

CADAVER DISSECTION – ARM

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 surface anatomical landmarks of the arm: **acromion, coracoid process, medial epicondyle, and lateral epicondyle.**

I. SUPERFICIAL VESSELS & NERVES – Determine the location of any major superficial veins or nerves in your area of dissection to avoid damaging these structures as you dissect.

A. **Cephalic vein** – The cephalic vein is located on the lateral surface of the arm extending in a proximal direction from the lateral forearm, up the lateral side of the arm to enter the brachial vein.

B. **Basilic vein** – The basilic vein is located on the medial surface of the arm extending in a proximal direction from the medial forearm, up the medial side of the arm to enter the brachial vein.

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 arm.

II. REMOVAL OF SKIN – Using the following steps, remove the skin from the anterior arm.

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, proximally along the anterior surface of the arm, to the acromion.

- The cephalic vein will be located deep to this medial incision line in the shoulder area.

Proximal Incision Line – Cut the skin from the median incision line near the acromion, both medially and laterally.

Distal Incision Line – Cut the skin from the median incision line in the cubital fossa, both medially and laterally, to the sides of the arm.

- The median cubital vein will be located deep to this distal incision line.

B. Locate the Epimysium of the Anterior Arm 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 arm. Expose these veins from the wrist to the cubital fossa to the point where they go deep to enter the deep vein. Locate the **median cubital vein**, which connects the cephalic vein and the basilic vein in the cubital fossa.

IV. MUSCLE IDENTIFICATION AND SEPARATION:

To expose the muscles on the anterior side of the arm, make a longitudinal cut through the **deep fascia**. Avoid damaging the muscle deep to the fascia.

- Biceps brachii** – Identify the biceps brachii muscle. Locate the two heads or origins of this muscle. Identify the major tendon of this muscle, which acts as its insertion in the cubital fossa. Also identify the bicipital aponeurosis attaching to the medial side of the proximal forearm.
- Brachialis** – Separate the superficial biceps brachii muscle from the deeper brachialis muscle in the distal one-half of the anterior arm. Identify the brachialis muscle.
- Coracobrachialis** - Identify the coracobrachialis muscle as it originates from the coracoid process and attaches to the medial side of the shaft of the humerus.
 - Often a nerve, the Musculocutaneous nerve, passes through this muscle.

V. VESSEL AND NERVE IDENTIFICATION

A. Superficial Veins (Previously Identified)

B. **Brachial artery** and **brachial vein** - Identify the brachial artery and brachial vein from the axilla to the bifurcation into the radial artery (radial vein) and ulnar artery (ulnar vein) within the cubital fossa. Identify the **deep artery of the arm (profunda brachii artery)**, a major branch of the brachial artery.

C. Terminal Branches of the Brachial Plexus

FROM THE LATERAL CORD OF THE BRACHIAL PLEXUS

1. **Musculocutaneous nerve** - Identify the musculocutaneous nerve as it passes through the coracobrachialis muscle and innervates the flexor muscles located in the arm.

FROM THE MEDIAL CORD OF THE BRACHIAL PLEXUS

2. **Ulnar nerve** – Identify the ulnar nerve from the medial cord. Trace this nerve to the point where it passes posterior to the medial epicondyle.
3. **Medial cutaneous nerve of arm (medial brachial cutaneous nerve)** – Try to identify this nerve as it innervates the skin on the medial surface of the arm.
4. **Medial cutaneous nerve of forearm (medial antebrachial cutaneous nerve)** – Try to identify this nerve as it innervates the skin on the medial surface of the forearm.

FROM BOTH THE MEDIAL & LATERAL CORDS OF THE BRACHIAL PLEXUS

5. **Median nerve** – Identify the median nerve from its origin from the medial and lateral cords to the cubital fossa. It is located on the medial side of the brachial artery as it enters to cubital fossa.

FROM THE POSTERIOR CORD OF THE BRACHIAL PLEXUS

Deep to the above nerves, which arises from anterior divisions of the plexus, identify the following nerves arising from the posterior divisions of the brachial plexus.

6. **Axillary nerve** – Identify the Axillary nerve as it curves around the surgical neck of the humerus.
7. **Radial nerve** (The largest of the five terminal branches) – Identify the radial nerve as it passes deep to the shaft of the humerus.