

وسهلا

أهلا

Welcome

الأستاذ الدكتور يوسف حسين

يُمنع أخذ السلايدات بدون
إذن المحرر واي اجراء
يخالف ذلك يقع تحت
طائلة المسؤولية القانونية

أستاذ التشريح وعلم الأجنة - كلية الطب - جامعة الزقازيق - مصر

رئيس قسم التشريح و الأنسجة و الأجنة - كلية الطب - جامعة مؤتة - الأردن

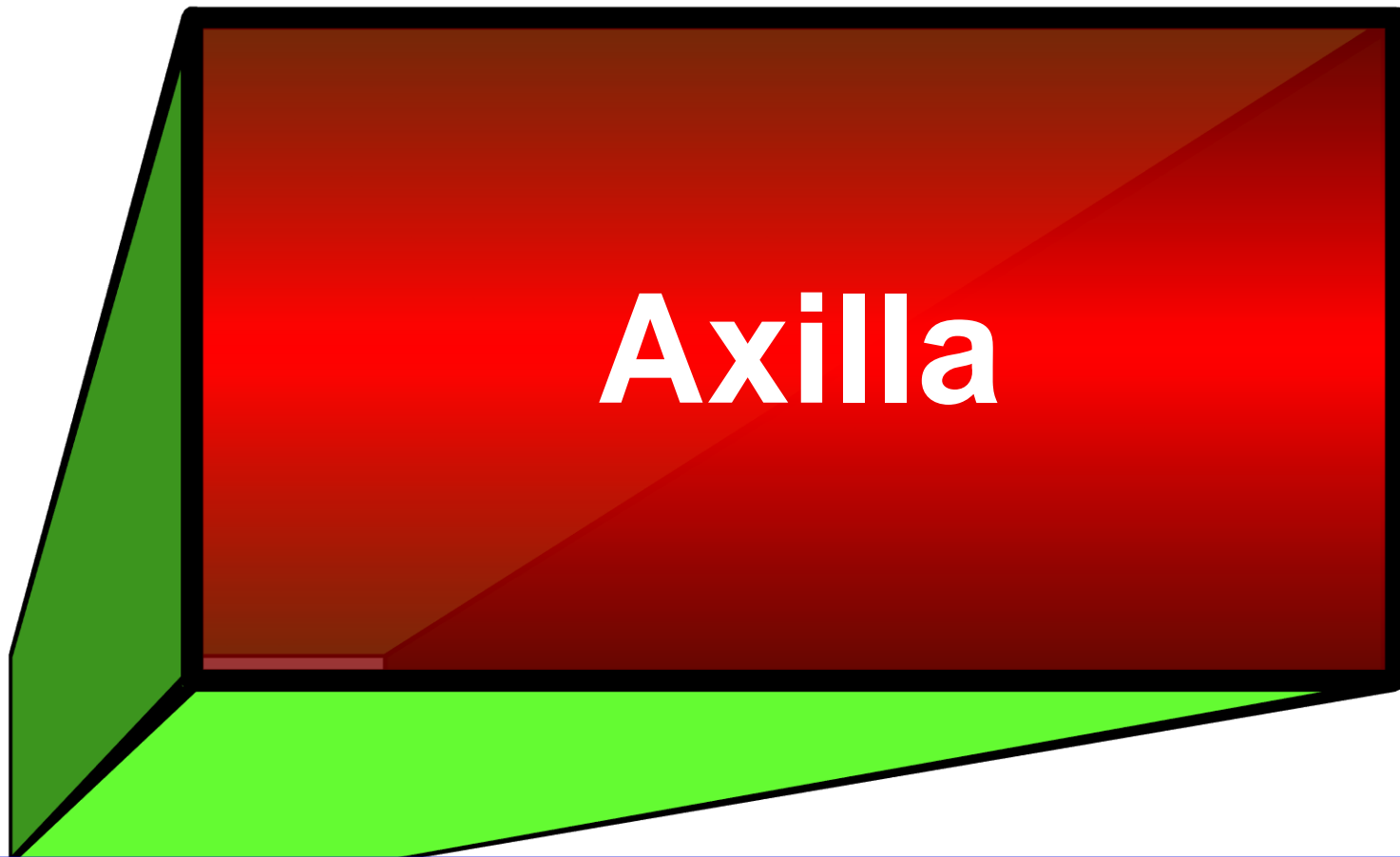
مساعد العميد لشؤون الطلاب والامتحانات - كلية الطب - جامعة مؤتة - الأردن

دكتورة من جامعة كولونيا المانيا

جروب الفيس د. يوسف حسين (استاذ التشريح)

[Prof. Dr. Youssef Hussein Anatomy - YouTube](https://www.youtube.com/channel/UCVSNqbibj9UWYajdd_cn0PQ)

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The **axilla** is the pyramidal space between the upper part of the arm and the thoracic wall.

❖ **Apex of the axilla**

❖ **(Cervico-axillary canal)**

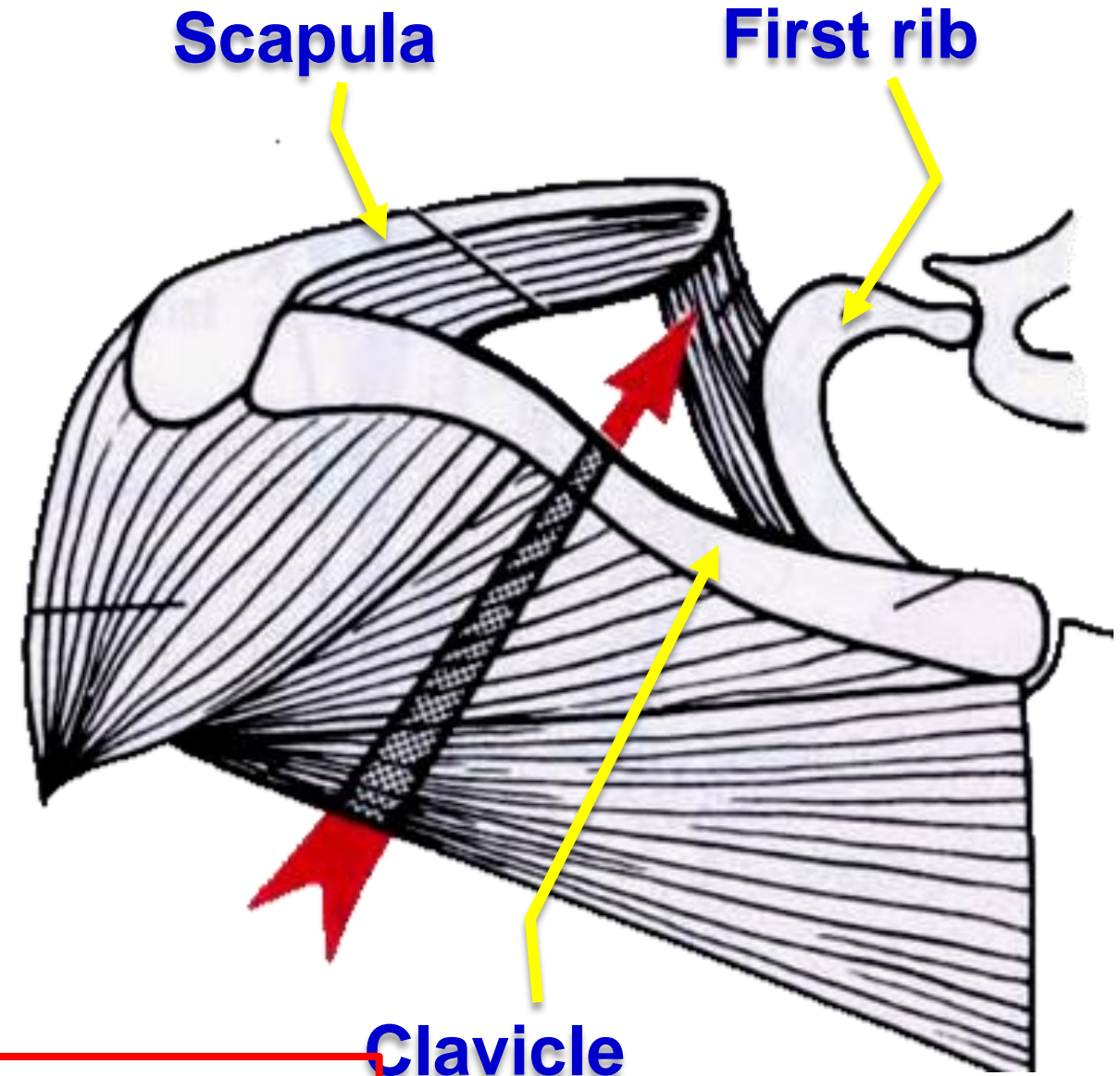
- It allows the passage of nerves and blood vessels to the upper limb
- This canal is a triangular interval which is bounded by:

1) AnteriorlyMiddle 1/3 of the clavicle.

2) PosteriorlyUpper border of the scapula.

3) MediallyOuter border of the first rib.

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**** Base of the axilla:** is formed by the skin containing hairs and fascia.

Posterior wall

Anterior wall

Subscapularis

Subclavius

**Clavipectoral
fascia**

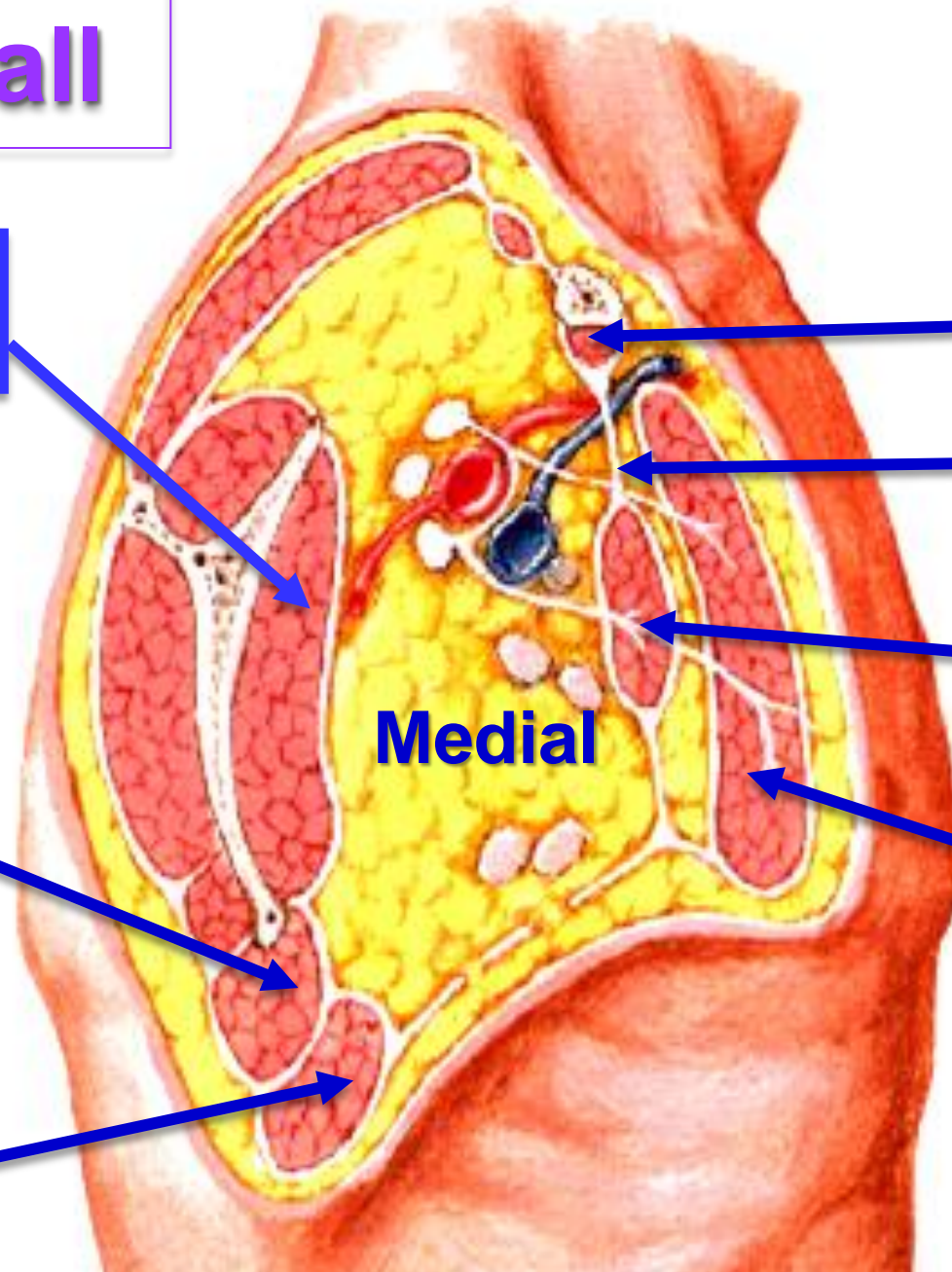
**Pectoralis
minor**

Teres major

**Pectoralis
major**

**Latissimus
dorsi**

Medial



The anterior fold of the axilla is higher than the posterior fold

**** Anterior wall of the axilla: is formed of 2 layers:**

1- Superficial layer: pectoralis major (anterior axillary fold). .

2- Deep layer:

a- Pectoralis minor muscle.

b- Clavipectoral fascia.

c- Subclavius muscle.

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**** Posterior wall of the axilla: (SLT) is formed by**

a- Subscapularis muscle.

b- Teres major muscle.

c- Latissimus dorsi muscle (posterior axillary fold).

**** Medial wall of the axilla: is formed by:**

a- Upper 4 ribs and intercostal spaces containing intercostal muscles, nerves & vessels.

b- Upper part of the serratus anterior.

**** Lateral wall of the axilla: is formed by**

a- Surgical neck of the humerus.

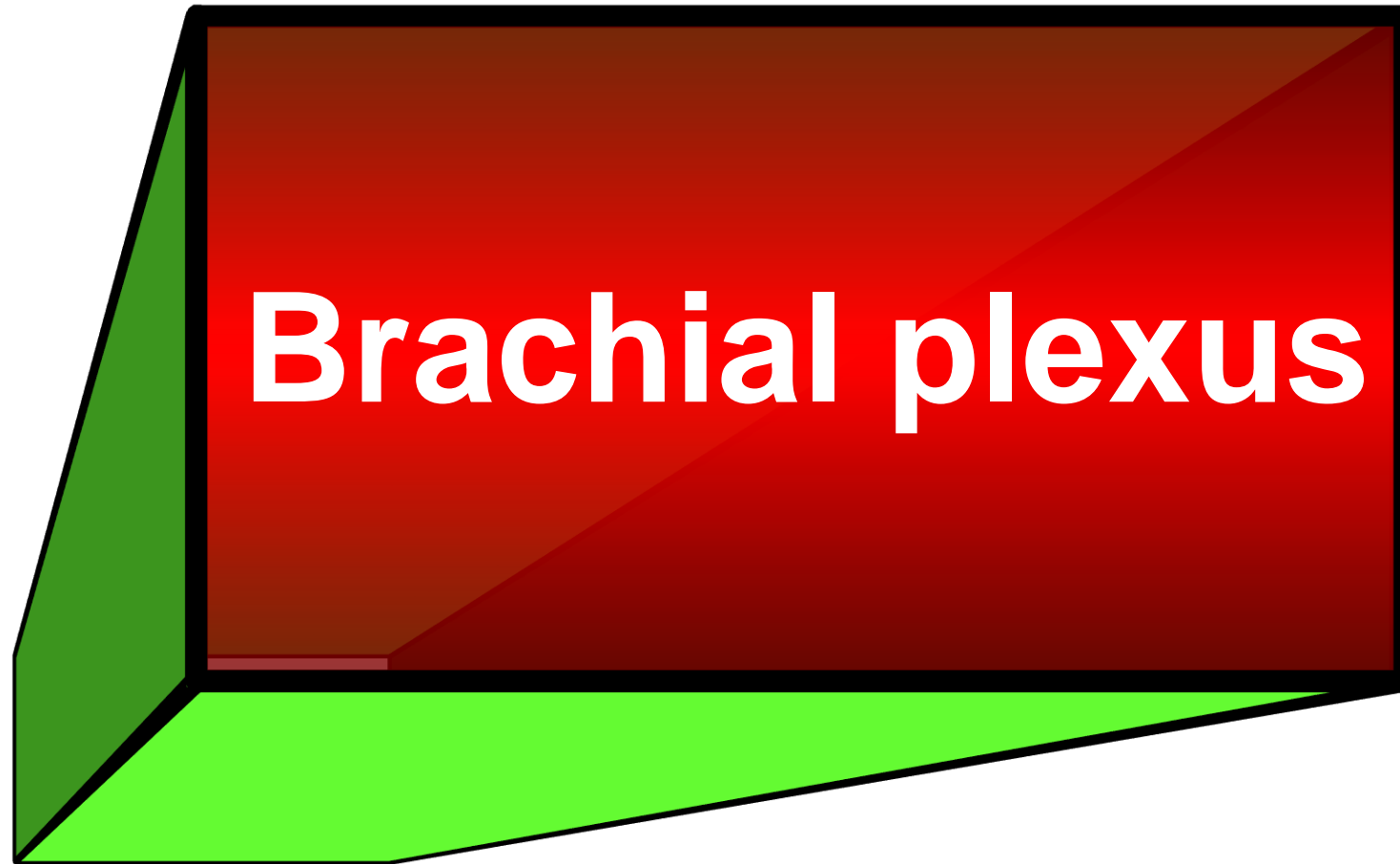
b- Coracobrachialis and short head of biceps muscle.

**** Contents of the axilla:**

- 1. Axillary artery** and its branches.
- 2. Axillary vein** and its tributaries.
- 3. Axillary nerve.**
- 4. Axillary lymph nodes.**
- 5. Axillary fat.**
- 6. Axillary tail of the breast.**
- 7. Cords of the brachial plexus** and their branches.
- 8. Intercostobrachial nerve** (lateral cutaneous branch of the 2nd intercostal nerve).

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- **The axillary vessels and cords of the brachial plexus** pass from the apex to the base close to the lateral wall. Accordingly, **incisions in the axilla** are done **longitudinally through the base nearer to the medial wall to** avoid injury of the big vessels and nerves.
- **The skin has abundant hair**, so infection of this hair is common forming a boils.



**Ventral root of spinal nerve
(pure motor)**

❖ Spinal nerve

**Trunk of spinal nerve
(mixed)**

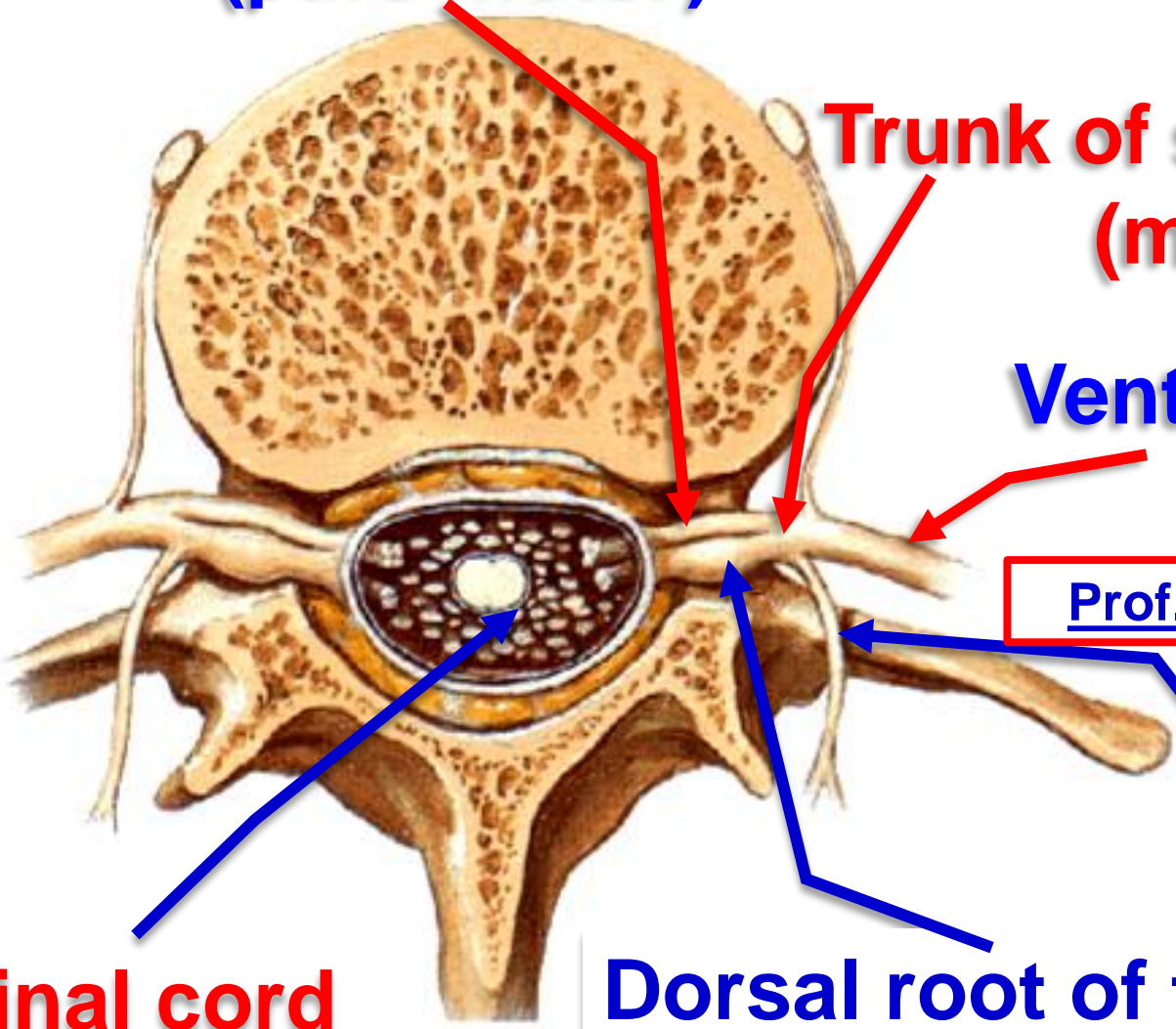
**Ventral ramus of spinal nerve
(mixed)**

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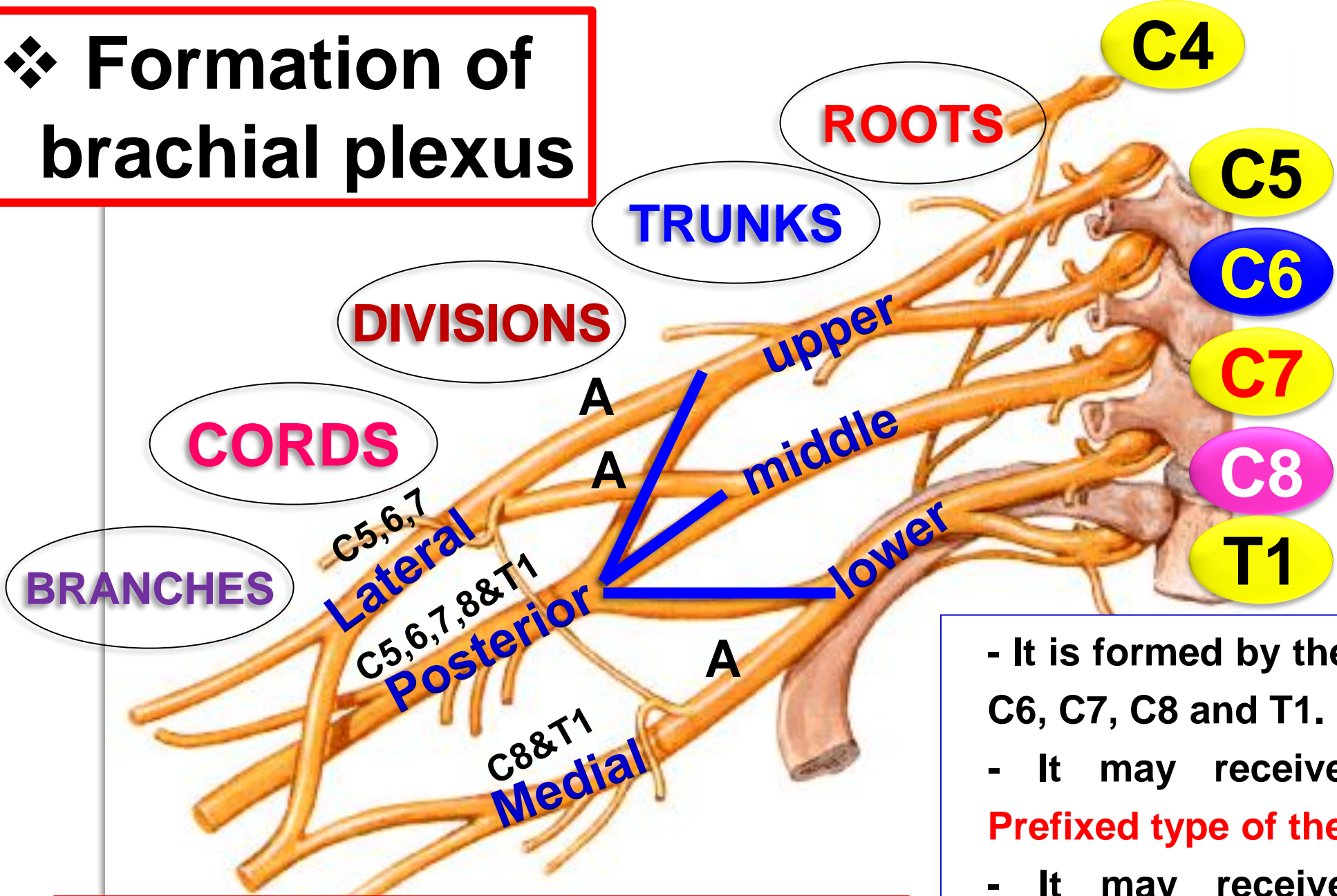
**Dorsal ramus of spinal
nerve (mixed)**

Spinal cord

**Dorsal root of the spinal
nerve (pure sensory)**



❖ Formation of brachial plexus



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- It is formed by the ventral rami of C5, C6, C7, C8 and T1.
- It may receive from C4 called **Prefixed type of the plexus**
- It may receive from T2 called **postfixed type of the plexus.**

**** Stages**

- It is formed of **four stages**: roots, trunks, divisions and cords.

1- First stage (Roots) ventral rami of C5, C6, C7, C8 and T1.

2- Second stage (Trunks) upper, middle and lower

a) **The upper trunk** is formed by the union of C5 and C6.

b) **The middle trunk** is a continuation of C7.

c) **The lower trunk** is formed by the union of C8 and T1.

3- Third stage (Divisions) Each trunk divides into anterior and posterior divisions.

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4- Fourth stage (Cords)

a) **Lateral cord**: union of anterior divisions of the upper and middle trunks.

b) **Medial cord**: anterior division of the lower trunk.

c) **Posterior cord**: union of the three posterior divisions of the plexus.

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❖ **Branches of upper trunk**

Suprascapular nerve
C5&6

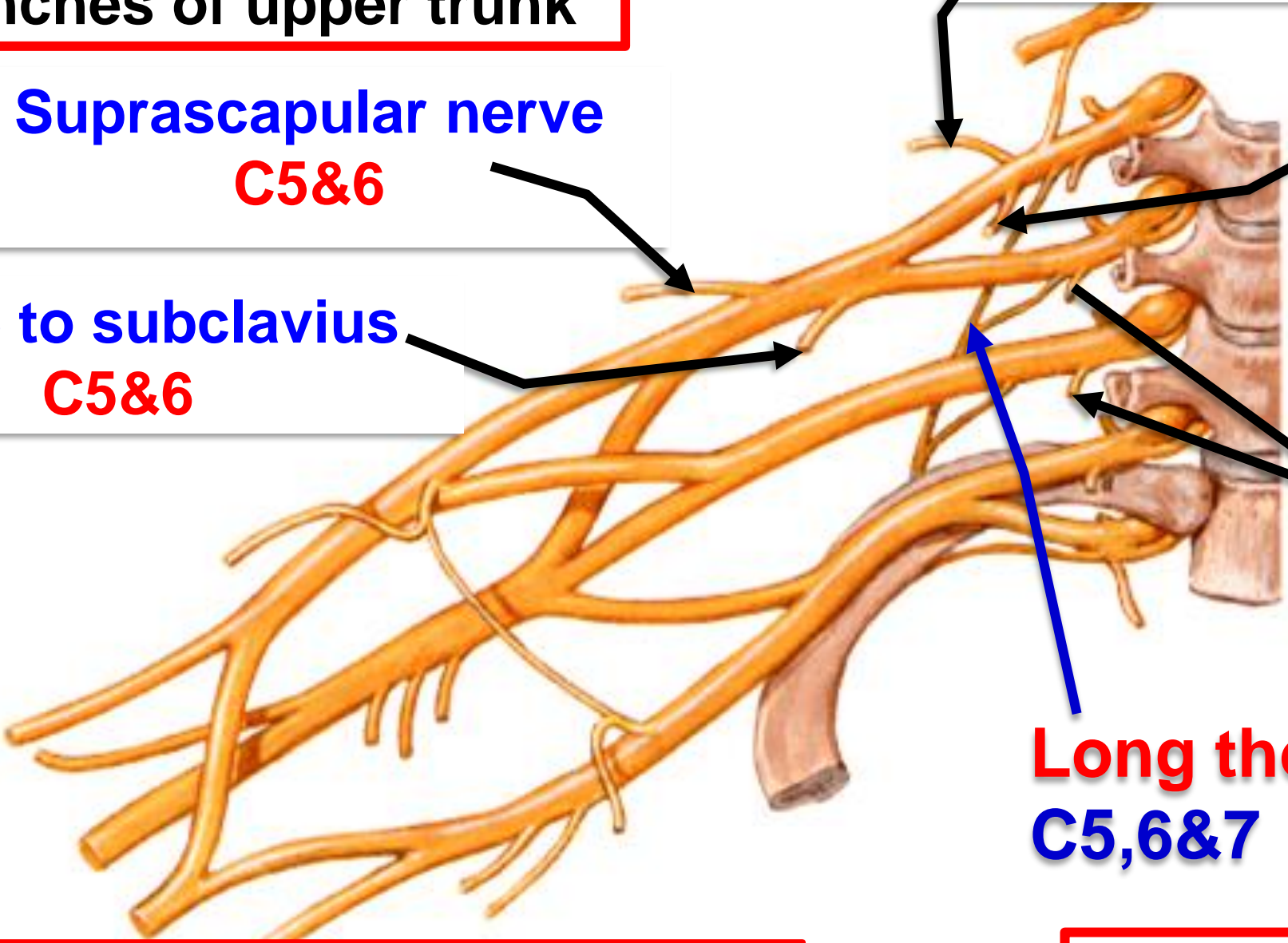
Nerve to subclavius
C5&6

Dorsal scapular nerve C5

Root to phrenic nerve
C5

Muscular to longus colli and scaleni
C5,6,7&8

Long thoracic nerve
C5,6&7



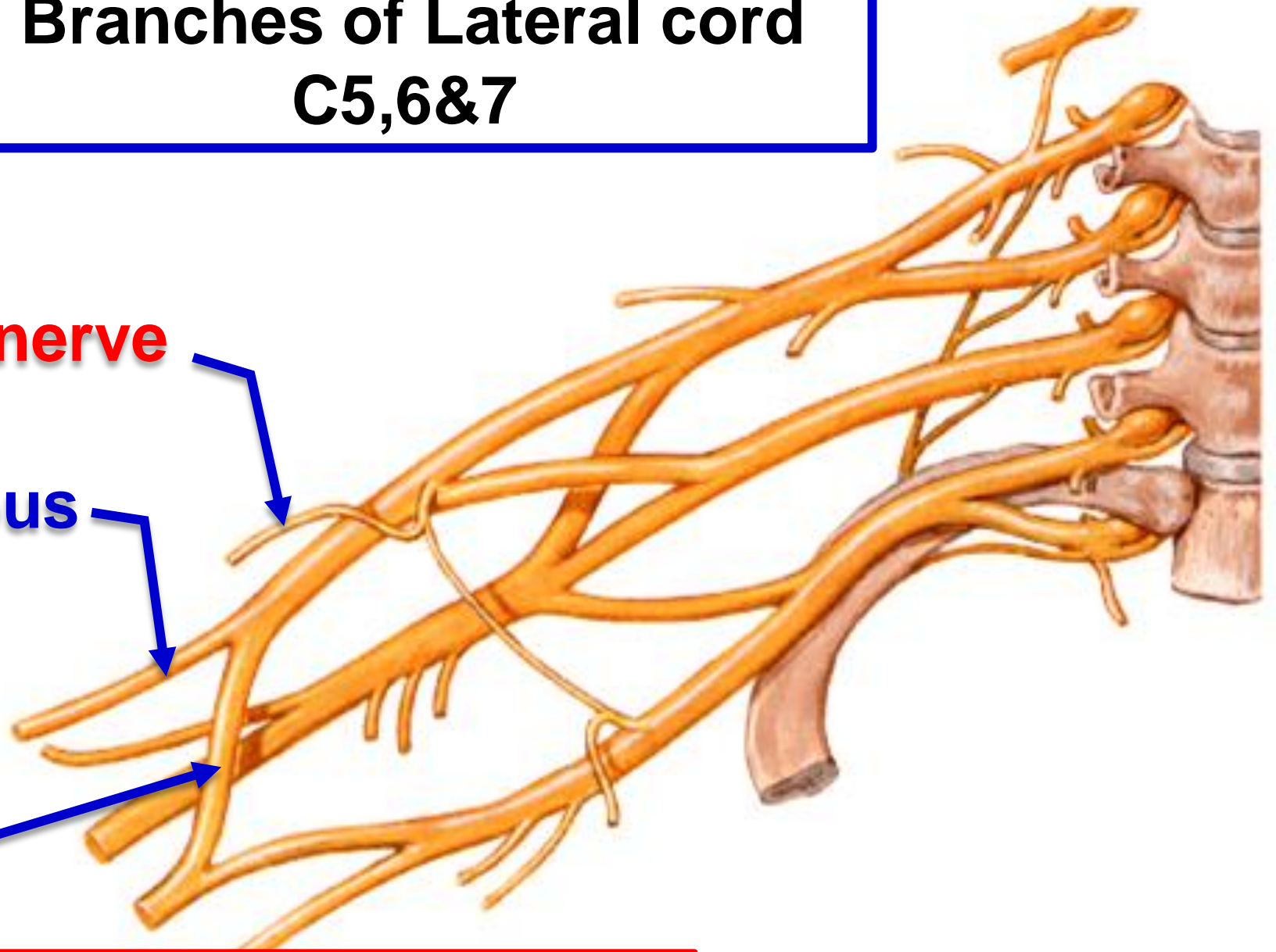
❖ **Branches of roots**

❖ **Branches of Lateral cord
C5,6&7**

Lateral pectoral nerve

**Musculocutaneous
nerve**

**Lateral root of
median nerve**



❖ **Branches of medial cord
C8&T1**

**Medial root of
median nerve**

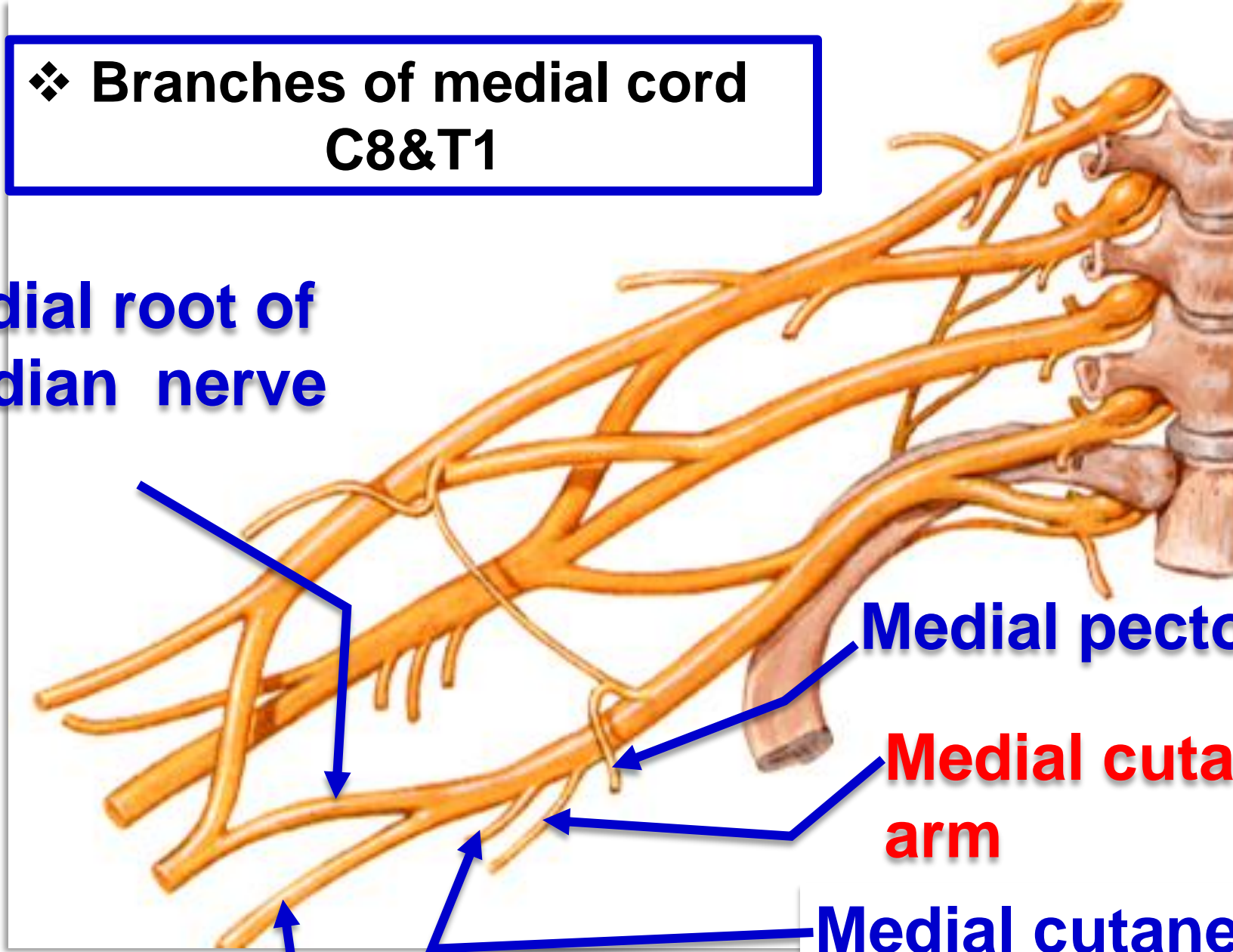
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Medial pectoral nerve

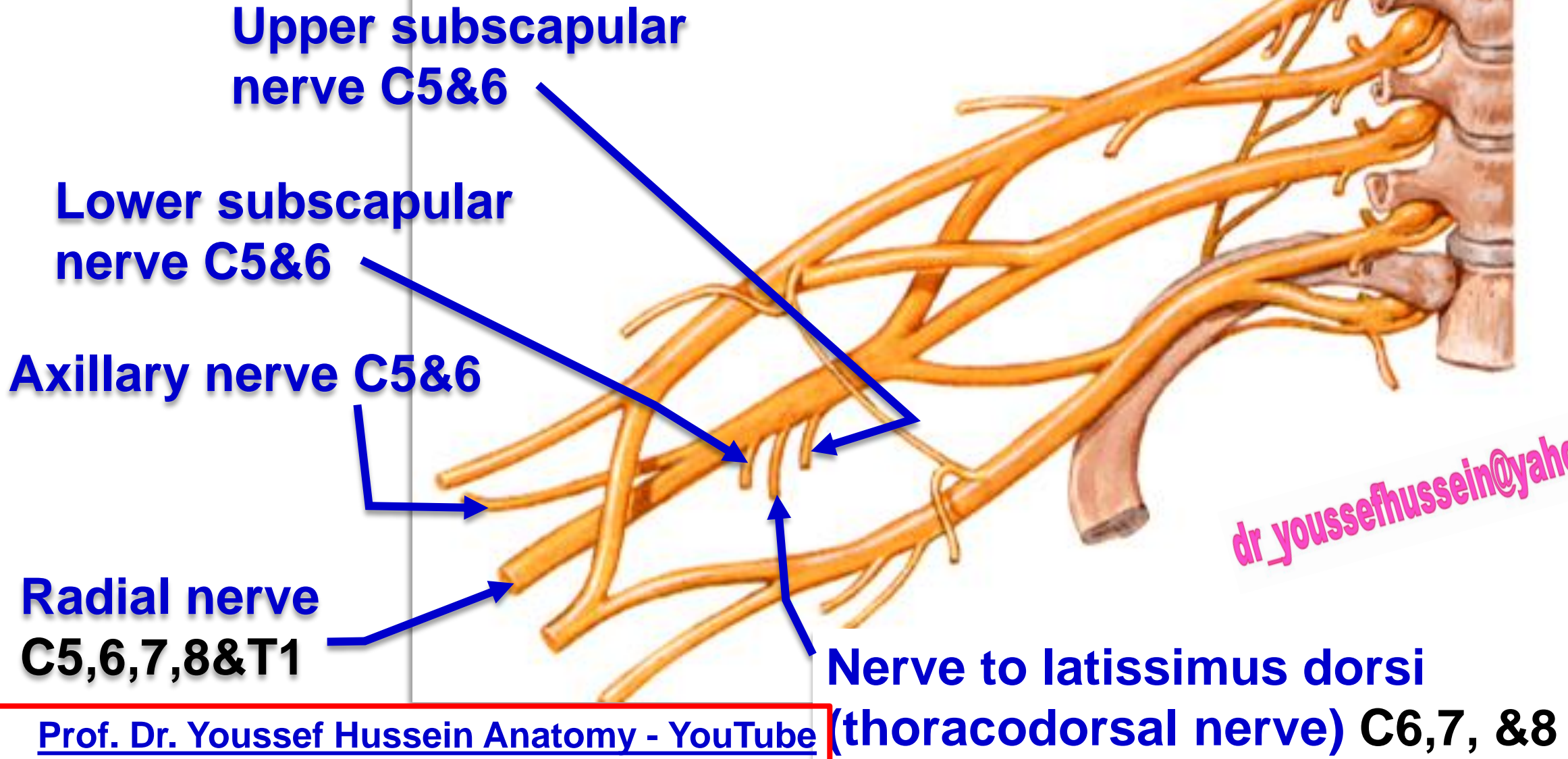
**Medial cutaneous nerve of
arm**

**Medial cutaneous nerve of
forearm**

Ulnar nerve C7, 8&T1



❖ **Branches of posterior cord
C5,6,7,8&T1**



**Upper subscapular
nerve C5&6**

**Lower subscapular
nerve C5&6**

Axillary nerve C5&6

**Radial nerve
C5,6,7,8&T1**

**Nerve to latissimus dorsi
(thoracodorsal nerve) C6,7, &8**

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Injury of Brachial plexus

❖ **Complete injury of brachial plexus leads to**

1- Motor changes, Paralysis of all muscles of the upper limb **except trapezius** (supplied by spinal part of accessory nerve).

2- Sensory changes, Complete loss of sensations from the upper limb **except**

a) Skin over the upper half of the deltoid (Supplied by lateral supraclavicular nerve from cervical plexus).

b) Skin of the upper part of the medial side of the arm and floor of axilla (Supplied by the intercostobrachial nerve from the 2nd intercostal nerve).

3- Horner's syndrome (ptosis, miosis, anhidrosis and enophthalmos) due to disrupting the first sympathetic ganglion ([T1](#)).

❖ Injury of the upper trunk (C5&6)

❖ Erb's paralysis

- The commonest injury of brachial plexus.

- **Erb's point;** is the point of meeting of
6 nerves,

A- Root of C5

B- Root of C6

C- Suprascapular nerve

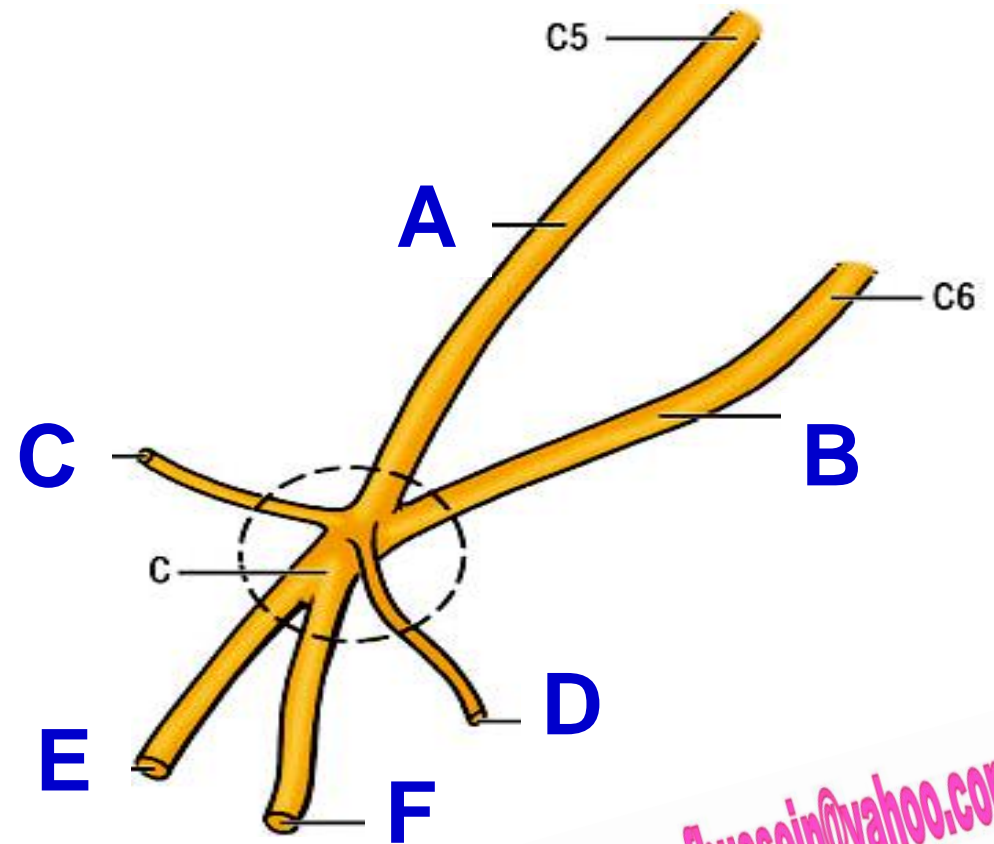
D- Nerve to subclavius

E- Anterior division of the upper trunk

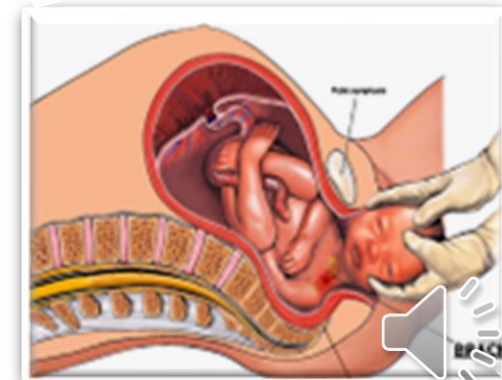
F- Posterior division of the upper trunk

Causes: 1- Excessive lateral flexion of the neck during labor.

2- Falling on the shoulder.



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1- Motor affection;

1) **Adduction of the arm** due to paralysis of abductor muscles (supraspinatus, deltoid).

2) **Extension of the elbow joint** due to paralysis of the flexor muscles (brachialis, biceps, brachioradialis).

3) **Medial rotation of the arm** due to paralysis lateral rotator muscles (infraspinatus and teres minor).

4) **Pronation of the forearm** due to paralysis of the supinator muscles (brachioradialis, biceps, and supinator). [Prof. Dr. Youssef Hussein Anatomy - YouTube](#)

- **Deformity; Policeman's position** (waiter's tip position of the upper limb).

2- **Sensory changes**, loss of sensation on the lateral side of arm, and forearm.



❖ **injury of the lower trunk (C8&T1)**

❖ **Klumpke's paralysis**

❖ (complete injury of median and ulnar nerves)

Causes, severe abduction of the arm.

1- Motor changes; paralysis usually affects

a) The flexors of the wrist and fingers.

b) All the intrinsic muscles of the hand.

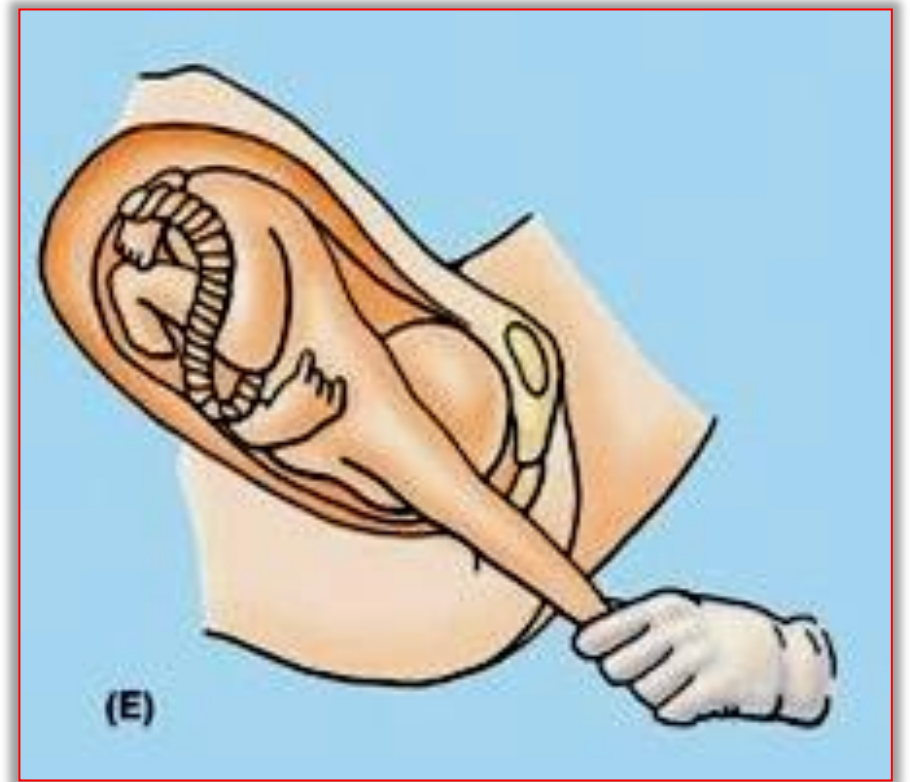
- Deformity: complete claw hand

(1) Hyperextension of the wrist and metacarpophalangeal joints

(2) Flexion of the interphalangeal joints.

2- Sensory changes, loss of sensation on the medial side of arm, forearm and hand.

3- Horner's syndrome due to disrupting the first sympathetic ganglion ([T1](#)).



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Thank You

Questions

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