



Brachial plexus.

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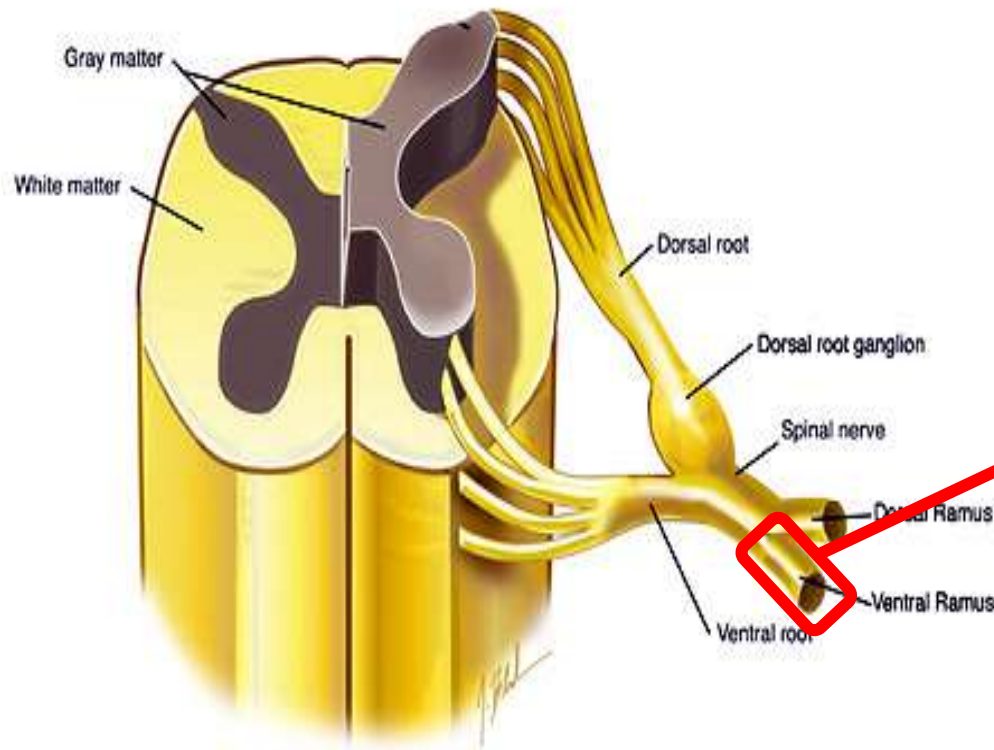
Assistant Professor of anatomy and embryology

objects

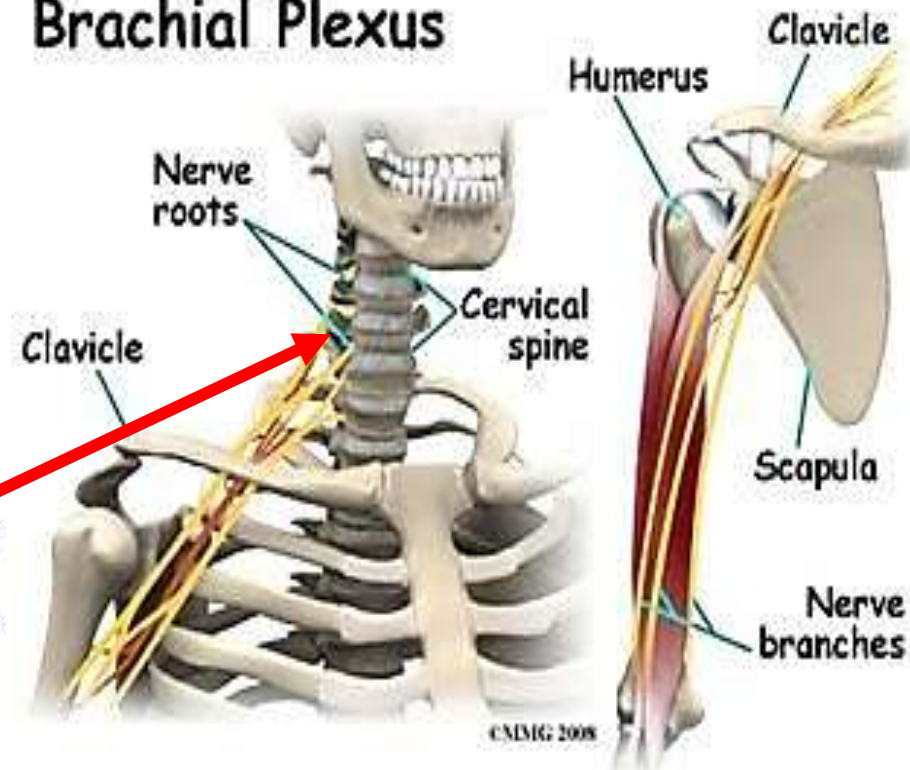
- 1-Make a list of contributing spinal nerves.
- 10-Discuss the general arrangement of this plexus.
- 3-Locate the plexus in the axilla and note important relations to blood vessels.
- 4-Make a list of local branches with short notes on its target organs.
- 5-Make a list of its terminal main branches.
- 6-Follow up each branch down to its target organs (myotomes and Dermatomes).

BRACHIAL PLEXUS

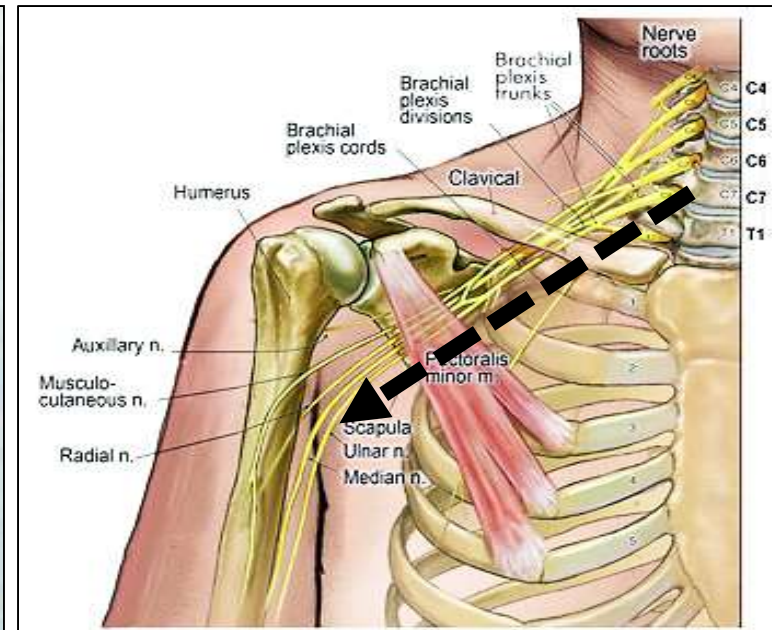
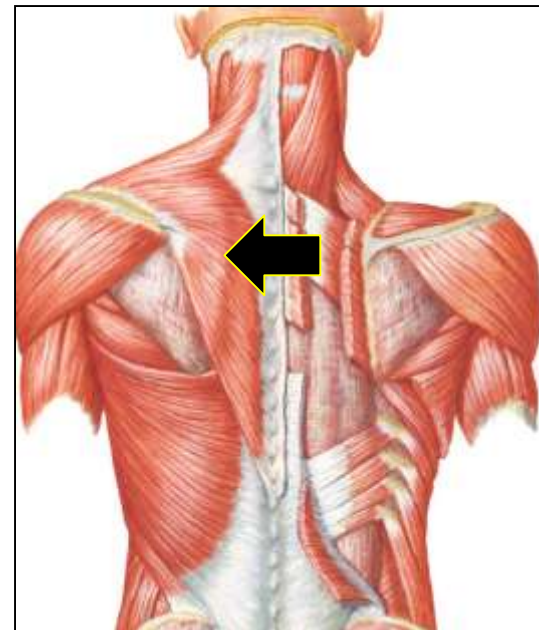
Definition: It is a plexus of spinal nerves formed by the ventral rami of C5, 6, 7, 8 & T1 with small contributions from ventral rami of C4 & T2. It is a plexus of cords.

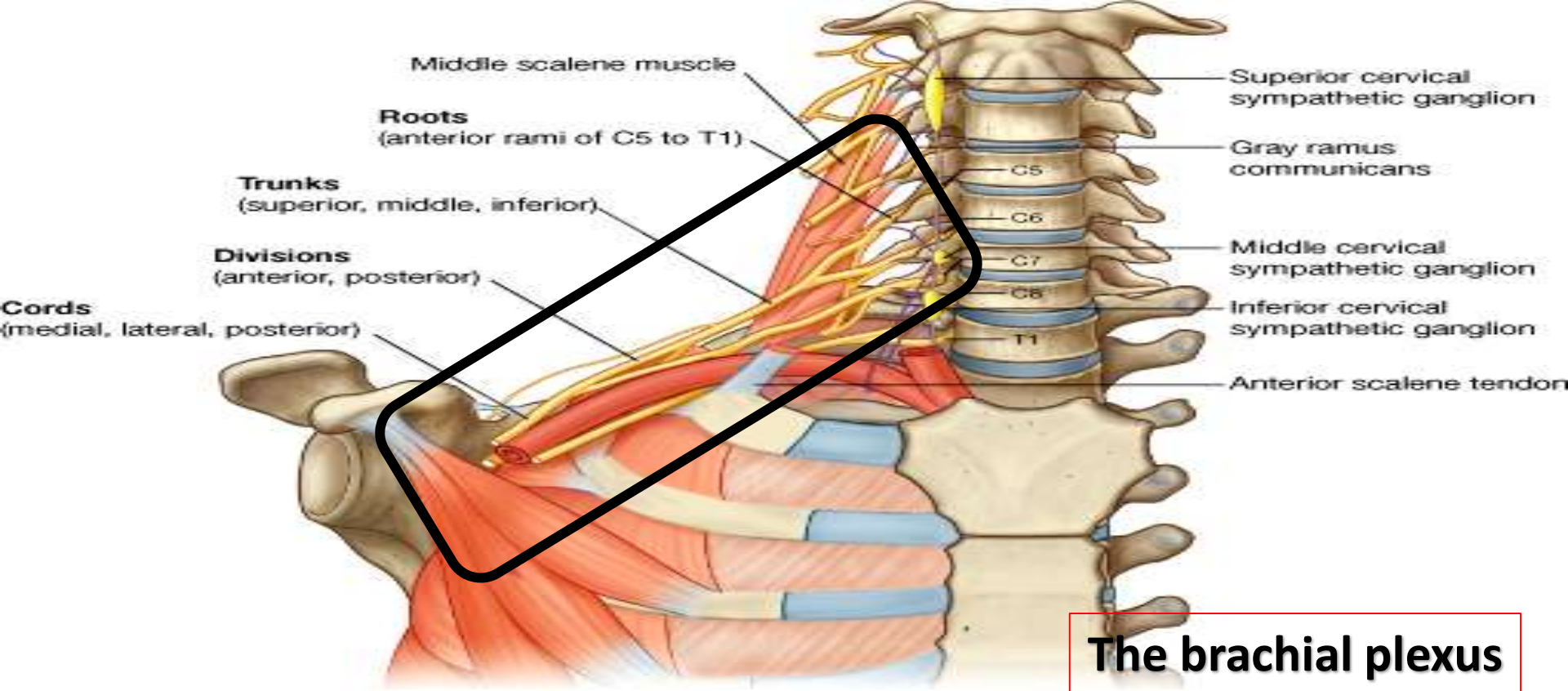


Brachial Plexus



- Brachial plexus supplies motor & sensory nerves to the whole upper limb EXCEPT one muscle (**trapezius**) & 2 skin areas (*top of shoulder & floor of axilla*).
- It takes origin in the neck, descends through the cervicoaxillary canal (apex of axilla) to reach the axilla.





The brachial plexus

□ **Types of the brachial plexus:** *Usual fixed type*

A] **Prefix type:** ⇒ Large contribution from C4 & absent contribution from T2 (C4, 5, 6, 7, 8 & T1).

B] **Postfix type (clinical importance?):** ⇒ Large contribution from T2 & absent contribution from C4 (C5, 6, 7, 8 & T1, 2).

▪ **Stages of the plexus & their sites:** 4 Stages

1. **1st stage** → Roots (C5, 6, 7, 8 & T1):

2. **2nd stage** → Trunks (Upper, Middle & Lower).

C5 + C6 ⇒ Upper trunk.

C7 ⇒ Middle trunk.

C8 + T1 ⇒ Lower trunk

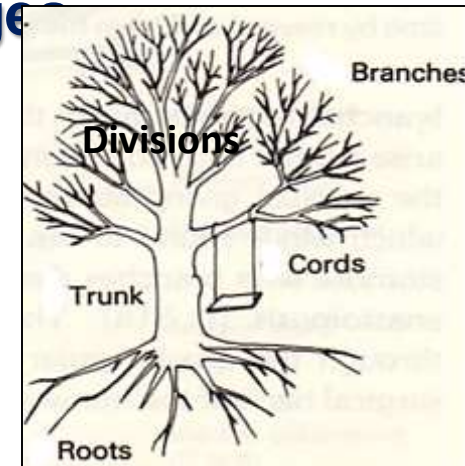
3. **3rd stage** → Divisions (3 anterior divisions & 3 posterior divisions). *Each trunk divides into an anterior division & a posterior division*

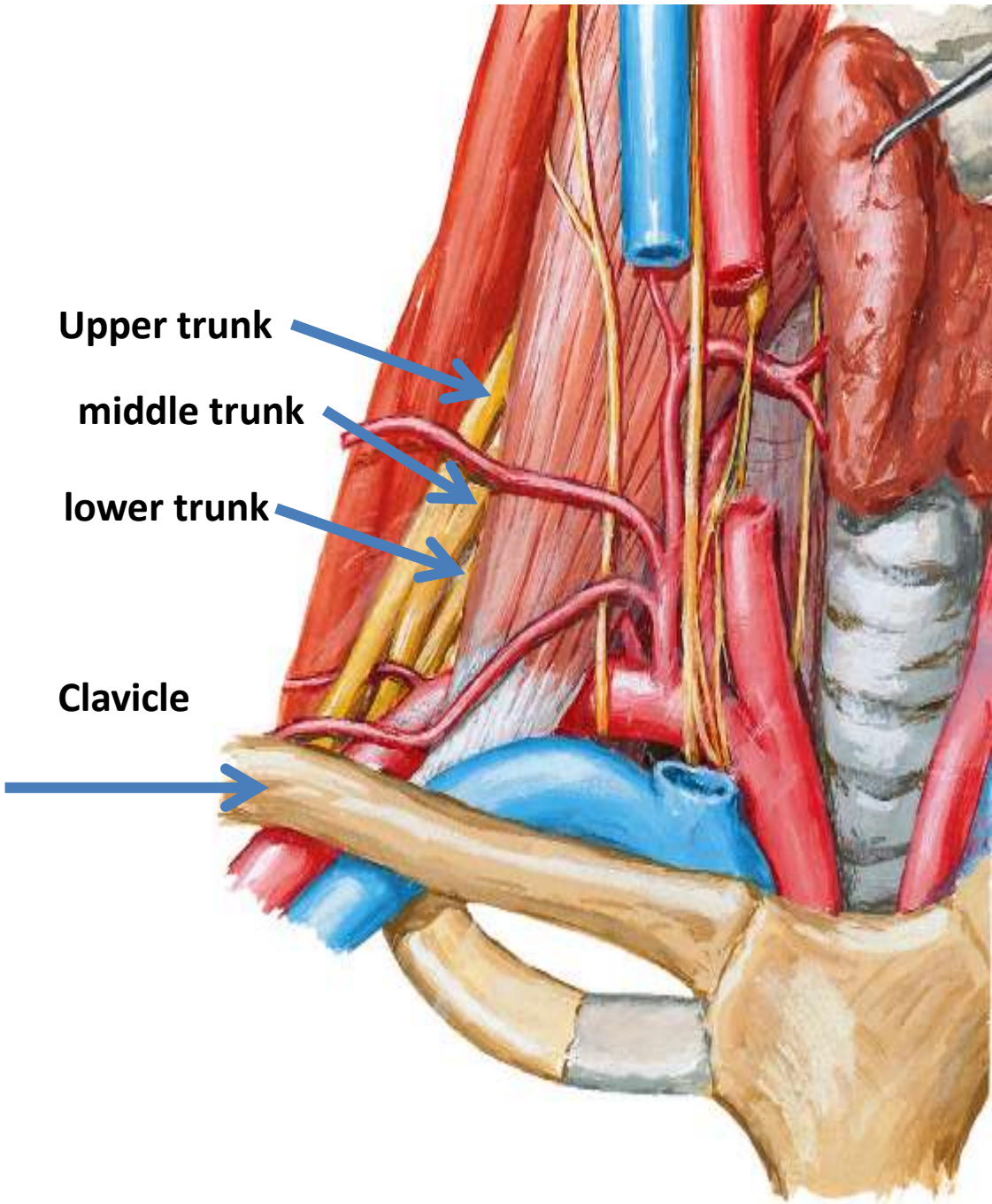
4. **4th stage** → Cords (Lateral, Medial & Posterior):

-Anterior divisions of upper & middle trunks unite ⇒ Lateral cord (C5, 6, 7).

-Anterior division of lower trunk ⇒ Medial cord (C8, T1).

-3 Posterior divisions ⇒ Posterior cord (C5, 6, 7, 8 & T1).

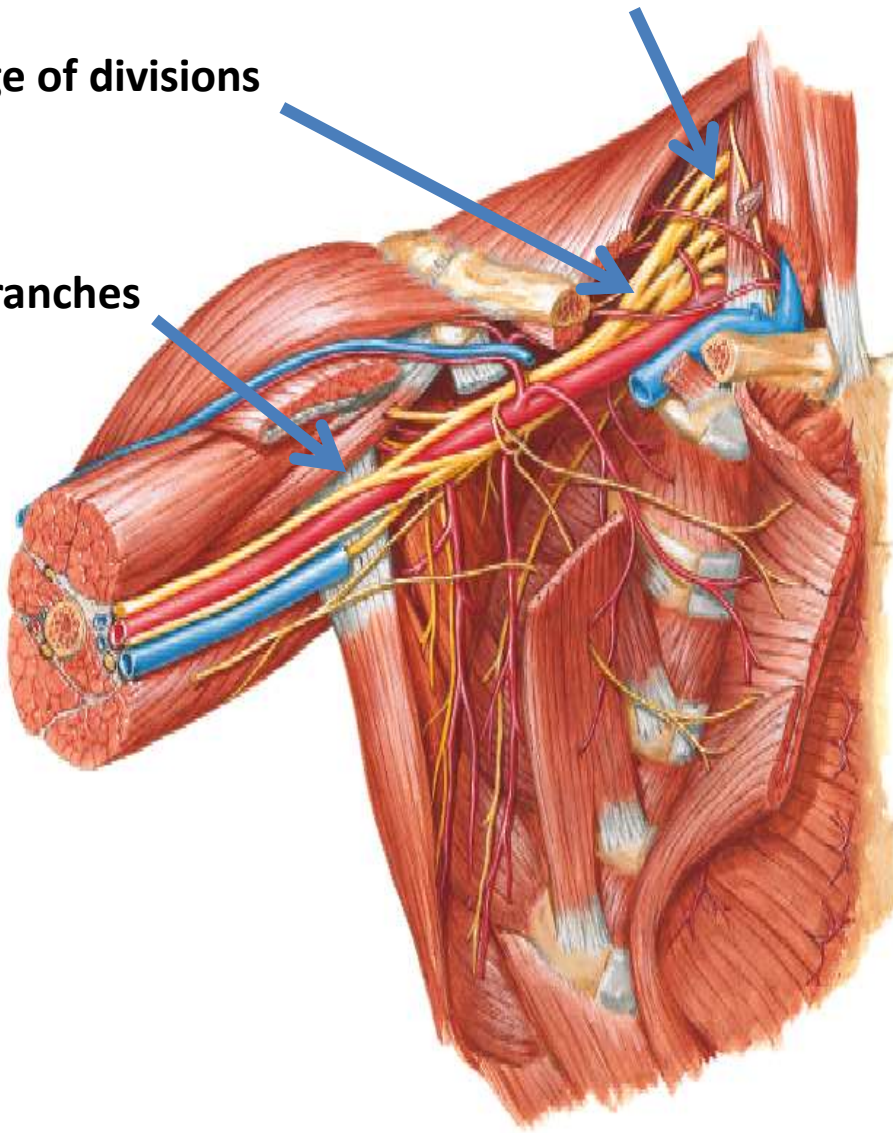




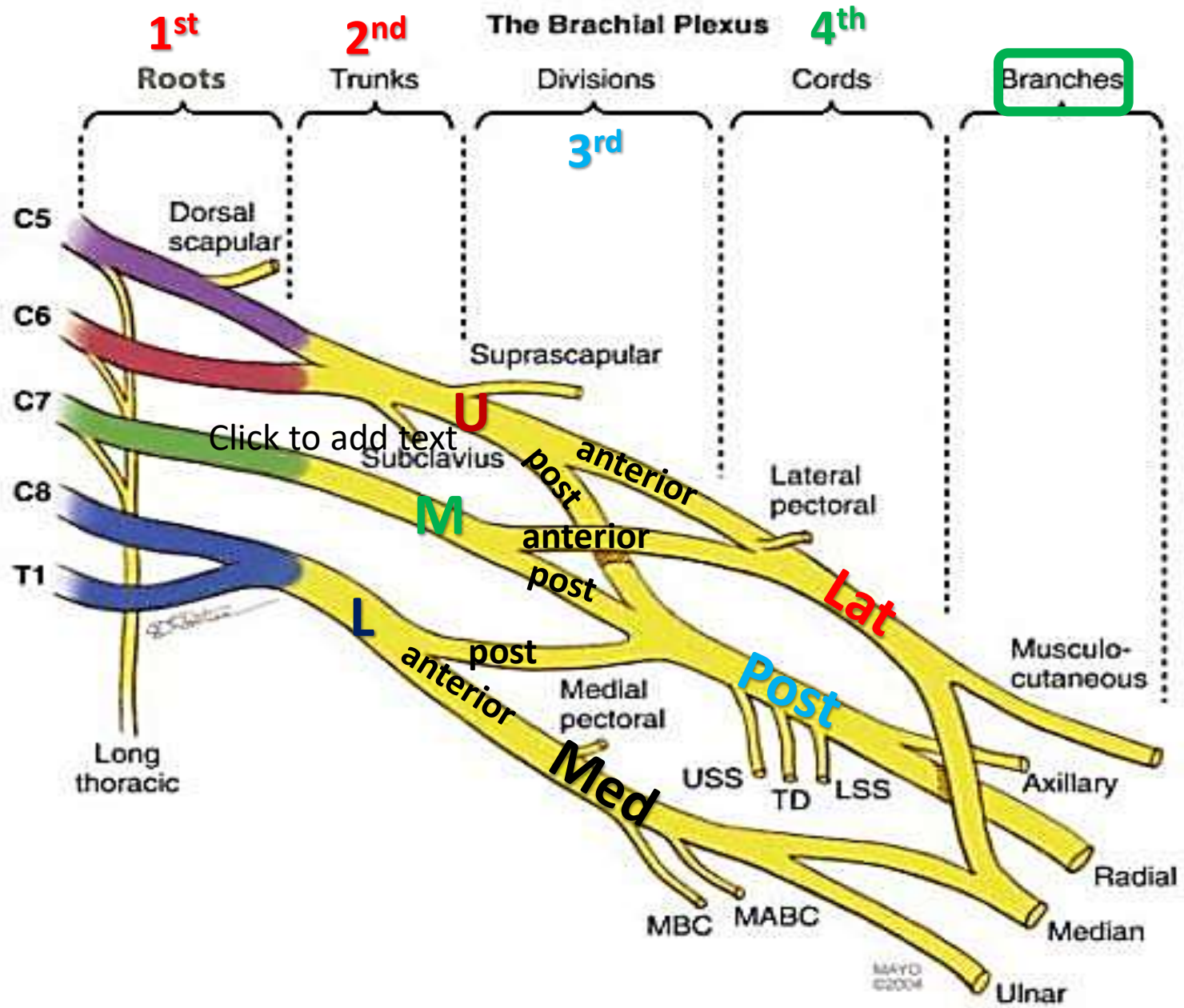
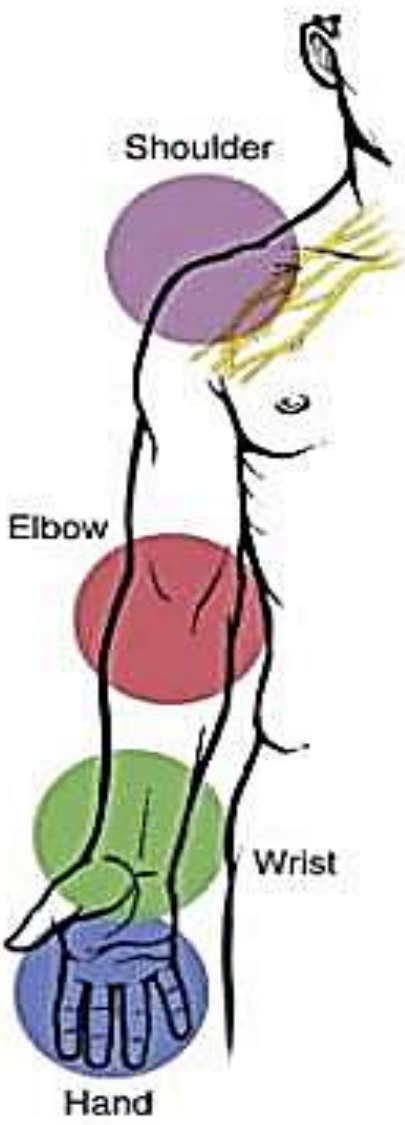
Stage of roots

Stage of divisions

Stage of branches



Stages of the brachial plexus

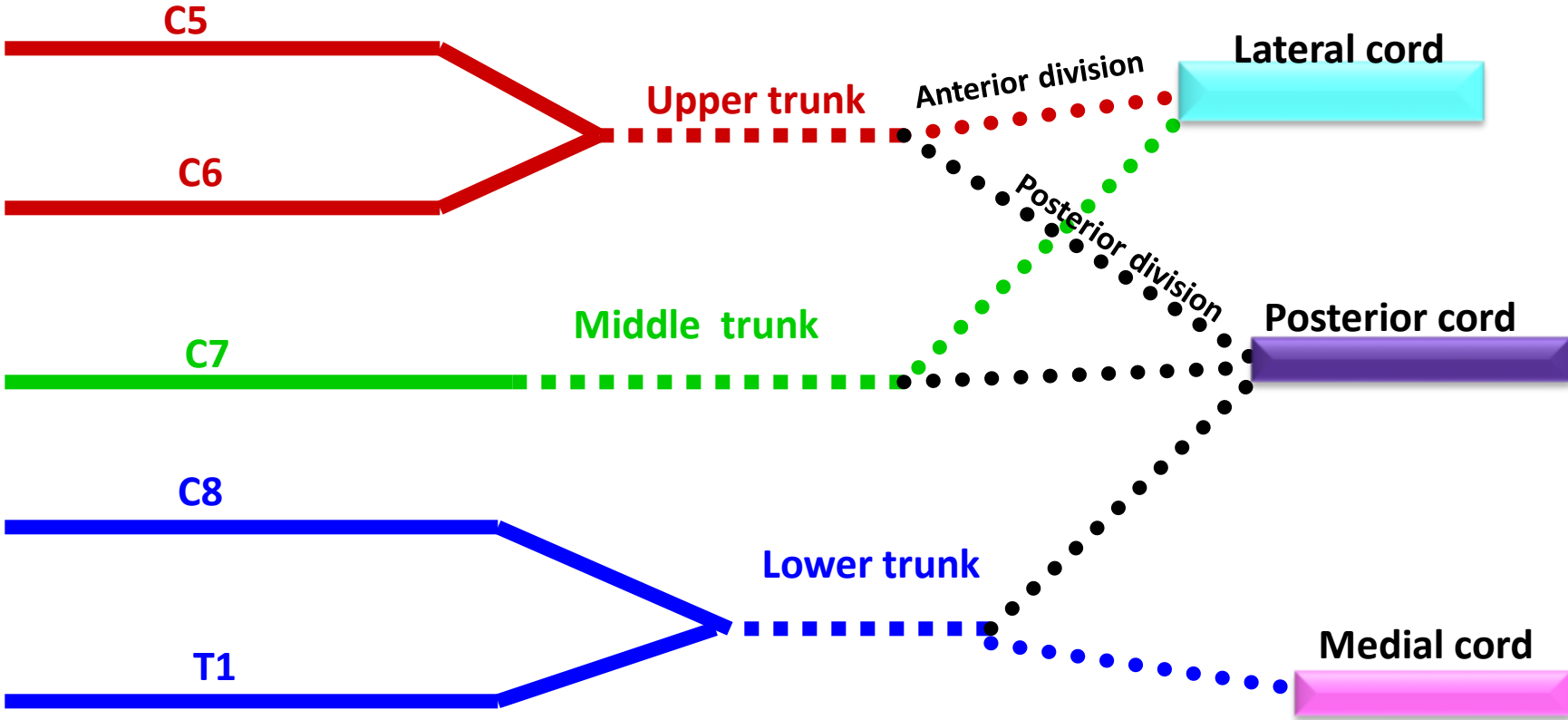


Roots

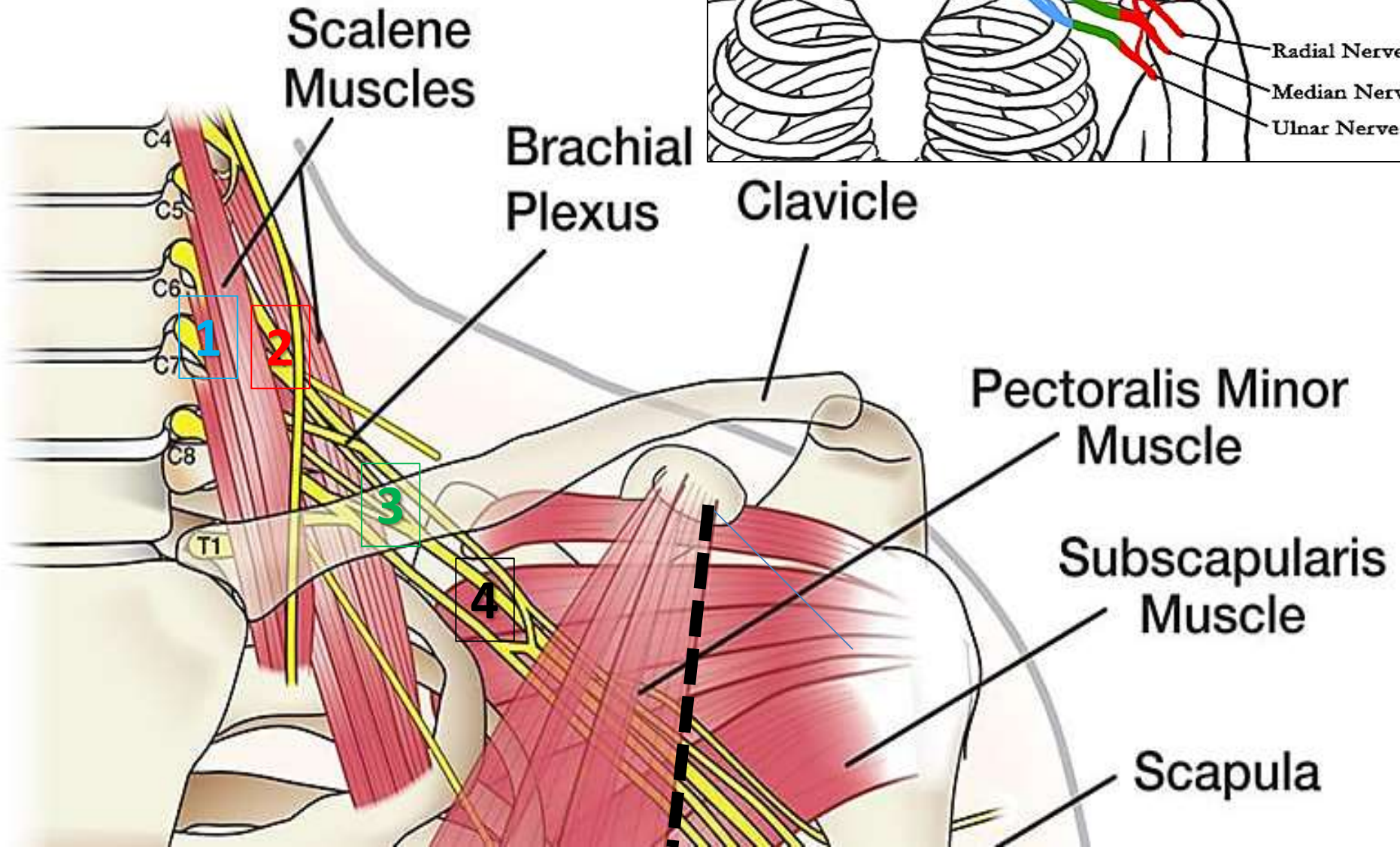
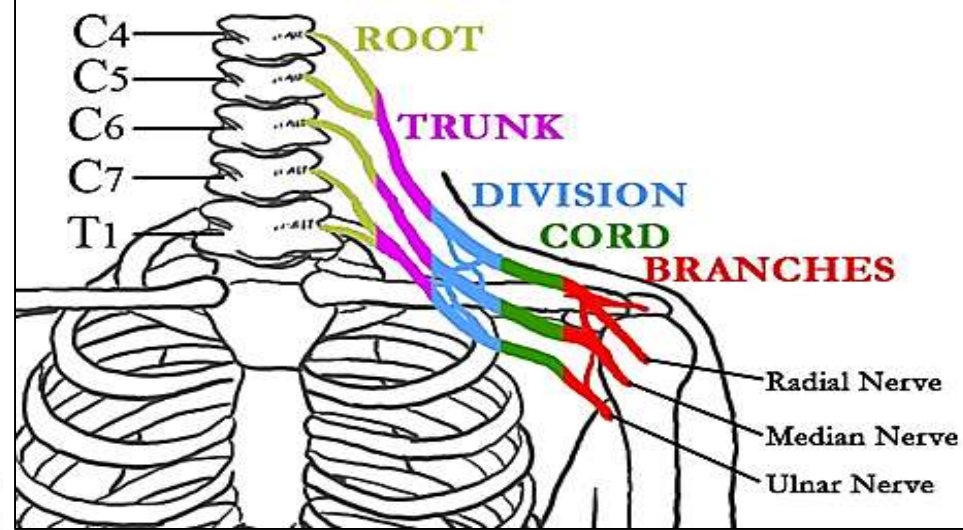
Trunks

Divisions

Cords



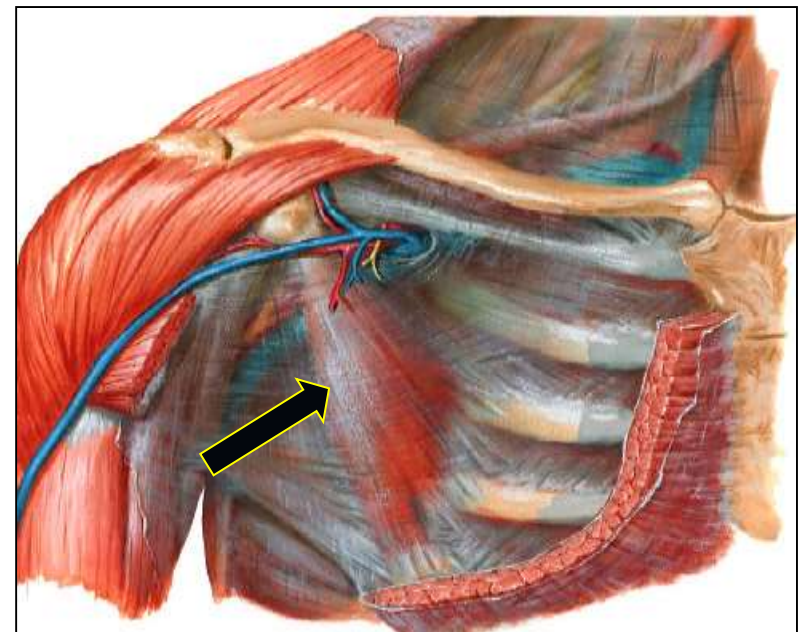
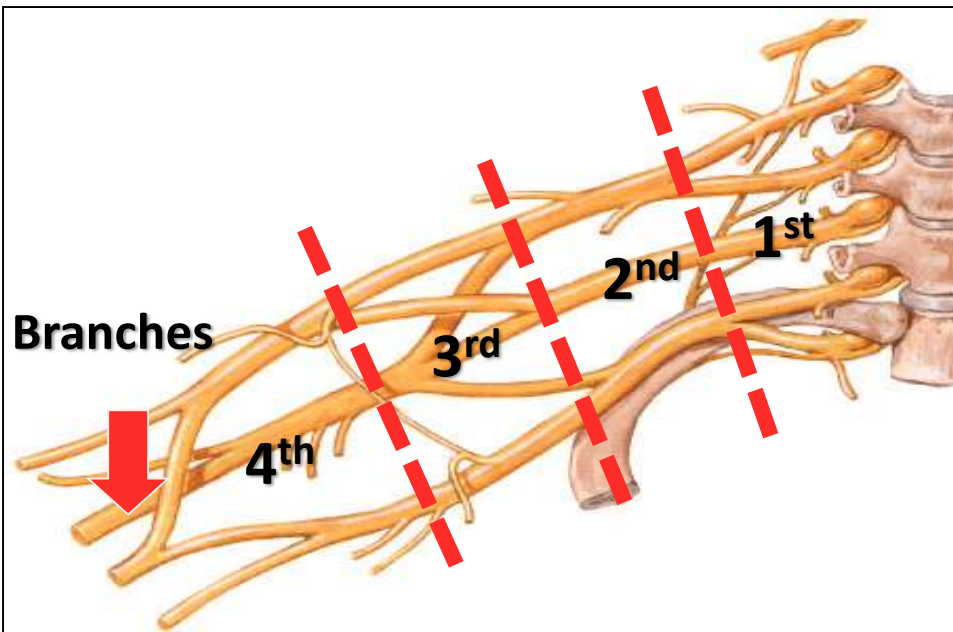
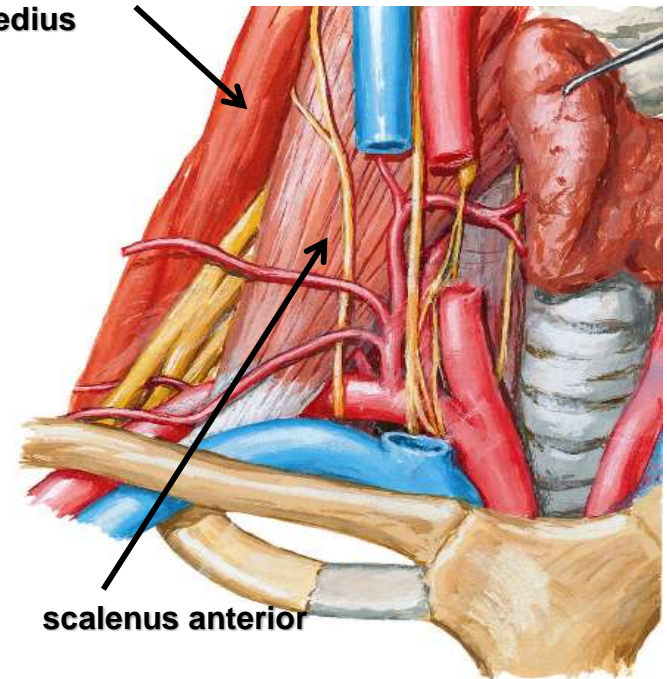
Stages of the brachial plexus

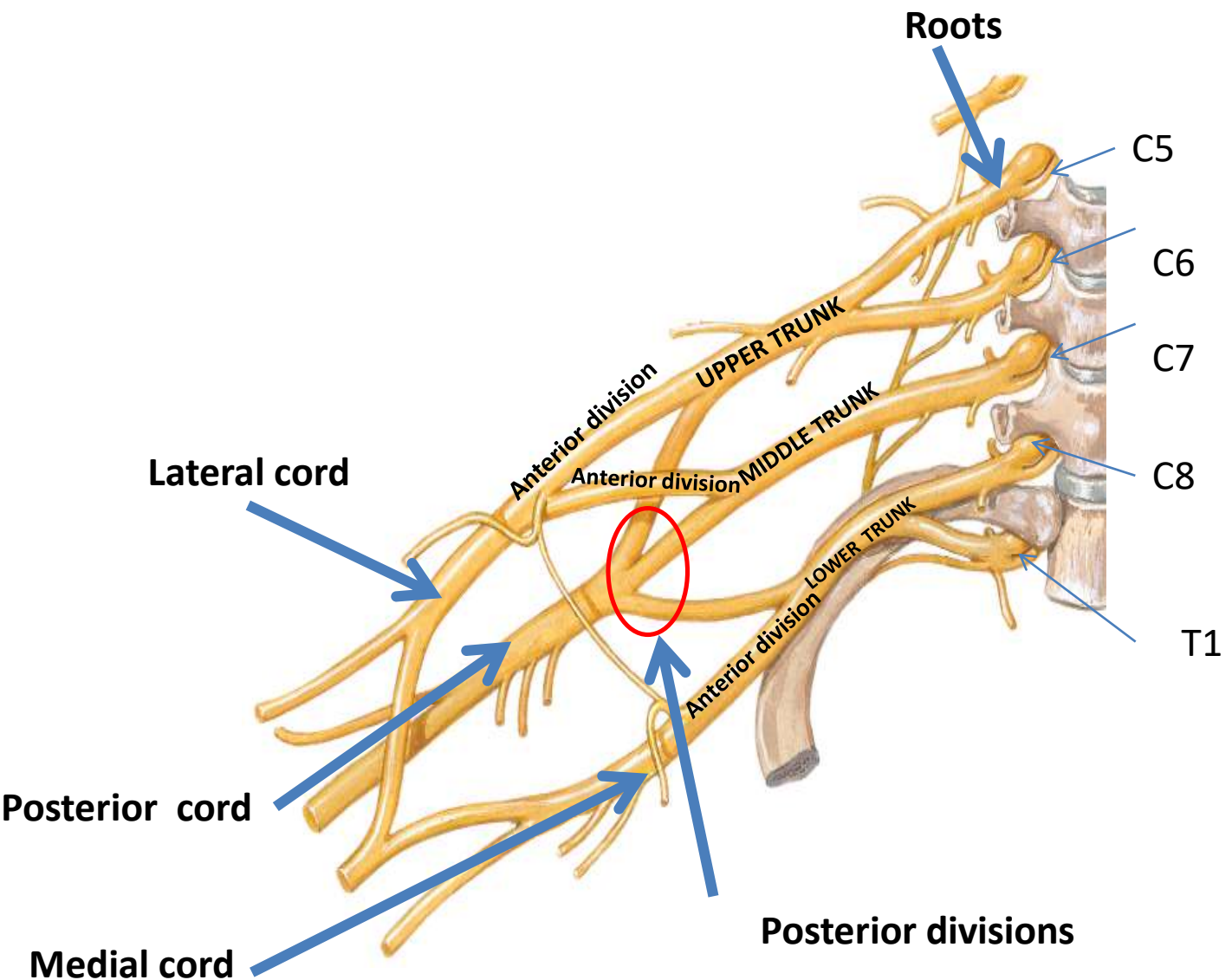


The cords terminate at the lower border of the **pectoralis minor** muscle by giving their **branches**.

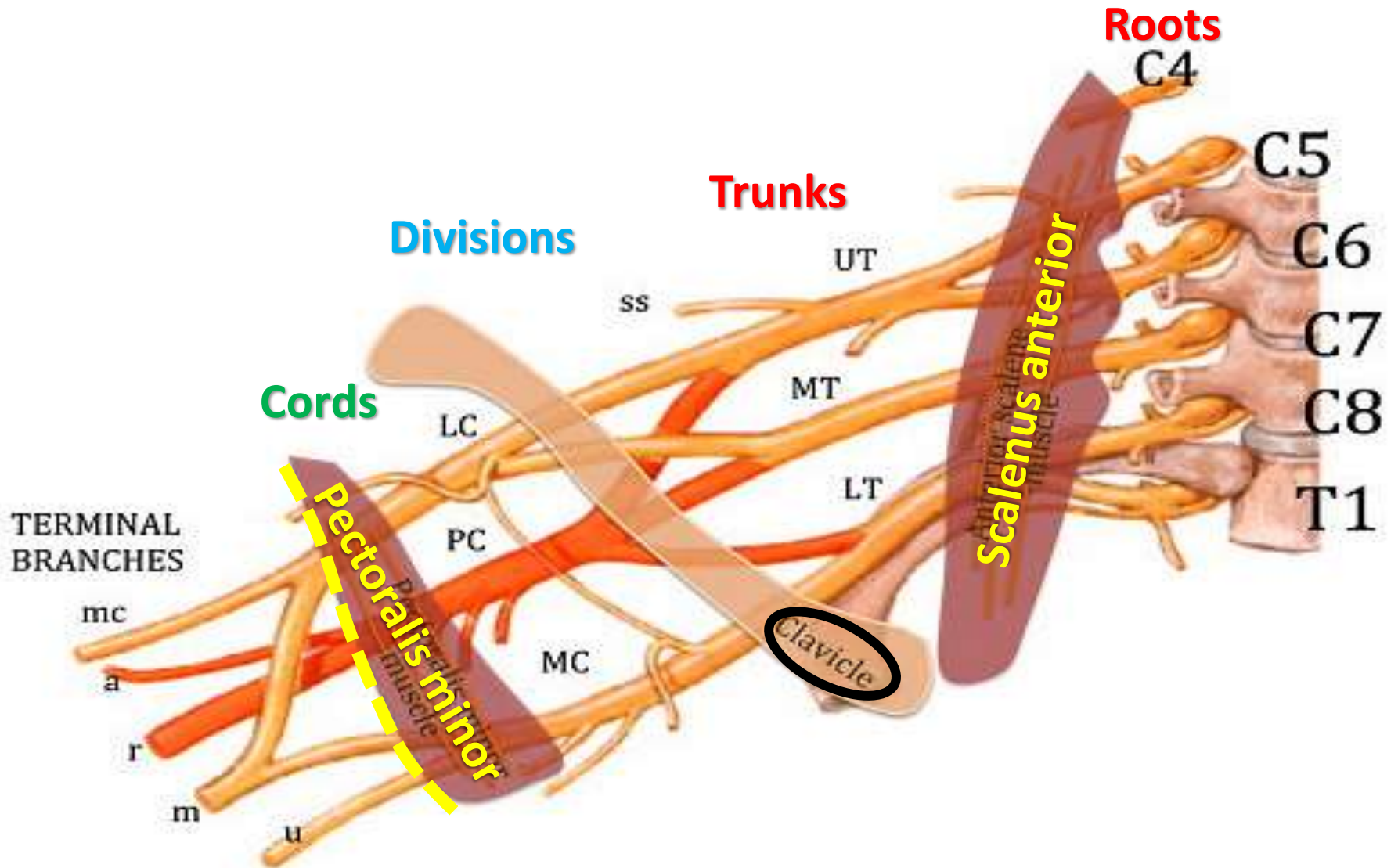
- 1st & 2nd stages lie in the posterior triangle of the neck, above the clavicle; (In **neurovascular plane** of the neck, between scalenus anterior & medius muscles).
- 3rd stage lies in the cervicoaxillary canal (apex of axilla, behind the clavicle).
- 4th stage (cords) & their branches are present in the axilla, below the clavicle ⇒ In relation to the axillary artery.

scalenus medius





Stages & relations of the brachial plexus



Branches of Brachial Plexus

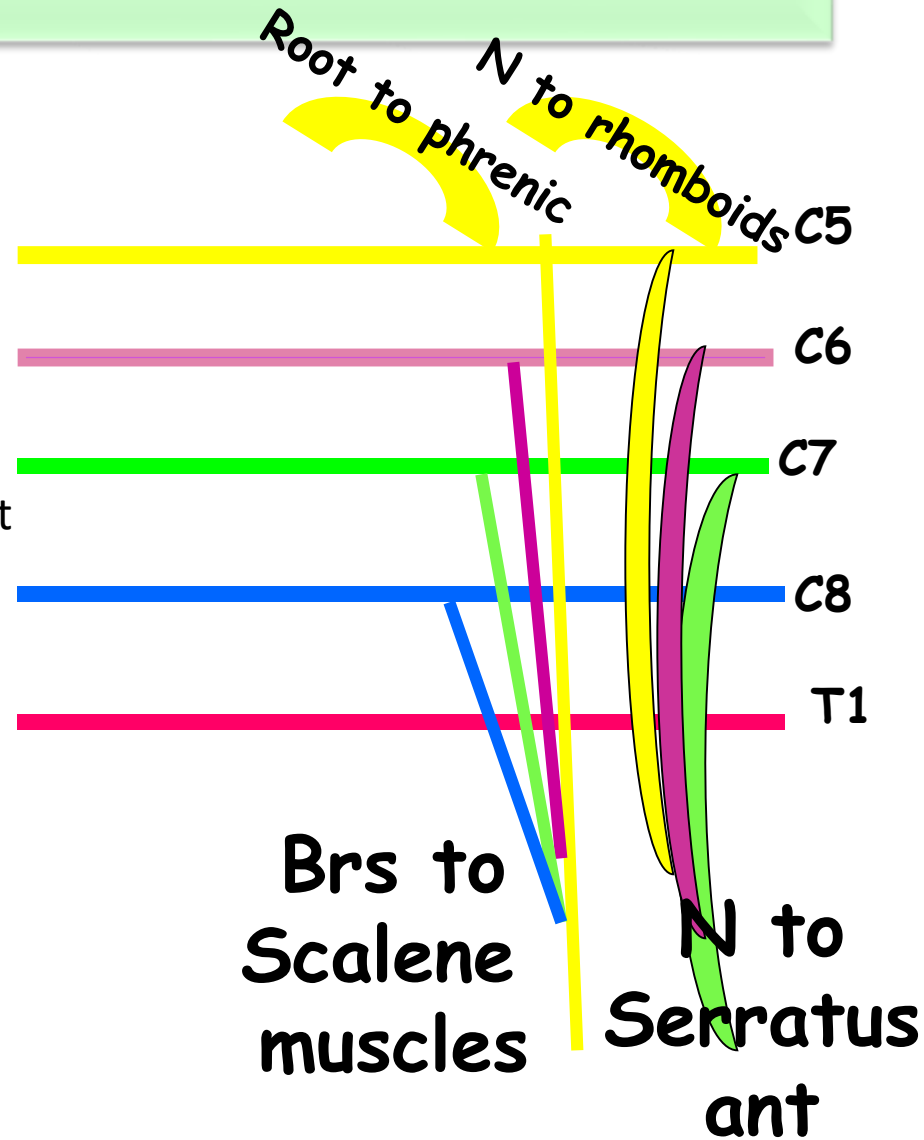
1) Branches from roots: A.

Dorsal scapular
(n. to rhomboids) C5

B. A root to phrenic nerve C5

C. **Long thoracic**
C5,6,7 (n. to serratus anterior)

D. Muscular brs to scalene muscles C5,6,7,8



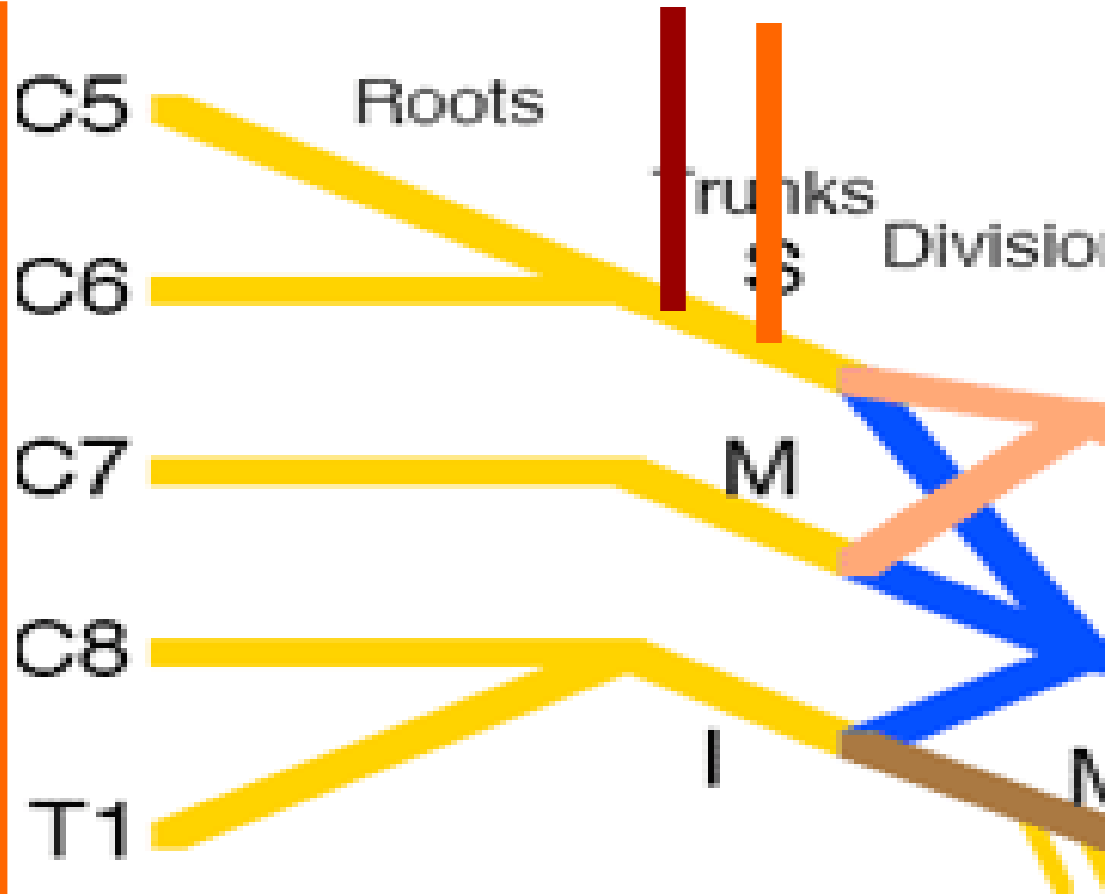
Branches of Brachial Plexus

Branches from trunks

only upper {**S**uperior}
trunk gives branches :

A. **S**uprascapular nerve
(for supraspinatus &
infraspinatus)

B. Nerve to **S**ubclavius



• Divisions give **NO**
branches



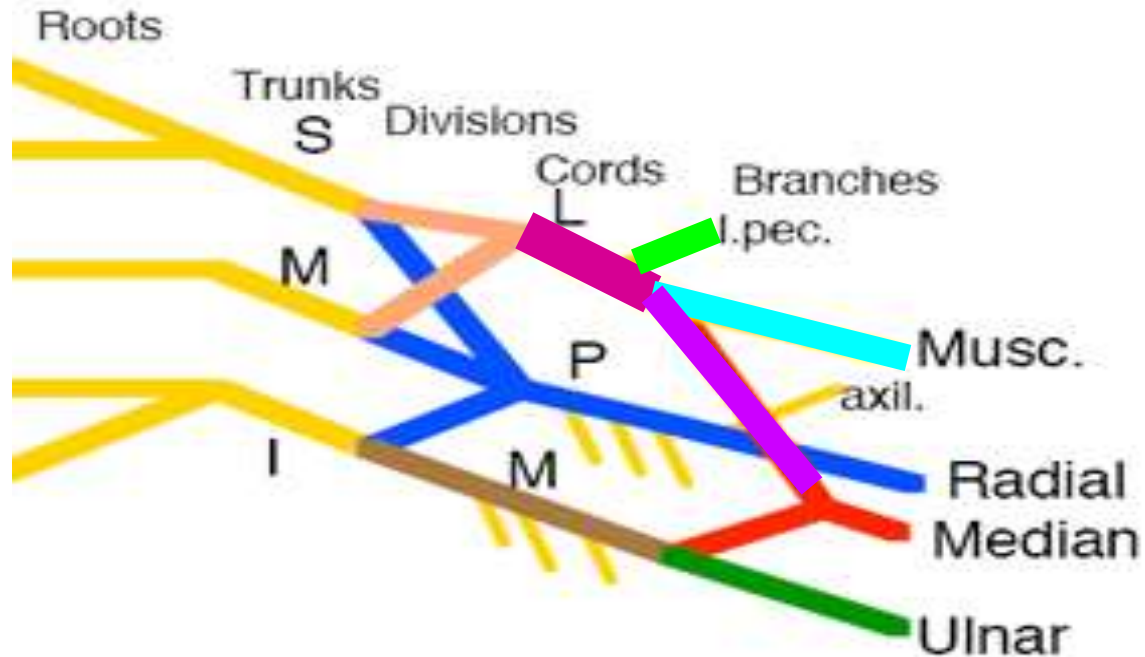
- Branches from cords :

1) Lateral cord

:

- Lateral pectoral
- Musculocutaneous
- Lateral root of median

3 branches

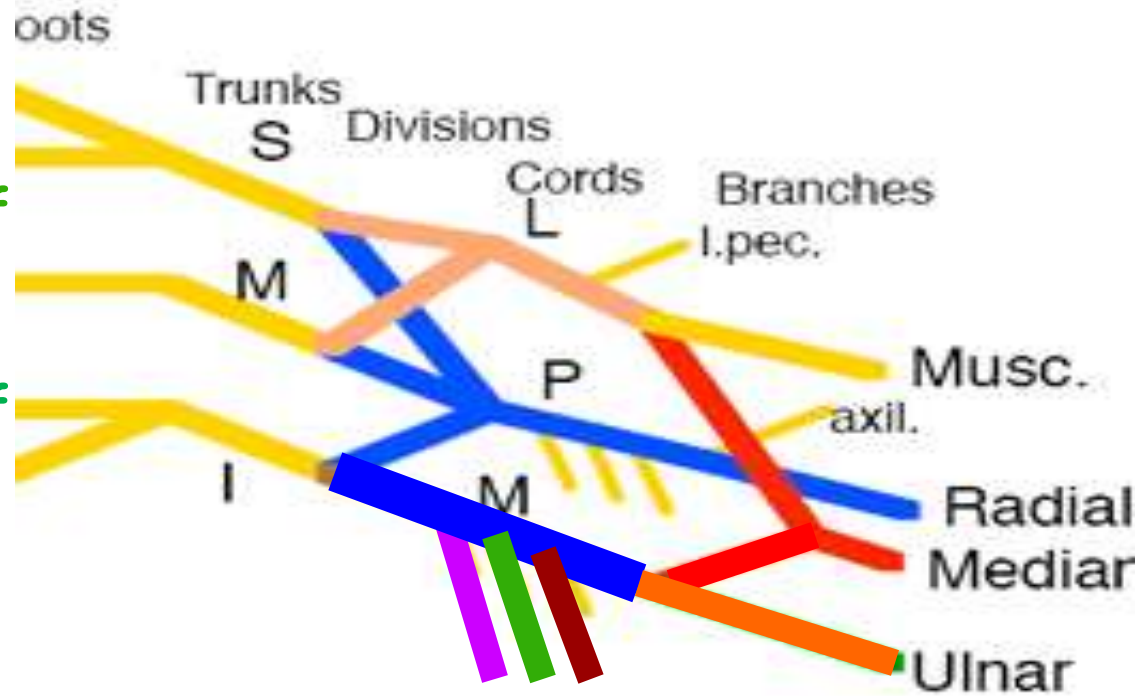


5 branches

➤ Branches from cords:

2) Medial Cord:

- Medial pectoral
- Medial cutaneous of arm
- Medial cutaneous of forearm
- Medial root of median
- Ulnar nerve

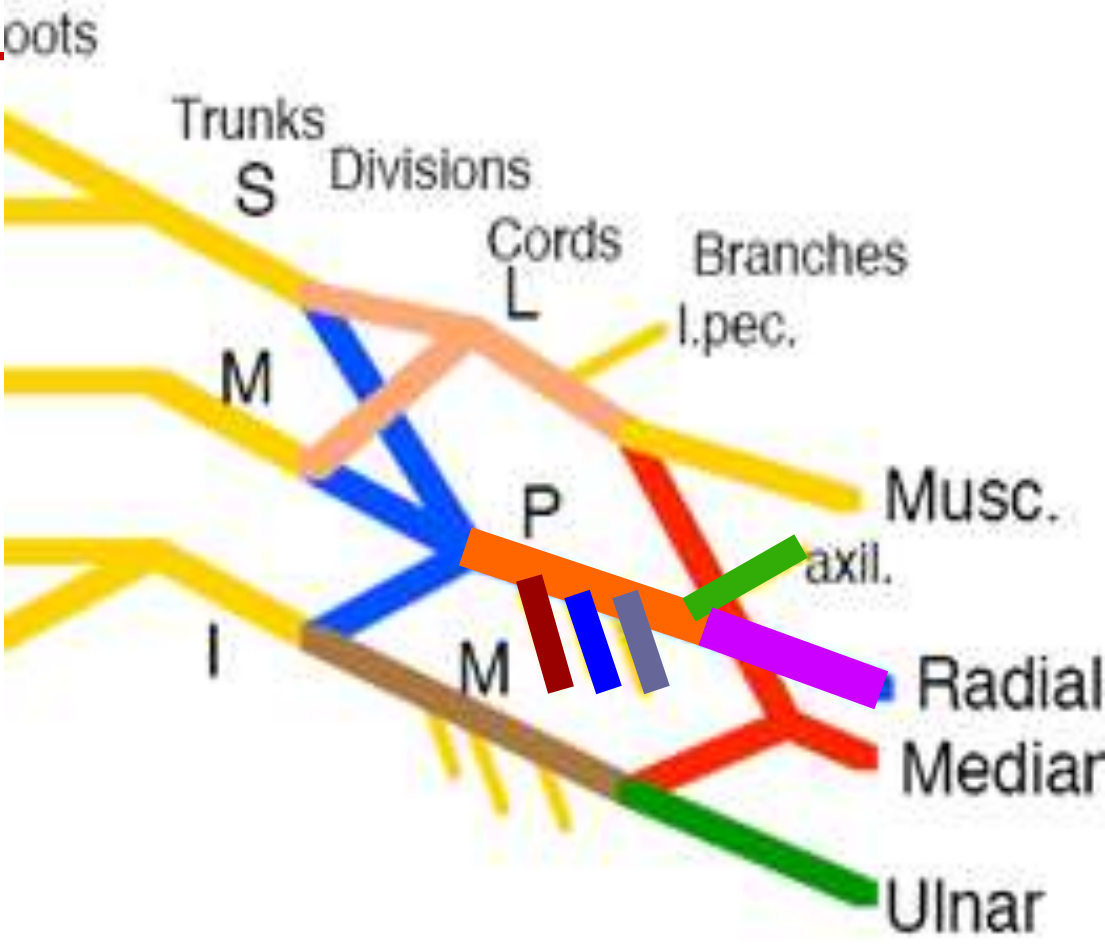


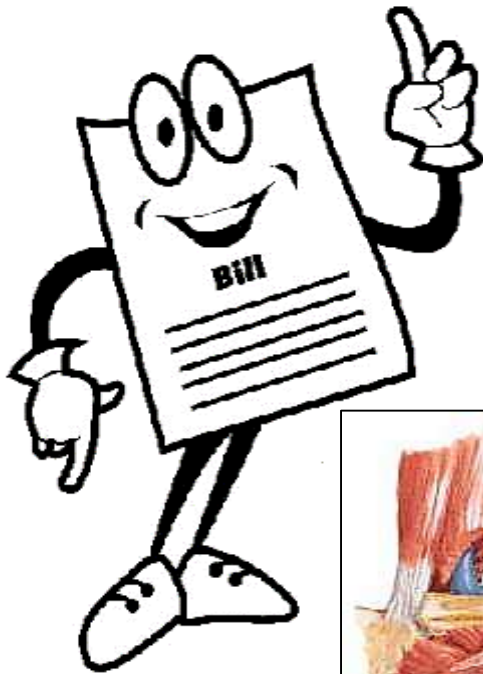
• Branches from cords :

5 branches

3) Posterior cord

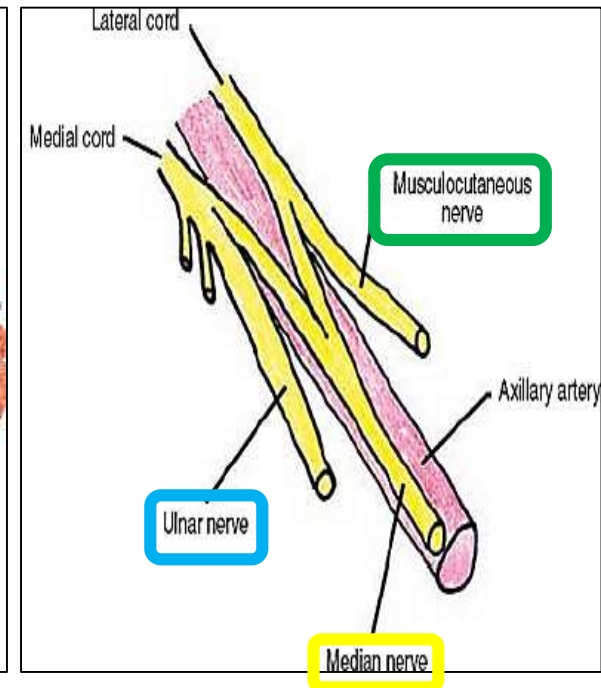
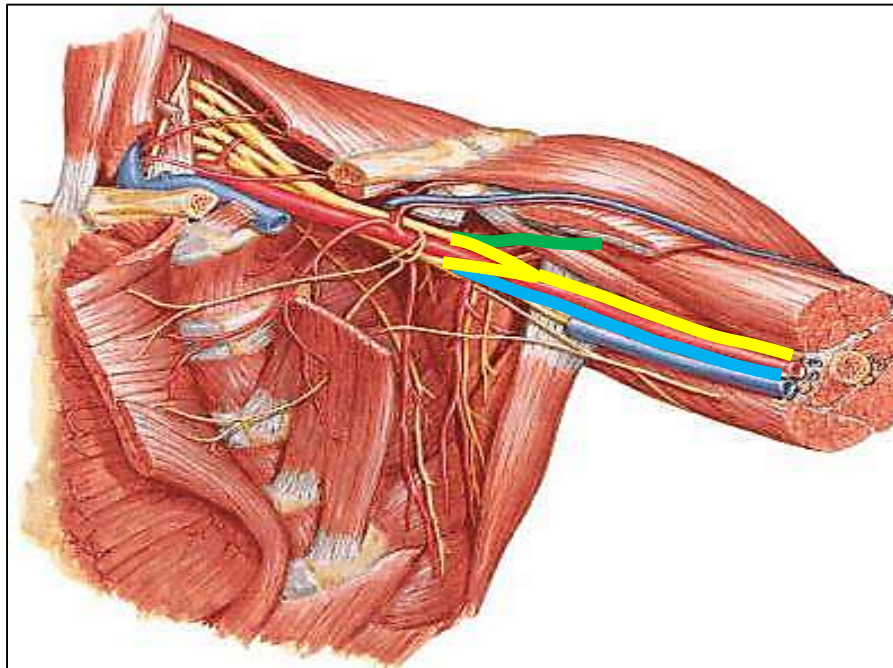
- Upper subscapular
- Lower subscapular
- Nerve to latissimus dorsi
- Axillary nerve
- Radial nerve





□ **Letter M of axilla:** 3 nerves form letter M in front of axillary artery:

1. Ulnar nerve → Medially.
2. Median nerve by its 2 roots → in the middle.
3. Musculocutaneous nerve → Laterally.



Thank you