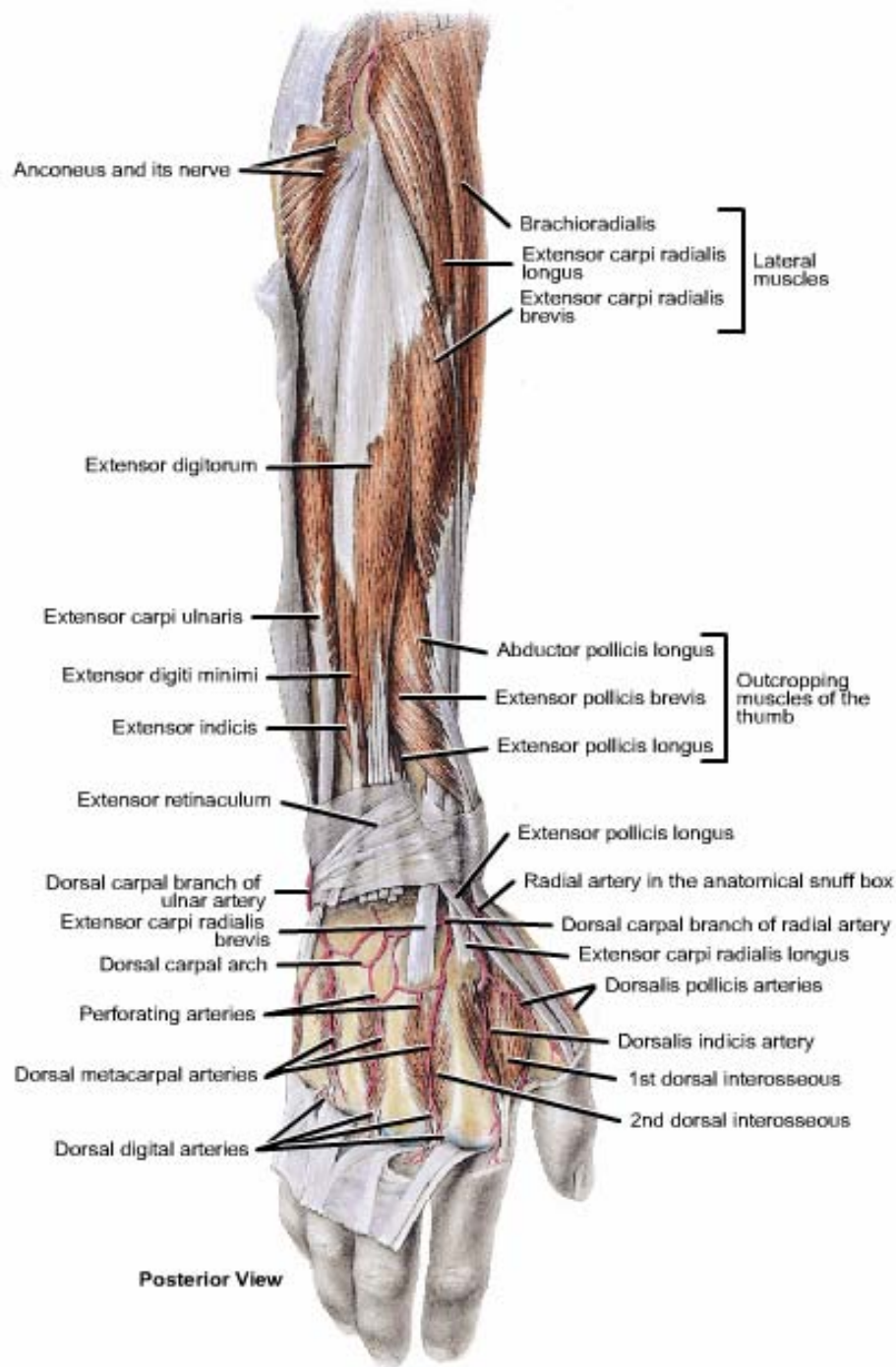


بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

FOREARM II



POSTERIOR (EXTENSOR)

COMPARTMENT

Contents

1. Muscles:

A. *Superficial Layer:* (1) Brachioradialis, (2) extensor carpi radialis longus, (3) extensor carpi radialis brevis, (4) extensor digitorum, (5) extensor digiti minimi, (6) extensor carpi ulnaris and (7) anconeus.

B. *Deep Layer:* (1) Supinator, (2) abductor pollicis longus, (3) extensor pollicis brevis, (4) extensor pollicis longus and (5) extensor indicis.

2. Nerves: Radial nerve.

3. Blood supply: Radial and interosseus arteries.

Brachioradialis

➤ Origin:

- from the upper 2/3 of the lateral supracondylar ridge of the humerus.

➤ Insertion:

- Into the **base** of the styloid process of the radius.

➤ Nerve Supply:

- From the radial nerve.

➤ Action:

1. Flexion of the forearm (specially in midprone position).
2. Restoration of the forearm into the midprone position.

Extensor carpi radialis longus

➤ Origin:

- from the lower 1/3 of the lateral supracondylar ridge of the humerus.

➤ Insertion:

- Into the posterior surface of the **base** of the **2nd** metacarpal bone.

➤ Nerve Supply:

- From the **radial** nerve.

➤ Action:

1. Extension of the hand at wrist joint.
2. Abduction of the hand at wrist joint.

Extensor carpi radialis brevis

➤ Origin:

- from the lateral epicondyle of the humerus (common extensor origin).

➤ Insertion:

- Into the posterior surface of the **base** of the **3rd** metacarpal bone.

➤ Nerve Supply:

- From the **deep branch of radial** nerve.

➤ Action:

1. Extension of the hand at wrist joint.
2. Abduction of the hand at wrist joint.

Extensor digitorum

➤ Origin:

- from the lateral epicondyle of the humerus (common extensor origin).

➤ Insertion:

- Into the **extensor expansion** of the medial 4 fingers.

➤ Nerve Supply:

- From the **deep branch of radial** nerve.

➤ Action:

1. Extension of metacarpophalangeal and interphalangeal joints of the medial 4 fingers.
2. Extension of the hand at wrist joint.

Extensor digiti minimi

➤ Origin:

- from the lateral epicondyle of the humerus (common extensor origin).

➤ Insertion:

- Into the **extensor expansion** of the little finger.

➤ Nerve Supply:

- From the **deep branch of radial** nerve.

➤ Action:

1. Extension of metacarpophalangeal and interphalangeal joints of the little finger.
2. Helps in extension of the hand at wrist joint.

Extensor carpi ulnaris

➤ Origin:

- from the lateral epicondyle of the humerus (common extensor origin).

➤ Insertion:

- Into the posterior surface of the base of the 5th metacarpal bone.

➤ Nerve Supply:

- From the **deep branch of radial** nerve.

➤ Action:

1. Extension of the hand at wrist joint.
2. Adduction of the hand at wrist joint.

Anconeus

➤ Origin:

- from the posterior aspect of the lateral epicondyle of the humerus.

➤ Insertion:

- Into the lateral surface of the olecranon process of the ulna.

➤ Nerve Supply:

- From the radial nerve.

➤ Action:

- It helps the triceps in extension of the elbow joint.

Supinator

➤ Origin:

- from (1) the lateral epicondyle of the humerus, (2) lateral collateral ligament of the elbow joint, (3) annular ligament of the superior radio-ulnar joint, and (4) supinator fossa and crest of the ulna.

➤ Insertion:

- Into the upper 1/3 of the lateral surface of the shaft of the radius.

➤ Nerve Supply:

- From the deep branch of the radial nerve.

➤ Action:

- It helps the biceps in supination of the forearm at the radio-ulnar joints.

Abductor pollicis longus

➤ Origin:

- from the middle of the posterior surface of **radius and ulna** and intervening interosseus membrane.

➤ Insertion:

- Into the posterior surface of the base of **the 1st metacarpal bone**.

➤ Nerve Supply:

- From the deep branch of radial (posterior interosseus) nerve.

➤ Action:

- Abduction and extension of the thumb at the carpo-metacarpal joint.

Extensor pollicis brevis

➤ Origin:

- from the posterior surface of **radius** (below abductor pollicis longus) and adjoining interosseus membrane.

➤ Insertion:

- Into the posterior surface of the base of the **proximal phalanx** of the thumb.

➤ Nerve Supply:

- From the deep branch of radial (posterior interosseus) nerve.

➤ Action:

- Extension of the metacarpophalangeal joint of the thumb.

Extensor pollicis longus

➤ Origin:

- from the posterior surface of **ulna** (below abductor pollicis longus) and adjoining interosseus membrane.

➤ Insertion:

- Into the posterior surface of the base of the **distal phalanx** of the thumb.

➤ Nerve Supply:

- From the deep branch of radial (posterior interosseus) nerve.

➤ Action:

- Extension of the interphalangeal joint of the thumb.

Extensor indicis

➤ Origin:

- from the posterior surface of **ulna** (below extensor pollicis longus) and adjoining interosseus membrane.

➤ Insertion:

- Into the extensor expansion of the index finger.

➤ Nerve Supply:

- From the deep branch of radial (posterior interosseus) nerve.

➤ Action:

- Extension of all joints of the index finger.
- It helps in extension of the wrist joint.

Radial nerve

➤ Course and branches:

- It runs on the lateral side of the cubital fossa.
- In front of the lateral epicondyle, it divides into superficial and deep branches.

1. The superficial branch of the radial nerve

- It runs under the brachioradialis muscle, on the lateral aspect of the radial artery.
- In the distal part of the forearm, it passes backward under the tendon on brachioradialis to reach the posterior surface of the hand and supplies the skin of its lateral 2/3 and the lateral 3.5 fingers (except nail beds).

2. The deep branch of the radial nerve

- It arises from the radial nerve in front of the lateral epicondyle of the humerus.
- It pierces the supinator muscle, and winds around the neck of the radius (inside the supinator) to reach the posterior compartment of the forearm.
- It leaves the supinator (as the posterior interosseus nerve) and runs between the superficial and deep extensor muscles.
- **Branches of the deep branch:** muscular branches to extensor carpi radialis brevis, extensor digitorum, extensor digiti minimi, extensor carpi ulnaris and supinator.
- **Branches of the posterior interosseus nerve:** muscular branches to abductor pollicis longus, extensor pollicis brevis, extensor pollicis longus and extensor indicis and articular branches to the wrist and carpal joints.

THANK YOU