

NEUROMUSCULAR SYSTEMS OF THE SUPERIOR MEMBER

AUTHOR: Abel Renovell Blasco.

Physiotherapist

Ephysiotherapy Webmaster

ULNAR NERVE

GLOBAL FUNCTIONING:

Firm grip on the object. Making a fist.

MUSCLE	ORIGIN	INSERTION	FUNCTION
DORSAL INTEROSSEOUS (there are 4, two for the 3rd finger, one for the 2nd and another for the 4th))	In the two metacarpals of the corresponding interosseous space. In the 2nd finger there is one external, in the 3rd finger one external and another internal and in the 4th finger one internal.	Proximal phalanx of the corresponding finger.	To bend the proximal phalanx to extend the other two. To separate the finger of the hand palm.
INTEROSSEOUS OF THE PALM (there are 3, in the 2°, 4° and 5° finger)	Inside of the 2nd metacarpal and the outside of the 4th and 5th metacarpal.	Proximal phalanx of the corresponding finger	To bend the proximal phalanx and to extend the other two. To near the fingers to the hand palm.
SHORT FLEXOR OF THE LITTLE FINGER	Hook of the hook bone	Proximal phalanx of the 5th finger	To bend the 5th finger
OPONENT OF THE 5TH FINGER	Hook of the hook bone	5° metacarpal	To pose the 5th finger
SEPARATOR OF THE 5TH FINGER	Pisiform	Proximal phalanx of the 5th finger	Separates and bend the 5th finger
CUTANEOUS PALMARIS	Inside of the palmar aponeurosis	Skin of the hypothenar eminence	To wrinkle the skin of the hypothenar eminence
TRANSVERSE FASCICULOUS OF THE APPROXIMATOR OF THE THUMB	Body of the 3rd metatarsal	Internal sesamoid	To bring the thumb closer and to oppose it.
OBLIQUE FASCICULUS OF THE APPROXIMATOR OF THE THUMB	Large and trapezoid bone	Internal sesamoid	To bring the thumb closer and to bend it.
SHORT FLEXOR OF THE THUMB	Capitate and trapezoid bone	External sesamoid	To bend the proximal phalanx of the thumb and to extend the other two.
3rd AND 4th LUMBRICAL	Tendon of the lower common flexor muscle of the 4th and 5th finger.	Tendon of the extensor muscle of the 4th and 5th finger.	Bends the proximal phalanx and extends the other two.
FLEXOR CARPI ULNARIS	Epitrocle and olecranon	hook of the hamatum and pisiform bone	Cubital flexion of the hand
COMMON LOWER FLEXOR OF THE 4TH AND 5TH FINGER	Anterior surface of ulna	Distal phalanx of the 4th and 5th finger.	Flexion of the distal phalanx of the 4th and 5th finger

MEDIAN NERVE

GENERAL FUNCTION:

Firm grip on the object

MUSCLE	ORIGIN	INSERTION	FUNCTION
LOWER COMMON FLEXOR	Anterior surface of ulna and	Distal Phalanx of the 2°	Flexor of the 2° and 3°

OF THE 2nd AND 3rd FINGER	interosseous membrane	and 3° finger	finger and the carpus
1° and 2° LUMBRICAL (of the 2nd and 3rd finger)	Tendon of the lower common flexor muscle	Tendon of the extensor muscle	To bend the proximal phalanx and to extend the other two
FLEXOR POLLICIS LONGUS MUSCLE	Anterior surface of the radius	Distal phalanx of the thumb	To bend the thumb
FLEXOR POLLICIS BREVIS	Trapezoid y ligamente anular del carpo	External sesamoid	To bend y opone the thumb
OPONENTE DTHE THUMB	Greater multangular and anular ligamento f the carpus	Outer side of the 1rst metatarsal bone	Opposes the thumb
SHORT SEPARATOR OF THE THUMB	Scaphoid bones and base of the anular ligament of the carpus	External sesamoid	Separates the thumb
SUPERFICIAL COMMON FLEXOR OF THE FINGERS	Epitrocleous and anterior side of the radius	Medial phalanxes of the last fingers	To bend the medial phalanx
PALMARIS LONGUS	Epitrocleous	Base of the 2° metacarpal	Radical flexiono f the hand. Flexion of the elbow
PALMARIS BREVIS	Epitrocleous	Anular ligament of the carpus	Flexion of the hand and the forearm.
PRONATOR CUADRATUS	Distal piece of the anterior surface of ulna	Anterior surface of the radius	Pronation of the hand and the forearm
PRONATOR TERES	Epitroclea	Anterior-external surface of the radius	Pronation and flexion of the forearm

**SUBSCAPULARIS NERVES, LARGE THORACIC, PECTORALS AND SUBCLAVIAN
GLOBAL FUNCTION:**

Forearm

MUSCLE	ORIGIN	INSERTION	FUNCTION
SUBSCAPULARIS	Fossa subscapularis	Minor tubercle	Internal rotator and abductor of the arm
TERES MAJOR	Inferior angle of the scapula	Subtubercular crest	Internal rotator and abductor of the arm
LARGE DORSAL MUSCLE	Bicipital groove	Inferior angle of the scapula, spinous process from D7 to L5 , sacral and iliacus	Directs the arm inwards and backwards
SERRATUS ANTERIOR	First 9 ribs	Spinal border of the scapula	Rotation of the scapula and lifting of the shoulder stump
SUBCLAVIAN	1st rib	Inferior surface of the Surface inferior de la clavicle	To lower the clavicle
PECTORAL ANSAS			
PECTORALIS MINOR	3th, 4th, 5th Ribs	Coracoid apophysis	Directs the shoulder forwards. Inspirator
PECTORALIS MAJOR (clavicular piece)	Mitad interna de la clavicle	Bicipital groove of the humerus	Fixation point thorax: Internal rotation. Directs the shoulder forwards. Fixation point of the humerus: approximates the thorax to the humerus.
PECTORALIS MAJOR (sterno-costal piecel)	Sternon and the first 6 costal cartilages	Bicipital groove of the humerus	Idem.

PECTORALIS MAJOR (abdominal piece)	Sheath of the anterior rectus abdominis	Bicipital groove of the humerus	Idem.
------------------------------------	---	---------------------------------	-------

**RADIAL NERVE
GLOBAL FUNCTION:**

Its action is opposed to the action of the median and cubital nerve. The profound plane performs the intelligent picking. The superficial plane the grabbing and the holding

MUSCLE	ORIGIN	INSERTION	FUNCTION
SUPERFICIAL PLANE			
BRACHIORADIALIS	External border of the humerus above the epicondyle	Styloid apophysis of the radius	To bend the elbow
FIRST RADIAL	External border of the humerus above the epicondyle	Base of the 2° metacarpal	Extends and separates the carpus
SECOND RADIAL	Epicondyle	Base of the 3° metacarpal	Extends and separates the carpus
SHORT SUPINATOR	Epicondyle	Base of the 2° metacarpal	Supination
EXTENSOR DIGITORUM	Epicondyle	Distal phalanx from the 2° to the 5° finger	Extension of the fingers
EXTENSOR DIGITI MINIMI	Epicondyle	Distal phalanx of the 5° finger	Extension of the 5° finger
EXTENSOR CARPI ULNARIS	Epicondyle	Base of the 5° metacarpal	Extension of the elbow. Extension and approaching of the carpus.
PROFOUND PLANE			
LARGE SEPERATOR OF THE THUMB	Posterior surface of the ulna	Base of the 1° metacarpal	Separates the thumb. Extends and separates the carpus
SHORT EXTENSOR OF THE THUMB	Posterior surface of the radius	Proximal phalanx of the thumb	Extends the proximal phalanx
LARGE EXTENSOR OF THE THUMB	Posterior surface of the ulna	Proximal phalanx of the thumb	Extends the thumb and the carpus
EXTENSOR INDICUS	Posterior surface of the ulna	Distal phalanx of the index	Extends the index finger
ANCONEOUS	Posterior surface of the epicondyle	External surface of the olecranon	Extension of the elbow
VASTUS INTERNUS OF THE TRICEPS BRACHII	Posterior surface of the humerus below the radial	Olecranon	Extension of the elbow
VASTUS EXTERNUS OF THE TRICEPS BRACHII	Posterior surface del of the humerus above the radial channel	Olecranon	Extension of the elbow
LARGE PIECE OF THE TRICEPS BRACHII	Glenoid cavity of the scapula	Olecranon	Extension of the elbow and shoulder abductor

SUPRASCAPULAR OR CORACOID NERVE

MUSCLE	ORIGIN	INSERTION	FUNCTION
SUPRASPINOSUM	Fossa suprasinosum of the scapula	Superior faceto f the major tubercle	Aduction and external rotation of the arm
INFRASPINOSUM	Fossa infraspinosum of the scapula	Medium facet of the major tubercle	Aduction and external rotation of the arm

CIRCUMFLEX NERVE

MUSCLE	ORIGIN	INSERTION	FUNCTION
TERES MINOR	Axillary rim of the scapula	Inferior facet of the major tubercle	Abduction and external rotation of the arm
DELTOIDS	External third of the clavicle, the acromion and the scapular spinal	V deltoid of the humerus	Anterior fibres: Internal rotation and anteversion. Achromial fibres: aduction to the horizontals. Spinal fibres: external rotation and retroversion