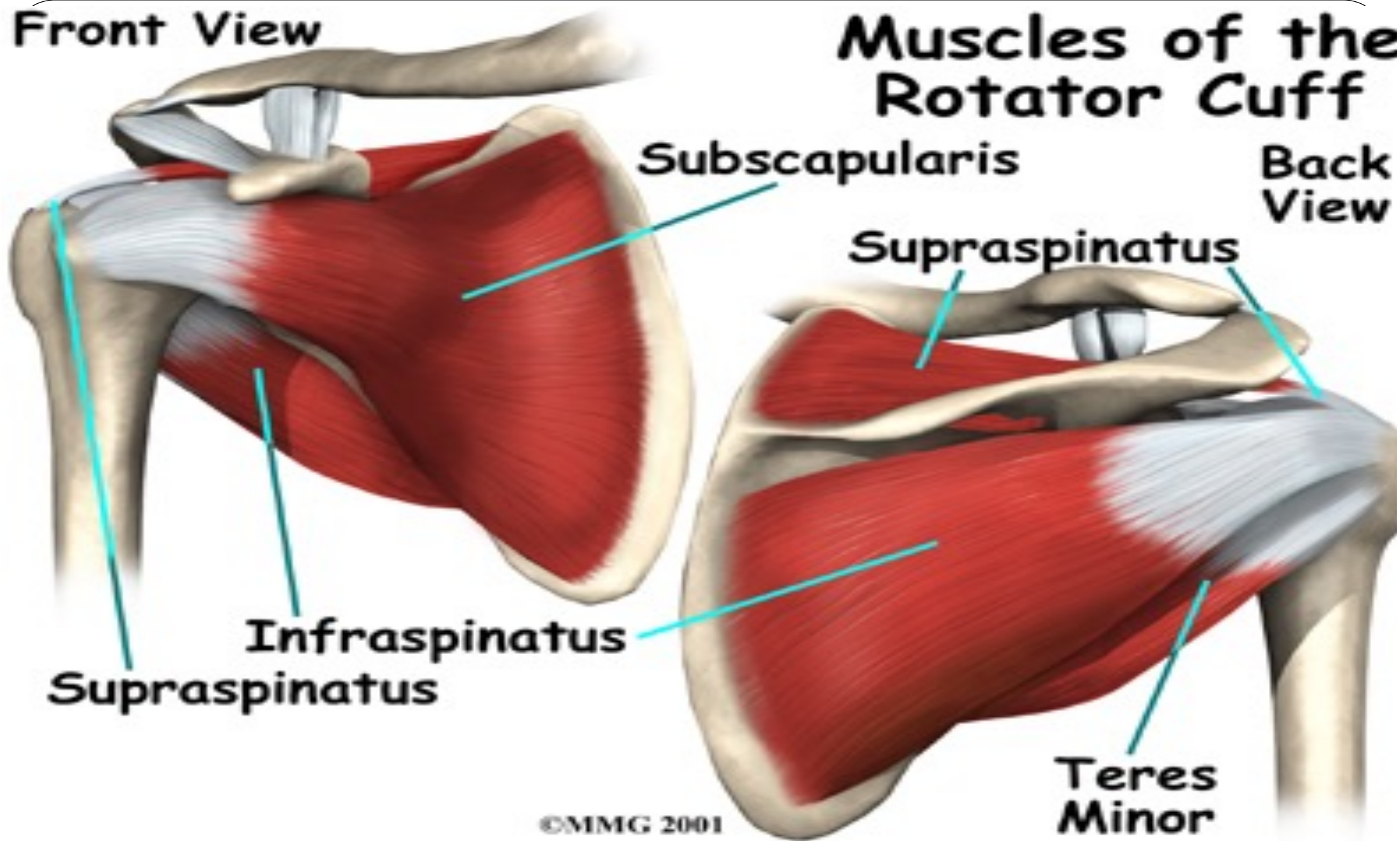
Posterior shoulder



**Front View**

# Muscles of the Rotator Cuff

**Back View**



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# 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

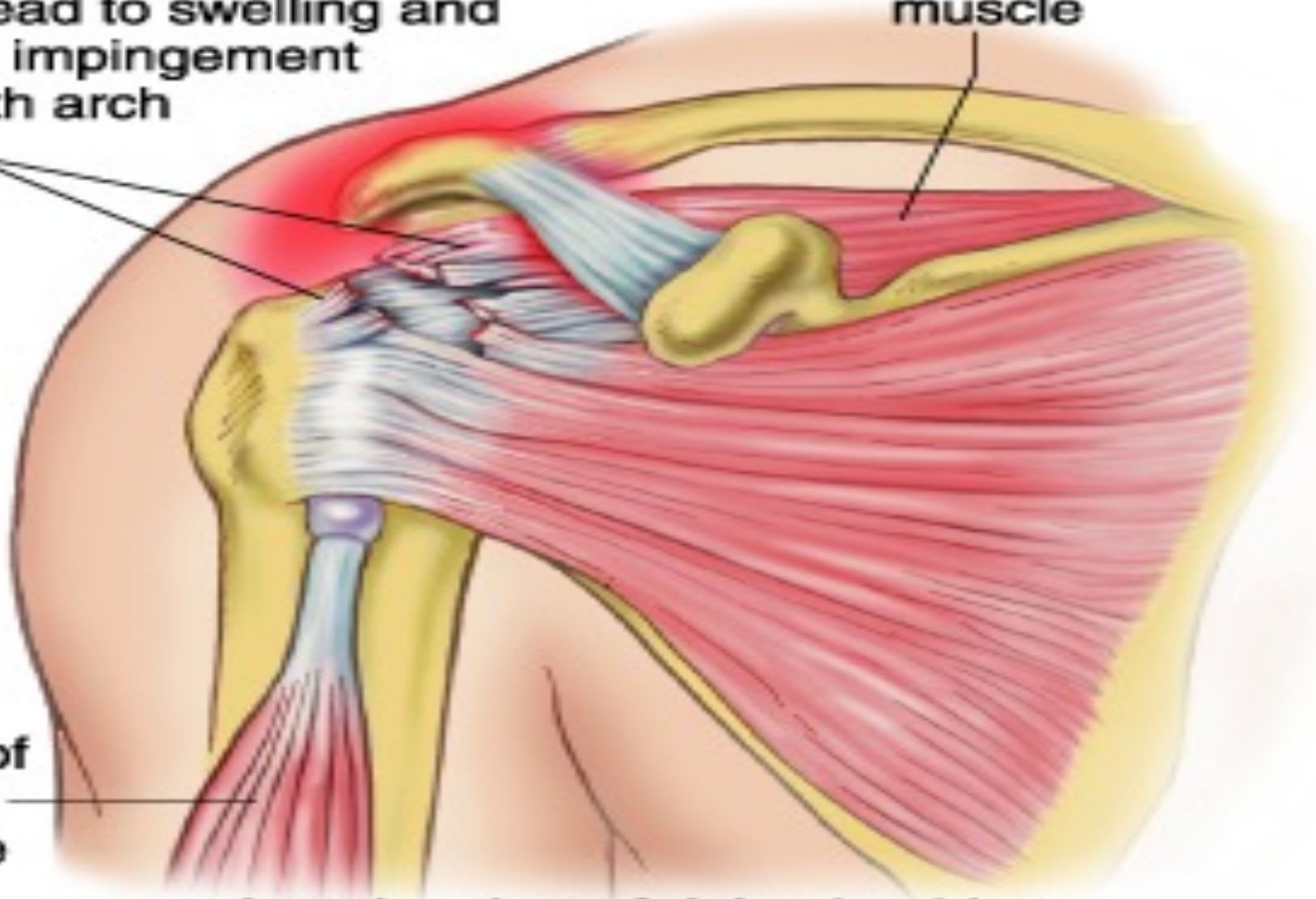


Rotator cuff tendon tears lead to swelling and further impingement beneath arch

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)

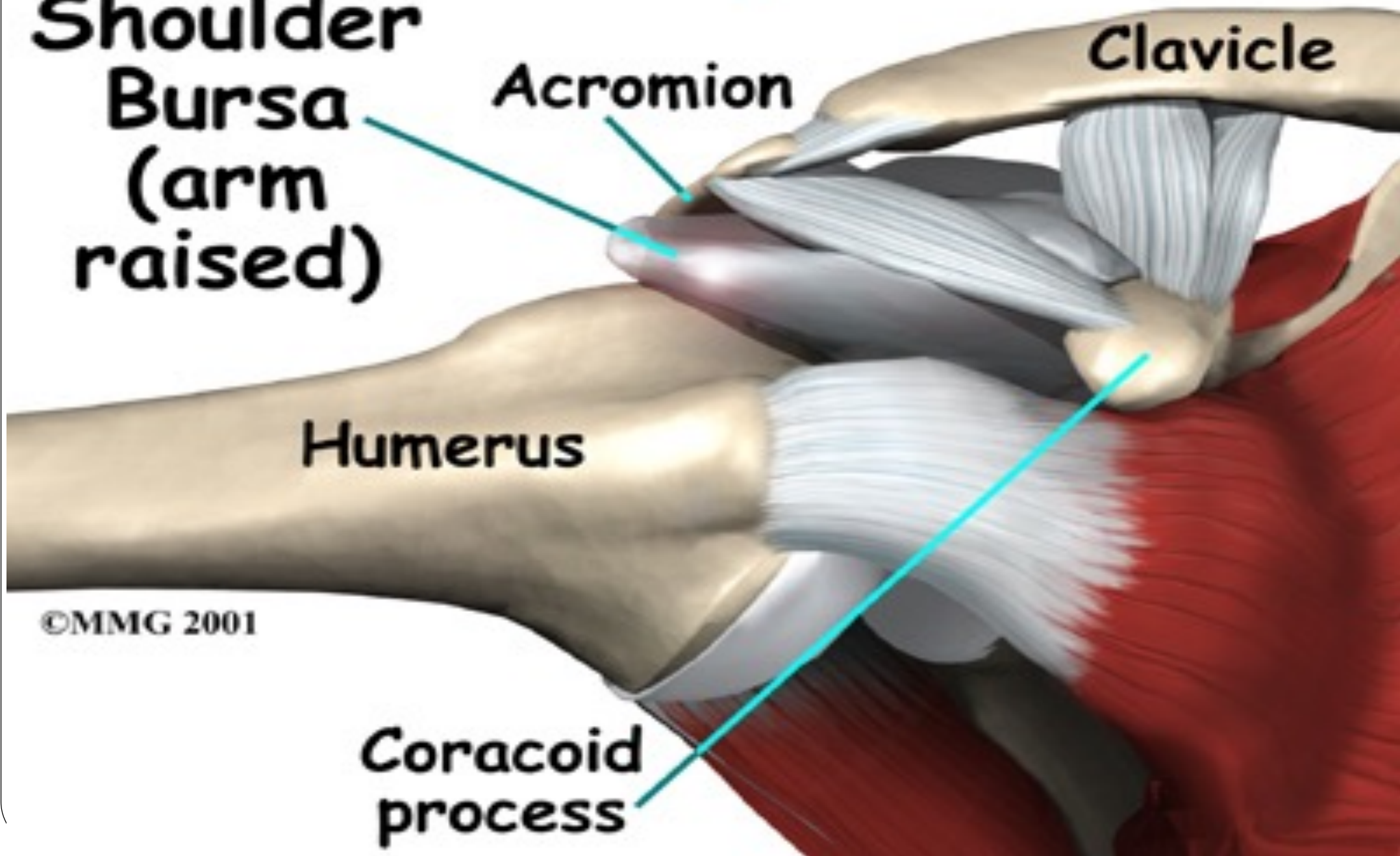
Acromion

Clavicle

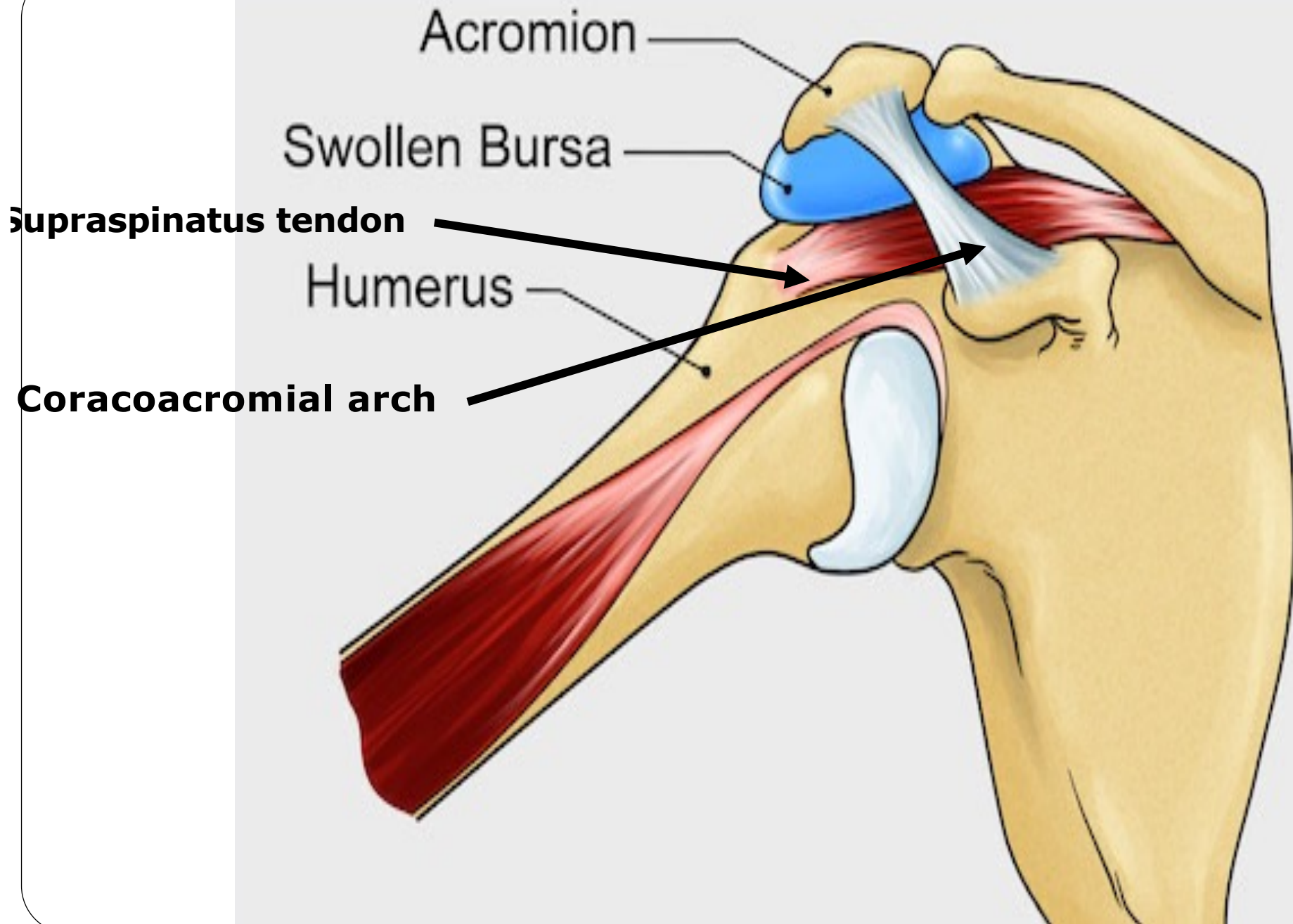
Humerus

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Coracoid  
process







# 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	Sensory
Deltoid and teres minor muscles	To skin over the lower half of deltoid muscle.

**Anterior  
Shoulder Dislocation**



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# Axillary Nerve Injury



## A-Causes

- 1-Compression by a Cruch
- 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