Muscles of the Upper Limb Summary

1. Muscles Connecting Upper Limb to Thoracic Wall

Muscle	Origin	Insertion	Function
Pectoralis major	Clavicle, sternum, and upper six costal cartilages	Bicipital groove of humerus (lateral lip)	Adducts arm, rotates it medially; clavicular fibers flex arm
Pectoralis minor	3rd, 4th, and 5th ribs	Coracoid process of scapula	Depresses point of shoulder; elevates ribs if scapula is fixed
Serratus anterior	Upper 8 ribs (lateral parts)	Medial border and inferior angle of scapula	Protracts and rotates scapula (draws scapula forward)
Subclavius	First costal cartilage	Clavicle	Depresses and steadies clavicle during shoulder movements

2.Muscles Connecting Upper Limb to Vertebral Column

Muscle	Origin	Insertion	Function
Trapezius	Occipital bone, nuchal ligament, spinous processes of C7–T12	Lateral third of clavicle, acromion, spine of scapula	Elevates, retracts, depresses scapula
Latissimus dorsi	Iliac crest, lumbar fascia, spines of lower 6 thoracic vertebrae, lower 3–4 ribs, inferior angle of scapula	Floor of bicipital groove of humerus	Extends, adducts, medially rotates arm; rotates trunk
Levator scapulae	Transverse processes of C1–C4	Medial border of scapula	Elevates scapula
Rhomboid major	Spinous processes of T2–T5	Medial border of scapula	Retracts scapula, fixes scapula to thoracic wall
Rhomboid minor	Nuchal ligament, spinous processes of C7–T1	Medial border of scapula	Retracts scapula, fixes scapula to thoracic wall

3. Muscles Connecting Scapula to Humerus

Muscle	Origin	Insertion	Function
Deltoid	Lateral third of clavicle, acromion, spine of scapula	Deltoid tuberosity of humerus	Abducts arm; anterior fibers flex and medially rotate; posterior fibers extend and laterally rotate
Teres major	Inferior angle and lower third of lateral border of scapula	Medial lip of bicipital groove of humerus	Medially rotates and adducts arm
Supraspinatus	Supraspinous fossa of scapula	Superior facet of greater tubercle of humerus	Abducts arm; stabilizes shoulder joint
Infraspinatus	Infraspinous fossa of scapula	Middle facet of greater tubercle of humerus	Laterally rotates arm; stabilizes shoulder joint
Teres minor	Upper two-thirds of lateral border of scapula	Inferior facet of greater tubercle of humerus	Laterally rotates arm; stabilizes shoulder joint
Subscapularis	Subscapular fossa	Lesser tubercle of humerus	Medially rotates arm; stabilizes shoulder joint

4. Muscles of the Arm

Muscle	Origin	Insertion	Function
Biceps brachii (long head)	Supraglenoid tubercle of scapula	Radial tuberosity and bicipital aponeurosis	Supinates forearm; flexes elbow; weakly flexes shoulder
Biceps brachii (short head)	Coracoid process of scapula	Radial tuberosity and bicipital aponeurosis	Supinates forearm; flexes elbow; weakly flexes shoulder
Brachialis	Distal anterior half of humerus	Coronoid process and ulnar tuberosity	Flexes forearm at elbow
Coracobrachialis	Coracoid process of scapula	Anteromedial surface of humerus	Adducts and flexes arm
Triceps brachii (long head)	Infraglenoid tubercle of scapula	Olecranon process of ulna	Extends forearm
Triceps brachii (lateral head)	Posterior humerus (above radial groove)	Olecranon process of ulna	Extends forearm
Triceps brachii (medial head)	Posterior humerus (below radial groove)	Olecranon process of ulna	Extends forearm

5. Flexor Muscles of the Forearm (Anterior Compartment)

Muscle	Insertion	Function
Pronator teres	Lateral surface of radius	Pronation and flexion of forearm
Flexor carpi radialis	Bases of 2nd and 3rd metacarpals	Flexion and abduction of wrist
Palmaris longus	Flexor retinaculum and palmar aponeurosis	Flexion of wrist
Flexor carpi ulnaris	Pisiform, hook of hamate, base of 5th metacarpal	Flexion and adduction of wrist
Flexor digitorum superficialis	Middle phalanges of medial four fingers	Flexes middle phalanges; assists in flexion of proximal phalanges and wrist
Flexor digitorum profundus	Distal phalanges of medial four fingers	Flexes distal phalanges; assists flexion of wrist
Flexor pollicis longus	Distal phalanx of thumb	Flexes thumb
Pronator quadratus	Distal radius	Pronation of forearm

Note 1:

- The **common flexor origin** for the **superficial group** is mainly the **medial epicondyle of the humerus**.
- **Deep muscles** (flexor digitorum profundus, flexor pollicis longus, pronator quadratus) **do not share** the common flexor origin.

Note 2:

- **Carpi** means muscle attached to **carpal or metacarpal** bone.
- **Digitorum** means inserted into the **medial four fingers**.
- **Pollicis** means inserted into the **thumb**.
- **Radialis**: **Abduction** of the hand.
- **Ulnaris**: **Adduction** of the hand.

6. Extensor Muscles of the Forearm (Posterior Compartment)

Muscle	Insertion	Function
Extensor carpi radialis longus	Base of 2nd metacarpal	Extension and abduction of wrist
Extensor carpi radialis brevis	Base of 3rd metacarpal	Extension and abduction of wrist
Extensor digitorum	Middle and distal phalanges of medial four fingers	Extension of fingers (index, middle, ring, little)
Extensor digiti minimi	Extensor expansion of little finger	Extension of little finger
Extensor carpi ulnaris	Base of 5th metacarpal	Extension and adduction of wrist
Supinator	Neck and shaft of radius	Supination of forearm
Abductor pollicis longus	Base of 1st metacarpal	Abducts and extends thumb (CMC joint)
Extensor pollicis longus	Base of distal phalanx of thumb	Extension of thumb (IP joint)
Extensor pollicis brevis	Base of proximal phalanx of thumb	Extension of thumb (MP joint)
Extensor indicis	Extensor expansion of index finger	Extension of index finger
Brachioradialis	Styloid process of radius	Flexion of forearm (especially in midpronation)

Note 3:

- Most of the muscles in the **superficial layer** have a **common origin** on the **lateral epicondyle of the humerus**.
- The muscles of the **deep layer** (Supinator, Abductor pollicis longus, Extensor pollicis longus, Extensor pollicis brevis,Extensor indicis) typically **originate** from the **distal part of the ulna**.

Done by: Malek Qaddarah