

## A. Scapular region

### \* Supraspinatus

origin: Supraspinous fossa of the scapula. (posterior)

insertion: They form tendons that insert on the greater tubercle of the humerus (upper facet)

Action: abduction (0-15) degrees.

NS: Suprascapular Nerve

### \* Infraspinatus

insertion: The tendon passes posteriorly to the glenohumeral joint and inserts on the middle facet of the greater tubercle.

Action: laterally rotates the humerus

NS: Suprascapular Nerve.

### \* Teres minor

Origin: from the lateral border of the scapula below the infraglenoid tubercle.

insertion: inferior facet of the greater tubercle of the humerus.

Action: lateral rotation (for humerus)

NS: Axillary nerve

### \* Teres major

origin: from a large oval region on the posterior surface of the inferior angle of the scapula.

insertion: medial lip of the intertubercular sulcus on the anterior surface of the humerus.

action:- medially rotates and extends the humerus

NS: Lower Scapular nerve

### \* Subscapularis

origin: Subscapular fossa

insertion: lesser tubercle

action: medial rotation of the arm + (adduction)

NS: Upper and lower subscapular nerves.

## B. Pectoral region

### \* Pectoralis major

Origin: It has 2 heads

1- The clavicular head, originates from the medial half of the clavicle.

2- The sternocostal head originates from the medial part of the anterior thoracic wall:

- anterior surface of sternum
- First seven costal cartilages
- sternal end of sixth rib
- aponeurosis of external oblique

Insertion: into the lateral lip of the intertubercular sulcus of the humerus.

Action: (the two heads act together)  
flexion, adduction, medial rotations of the arm at the shoulder joint.

NS: (lateral and medial pectoral nerves)  
origin  
(brachial plexus in the axilla).

### \* Pectoralis minor

origin: originates as three muscular slips from the anterior surfaces and upper margins of ribs 3 to 5.

Insertion: into the coracoid process.

Action: - protracts the scapula (by pulling the scapula anteriorly on the thoracic wall) and depresses the lateral angle of the scapula.

NS: medial pectoral nerve originates from the brachial plexus in the axilla.

### \* Subclavius (between clavicle & rib 1)

origin: It originates medially, as a tendon, from rib I at the junction between the rib and its costal cartilage.

Insertion: groove on the inferior surface of the middle third of the clavicle.

NS: nerve to Subclavius (a small branch from the superior trunk of the brachial plexus).

The action is not required.

### c. Superficial muscles of the shoulder

\* **Deltoid** → attaches the scapula and clavicle to the humerus

Origin: Clavicle, acromion and spine of scapula.  
U-shaped.

Insertion: Deltoid tuberosity

Action: It performs 3 function (because of the direction of its fibers)

- Posterior → extend shoulder
- Middle → Abduct arm (15-90 degree)
- Anterior → flex shoulder

NS: Axillary nerve (branch of the posterior cord of the brachial plexus)

**Serratus anterior** { shoulder girdle}

Origin: From the lateral surfaces of ribs I<sup>(9)</sup> to IX<sup>(1)</sup> and the intervening deep fascia overlying the related intercostal spaces.

Insertion: insert primarily on the costal surface of the medial border of the scapula.

Action: pulls the scapula forward over the thoracic wall (**protraction**) and facilitates scapular rotation. It also keeps the costal surface of the scapula closely opposed to the thoracic wall.

NS: long thoracic nerve (It runs on the serratus anterior muscle superficial)

\* winged scapula

(flat) → attaches the scapula and clavicle to the trunk

origin: extensive origin from:

1- skull

2- spine of C1-T12 vertebrae.  
cervical → Thoracic

3- From CII to CVII cervical  
the muscles attaches to the vertebrae through the ligamentum nuchae.

Insertion: (U-shaped insertion opposite to the origin of deltoid) Its 3 fibers run in 3 directions

- Down → Clavicle
- Horizontal → Acromion
- Up → Spine of scapula

Action:

- Upper fibers → elevate the scapula
- middle fibers → Pull scapula medially
- lower fibers → Pull medial border of scapula downward

NS: accessory nerve [XI] <sup>→ 11</sup> and the anterior rami of cervical nerve C3 & C4

**Latissimus dorsi**

origin: T7-T12, L1-L5 Thoracic, Lumbar

- Sacrum and iliac crest
- lower 3-4 ribs and inferior angle of the scapula

Insertion: Floor of biceptel groove

Action: extends, adducts and medially rotates humerus like in canoeing.

NS: Thoracodorsal nerve.