CADAVER DISSECTION – ANTERIOR FOREARM

All of the terms indicated below in **BOLD** print should be identified during the student’s oral presentation on this region.

**PROCEDURE:**

I. **SURFACE ANATOMICAL LANDMARKS** – Prior to dissection, identify the following on the anterior forearm: **medial epicondyle, lateral epicondyle, tendon for palmaris longus muscle, and tendon for flexor carpi radialis muscle.**

II. **SUPERFICIAL VESSELS** – Determine the location of any major superficial veins or nerves in your area of dissection to avoid damaging these vessels and nerves as you dissect.
   A. **Cephalic vein** – The cephalic vein is located on the lateral surface of the forearm extending in a proximal direction into the arm.
   B. **Basilic vein** – The basilic vein is located on the medial surface of the forearm extending in a proximal direction into the arm.
   C. **Median cubital vein** – Although there are several variations of this vein, usually there is a vein connecting the basilic and cephalic veins in the cubital fossa, the depression anterior to the elbow joint.
      • Avoid cutting these superficial veins during the incisions and removal of the skin on the anterior portion of the forearm.

III. **REMOVAL OF SKIN** – Using the following steps, remove the skin from the anterior forearm.
   A. **Incision Lines** – Use a marking pencil to outline the incision lines (illustrated on the handout). Use a scalpel blade to cut through the skin. Insert a smooth probe under the skin along the remaining incision lines (instructor will demonstrate). When making your remaining incision, only cut to the smooth probe to avoid damaging superficial structures deep to the skin.
      • Avoid cutting these superficial veins listed above.
     **Anterior Median Incision Line** – Cut the skin from the median portion of the cubital fossa, distally along the anterior surface of the forearm, to the wrist.
     **Proximal Incision Line** – Cut the skin from the median incision line in the cubital fossa, both medially and laterally, to the sides of the forearm.
     **Distal Incision Line** – Cut the skin from the median incision line just proximal to the wrist, both medially and laterally, to the sides of the forearm.
   B. **Locate the Epimysium of the Anterior Forearm Muscles** – Use a smooth probe to locate the separation between the superficial fascia and deep fascia. Using the smooth probe and your fingers (avoid using the scalpel blade unless absolutely necessary), remove the skin from the anterior median incision line in both a medial and lateral direction.
      • Locate the **cephalic vein** and the **basilic vein** in the subcutaneous tissue on the lateral and medial sides of the forearm. Expose these veins from the wrist to the cubital fossa where they join the **median cubital vein.** Expose the medial cubital vein.

IV. **MUSCLE IDENTIFICATION AND SEPARATION** – To expose the muscles on the anterior side of the forearm, make a longitudinal cut through the **deep fascia.** Avoid damaging the
tendons deep to the fascia. Do not remove the fascia if it fuses with the muscles located in the proximal portion of the forearm.

**SUPERFICIAL FOREARM GROUP**  Muscles originating from the lateral epicondyle.

A. **Brachioradialis** – Identify the brachioradialis muscle. The muscle separates the anterior forearm group from the posterior forearm group. Lateral to the brachioradialis muscle; try to locate the extensor carpi radialis longus and extensor carpi radialis bravis muscles.

Muscles originating from the medial epicondyle. Lateral – medial.

B. **Pronator teres** – Identify the pronator teres muscle. The muscle extends from the medial epicondyle to insert on the shaft of the radius bone and it the most lateral of the superficial anterior muscle group.

C. **Flexor carpi radialis** – Identify and separate the flexor carpi radialis muscle. This muscle extends from the medial epicondyle of the humerus to the base of the second metacarpal.

D. **Palmaris longus** – Identify and separate the Palmaris longus muscle. This muscle extends from the medial epicondyle of the humerus to the flexor retinaculum.

E. **Flexor carpi ulnaris** – Identify and separate the flexor carpi ulnaris muscle. Begin at the insertion and separate the lateral portion of the muscle until the muscle fuses with the other forearm superficial muscles. *The medial attachment of the muscle to the ulna bone should remain.

**INTERMEDIATE FOREARM GROUP**

F. **Flexor digitorum superficialis** – Identify the flexor digitorum superficialis muscle group deep to the superficial forearm muscle.

G. **Flexor digitorum profundus** – Identify the flexor digitorum profundus muscle deep to the flexor digitorum superficialis group.

**DEEP FOREARM GROUP**

H. **Flexor pollicis longus** – Identify the flexor pollicis longus muscle deep to the flexor carpi radialis muscle.

I. **Pronator quadratus** – Identify the pronator quadratus at the distal end of the forearm deep to the flexor digitorum profundus muscle.

V. **VESSEL AND NERVE IDENTIFICATION**

A. Superficial Veins (Previously Identified)

B. **Brachial artery and brachial vein** – Identify the brachial artery and vein as they enter the cubital fossa. Identify the bifurcation of the brachial artery into the radial artery and ulnar artery.

C. **Radial artery and radial vein** – Trace the radial artery and radial vein from the bifurcation to the lateral side of the wrist.

D. **Ulnar artery and ulnar vein** – Trace the ulnar artery and ulnar vein from their bifurcation, deep to the muscles on the proximal forearm, and emerging on the distal medial surface of the forearm.

E. **Radial nerve** – Identify the superficial portion of the radial nerve on the lateral surface of the forearm deep to the brachioradialis muscle.

F. **Ulnar nerve** – Identify the ulnar nerve next to the ulnar artery and vein.

G. **Median nerve** – Identify the median nerve as it enters the cubital fossa and then as it emerges deep to the superficial muscles in the midline of the distal forearm.