



MUSCLES OF THE SHOULDER GIRDLE

Norse Foundation

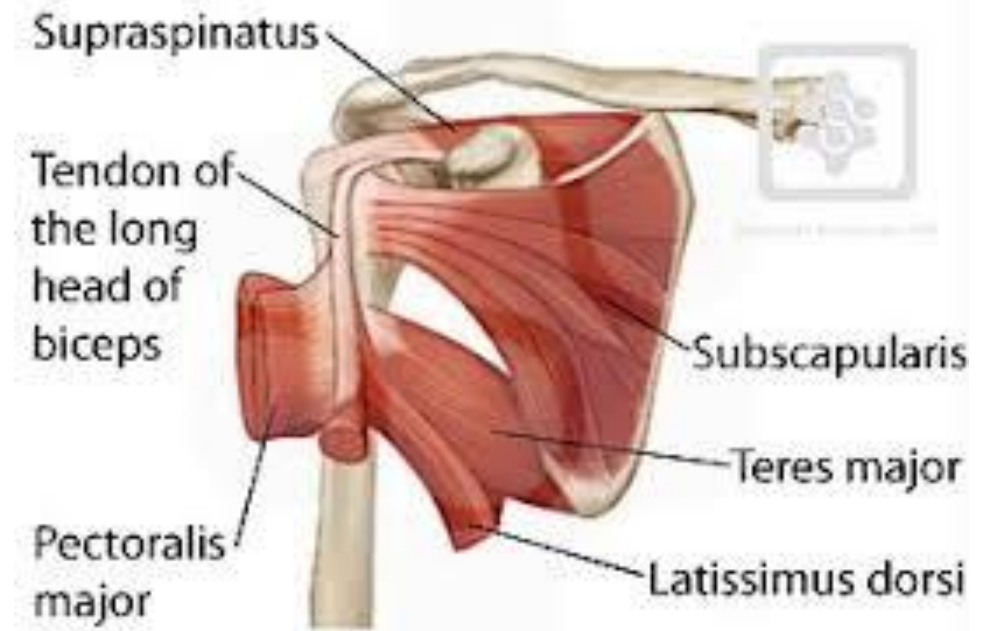
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MUSCLES ATTACHING TO THE HUMERUS

Action	Muscle
Flexion	Ant deltoid
	Biceps – short head
	Pectoralis major
	Coraco – brachialis
Extension	Lat dorsi
	Posterior deltoid
	Triceps
Abductors	Supraspinatus – 1 st 15 – 25 degrees.
	Deltoid





MUSCLES ATTACHING TO THE HUMERUS

Action	Muscle
Medial Rotators	Subscapularis
	Teres major
	Lat dorsi
	Pectoralis major
	Ant deltoid
Lateral Rotators	Infraspinatus
	Teres minor
Adductors	Pectoralis major
	Lat dorsi
	Teres major
	Coraco - brachialis

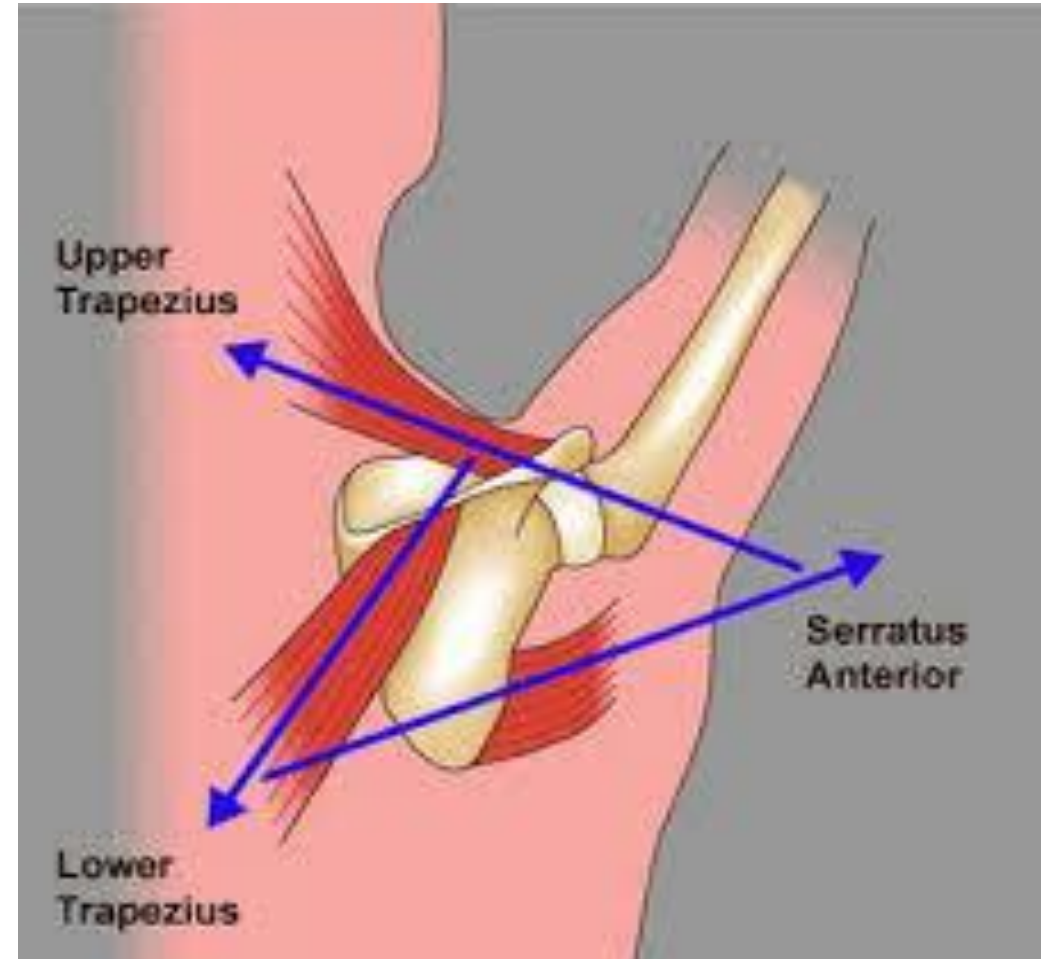




MUSCLES ATTACHING TO THE SCAPULA

Movement	Muscles
Elevation	Upper fibres of trapezius Levator scapulae
Depression	Serratus anterior Pectoralis minor

- During these movements, the medial end of the clavicle moves in the opposite direction from the lateral end.
- Which ever direction the ILA moves describes the type of rotation of the scapula.





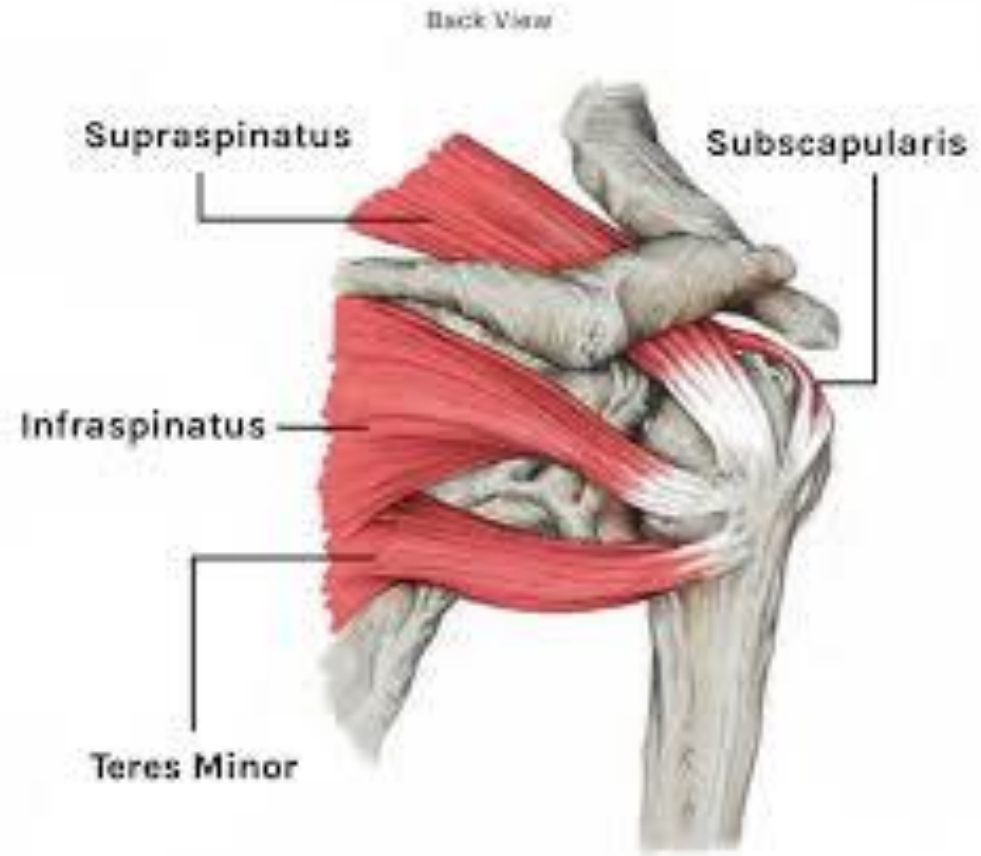
ROTATOR CUFF MUSCLES (S.I.T.S)

S – SUPRASPINATUS –
abduction of the humerus –
first 15 – 25 degrees

I – INFRASPINATUS – Lateral
rot and add.

T – TERES MINOR - Lateral rot
and add.

S – SUBSCAPULARIS – Medial
rot



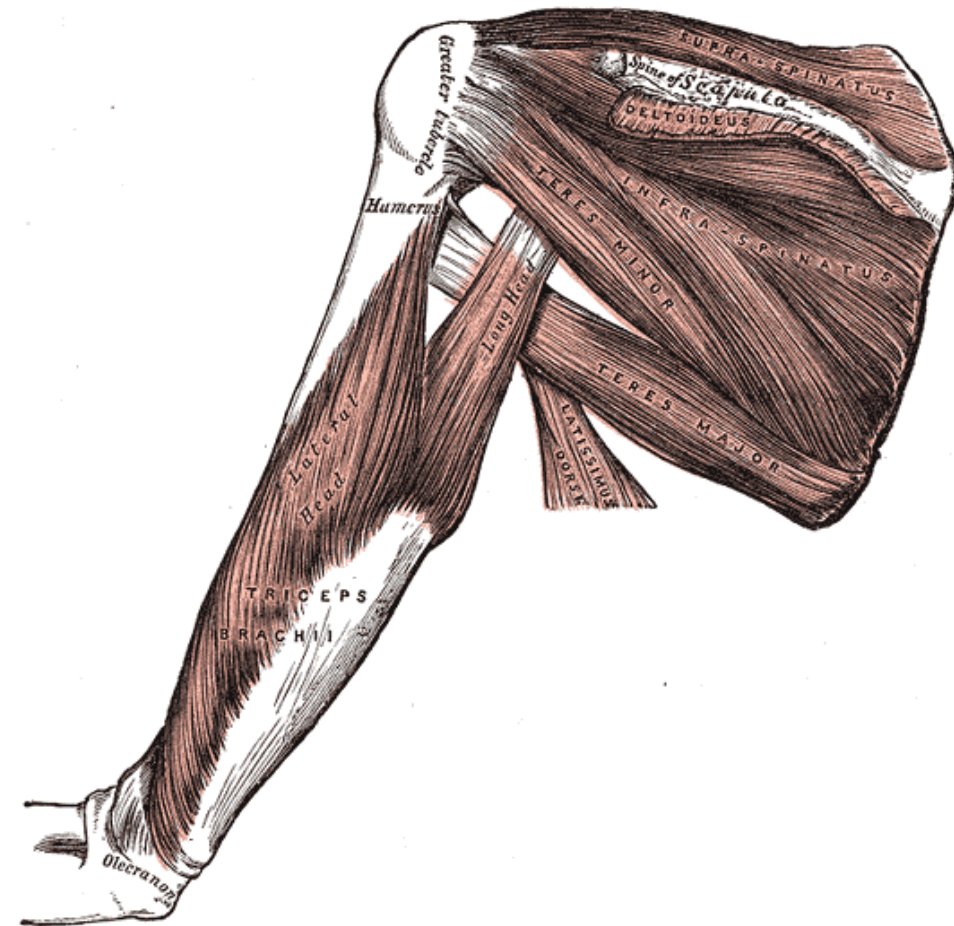


MUSCLE OF THE ROTATOR CUFF

Ball and socket joint - very flexible - little stability provided by ligaments.

Rotator cuff muscles are therefore very important - responsible for stabilising the humerus in the glenoid fossa.

When carrying a heavy weight the four muscles brace the head of the humerus against the glenoid fossa.





SUPRASPINATUS

Supraspinatus - thin muscle - originates from the medial two thirds of supraspinous fossa and supraspinous fascia - travels under the acromion process - inserts capsule of the shoulder joint and the greater tubercle of humerus.

Action in isolation is to initiate abduction of the arm - after 20 degrees - deltoid takes over - also pulls the humerus head into the glenoid fossa - innervated by the suprascapular nerve from C5 and C6 - has a thick fascia to protect it from the underside of the acromion.





INFRASPINATUS

The **infraspinatus** muscle is a thick triangle shaped muscle with a substantial fascia covering it.

Originates from the medial two thirds of infraspinous fossa and infraspinous fascia-

Inserts into the middle facet of the greater tubercle of humerus and the posterior aspect of capsule of the shoulder joint.

Infraspinatus - lateral rotation - when the arm is abducted- adduction of the abducted arm- extension and horizontal abduction.

Tendon has a bursa - separates the muscle & the scapula - deep under the traps, deltoid and acromion process - lower aspect is easy to palpate. Innervated by the suprascapular nerve C5, C6.

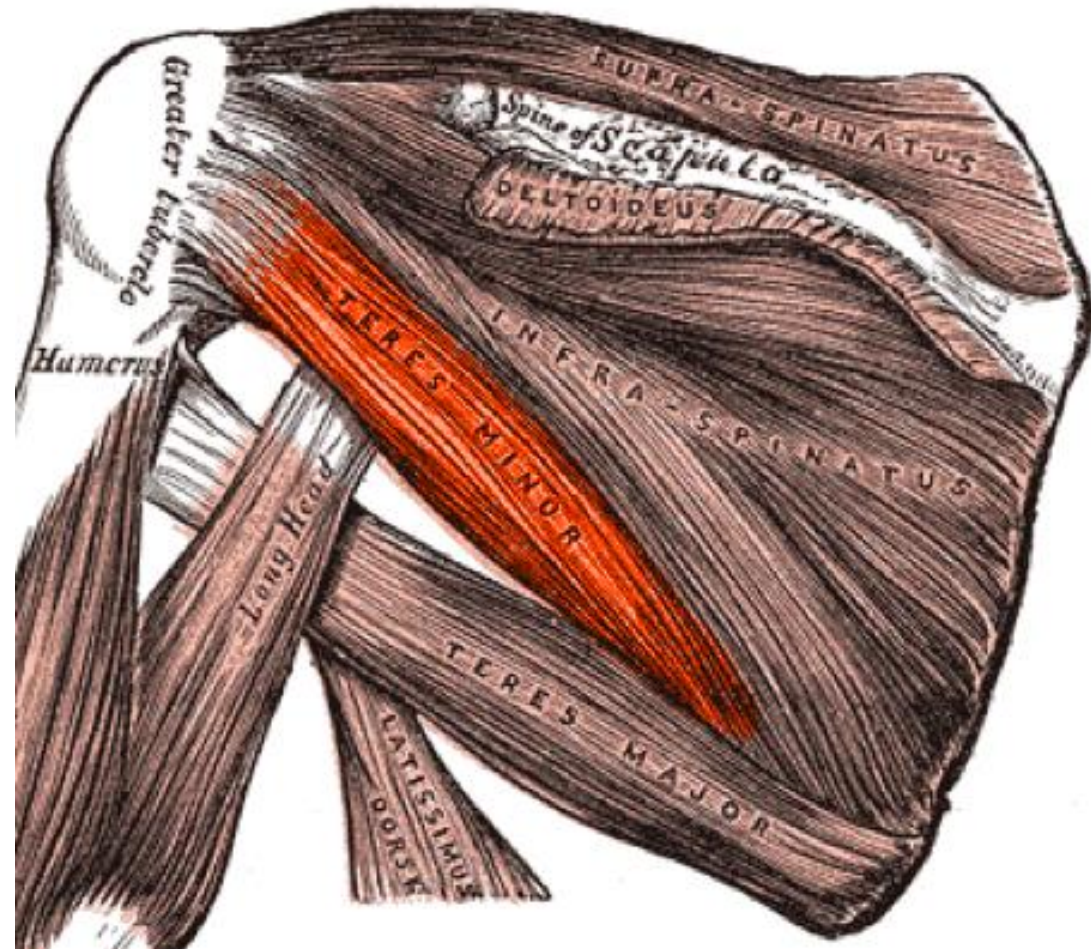




TERES MINOR

The **teres minor** - thin muscle - originates from the superior half of the lateral border of the scapular - inserts into the greater tubercle of the humerus.

Fascia separates it from the **infraspinatus** and **teres major** - laterally rotates – extends - adduct the humerus - involved in horizontal abduction - Innervated by the axillary nerve from C5 & C6.



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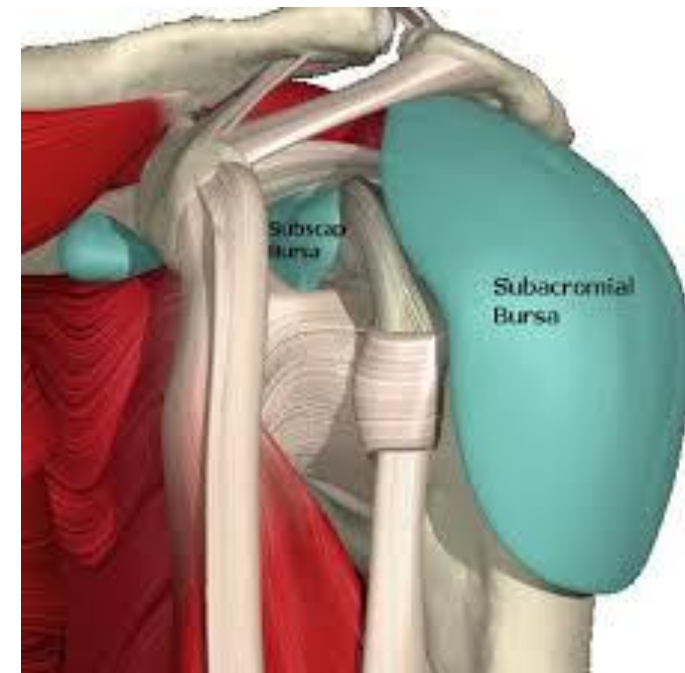
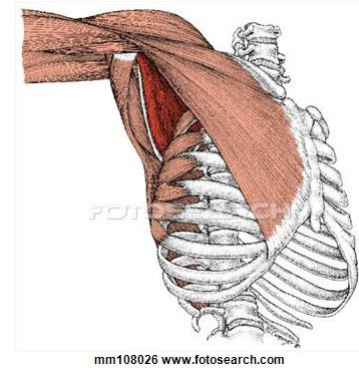


SUBSCAPULARIS

The **subscapularis** muscle originates from the medial two thirds of subscapular fossa and tendinous intramuscular septa - Inserts into the lesser tubercle of humerus and anterior capsule of the shoulder joint - medially rotates - involved in maintaining the humerus in the glenoid fossa - resists upward displacement of the humerus when the deltoid, biceps brachii and triceps are active.

The tendon and the neck of the scapula are separated by the subscapular bursa.

Anterior surface of the **subscapularis** - special loose connective tissue - allows the scapula to slide over the chest wall, forming the scapulothoracic joint - innervated by the upper and lower subscapular nerves C5, C6.





OTHER MUSCLES THAT ATTACH TO THE SHOULDER GIRDLE



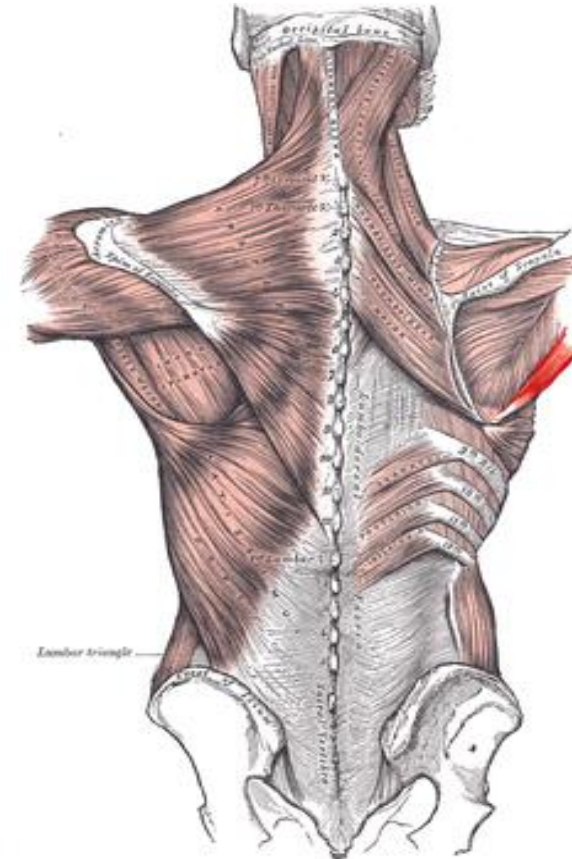
TERES MAJOR

The origin of **teres major** is the dorsal surface of the inferior scapular angle.

It inserts into the medial lip of intertubercular sulcus of the humerus.

The muscles action is to extend, adduct and medially rotate the shoulder.

It is innervated by the lower subscapular nerve from C5 to C7.





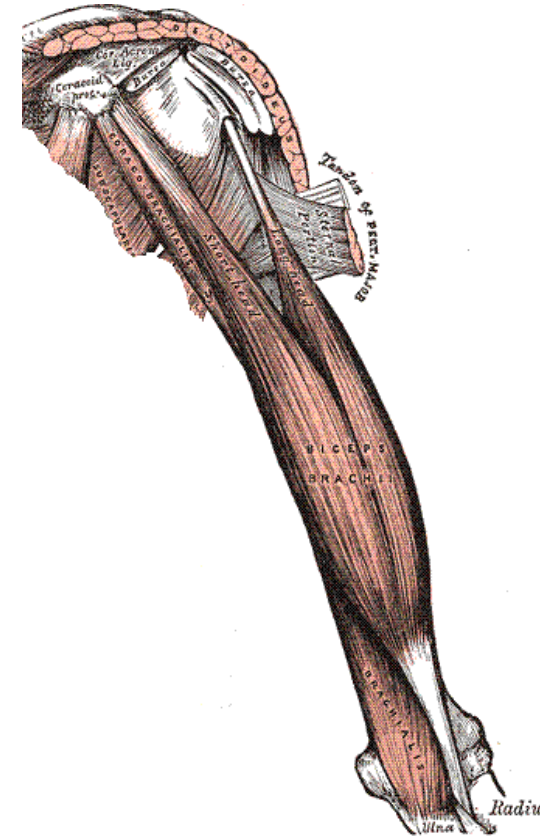
BICEPS BRACHII

The **biceps** has two origins the short head comes from the coracoid process of the scapula. While the long head arises from the supraglenoid tubercle.

The muscle inserts into the radial tuberosity and bicipital aponeurosis into deep fascia on the medial part of the forearm.

The action of the muscle is to flex elbow and supinate the forearm.

The muscle is innervated by the musculocutaneous nerve (C5–C6).





TRICEPS BRACHII

This muscle has three origins the Long head comes from the infraglenoid tubercle of scapular & shoulder capsule.

The lateral head from the spiral groove on the posterior surface of humerus.

The medial head comes from below and medial to spiral groove on posterior surface of humerus.

The muscle inserts into the upper surface of olecranon & the deep fascia of forearm.

The action of the muscle is to extend the elbow. The muscle is innervated by the radial nerve - C6 - C8.





PECTORALIS MAJOR

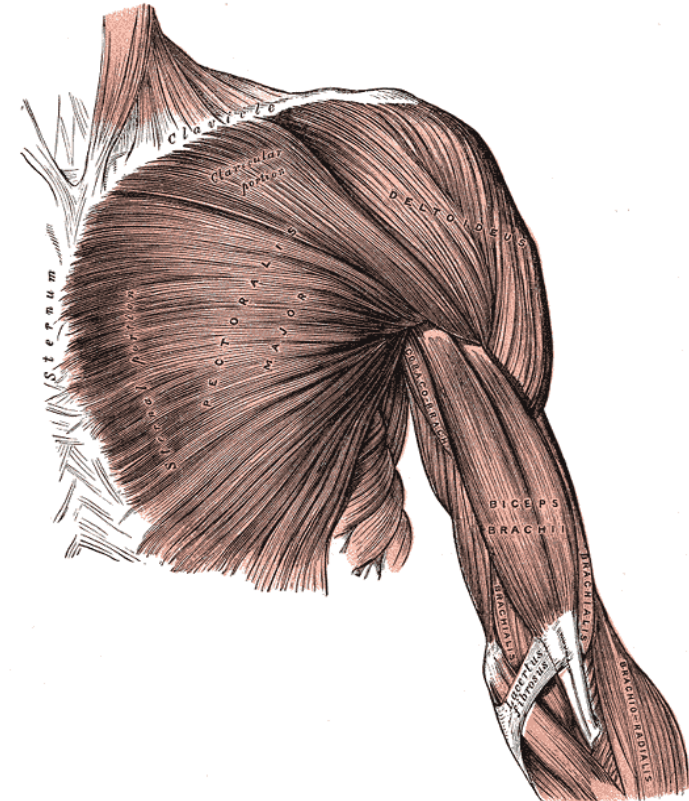
The **pectoralis major** has two origins. The clavicular head arises from the medial half of the clavicle.

The sternocostal head comes from the sternum, upper six costal cartilages & the aponeurosis of the external oblique.

The muscle inserts into the lateral aspect of the bicipital groove & crest below the greater tubercle. The action of the muscle is to adduct & medially rotate the arm.

The clavicular head flexes the arm from extension, while the sternocostal head extends the flexed arm.

The muscle is innervated by the medial & lateral pectoral nerves - C5 – C8 & T1.





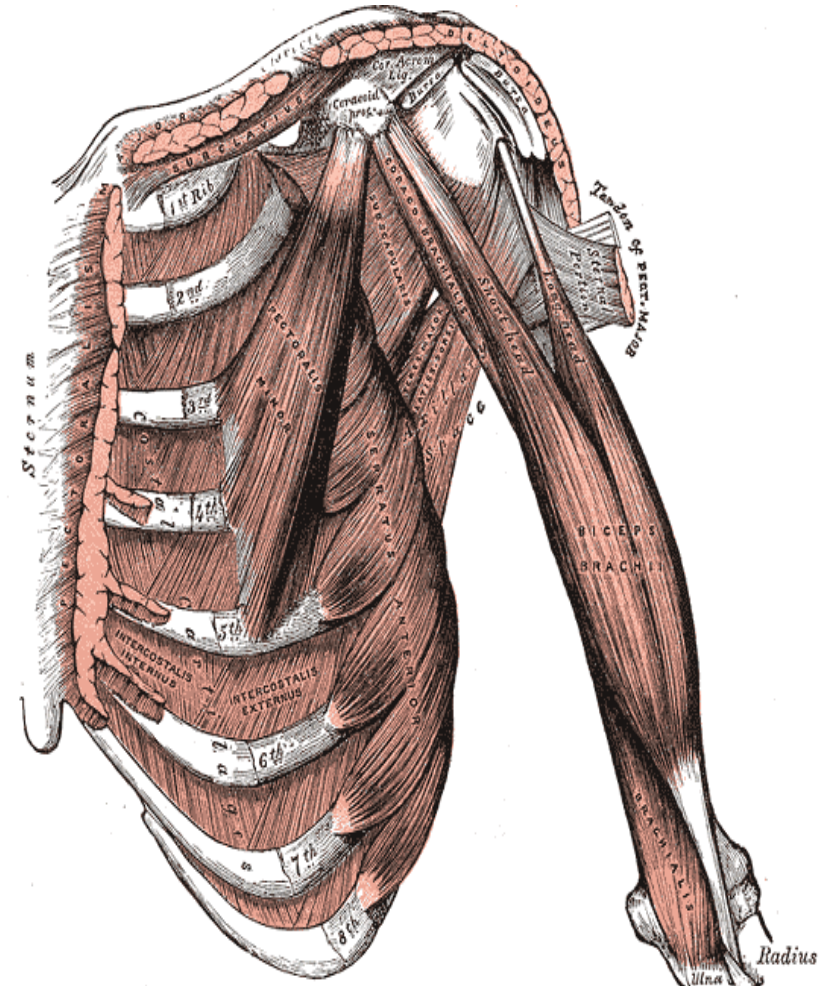
PECTORALIS MINOR

The origin of the **pectoralis minor** is the 3, 4, 5 ribs.

The muscle inserts into the medial and upper surface of coracoid process of scapula.

The muscle's action is to elevate the ribs if the scapula is fixed & protract the scapula (assists serratus anterior).

The muscle is innervated by the medial pectoral nerve from C8 & T1.





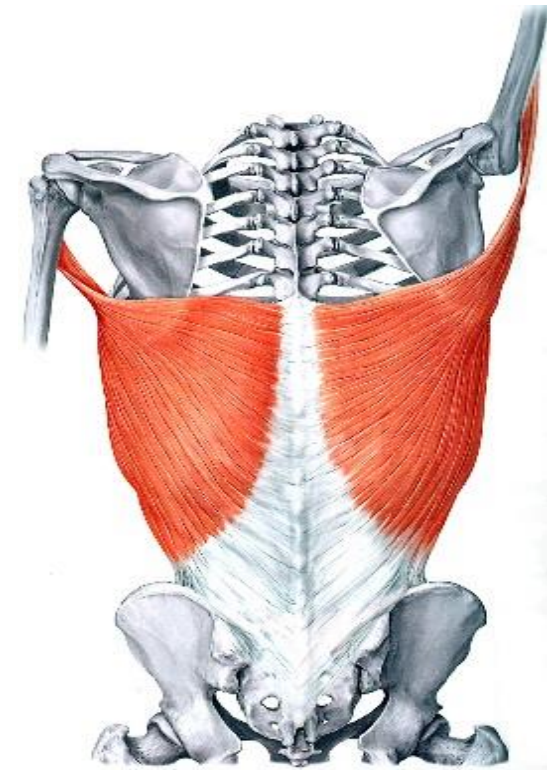
LATISSIMUS DORSI

The origin of the **latissimus dorsi** is the thoracolumbar fascia, the spinous processes of the lower six thoracic vertebrae, the three or four most caudal ribs and in some people the iliac crest.

The muscle inserts into the intertubercular groove of the humerus.

The action of the muscle is to extend, adduct and medially rotates the humerus.

It is innervated by the thoracodorsal nerve from C6 to C8.





LEVATOR SCAPULAE

The origin of the **levator scapulae** is the TP of the first four cervical vertebrae.

It inserts into the superior medial border of the scapula.

The action of the muscle is to elevate the superior angle of the scapula and draws it medially, rotate the scapula so that the glenoid cavity turns inferiorly and laterally flex the neck.

It is innervated by the 3rd & 4th cervical plexus and the dorsal scapular nerve (C5).





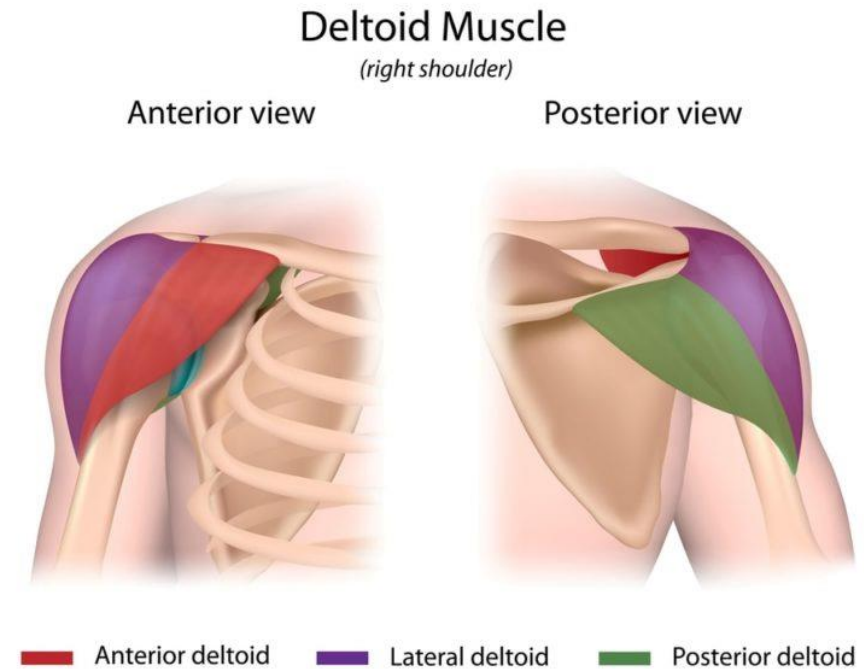
DELTOID

The **deltoid** has three origins the anterior fibres arise from the anterior border of lateral third of clavicle. The middle fibres from the lateral margin of acromion process. The posterior fibres come from the lower edge of crest of spine of scapular. It inserts into the deltoid tuberosity of the humerus. The anterior fibres flex and medially rotate the humerus. The middle fibres abduct shoulder the humerus. The posterior fibres extend and laterally rotate the humerus. It is innervated from C5 & C6.

Deltoid - a large deep, thick, triangle shaped muscle that provides the shoulder with a rounded appearance. It can be divided into three parts, anterior, posterior and middle.

Middle fibres are multipennate - short have a mechanical disadvantage - very strong.

Origin - anterior border of the lateral third of the clavicle - lateral margin of acromion process - lower edge of the crest of the spine of the scapular - Inserts into the deltoid tuberosity of humerus.





TRAPEZIUS

The origin of this muscle is from the occipital bone, spinous processes of seventh cervical and all the thoracic vertebrae from T1 – 12.

The muscle inserts into the lateral third of the clavicle, acromion process and the spine of the scapula. The upper fibres elevate the shoulder girdle, the middle fibres retract the scapula, and the lower fibres depress the scapula.

When the upper and lower fibres contract together the scapula rotates while lifting the arm above the head.

The muscle is innervated by the accessory X1 nerve from the ventral ramus of the cervical nerves C2, C3 & C4.





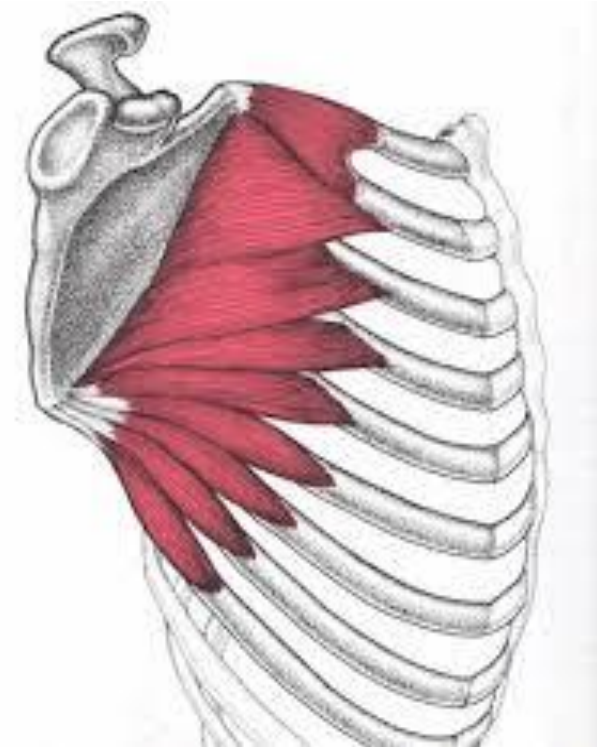
SERRATUS ANTERIOR

The origin of the **serratus anterior** is the outer surface and superior border of upper eighth, ninth, and tenth ribs and intervening intercostal fascia.

It inserts into the costal surface of medial border of scapula.

Its action is to protract and laterally rotate the scapula.

It is innervated by the long thoracic nerve from C5 to C7.





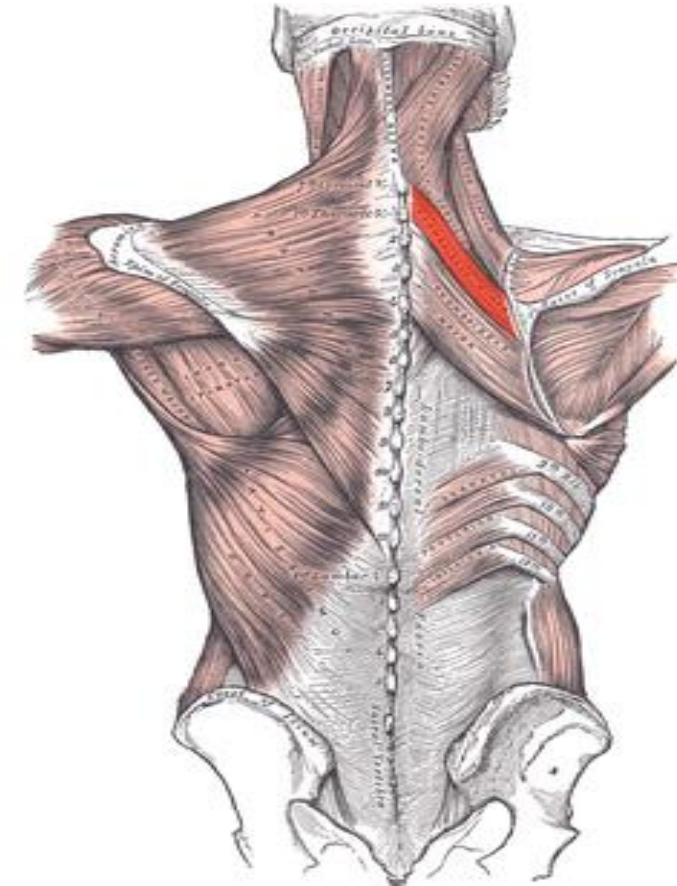
RHOMBOID MINOR

The origin of the **rhomboid minor** is the spinous processes and supraspinous ligaments of C7 - T1 & the lower part of ligamentum nuchae.

The muscle inserts into the medial end of spine of scapular.

Its action is to retract and medially rotate the scapular.

The muscle is innervated by the dorsal scapular nerve from C4, C5.





RHOMBOID MAJOR

The muscles origin is from the spinous processes and supraspinous ligament of T2 - T5.

The muscles insertion is the medial border of scapular between root of spine and inferior angle.

The muscle retracts and medially rotates the scapular.

The muscle is innervated by the dorsal scapular nerve from C4, C5.

