



Muscles of The Front of the forearm

By

Dr.Ahmed Salman

Associate Prof. of Anatomy

General Rules (Anterior compartment)

1- Pronation means medial rotation of the forearm by movement of radius at radioulnar joint.

2- Origin

All superficial and intermediate muscles originate from the common flexor origin (***front of the medial epicondyle***). **EXCEPT** (**Pronator teres, flexor digitorum superficialis, flexor carpi ulnaris**) have an additional origin

3-Insertion

- ❖ Carpi means muscle attached to carpal or metacarpal bone
- ❖ Digitorum means inserted into fingers
- ❖ Pollicis is referred to thumb

4-Action

The function is mainly flexion / pronation

Radialis : Abduction of the hand

Ulnaris : Adduction of the hand

5-Nerve Supply

All superficial and intermediate muscles are supplied by **Median nerve** and the deep group are supplied by a branch from median nerve ; **the Anterior interossus nerve**

EXCEPT (Flexor carpi ulnaris and medial half of Flexor digitorum Profundus) by **Ulnar nerve**

Muscles of Anterior compartment of the forearm

Superficial

- 1- Pronator teres
- 2- Flexor carpi radialis
- 3- Palmaris longus
- 4- Flexor carpi ulnaris

Intermediate

- 1- Flexor digitorum superficialis

Deep

- 1- Flexor digitorum Profundus
- 2- Flexor pollicis longus
- 3- Pronator Quadratus

Superficial Group

- 1- Pronator teres
- 2- Flexor carpi radialis
- 3- Palmaris longus
- 4- Flexor carpi ulnaris

Pronator teres

Origin: It has 2 heads

Humeral head:

Common flexor origin.

Ulnar head:

From coronoid process of the ulna.

Insertion

Lateral surface of the shaft of the radius.

Nerve supply:

Median Nerve.

Action:

1. Pronation of the forearm.
2. Assists in flexion of the elbow joint.

Dr.Ahmed Salman



Flexor carpi radialis

Origin:

Common flexor origin.

Insertion

Bases of the 2nd and 3rd metacarpal bones.

Nerve supply:

Median Nerve.

Action:

- 1-Flexion of the wrist joint
- 2- Abduction of the hand



Palmaris longus

Origin:

Common flexor origin.

Insertion

Palmar aponeurosis of the hand.

Nerve supply:

Median Nerve.

Action:

- 1-Flexion of the wrist joint.
- 2-A tensor of the palmar fascia.



Palmar aponeurosis



Intermediate Group

Flexor digitorum superficialis

Flexor digitorum superficialis

Origin: It has 2 heads

(ORIGIN other than CFO is REED ONLY)

Humero-ulnar head: From common flexor origin and the coronoid process of the ulna . (origin of pronator teres)

Radial head: Anterior border of the radius

Insertion

Has 4 tendons which is inserted into middle phalanx of the medial 4 fingers .

Nerve supply:

Median Nerve.

Action:

1-Flexion of the wrist.

2-Flexion of the metacarpophalangeal and proximal interphalangeal joints of the medial 4 fingers.



Flexor carpi ulnaris

Origin: It has 2 heads

The common flexor origin. +

Ulnar head: from the olecranon process of the ulna

Insertion

Pisiform bone and the base of the 5th metacarpal bone.

Nerve supply:

Ulnar Nerve.

Action:

1-Flexion of the wrist joint.

2-Adduction of the hand .

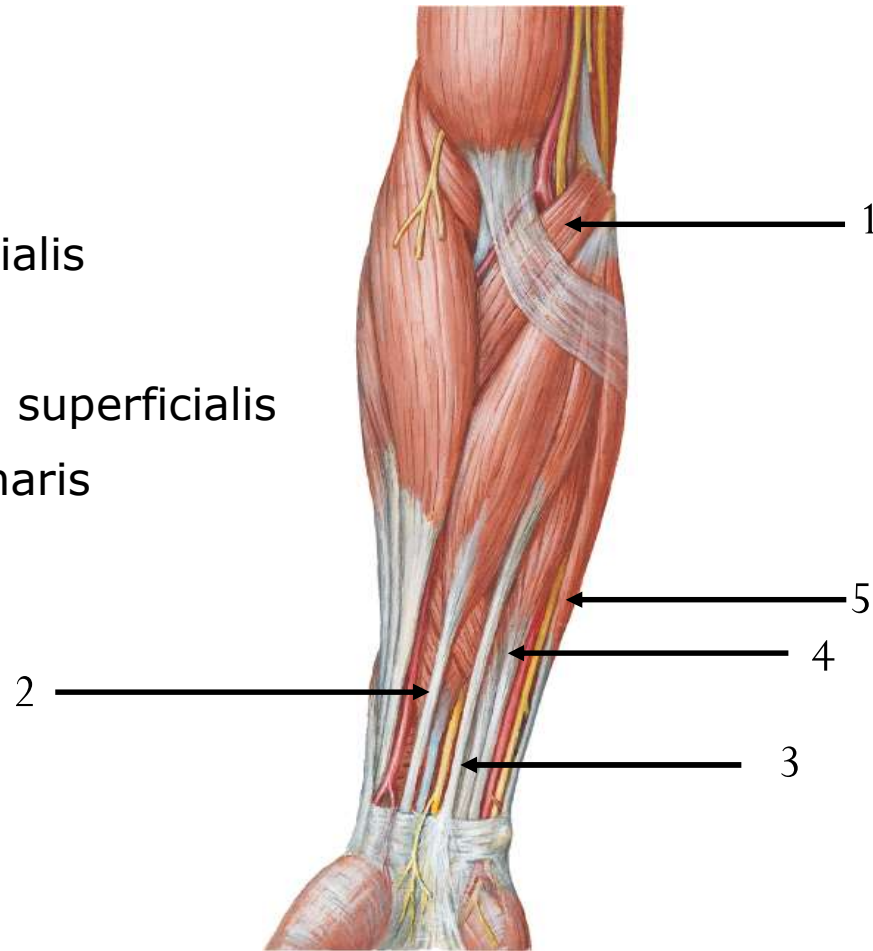
(ORIGIN other than CFO is REED ONLY)



Lateral

Medial

- 1- Pronator teres
- 2-Flexor carpi radialis
- 3-Plmaris longus
- 4-Flexor digitorum superficialis
- 5- Flexor carpi ulnaris



Deep Group

- 1- Flexor digitorum profundus
- 2- Flexor pollicis longus
- 3- Pronator Quadratus

Flexor digitorum Profundus

Origin:

Anterior surfaces of the of the ulna

Insertion

By 4 tendons which inserted into the bases of the distal phalanges of the medial 4 fingers

Nerve supply:

- Its medial part by the ulnar nerve.
- Its lateral part by the anterior interosseous branch (of the median nerve).

Action:

- 1.Flexion of the distal interphalangeal joints of the medial 4 fingers.
- 2.Assists in flexion of proximal interphalangeal joints of the medial 4 fingers and the wrist

(ORIGIN is REED ONLY)



Flexor pollicis longus

Origin:

Anterior surface of the radius.

Insertion

Base of the terminal phalanx of the thumb

Nerve supply:

Anterior interosseous branch of the median nerve.

Action:

1. Flexion of the metacarpophalangeal and interphalangeal joints of the thumb.
2. Assists in flexion of the wrist joint

(ORIGIN is REED ONLY)



Terminal phalanx of the thumb



Pronator Quadratus

Origin:

Anterior surface of the ulna.

Insertion

Anterior Surface of the Radius.

Nerve supply:

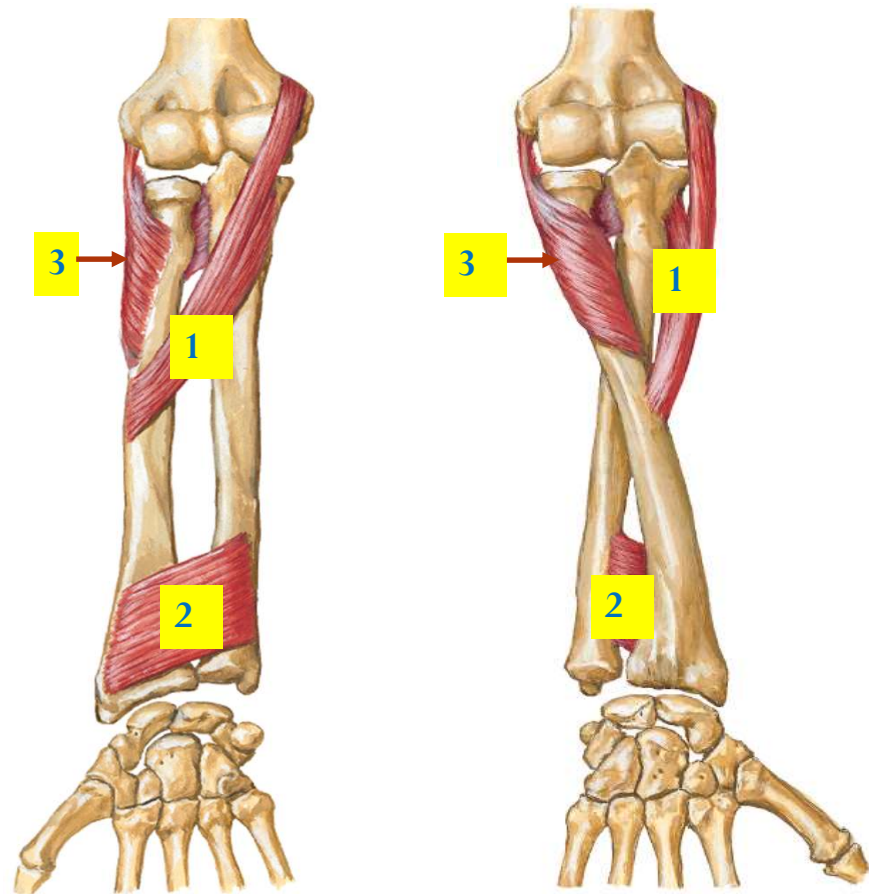
Anterior interosseous branch (of the median nerve).

Action:

It is the main pronator of the forearm.



- 1- Pronator teres
- 2- Pronator quadratus
- 3- Supinator



Supinated Forearm

Promated Forearm

Thank
you