CADAVER DISSECTION – HAND

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 hand: thenar eminence, hypothenar eminence, pisiform and scaphoid carpal bones.

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

III. REMOVAL OF SKIN – Using the following steps to 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.

Anterior Median Incision Line – Cut the skin along the palmar midline from a point just distal to the wrist to the base of the third digit.
Proximal Incision Line – From the most proximal part of the midline incision, cut the skin medially and laterally. Avoid cutting the palmaris brevis on the superficial part of the hypothenar eminence.
Distal Incision Line – From the most distal part of the midline incision, cut the skin medially and laterally.

B. Locate the Epimysium of the Anterior Forearm Muscles - Use a smooth probe to locate the separation between the superficial fascia and deep fascia. Remove the skin from the anterior midline incision medially and laterally exposing the palmar aponeurosis. * Avoid cutting the branches of the ulnar and median nerves.

IV. MUSCLE IDENTIFICATION AND SEPARATION:

HYPOTHENAR EMINENCE

A. **Palmaris brevis** – Identify the palmaris brevis muscle.
B. **Abductor digiti minimi** – Identify the abductor digiti minimi muscle.
C. **Flexor digiti minimi brevis** – Identify flexor digiti minimi brevis muscle.

THENAR EMINENCE

D. **Flexor pollicis brevis** – Identify flexor pollicis brevis muscle.
E. **Abductor pollicis brevis** – Identify abductor pollicis brevis muscle.
HAND MUSCLES

F. **Adductor pollicis** – Identify the adductor pollicis muscle.
G. **Lumbrical muscles** – Identify the lumbrical muscles as they originate from the tendons of the flexor digitorum profundus muscles.

V. VESSEL AND NERVE IDENTIFICATION
Try to leave a portion of the flexor retinaculum for the forearm palmaris longus muscle to attach. Remove the remaining portion of the palmar aponeurosis to expose the deep vessels and nerve.
   A. **Ulnar artery** – Identify the ulnar artery as it enters from the medial forearm, deep to the palmaris brevis muscle. The ulnar artery will contribute to the formation of the superficial palmar arch.
   B. **Superficial palmar arch** – Identify the superficial palmar arch and its palmar digital branches.
   C. **Ulnar nerve** – Identify the ulnar nerve, next to the ulnar artery, and its branches. Note which digits are supplied by the ulnar nerve.
   D. **Median nerve branches** – Identify the branches of the median nerve as it emerges deep to the flexor retinaculum within the carpal canal. Note which digits are supplied by the branches of the median nerve.

VI. DISSECTION OF A DIGIT
Incision line – Make an incision line along the anterior surface of a digit from the hand to the end of the digit.
   A. **Tendon of the flexor digitorum superficialis** – Proximally in the digit, expose the tendon of the flexor digitorum superficialis muscle. This tendon will split to allow the tendon of the flexor digitorum profundus muscle to pass through to insert on the distal phalanx of the digit.
   B. **Tendon of the flexor digitorum profundus** – Identify the flexor digitorum profundus muscle as it emerges through the opening in the tendon of the flexor digitorum superficialis muscle to insert on the distal phalanx.