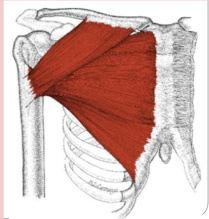



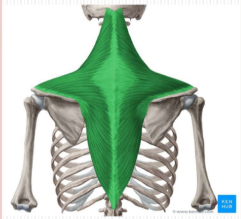
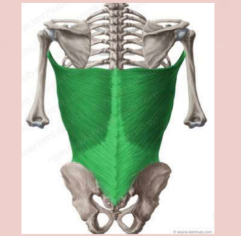

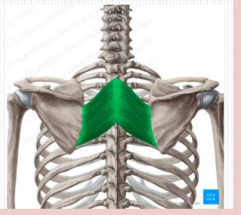



Muscles connecting upper limb with thoracic wall

	Origin	Insertion	Nerve Supply	Action
Pectoralis major 	<ul style="list-style-type: none"> - anterior of the medial 2/3 of the clavicle - anterior surface of the sternum - upper 6 costal cartilages 	Lateral lip of the bicipital groove	Medial and lateral pectoral nerve	<ul style="list-style-type: none"> - adduction and medial rotation of the arm - flexion of the arm - raise the trunk in climbing when the arm raised and fixed
Pectoralis minor 	<ul style="list-style-type: none"> - 3rd , 4th and 5th ribs 	Coracoid process of the scapula	Medial pectoral nerve	<ul style="list-style-type: none"> - depression of the shoulder - protraction of the scapula - if the scapula is fixed it elevates the ribs
Serratus anterior 	<ul style="list-style-type: none"> - from the outer surfaces of the upper 8 ribs 	Ventral lip of the medial border of the scapula	Long thoracic nerve	<ul style="list-style-type: none"> - protraction of the scapula - rotate the scapula upward during raising the arm above the head
Subclavius 	—	—	Nerve to subclavius	—




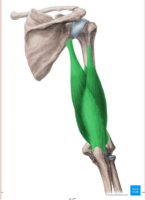
Muscles connecting upper limb with vertebral column

	Origin	Insertion	Nerve Supply	Action
Trapezius 	<ul style="list-style-type: none"> - external occipital protuberance - ligamentum nuchae - all of the thoracic spines 	<ul style="list-style-type: none"> - posterior border of the lateral third of clavicle - medial border of acromion - upper of the spine 	Spinal accessory nerve	<ul style="list-style-type: none"> - elevation of the shoulder - retracts and rotates the scapula
Latissimus dorsi 	<ul style="list-style-type: none"> - spines of lower six thoracic vertebra - iliac crest of the hip bone - inferior angle of scapula 	Floor of the bicipital groove	Thoracodorsal nerve	<ul style="list-style-type: none"> - adduction and medial rotation of the arm - extension of the arm
Levator scapulae 	—	—	Dorsal scapular nerve	<ul style="list-style-type: none"> - retract the scapula - elevate the scapula - laterally flexes the neck when the shoulder is fixed
Rhomboids major 	—	—	Dorsal scapular nerve	- retracts the scapula
Rhomboids minor 	—	—	Dorsal scapular nerve	- retracts the scapula

Muscles of the shoulder

	Origin	Insertion	Nerve Supply	Action
Deltoid 	(Opposite insertion of trapizius) - lower of the spine - lateral of acromial -anterior border of the lateral half of the clavicle	Deltoid tuberosity	Axillary nerve	- Anterior : fibers flexes and medial rotates the arm - middle : abduct the arm from (15-90) ^o - posterior : fibers extents and laterally rotates the arm
Supraspinatous 	Supraspinous fossa	Greater tuberosity	Suprascapular nerve	Initiates the abduction from (0-15) ^o
Infraspinatous 	Infraspinous fossa	Greater tuberosity	Suprascapular nerve	Lateral rotation of the arm
Teres minor 	Dorsal aspect of lateral border of the scapula	Greater tuberosity	Axillary nerve	- Adduction - lateral rotation
Teres major 	Dorsal aspect of the scapula above the inferior angle	Medial lip of bicipital groove	Lower subscapular nerve	- Adduction - medial rotation
Subscapularis 	Subscapular fossa	Lesser tuberosity	Upper and Lower subscapular nerve	- Adduction - medial rotation




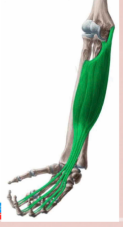

Muscles of the arm

	Origin	Insertion	Nerve Supply	Action
Coracobrachialis 	Coracoid process of scapula	Middle of the medial border of the humerus	Musculocutaneous nerve	Flexion of the arm
Biceps brachii 	<ul style="list-style-type: none"> - medial (short) head : coracoid process of scapula - lateral (long) head : supraglenoid tubercle 	Radial tuberosity of radius	Musculocutaneous nerve	<ul style="list-style-type: none"> - Flexion of the arm - flexion of the forearm - supinator of the semi flexed forearm
Brachialis 	The lower 1/2 of the front of the humerus	Coronoid process of ulna	<ul style="list-style-type: none"> - Musculocutaneous nerve - lateral fibers supplied by radial nerve 	main flexor of the forearm
Triceps brachii 	<ul style="list-style-type: none"> - Long head : infraglenoid tubercle - medial and lateral head : posterior surface of the humeral shaft 	Olecranon process of ulna	Radial nerve	main extensor of the forearm




Muscles of anterior compartment of the forearm

NOTE : C.F.O. means front of the medial epicondyle

Superficial group



	Origin	Insertion	Nerve Supply	Action
Pronator teres 	- C.F.O. - coronoid process of ulna	Lateral surface of the shaft of the radius	Median nerve	- pronation of the forearm - assists in flexion of the elbow
Flexor carpi radialis 	C.F.O.	Bases of the 2nd and 3rd metacarpal bones	Median nerve	- flexion of the wrist - abduction of the hand
Palmaris longus 	C.F.O.	Palmar aponeurosis of the hand	Median nerve	- flexion of the wrist - tensor of palmar fascia
Flex. digitorum superficialis 	C.F.O.	4 tendons insert into the middle phalanx of the medial 4 fingers	Median nerve	- flexion of the wrist - flexion of metacarpophalangeal and proximal interphalangeal joints of the medial 4 fingers
Flexor carpi ulnaris 	C.F.O.	Pisiform bone and base of the 5th metacarpal bone	Ulnar nerve	- flexion of the wrist - adduction of the hand

Deep group

	Origin	Insertion	Nerve Supply	Action
Flex. digitorum profundus 	—	4 tendons insert into the bases of distal phalanges of the medial 4 fingers	- Medial part : ulnar nerve - Lateral part : anterior interosseous branch of the median nerve	- flexion of the distal interphalangeal joint of the medial 4 fingers - assist in flexion of wrist and proximal interphalangeal joint of the medial 4 fingers
Flex. Pollicis longus 	—	Base of the terminal phalanx of the thumb	Anterior interosseous branch of the median nerve	- flexion of the metacarpophalangeal and interphalangeal joint of the thumb - assist in flexion of the wrist
Pronator quadratus 	Anterior surface of ulna	Anterior surface of radius	Anterior interosseous branch of the median nerve	Main pronator of the forearm


Muscles of lateral and posterior compartment of the forearm

Lateral compartment






	Origin	Insertion	Nerve Supply	Action
Brachioradialis 	Upper 2/3 of the lateral supracondylar ridge	Styloid process of radius	Radial nerve	<ul style="list-style-type: none">- flexes the elbow when forearm in midprone positioned- initiate the supination and pronation of the forearm
Ex. carpi radialis longus 	Lower 1/3 of the lateral supracondylar ridge	Base of the 2nd metacarpal bone	Radial nerve	<ul style="list-style-type: none">- extension of the wrist- abduction of the hand

Posterior compartment

NOTE : C.E.O. means front of the lateral epicondyle
Superficial group

	Origin	Insertion	Nerve Supply	Action
Ex. carpi radialis previs 	C.E.O.	Base of the 3rd metacarpal bone	Deep branch of Radial nerve	<ul style="list-style-type: none"> - extinsion of the wrist - abduction of the hand
Extensor digitorum 	C.E.O.	Extensor expansion of the medial 4 fingers	Deep branch of Radial nerve	<ul style="list-style-type: none"> - extends the metacarpophalangeal and the interphalageal of the medial 4 fingers - helps in extension of the wrist
Extensor digitminimi 	C.E.O.	Extensor expansion of the little finger	Deep branch of Radial nerve	<ul style="list-style-type: none"> - extends the metacarpophalangeal and the interphalageal of the little finger - helps in extension of the wrist
Extensor carpi ulnaris 	C.E.O.	Base of the 5th metacarpal bone	Deep branch of Radial nerve	<ul style="list-style-type: none"> - extinsion of the wrist - adduction of the hand
Anconeus 	Back of lateral epicondyle of humerus	—	Radial nerve	helps triceps to extend the elbow

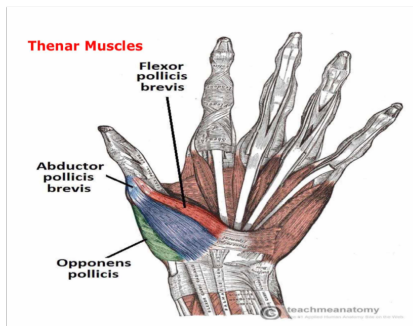
Deep group

	Origin	Insertion	Nerve Supply	Action
<p>Supinator</p> 	—	Front and posterior and lateral surface of upper 1/3 of the radius	Deep branch of Radial nerve	Supination of the forearm
<p>Abductor pollicis longus</p> 	—	Base of the 1st metacarpal bone	Deep branch of Radial nerve	Abducts and extends the thumb
<p>Ext. pollicis brevis</p> 	—	Base of Proximal phalanx of the thumb	Deep branch of Radial nerve	extends the metacarpophalangeal joint of the thumb
<p>Ext. pollicis longus</p> 	—	Base of distal phalanx of the thumb	Deep branch of Radial nerve	extends the distal phalanx of the thumb
<p>Extensor indicis</p> 	—	Extensor expansion of the index finger	Deep branch of Radial nerve	extends all the joints of the index finger

Muscles of the hand

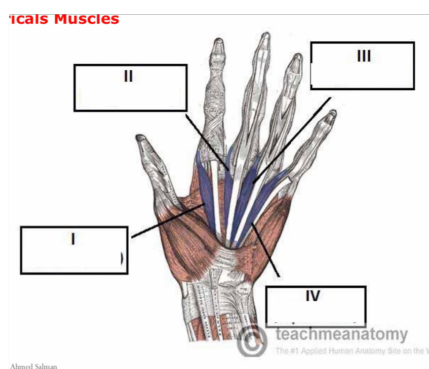
Lateral compartment

- Adductor pollicis
(Thenar muscles)
- Abductor pollicis brevis
- Flexor pollicis brevis
- Opponens pollicis



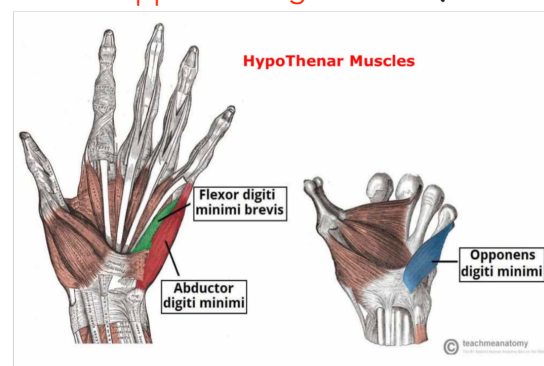
Central

- 4 lumbricalis
- palmar interossei
- dorsal interossei



Medial compartment

- Palmaris brevis ←
- (Hypothenar muscles)
- Abductor digiti minimi ←
- Flexor digiti minimi ←
- Opponens digiti minimi ←



All muscles supplied by ulnar nerve **Except** 4 muscles
 Thenar muscles , 1st and 2nd lumbricalis by median nerve

Actions of the muscles :

- palmar interossei : adduction of the little,ring,index and thumb fingers toward the middle finger
- dorsal interossei : abduction of the index,ring and middle fingers
- palmaris brevis : deepening the hollow of the palm
- Lumbricalis and interossei : writing position
- Flexion of metacarpophalangeal and extension of interphalangeal joints
- Action of the remaining muscles by name