



Shoulder joint

Muscle	Origin	Insertion	Supply nerve
Deltoid muscle	1- Anterior fibers from anterior border of lateral 1/3 of clavicle. 2- Middle fibers from the lateral border of the acromion. 3- Posterior fibers from the lower lip of the spine of the scapula.	into the deltoid tuberosity of the humerus	axillary nerve (C5&6).
Subscapularis muscle	medial 3/4 of subscapular fossa	lesser tuberosity	double) upper & lower subscapular nerves (C5&6)
Supraspinatus muscle	medial 3/4 of supraspinatus fossa	top of the greater tuberosity	suprascapular nerve (C5&6)
Infraspinatus muscle	medial 3/4 of infraspinatus fossa	middle impression of the greater tuberosity	suprascapular nerve (C5&6)
Teres minor muscle	upper 2/3 of the dorsal aspect of the lateral border of the scapula	Lower impression of the greater tuberosity	axillary nerve (C5&6)
Teres major muscle	lower 1/3 of the dorsal aspect of the lateral border of the scapula (large ovale area)	medial lip of the bicipital groove	lower subscapular nerve (C5&6)

** Structures under cover the deltoid

- 1- Joint: Shoulder joint.
- 2- Nerve; Axillary nerve.
- 3- Vessels: Anterior and posterior circumflex humeral vessels.
- 4- Bursa: Subdeltoid (Subacromial) bursa.



Paralysis of deltoid muscle leading to Flat shoulder and Loss of abduction





Muscle	Action
Deltoid muscle	1- Anterior fibers, flexion, and medial rotation of arm. 2- Posterior fibers, extension and lateral rotation of the arm. 3- Middle fibers abduct the arm from 15 to 90 degree. 4- Round contour of the shoulder.
Subscapularis muscle	1- Adduction and medial rotation of the arm. 2- Fixation of the shoulder joint (Infront)
Supraspinatous muscle	1- Abduction from 0 to 15 degrees. 2- Fixation of the shoulder joint (above)
Infraspinatous muscle	1- Adduction and lateral rotation of the arm. 2- Fixation of the shoulder joint (behind)
Teres minor muscle	1- Adduction and lateral rotation of the arm. 2- Fixation of the shoulder joint (behind)
Teres major muscle	Adduction and medial rotation of arm.

Rotator cuff muscles

Supraspinatous muscle

Subscapularis muscle

Infraspinatous muscle

Teres minor muscle

These muscles play an important role in stability of the shoulder joint but the inferior aspect not supported by muscles. So dislocation of the shoulder is almost inferiorly.

- They keep humerus in contact with glenoid cavity during movements of shoulder joint.



** Applied anatomy

- ❖ Paralysis of the Supraspinatus, the patient can abduct his arm manually or by lateral flexion of the trunk.
- ❖ Its tendon passes deep to coracoacromial arch and separated from it by subacromial bursa.
- ❖ Acute rupture of the tendon of supraspinatus leading to severe pain in the shoulder during abduction.
- ❖ Chronic degeneration of the tendon of supraspinatus leading to gradual increase stiffness of the shoulder joint (it appear as powder like deposits and can be seen by x-ray).

• Intermuscular spaces of shoulder region

1- Upper (Medial) triangular space: boundaries:

- Superiorly: Teres minor and Subscapularis. - Inferiorly: Teres major.
- Laterally: Long head of triceps.

** It transmits circumflex scapular artery.

2- Quadrangular space: boundaries:

- Superiorly: Teres minor, and subscapularis.
- Inferiorly: Teres major.
- Medially: Long head of triceps.
- Laterally: Surgical neck of the humerus.

** It transmits axillary nerve and posterior circumflex humeral artery.

3- Lower (Lateral) triangular space: boundaries: - Superiorly: Teres major.

- Medially: Long head of triceps.
- Laterally: Shaft of the humerus.

** It transmits radial nerve and profunda brachii vessels.

note

Intramuscular injection into the deltoid muscle: on its lateral aspect about 4 -5 cm below the acromion to avoid injury of axillary nerve, it is used for injection of small volume equal or less than 2 ml