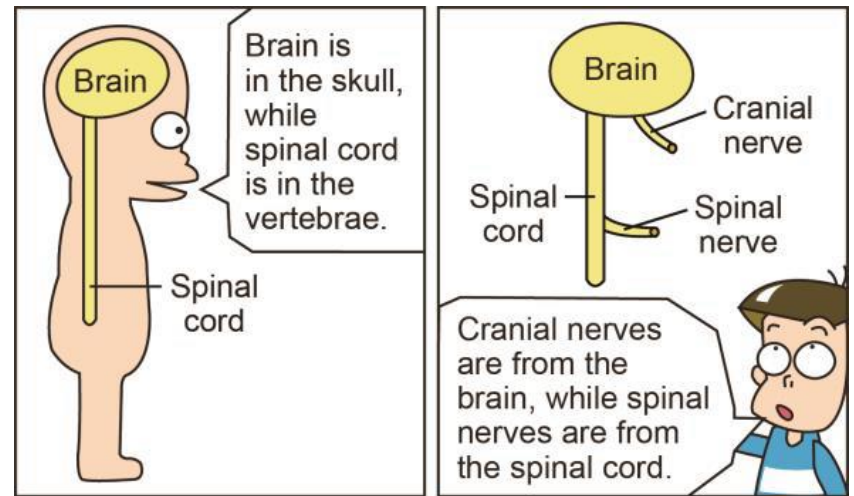
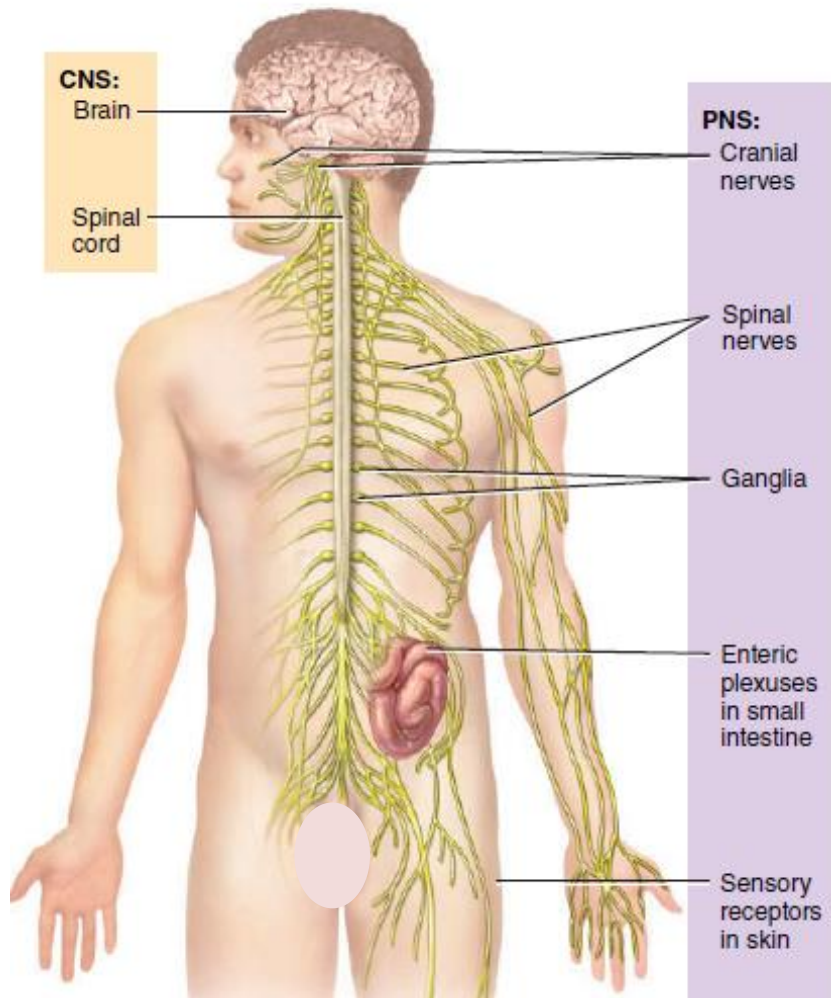




UPPER LIMB
NERVE & BLOOD
SUPPLY

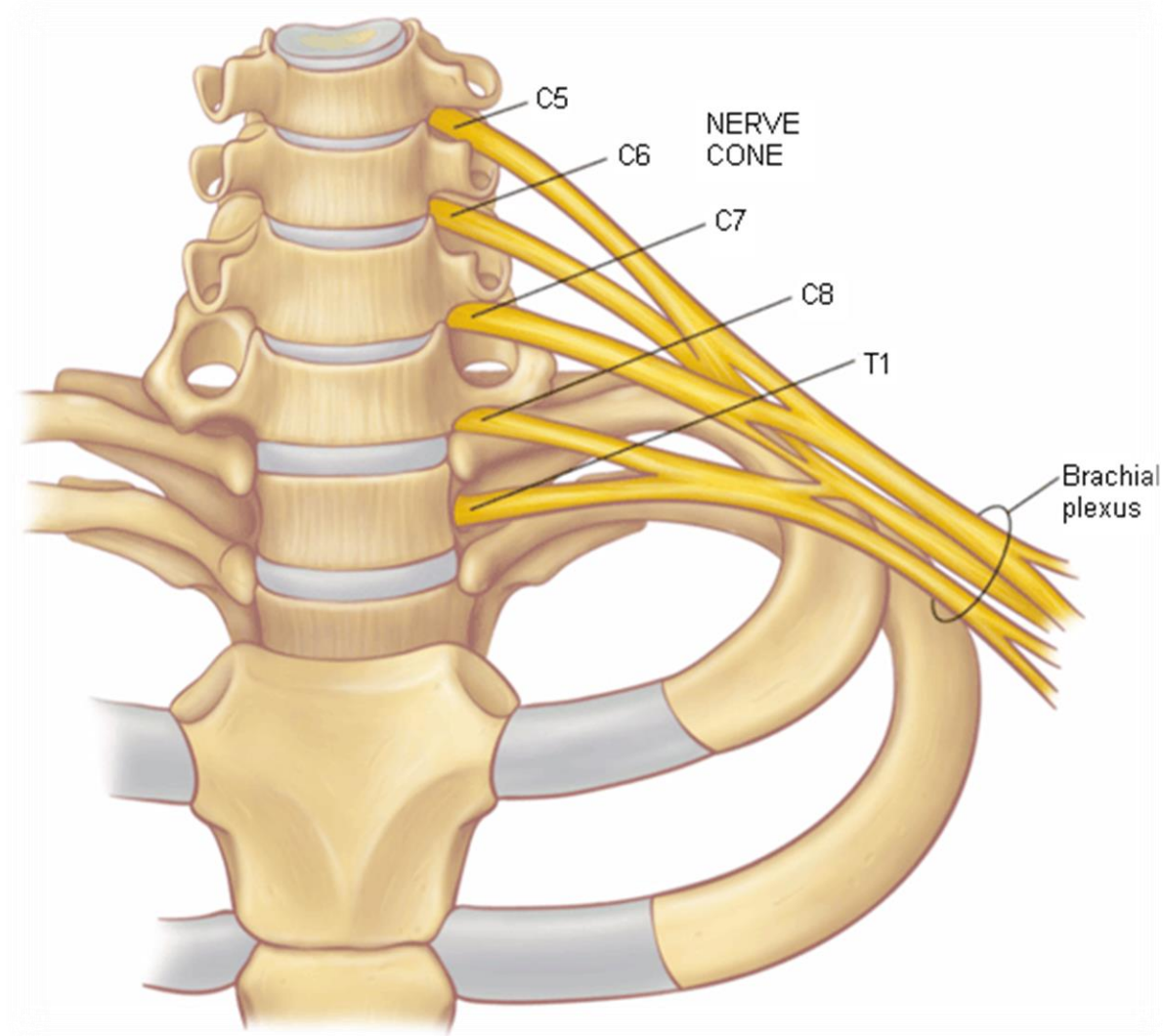


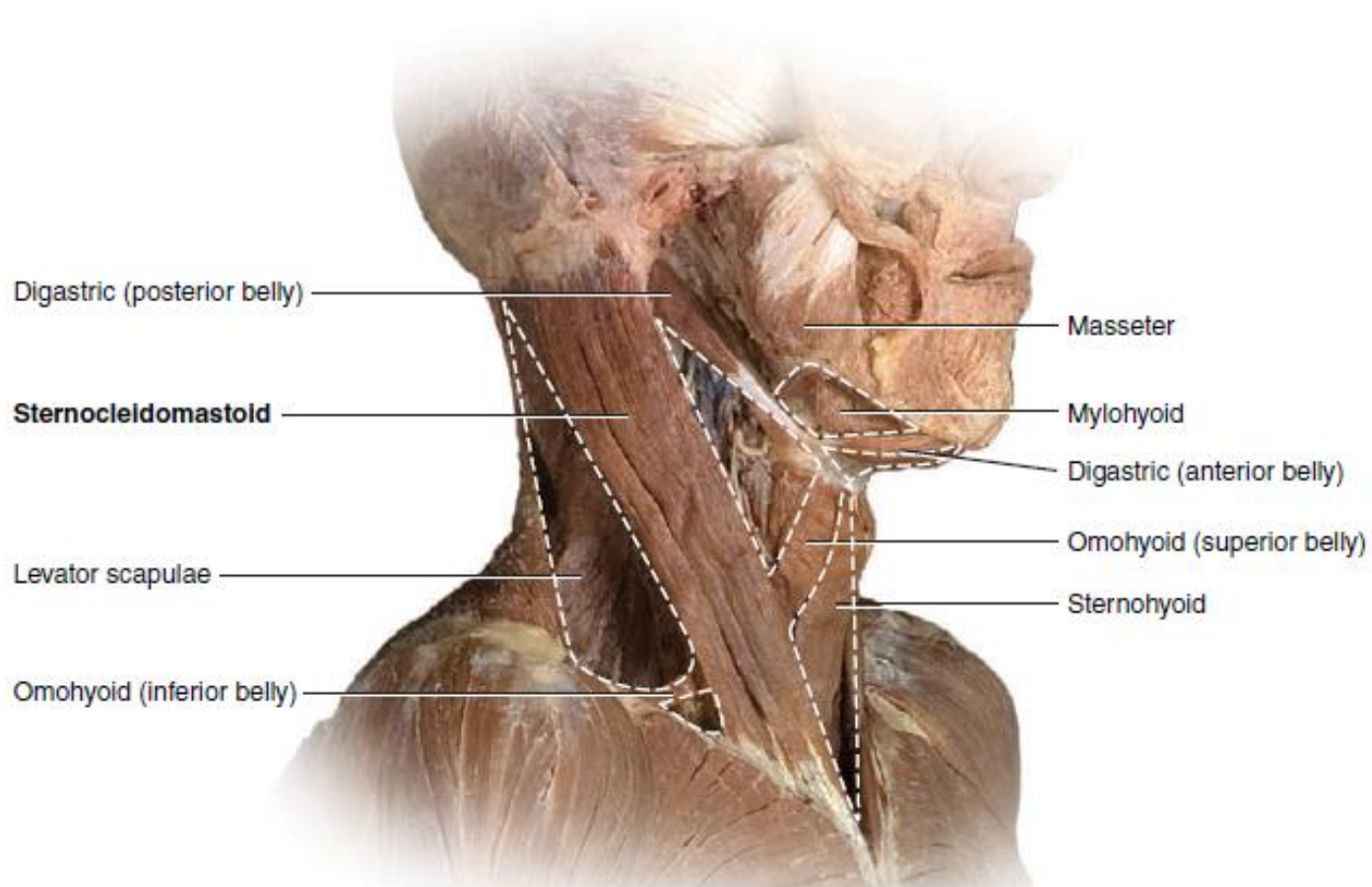
DR AMAL
ALBTOOSH



The Brachial Plexus

The brachial plexus is formed in **the posterior triangle of the neck** by the union of the anterior rami of **the 5th, 6th, 7th, and 8th** cervical and **the 1st thoracic spinal nerves**





Mark Nielsen

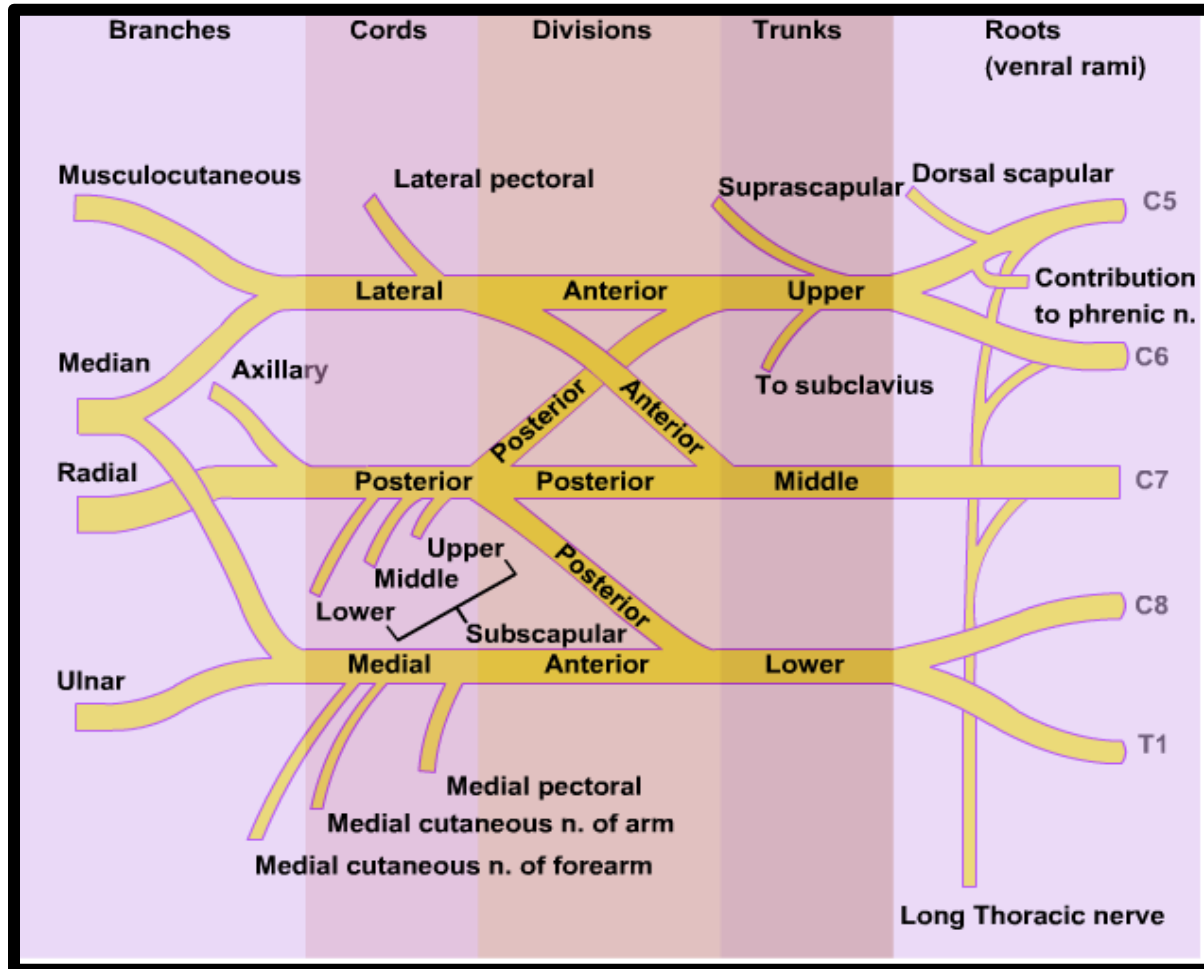
(e) Right lateral view of neck

The plexus can be divided into **Roots, Trunks, Divisions, and Cords.**

The roots of **C5** and **C6** unite to form the **upper trunk**

The root of **C7** continues as the **middle trunk**

The roots of **C8** and **T1** unite to form the **lower trunk**

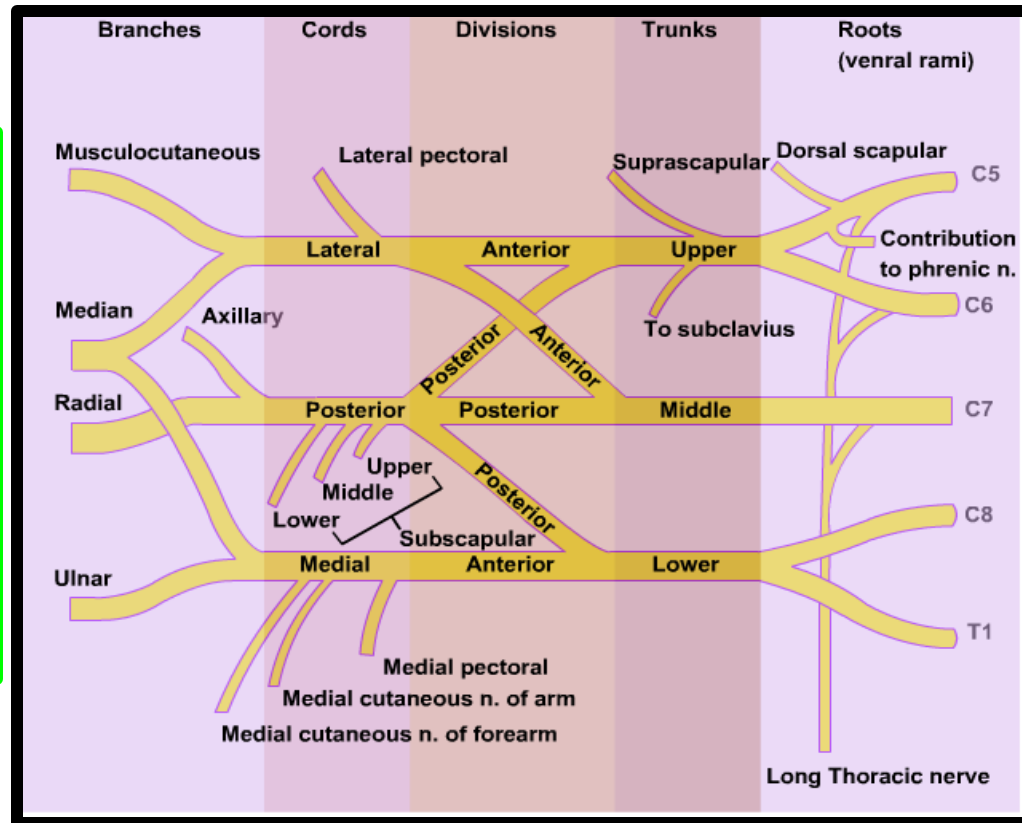
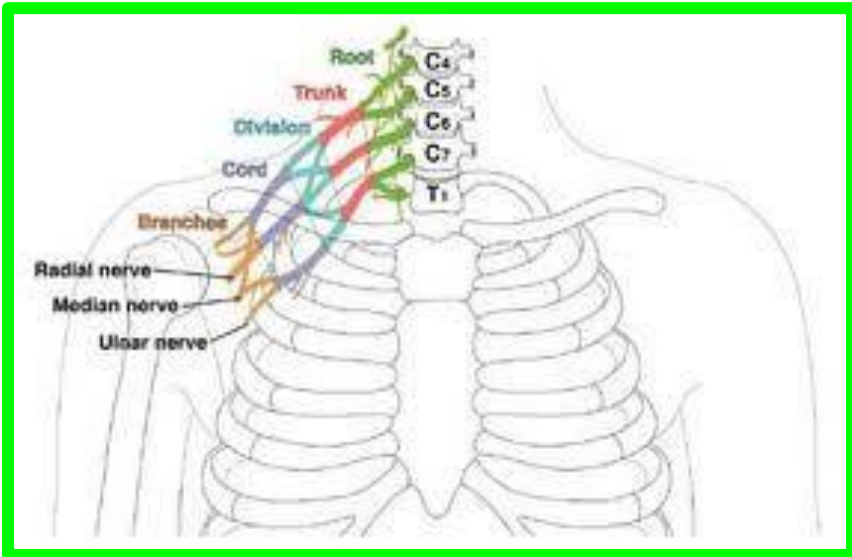


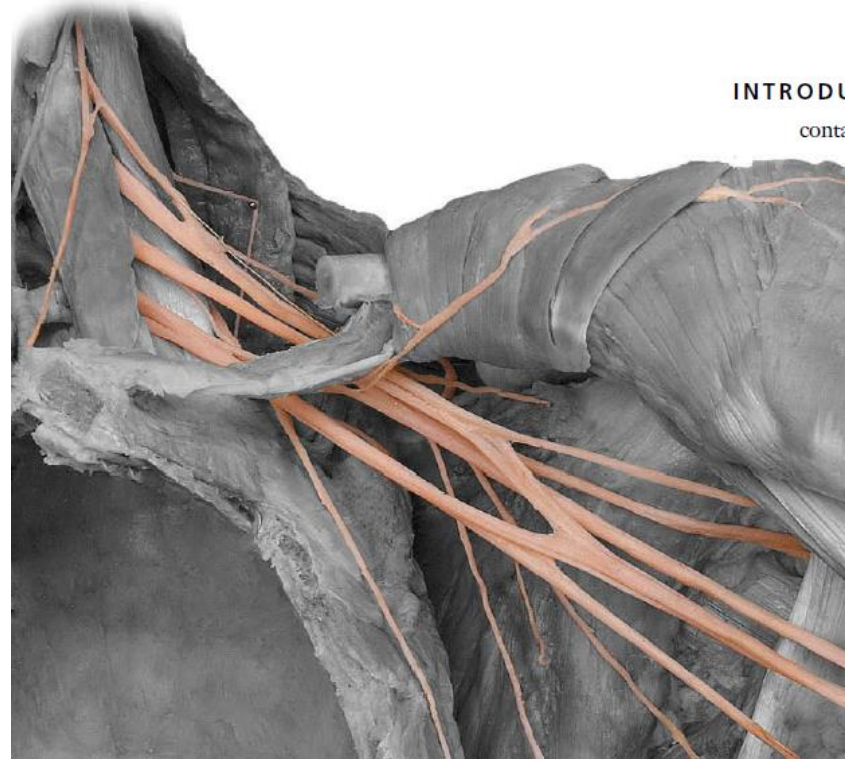
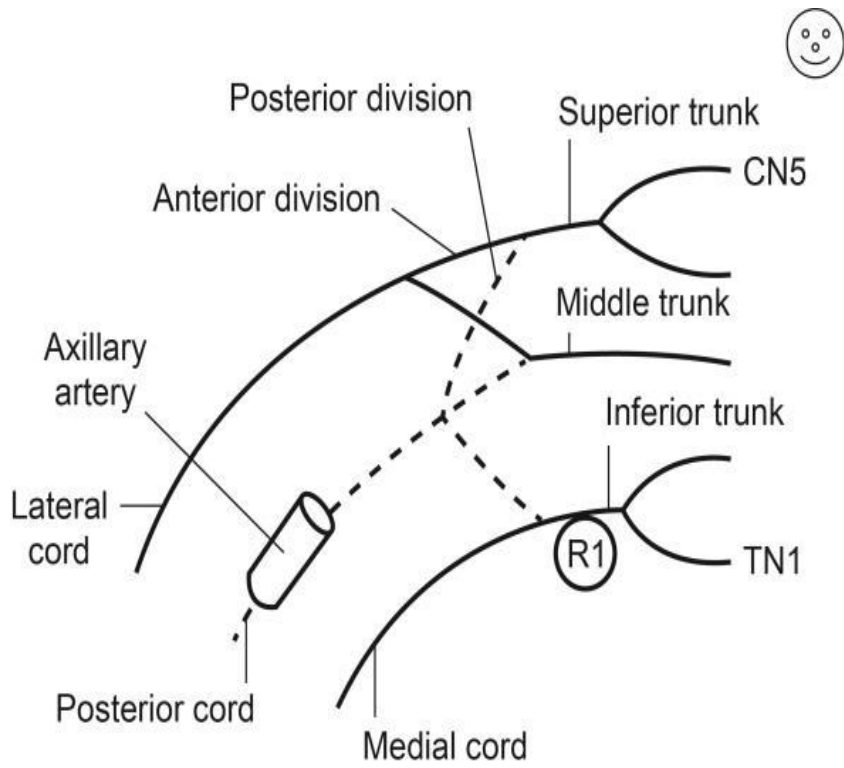
Each trunk then divides into **anterior** and **posterior** divisions.

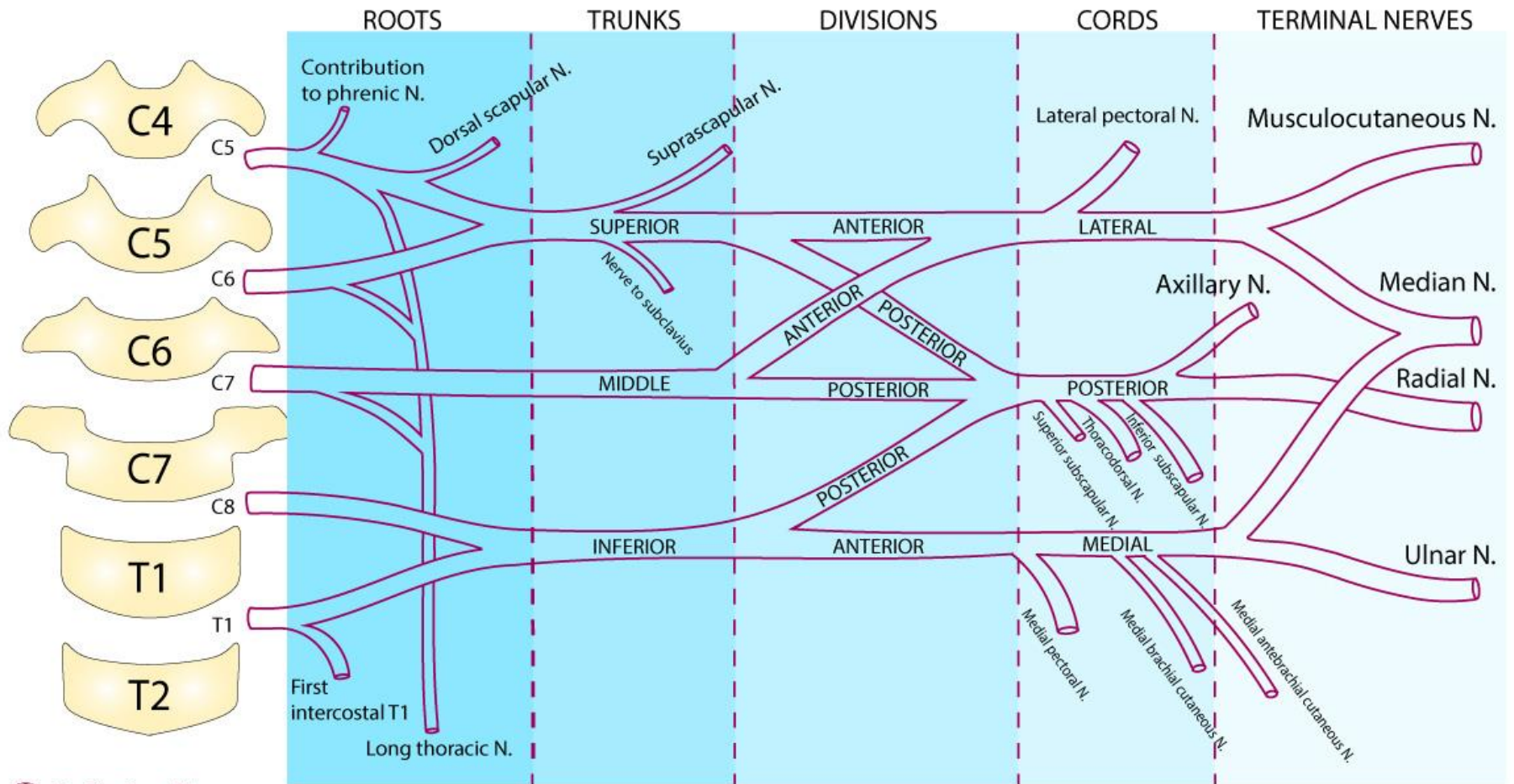
✓ **The anterior divisions** of the **upper** and **middle trunks** unite to form **the lateral cord**.

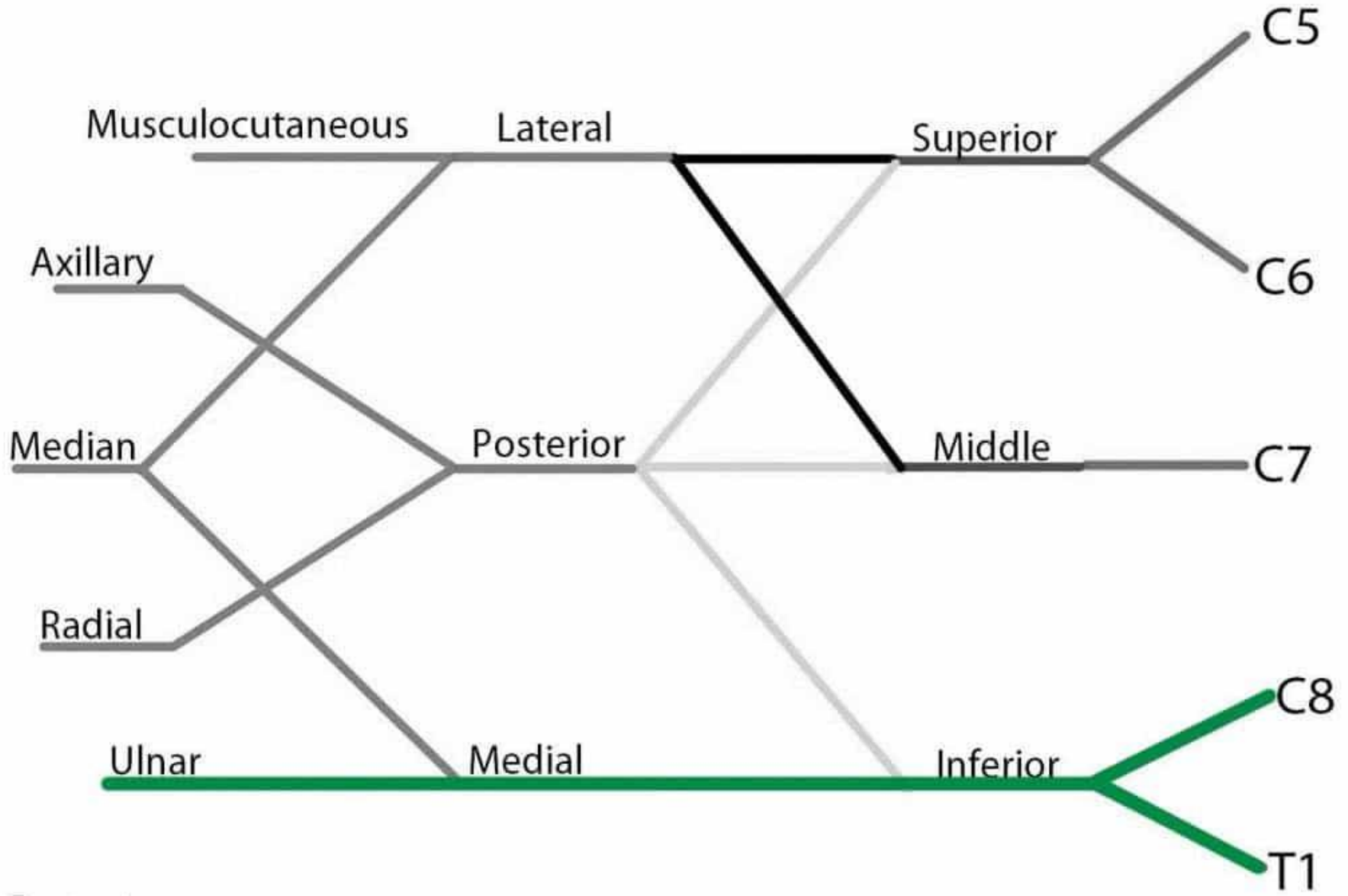
✓ **The anterior division** of the **lower trunk** continues as **the medial cord**.

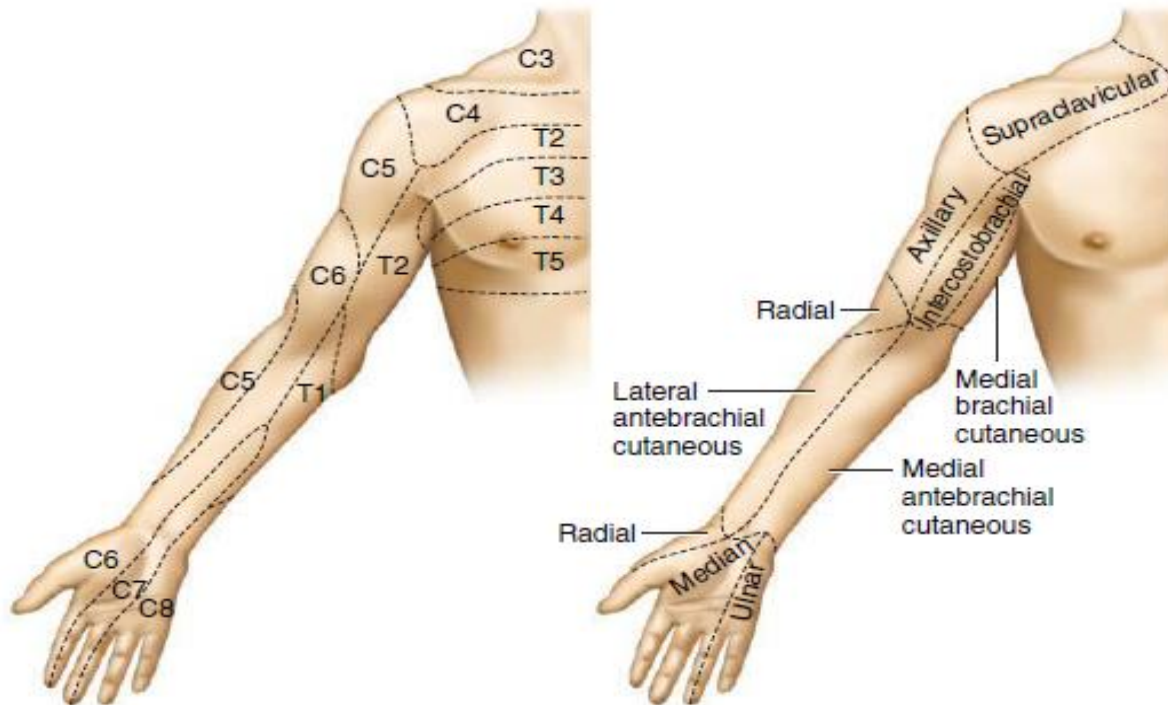
✓ **The posterior divisions** of all **three trunks** join to form **the posterior cord**.







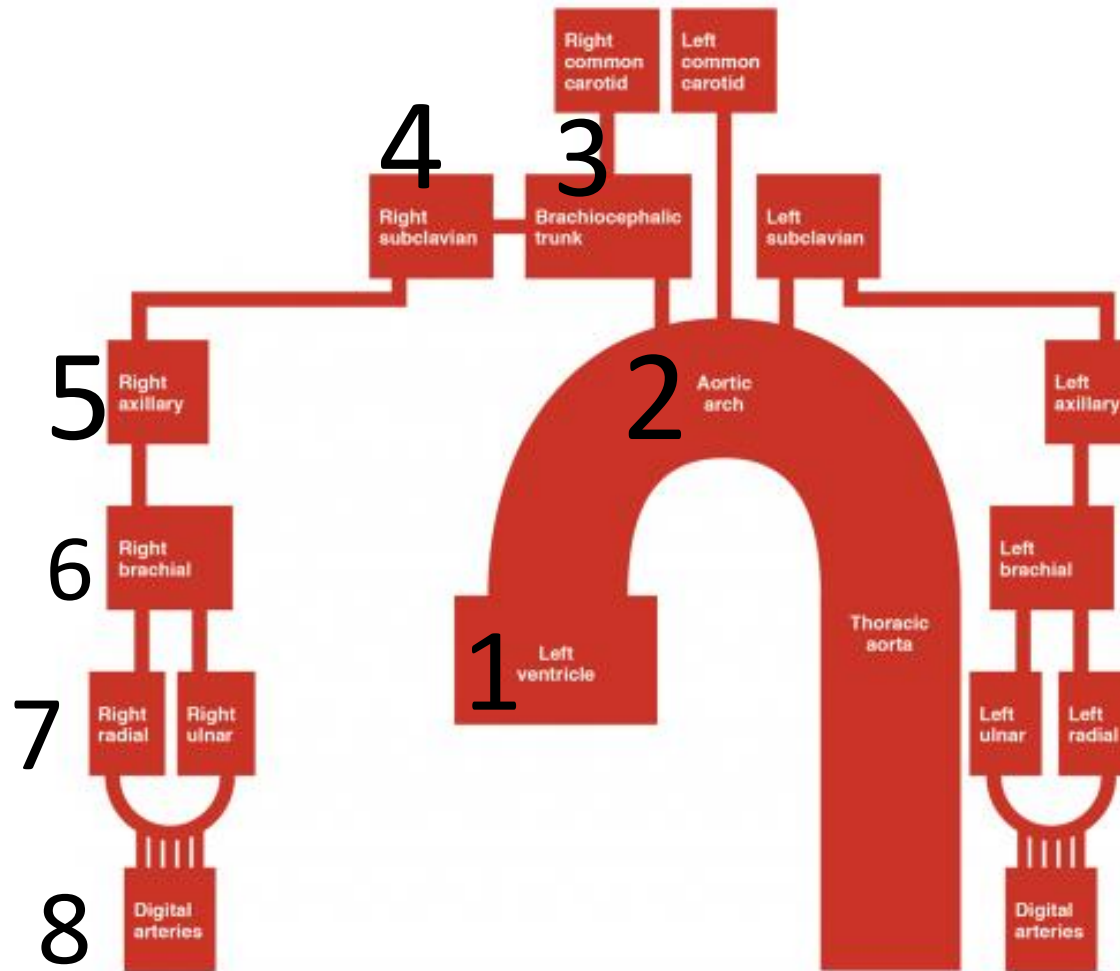




(b) Comparison between distributions of dermatomes (left) and cutaneous fields (right)

DERMATOME is an area of skin that provides sensory input

ARTERIES of the upper limb



ARTERIES OVERVIEW

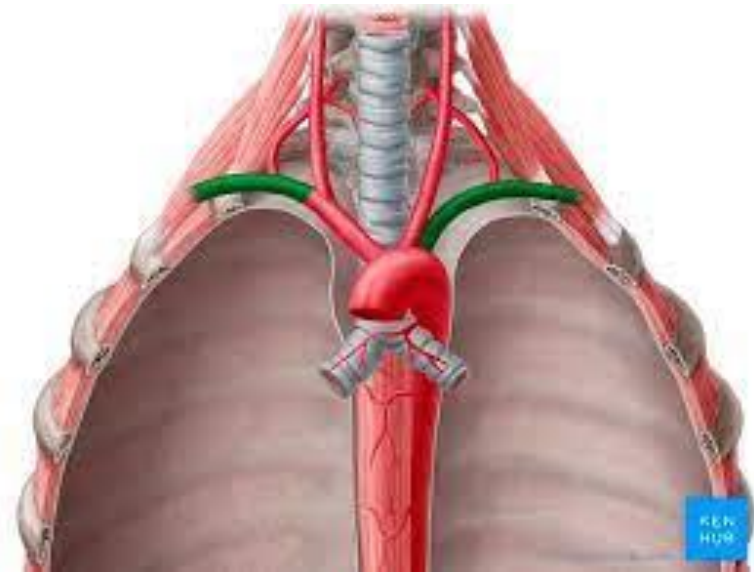
- ❖ The main arterial stem of the upper limb passes through the root of the neck, the axilla and the arm before dividing into two in the forearm.
- Subclavian artery
- Axillary artery
- Brachial artery
- Radial artery
- Ulnar artery

THE ARTERY changes its name in each of the regions as it crosses particular bony or muscular landmarks

- ❖ The subclavian artery becomes the axillary artery after crossing the 1st rib
- ❖ The axillary artery becomes the brachial artery after crossing the posterior axillary fold
- ❖ The brachial artery divides just distal to the elbow into the radial and ulnar arteries.

Subclavian Artery

- ❖ The arterial supply to the upper limb begins as the **subclavian artery**.
RIGHT : from the brachiocephalic trunk.
LEFT: directly from the arch of aorta.
- ❖ The subclavian artery travels laterally towards the axilla.
- ❖ At the lateral border of the first rib, the subclavian artery enters the axilla – and is renamed the **axillary artery**.



AXILLARY ARTERY

BEGINS: at the lateral border of the 1st rib as a continuation of the subclavian

✓ Is enclosed in the axillary sheath

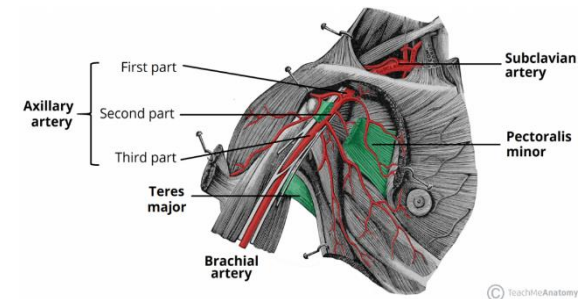
The artery can be divided into three parts based on its position relative to the **PECTORALIS MINOR** muscle:

First part – proximal to pectoralis minor

Second part – posterior to pectoralis minor

Third part – distal to pectoralis minor

ENDS: at the lower border of the **TERES MAJOR** muscle.

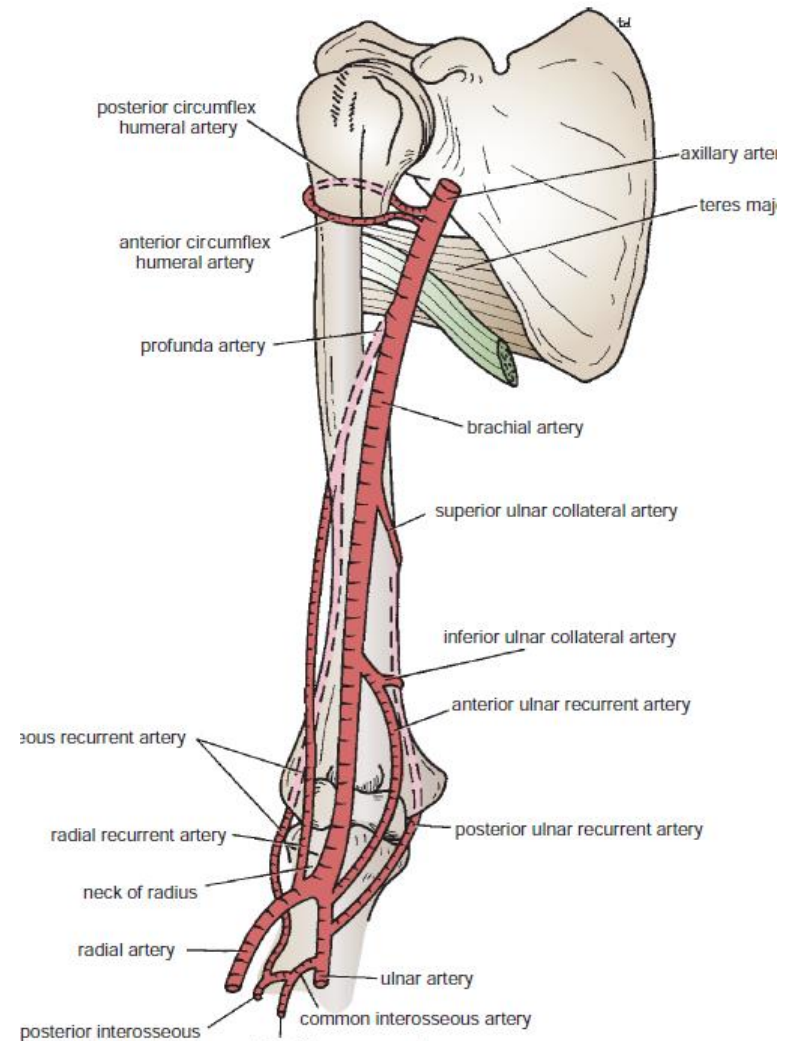


Brachial artery

Begins: at the distal border of the tendon of teres major

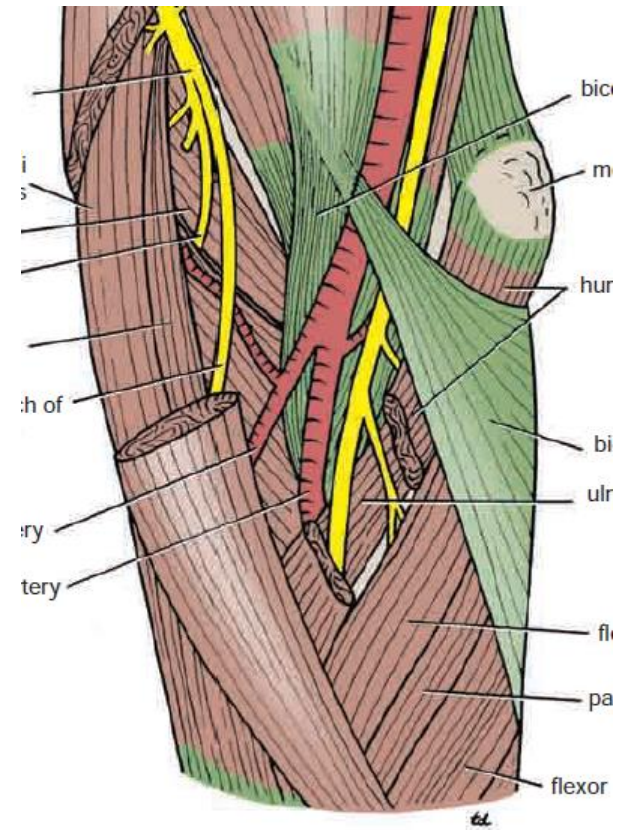
Ends about 1 cm distal to the elbow joint, terminates by dividing into radial and ulnar arteries.

Brachial artery is the site of auscultation of blood pressure



Radial artery

- ❖ **BEGINS:** from the brachial artery near the neck of the radius
- ❖ **Course:**
 - passes deep to brachioradialis
 - At the wrist it passes in the anatomical Radial (snuff) box
- ❖ **ENDS:** in the hand by anastomosis with the **DEEP branch** of the ulnar artery, completing the **deep palmar arch**

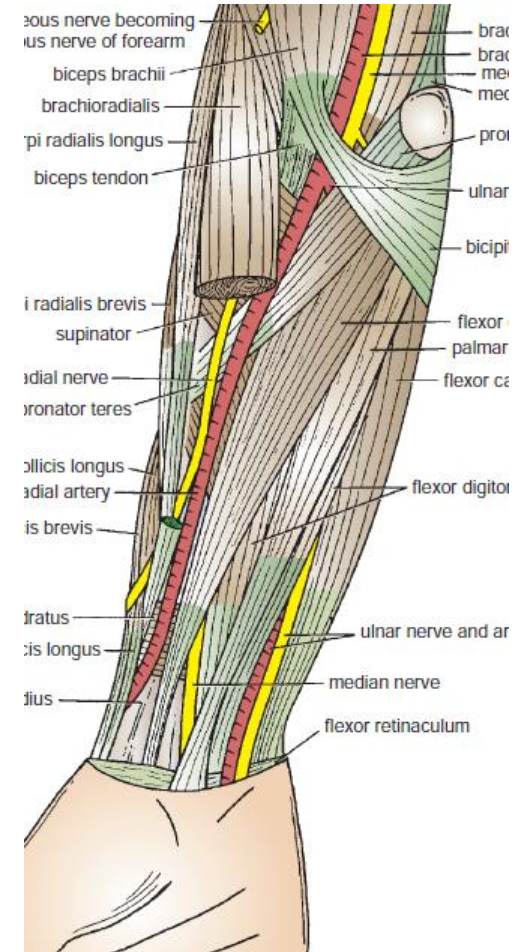


Ulnar artery

BEGINS from the brachial artery near the neck of the radius

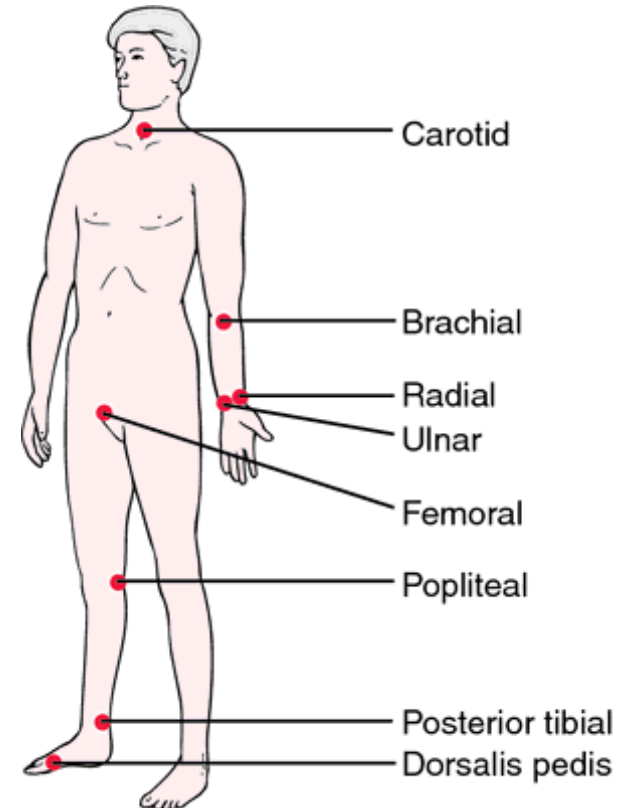
❖ Course:

- passes **DEEP** to pronator teres, flexor carpi radialis, palmaris longus and flexor digitorum superficialis
- The ulnar head of pronator teres separates it from the median nerve
- **ENDS** in the hand by anastomosis with the superficial palmar branch of the radial artery, completing the superficial palmar arch.



pulsation

Pulsations of the brachial artery, radial artery, and ulnar artery are palpable because some parts of these arteries are not covered by the muscles and are close to the skin.



Arteries in the hand

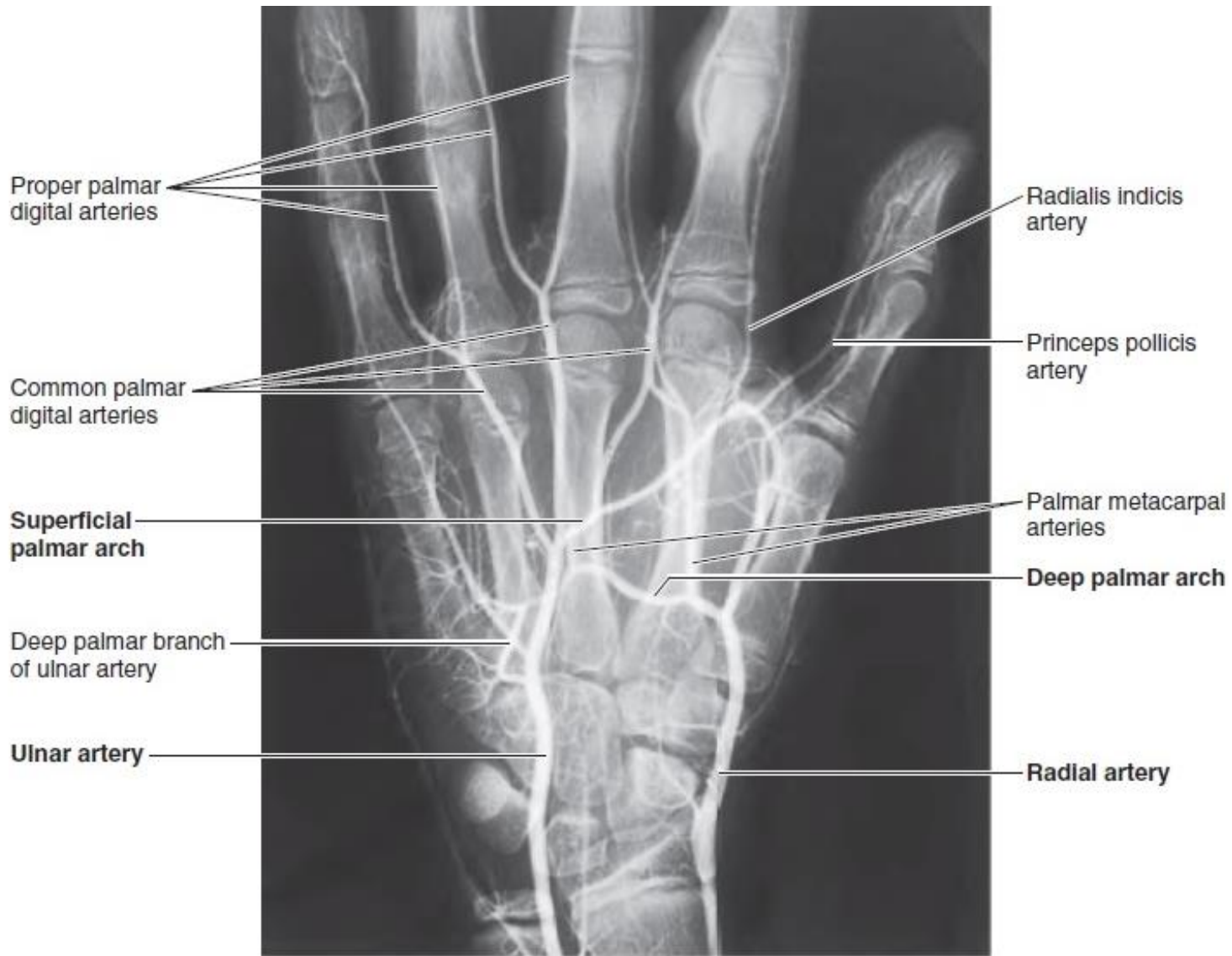


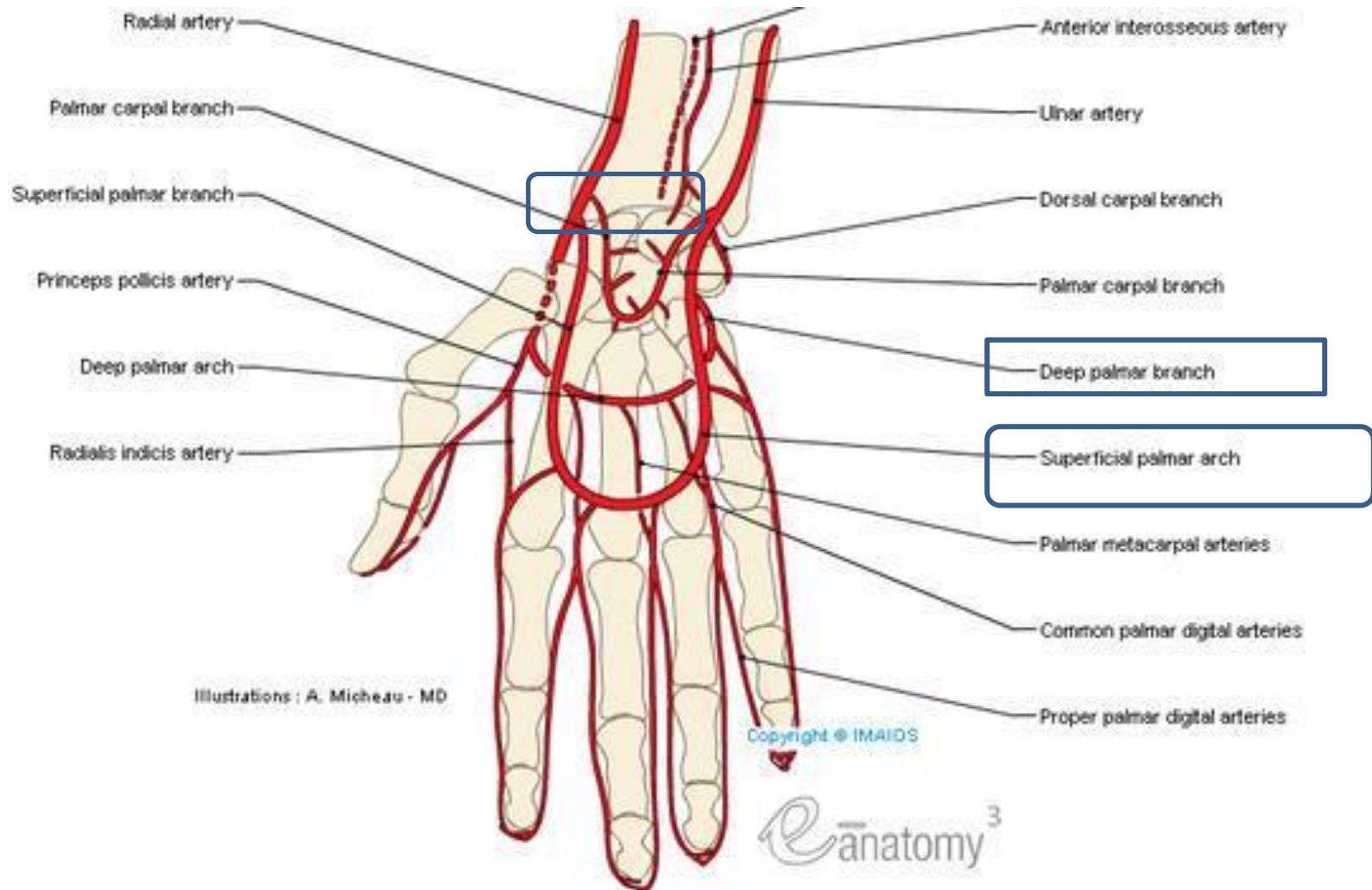
teachmeanatomy

The #1 Applied Human Anatomy Site on the Web.

- ❖ The blood supply to the hand is provided by the radial and ulnar arteries
- ❖ radial and ulnar arteries give rise to a superficial and a deep palmar arch and to smaller branches as they travel distally to the tips of the fingers.







VEINS

The venous drainage of the upper limb is composed of

- superficial and deep vessels.
- The deep veins accompany the arteries.
- The superficial veins starts on the back of the hand as a dorsal arch.
- The cephalic vein begins at the radial extremity of the arch.
- axillary vein just distal to the clavicle.
- The basilic vein passes along the medial aspect of the forearm,
- The median cubital vein links the cephalic and basilic veins in front of the elbow.

Veins

The veins of the upper limb can be divided into two groups:

DEEP

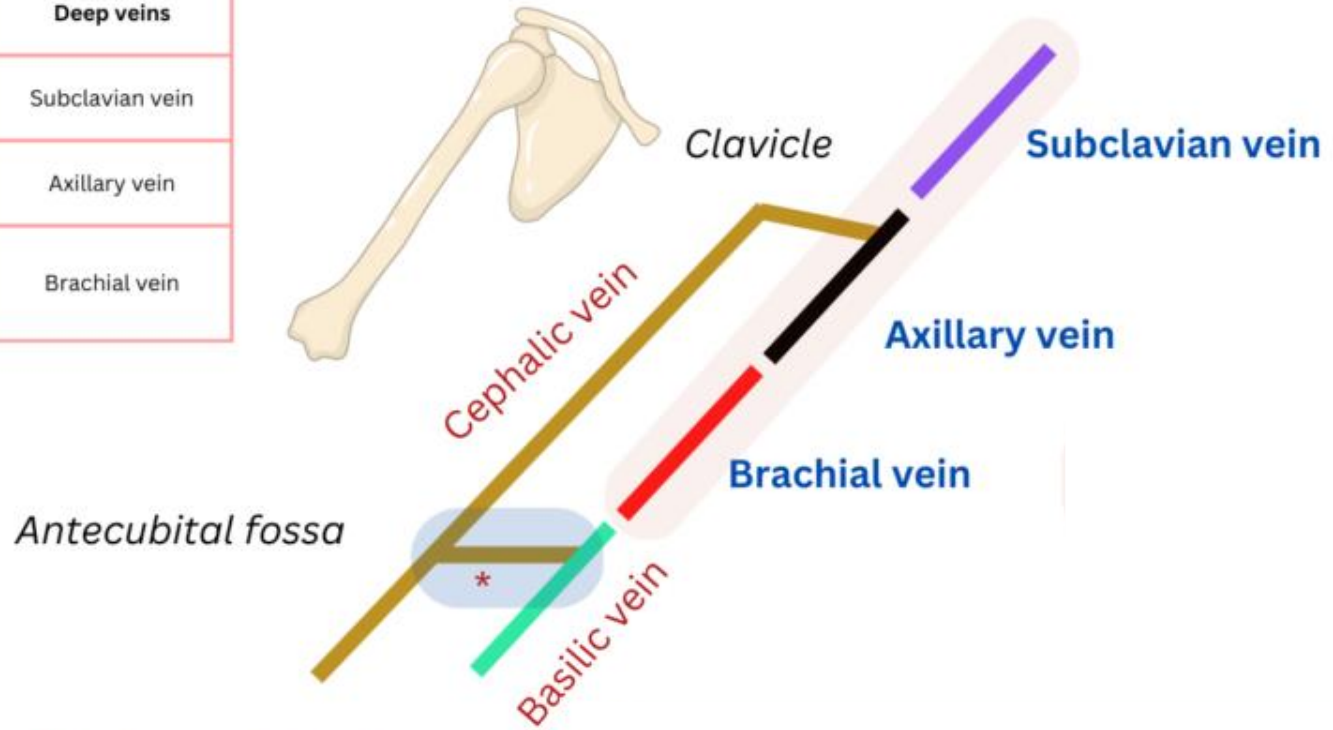
The deep veins comprise the **VENAE COMITANTES**, which accompany all the large arteries, usually in pairs, and the axillary vein.

SUPERFICIAL

- The superficial veins of the arm lie in the superficial fascia.
- The **CEPHALIC VEIN** ascends in the superficial fascia on the lateral side of the biceps.
- The **BASILIC VEIN** ascends in the superficial fascia on the medial side of the biceps .
- The **median cubital vein** links the cephalic and basilic veins in front of the elbow.

Veins of the Upper Extremity

Superficial veins	Deep veins
Cephalic vein	Subclavian vein
Basilic vein	Axillary vein
Median cubital vein	Brachial vein



*Median cubital vein

Good luck

