

# Upper Limb : Muscles

"Revision"

Anatomy Team 434

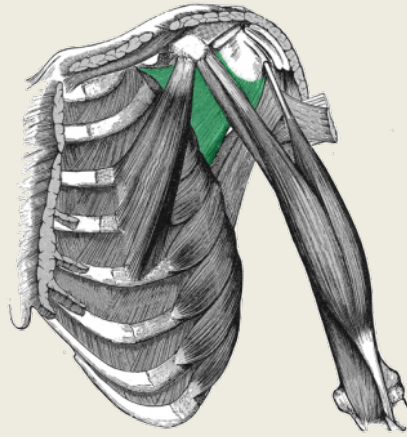
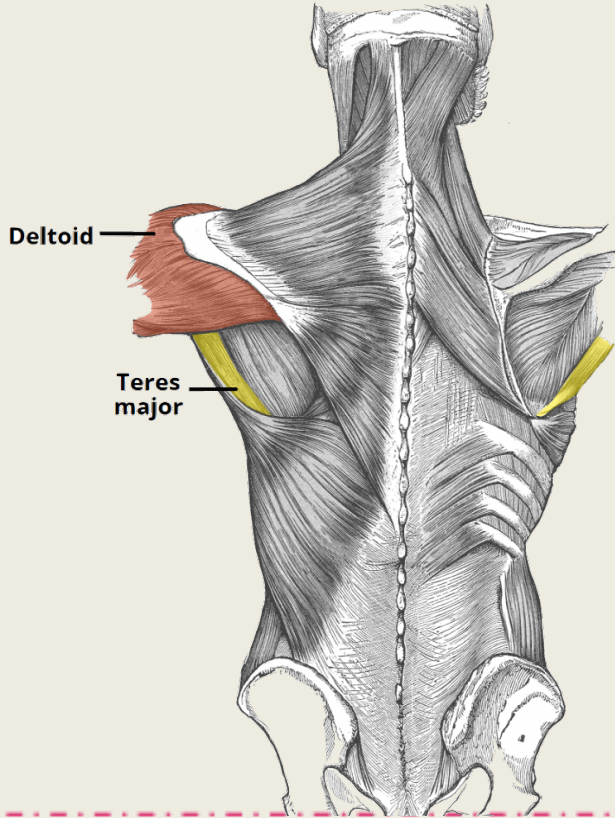
## **Color Index:**





- **Important Points**
- Helping notes
- **Explanation**

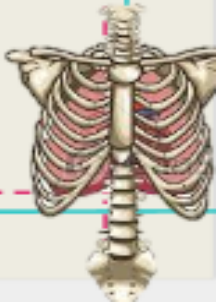
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[AnatomyTeam434@gmail.com](mailto:AnatomyTeam434@gmail.com)

# Muscles of shoulder region

Muscle	ORIGIN	INSERTION	ACTION	NERVE
Deltoid	Lateral 1/3 of clavicle + acromion and spine of scapula	Deltoid tuberosity of humerus	Major abductor of the arm	Axillary nerve
Teres minor	Lateral border of scapula	Greater tuberosity of humerus	Laterally rotates the arm	
Teres major		Bicipital groove of humerus	Adducts at the shoulder and medially rotates the arm	Lower subscapular nerve
Supraspinatus	Supraspinous fossa	Greater tuberosity of humerus	Abducts the arm 0-150, and assists deltoid for 15-90o	Suprascapular nerve
Infraspinatus	Infraspinous fossa		Laterally rotates the arm	
Subscapularis	Subscapular fossa	Lesser tuberosity of humerus	Medially rotates the arm	Upper and lower subscapular nerves

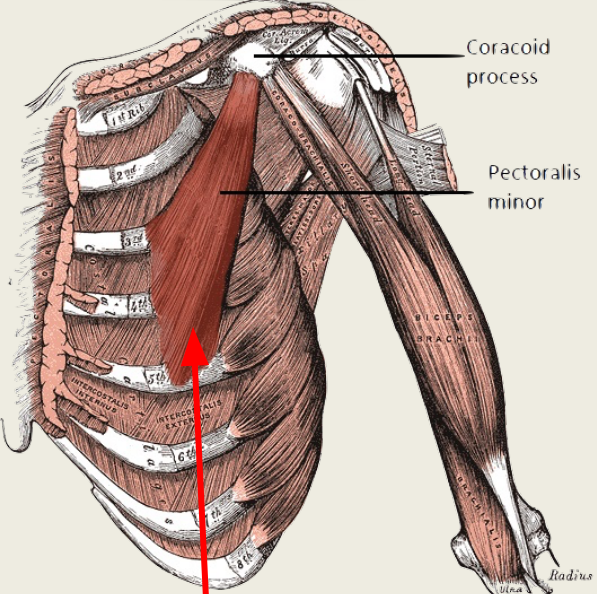


-  Subscapularis
-  Supraspinatus
-  Infraspinatus
-  Teres minor

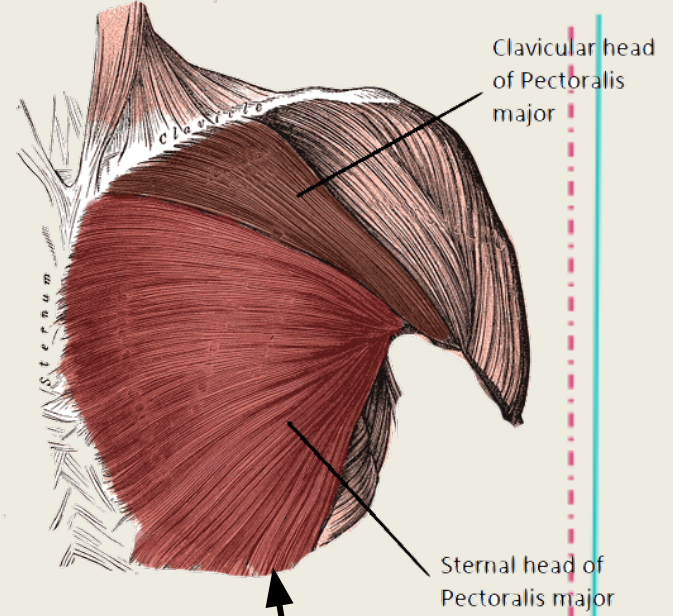
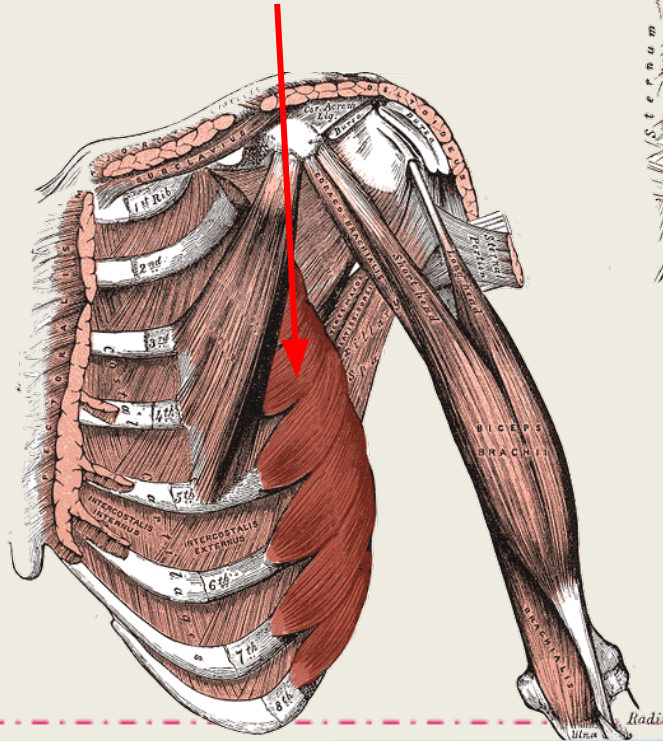


# Muscles of pectoral region

Muscle	ORIGIN	INSERTION	ACTION	NERVE
<b>Pectoralis major</b>	-Sternum, -Upper 6 costal cartilages -Aponeurosis of external oblique muscle	Lateral lip of bicipital groove	-Adduct and medially rotate the humerus -The clavicular head also performs flexion	Medial and lateral pectoral nerves
<b>Pectoralis minor</b>	3rd, 4th, & 5th ribs close to their costal cartilages	Coracoid process	-Depression of shoulder -Draw the ribs upward & outwards during deep inspiration	Medial pectoral nerve
<b>Subclavius</b>	1st rib at its costal cartilage	Subclavian groove at the inferior surface of middle 1/3 of clavicle	Steadies or fixes the clavicle during movement of the shoulder joint	Nerve to subclavius
<b>Serratus anterior</b>	Upper eight ribs	Ventral aspect of the medial border and inferior angle of the scapula	-Draws the scapula forward -Rotates scapula outwards in raising the arm above 90 degree. -Keep the scapula adherent to the chest wall	Long thoracic nerve

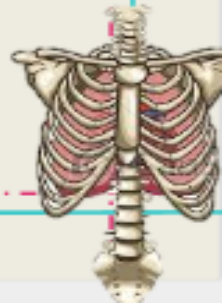


## Serratus anterior



Pectoralis minor

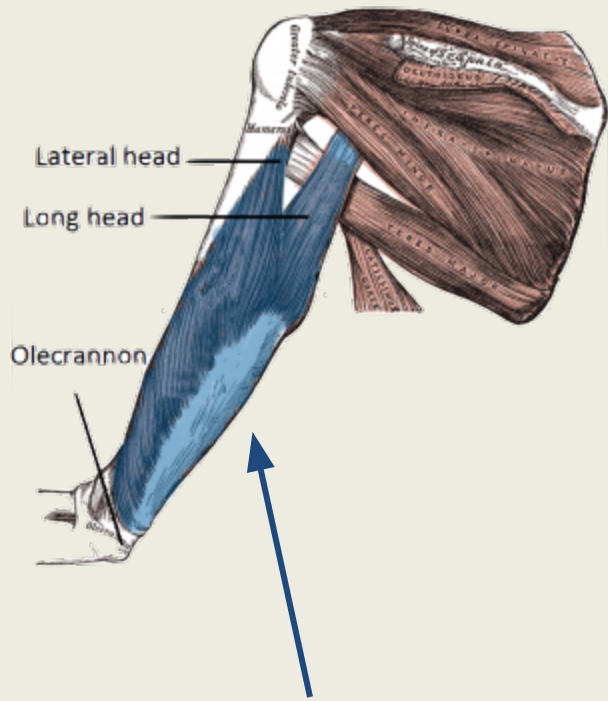
Pectoralis major



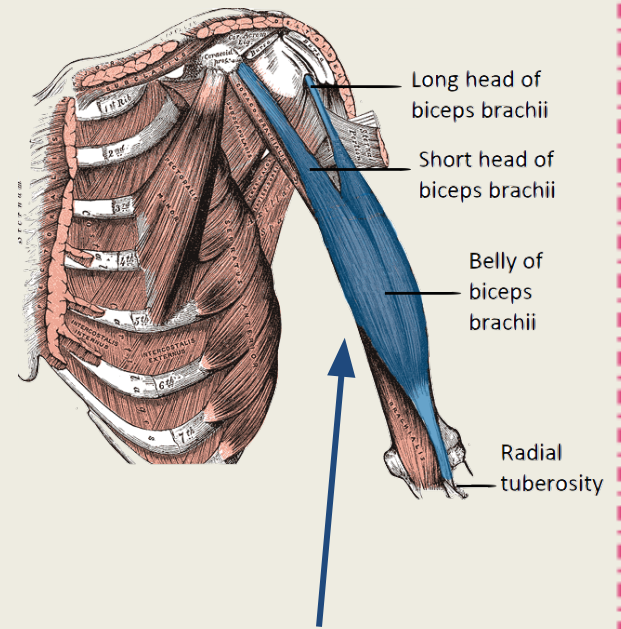
# Muscles of arm region

Muscle	ORIGIN	INSERTION	ACTION	NERVE
<b>Biceps brachii</b>	<ul style="list-style-type: none"> <li>-Long Head from supraglenoid tubercle of scapula (intracapsular)</li> <li>-Short Head from the tip of coracoid process of scapula</li> <li>-The two heads join in the middle of the arm</li> </ul>	In the posterior part of the radial tuberosity	<ul style="list-style-type: none"> <li>-Strong supinator of the forearm (used in screwing)</li> <li>-Powerful flexor of elbow</li> <li>-Weak flexor of shoulder, produce supination</li> </ul>	Musculocutaneous
<b>Coracobrachialis</b>	Tip of the coracoid process	Middle of the medial side of the shaft of the humerus	Flexor & a weak adductor of the arm	
<b>Brachialis</b>	Front of the lower half of humerus	Anterior surface of coronoid process of ulna	Strong flexor of the forearm	Musculocutaneous & Radial
<b>Triceps brachii</b>	<ul style="list-style-type: none"> <li>-Long head from infraglenoid tubercle of the scapula</li> <li>-Lateral head from the upper half of the posterior surface of the shaft of humerus above the spiral groove</li> <li>-Medial head from the lower half of the posterior surface of the shaft of humerus below the spiral groove</li> </ul>	Common tendon inserted into the upper surface of the olecranon process of ulna	Strong extensor of the elbow joint	Radial nerve

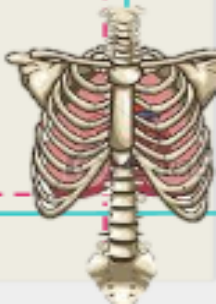


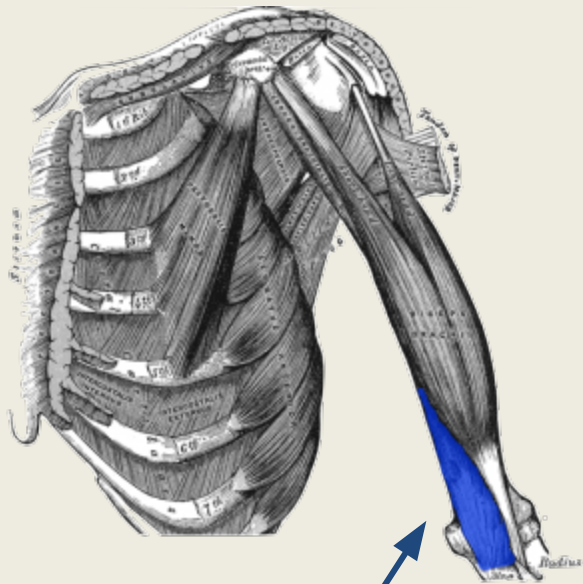


**Triceps brachii**

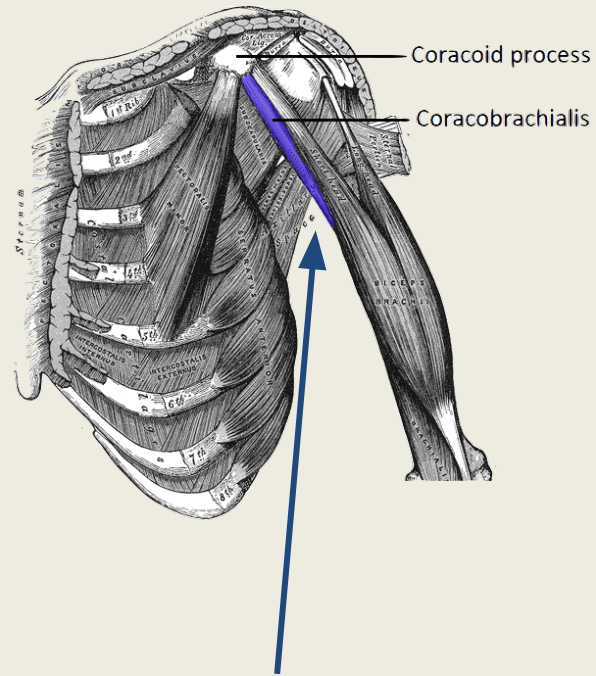


**Biceps brachii**

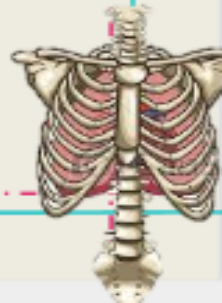




**Brachialis**



**Coracobrachialis**



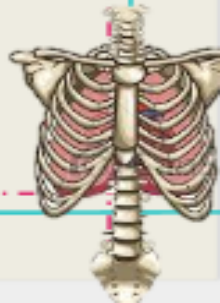


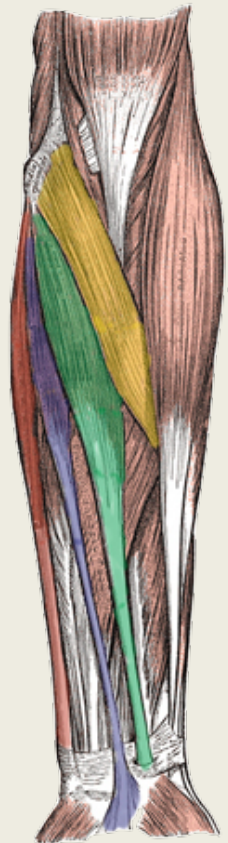
## Muscles of forearm (FLEXOR SUPERFICIAL) region





Muscle	ORIGIN	INSERTION	ACTION	NERVE
Pronator teres	Common flexor origin (front of medial epicondyle)	Middle of lat. surface of radius	Pronation & flexion of forearm	Median nerve
Flexor carpi radialis		Base of 2 <sup>nd</sup> metacarpal bone	Flexion & abduction of the hand	
Palmaris longus		Into the flexor retinaculum & palmar aponeurosis	Flexes hand & tightens palmer aponeurosis	
Flexor carpi ulnaris		Pisiform, Ulnar nerve hook of hamate 5 <sup>th</sup> metacarpalbone	Flexion and adduction of the hand	Ulnar nerve
Flexor digitorum superficialis		-Common flexor origin -Coronoid process of ulna -Anterior surface of radius	Base of middle phalanges of medial 4 finger	Flexes middle and proximal phalanges of medial 4 fingers, and the hand

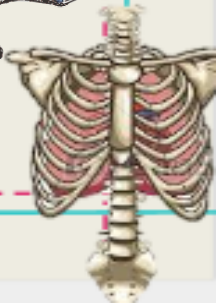
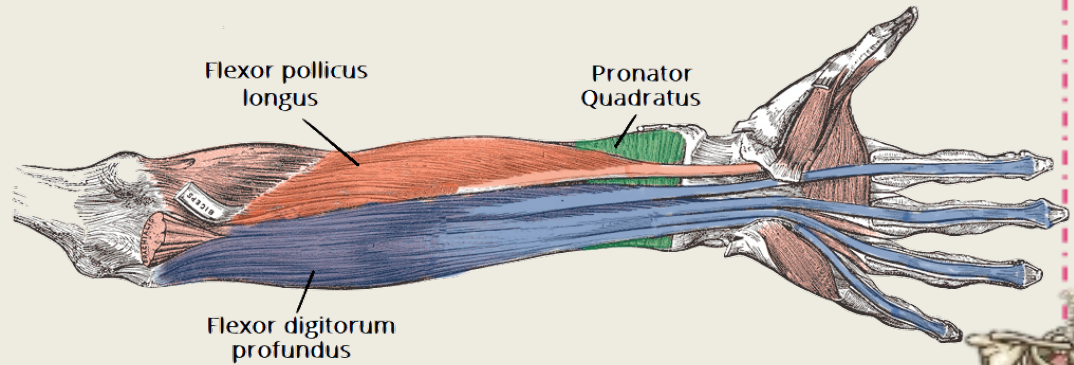
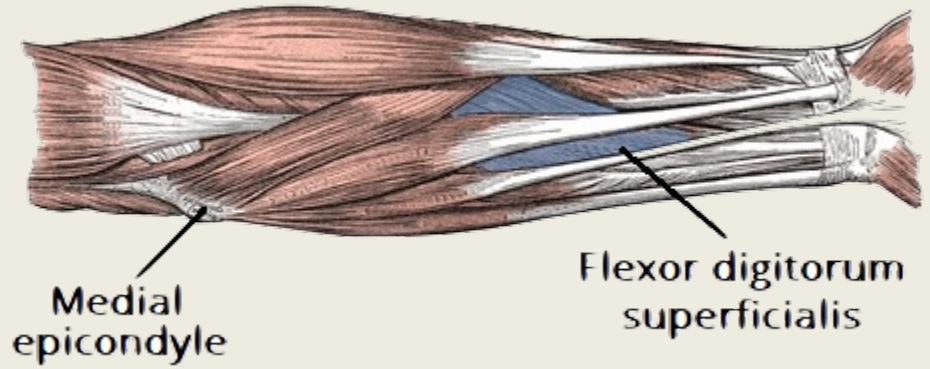
## Muscles of forearm (FLEXOR DEEP) region

Muscle	ORIGIN	INSERTION	ACTION	NERVE
Flexor digitorum profundus	Above ulna	Bases of distal phalanges of medial 4 digits	Flexes distal phalanges of medial 4 digits	Median nerve except medial half are innervated by the ulnar nerve
Flexor pollicis longus	Above radius	Base of distal phalanx of thumb	flexes interphalangeal, metacarpophalangeal & carpometacarpal joints of thumb	Median nerve
Pronator quadratus	Above the ulna & radius	Distal fourth of ant. surface of radius	pronates forearm (primemover), helps to hold the bones together	



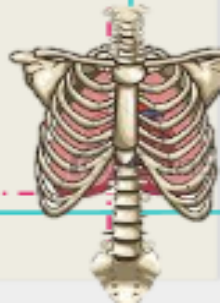


-  Flexor carpi ulnaris
-  Palmaris longus
-  Flexor carpi radialis
-  Pronator teres



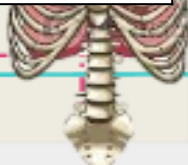
## Muscles of forearm (EXTENSOR LATERAL) region

Muscle	ORIGIN	INSERTION	ACTION	NERVE
Brachioradialis	Lateral supracondylar ridge of humerus	Base of styloid process of radius	-Flexes forearm; (elbow) -Rotates forearm to the midprone position	Radial nerve itself
Extensor carpi radialis longus		Posterior surface of base of 2 <sup>nd</sup> metacarpal bone	Extends and abducts hand at wrist joint	



# Muscles of forearm (EXTENSOR SUPERFICIAL) region

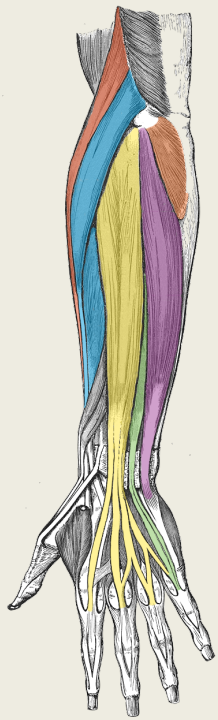
Muscle	ORIGIN	INSERTION	ACTION	NERVE
Extensor carpi radialis brevis	common extensor origin, (front of lateral epicondyle of the humerus)	Base of 3 <sup>rd</sup> metacarpal bone	Extends and abducts hand at wrist joint	Posterior interosseous nerve (continuation Deep Branch of Radial Nerve) (PURELY MOTOR nerve)
Extensor digitorum		Extensor expansion of the medial 4 fingers	Extends medial four fingers at the MCP and IP joints	
Extensor digiti minimi		Extensor expansion of the medial 4 fingers	Extends the little finger, and contributes to extension at the wrist	
Extensor carpi ulnaris		Base of the 5 <sup>th</sup> metacarpal bone	Extension and adduction of wrist	
Anconeus		Posterior and lateral part of the olecranon	Moves the ulna during pronation and extends at the elbow joint	Radial nerve itself



## Muscles of forearm (EXTENSOR DEEP) region

Muscle	ORIGIN	INSERTION	ACTION	NERVE
Supinator	-Lateral epicondyle of the humerus -Posterior surface of the ulna	posterior surface of the radius	Supinates the forearm	Posterior interosseous nerve (continuation Deep Branch of Radial Nerve) (PURELY MOTOR nerve)
Abductor pollicis longus	Interosseous membrane	Thumb	Abducts the thumb	
Extensor pollicis brevis	Posterior surface of the radius and interosseous membrane		Extends at the metacarpophalangeal and carpometacarpal joints of the thumb	
Extensor pollicis longus	posterior surface of the ulna and interosseous membrane		Extends all joints of the thumb: carpometacarpal, metacarpophalangeal and interphalangeal	
Extensor indices		Index	Extends the index finger	

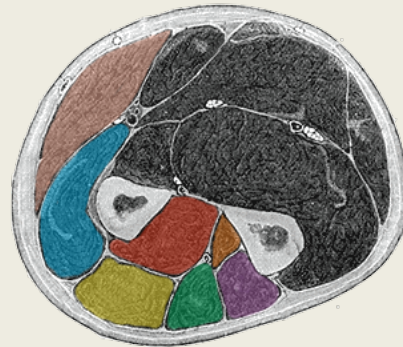




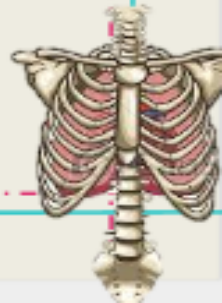
- Brachioradialis
- Extensor carpi radialis longus and brevis
- Extensor digitorum
- Extensor digiti minimi
- Extensor carpi ulnaris
- Aconeus



- Supinator
- Abductor pollicis longus
- Extensor pollicis longus and brevis
- Extensor indicis

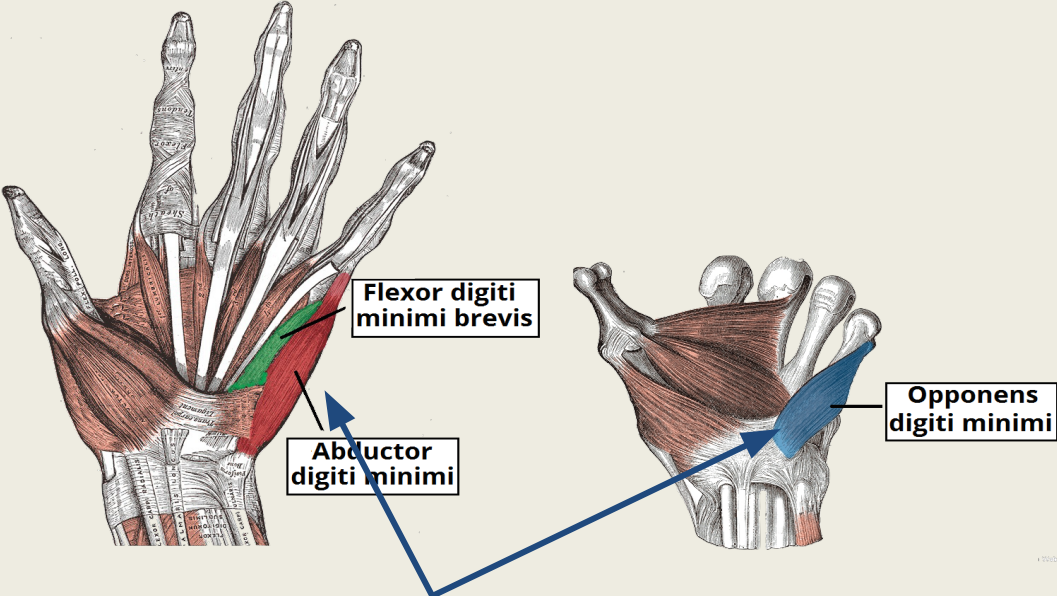


- Brachioradialis
- Extensor carpi radialis longus and brevis
- Extensor digitorum
- Extensor digiti minimi
- Extensor carpi radialis
- Abductor pollicis longus
- Extensor pollicis longus

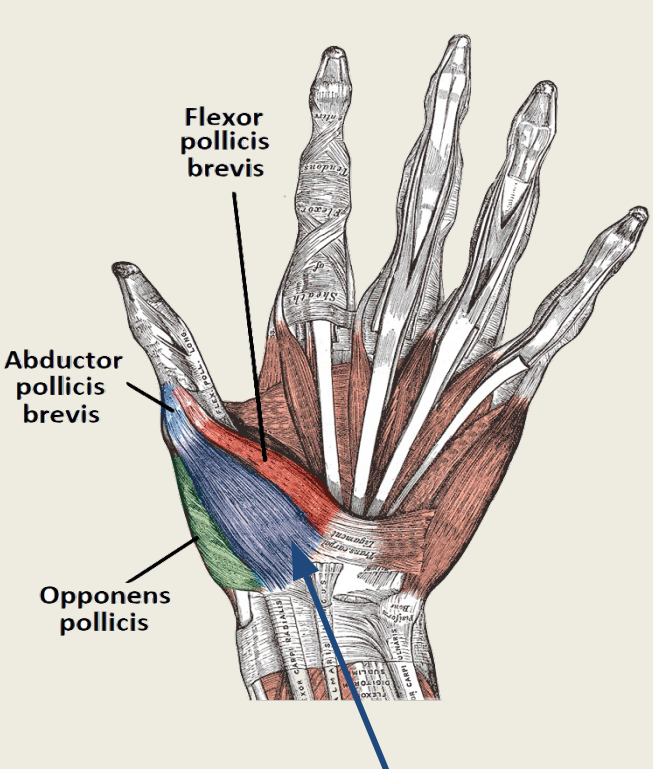


# Muscles of hand region

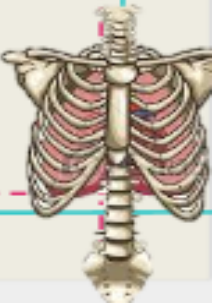
Muscle	ORIGIN	INSERTION	ACTION	NERVE
Palmaris brevis	Palmar aponeurosis and flexor retinaculum	Skin of palm	Corrugation of skin to improve grip	Ulnar nerve (Superficial branch)
Abductor digiti minimi (Hypothenar Eminence)	Pisiform	Base of proximal phalanges of little finger	Abduction	Deep branch of Ulnar
Flexor digiti minimi brevis (Hypothenar Eminence)	Flexor retinaculum		Flexion	
Opponens digiti minimi (Hypothenar Eminence)	Palmar surface of 5th metacarpal		Pulls the 5 <sup>th</sup> metacarpal forward (Cup the palm)	
Abductor pollicis brevis (Thenar Eminence)	Flexor retinaculum (Scaphoid & Trapez)	Base of proximal phalanges of the thumb	Abduction	Median nerve
Flexor pollicis brevis (Thenar Eminence)	Flexor retinaculum		Flexion	
Opponens pollicis (Thenar Eminence)		Lateral part of 1 <sup>st</sup> metacarpal	Opposition	



**Hypothenar Eminence**



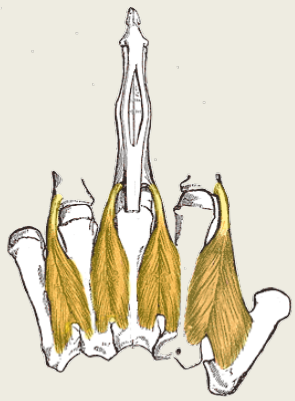
**Thenar Eminence**



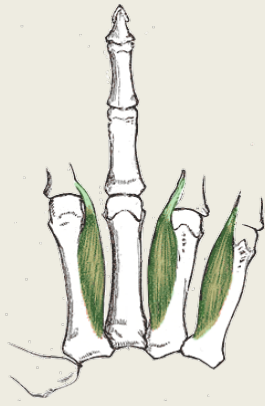
# Muscles of hand region

Muscle	ORIGIN	INSERTION	ACTION	NERVE
Adductor pollicis	Oblique Head: Ant. bases of 2nd & 3rd metacarpal Trans Head: 3rd metacarpal	Medial side of base of prox.ph of thumb	Adduction	Deep branch of Ulnar nerve
Lumbrical muscles (4 MUSCLES)	Tendons of Flex.dig. profundus	Extensor expansion of medial four fingers	Flex metacarpophalangeal joints and extend interphalangeal joints of fingers except thumb	1st & 2nd (Lateral two) : Median N. 3rd & 4th : Ulnar N (Deep branch)
Palmar interossei (4 MUSCLES)	First: Base of 1st metacarpal. Other three: Ant. surface of shafts of 2nd, 4rd & 5th metacarpals	Proximal phalanges of thumb, index, ring, & little fingers and extensor expansion	Adduction of fingers toward center of the 3rd one	Ulnar nerve
Dorsal interossei (4 MUSCLES)	Contiguous sides of shafts of metacarpals	Proximal phalang of index, ring, mid finger & extensor expansion	Abduction of fingers away from the 3rd one	

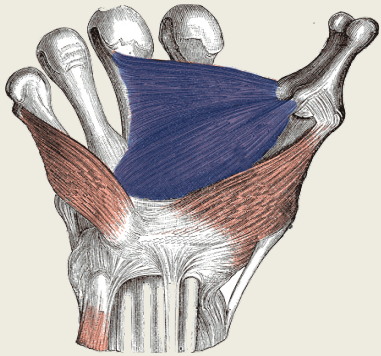




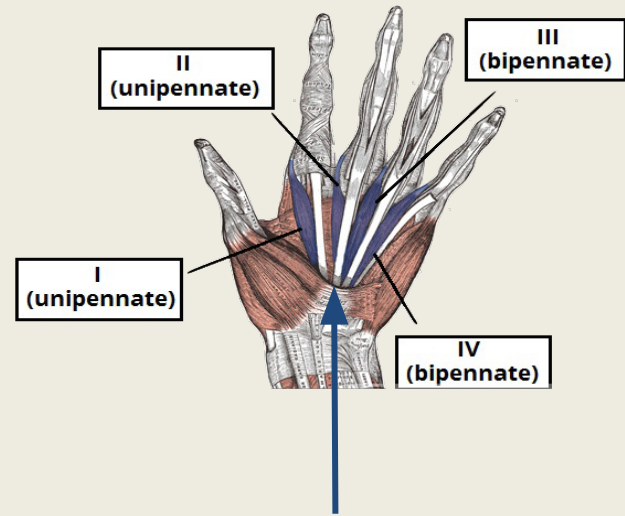
a) Dorsal Interossei



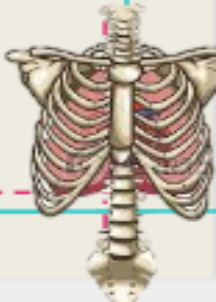
b) Palmar Interossei



a) Adductor pollicis



## Lumbrical muscles





Good Luck with all  
the revision!!!

GOOD  
LUCK

Done by  
Noha AlGwaiz + Tariq Alhassan

