

G24: Shoulder and Axilla



Syllabus - Pg. 2

Objectives

Upper limb **Systemically:**

- Bones (joints)
- Muscles
- Nerves
- Vessels (arteries/veins)
- Fascial compartments



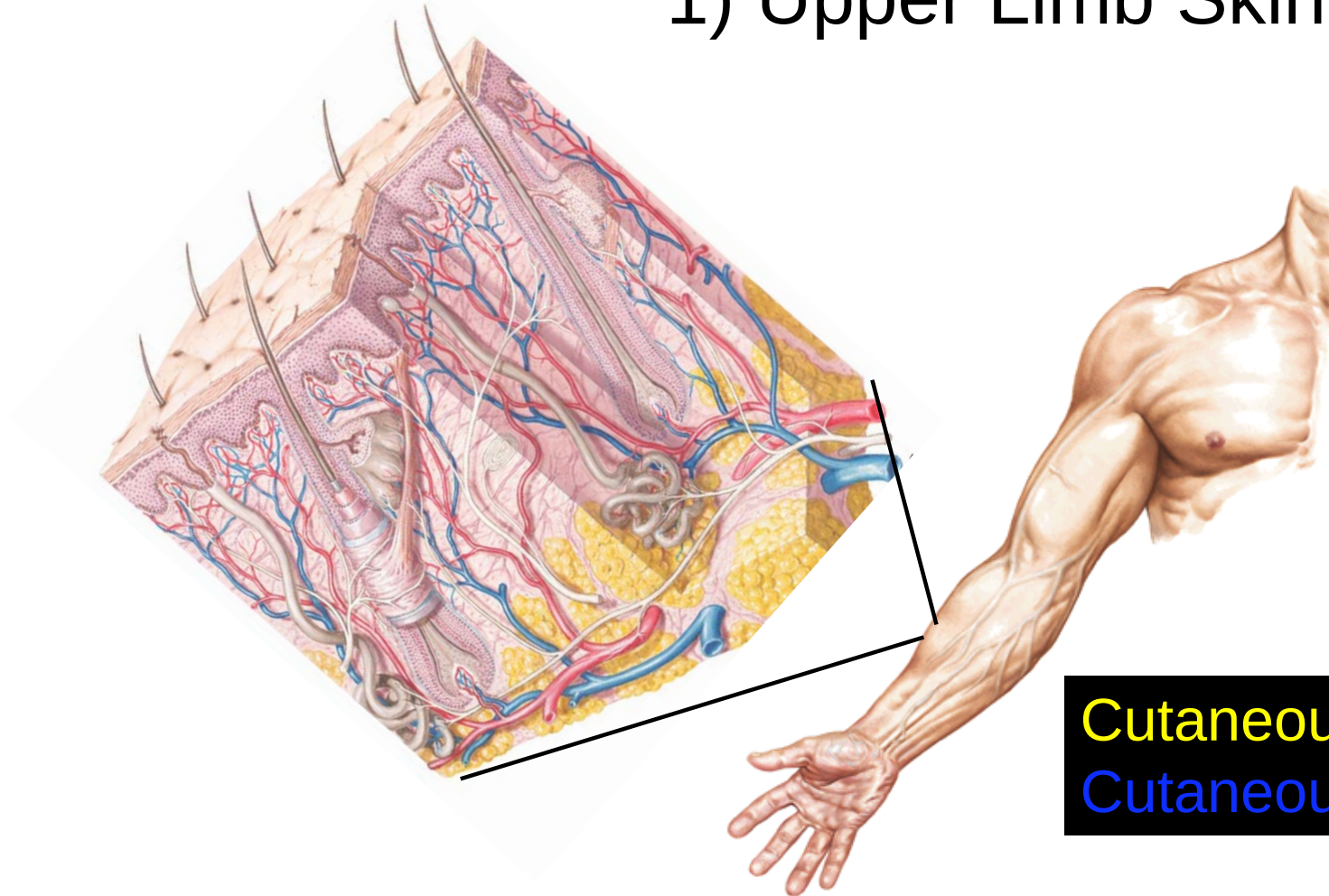
Objectives

Upper limb **Regionally**:

- Skin of upper limb
- Shoulder
- Axilla
- Arm (brachium)
- Forearm (antebrachium)
- Hand

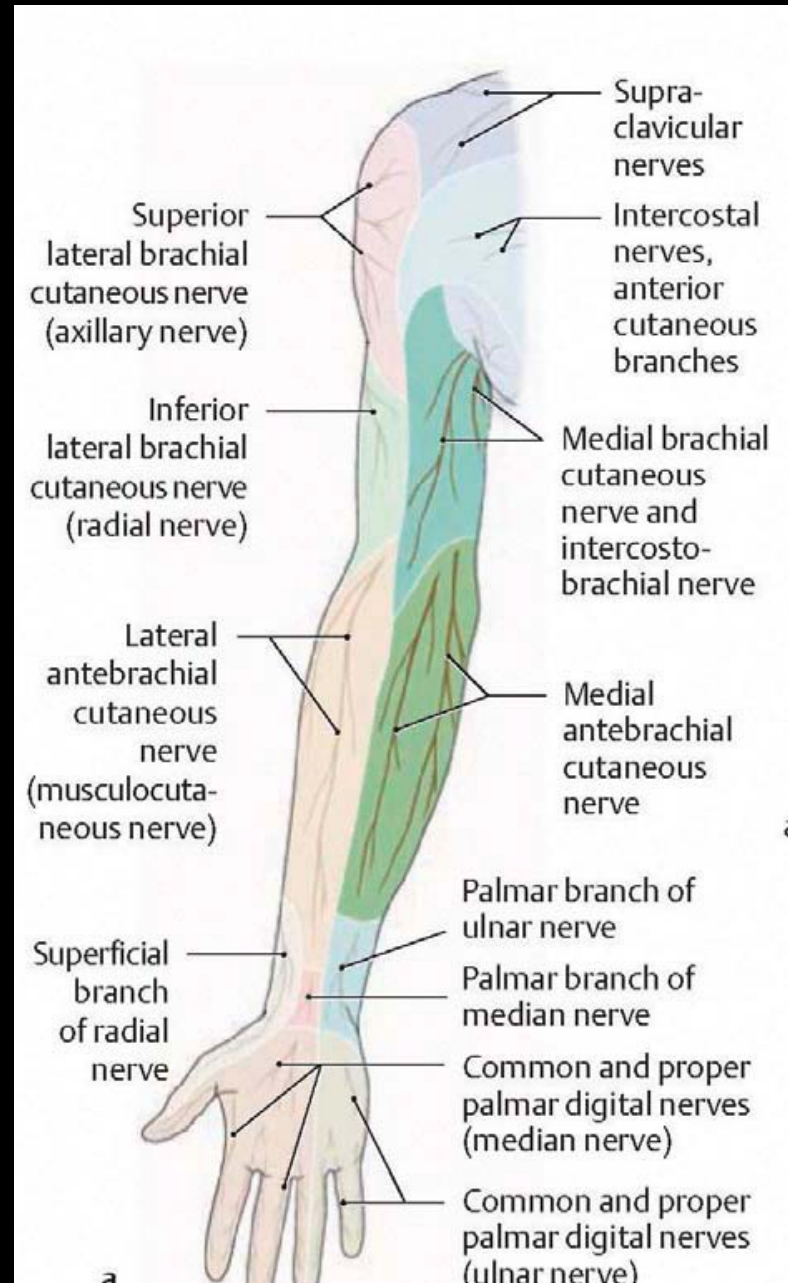
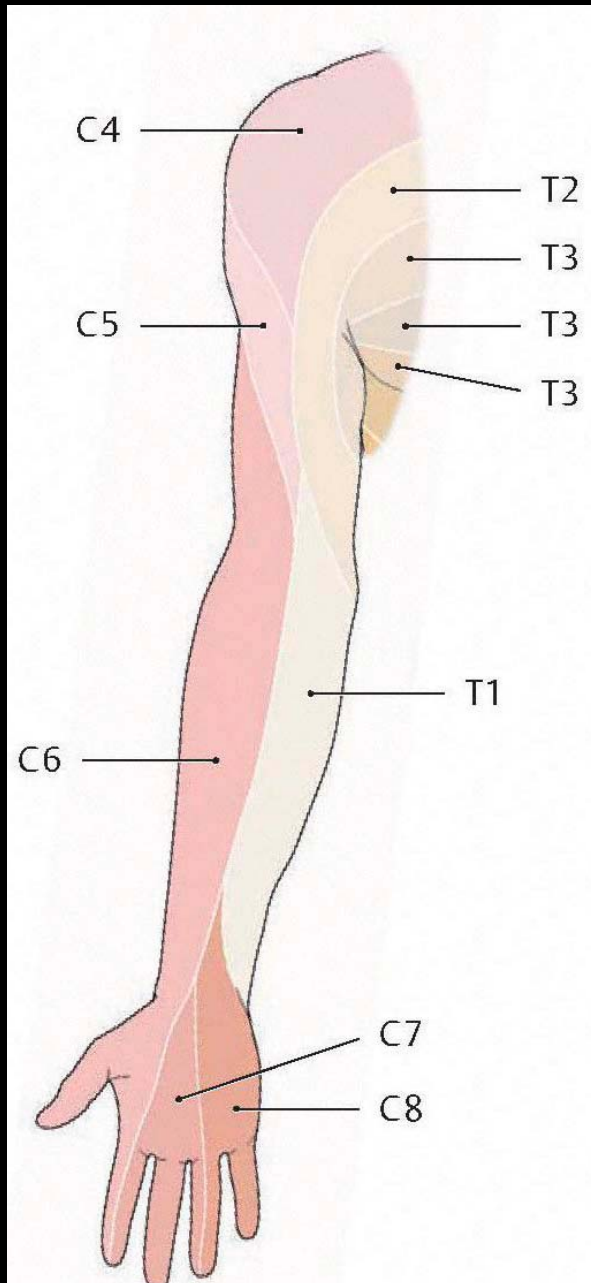


1) Upper Limb Skin

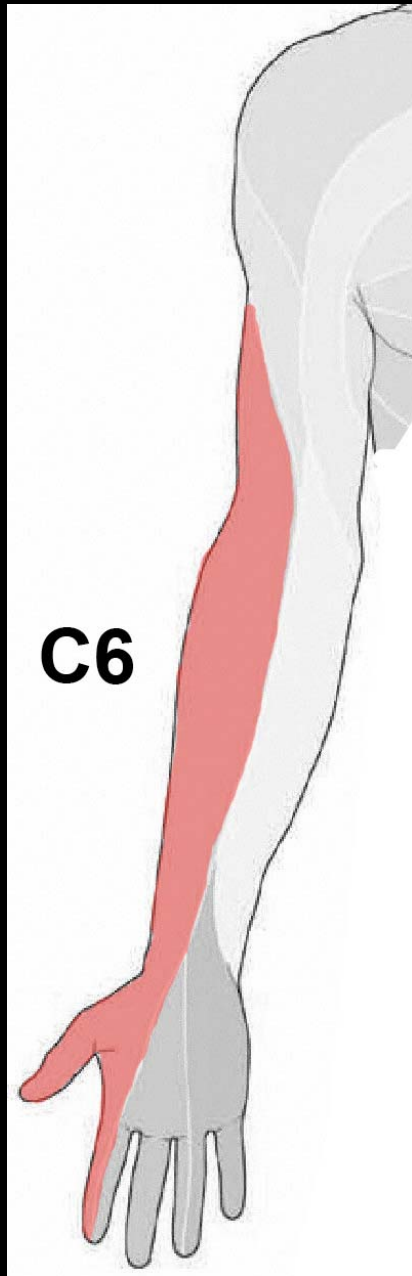


Cutaneous nerves
Cutaneous veins

What is the difference between these images?

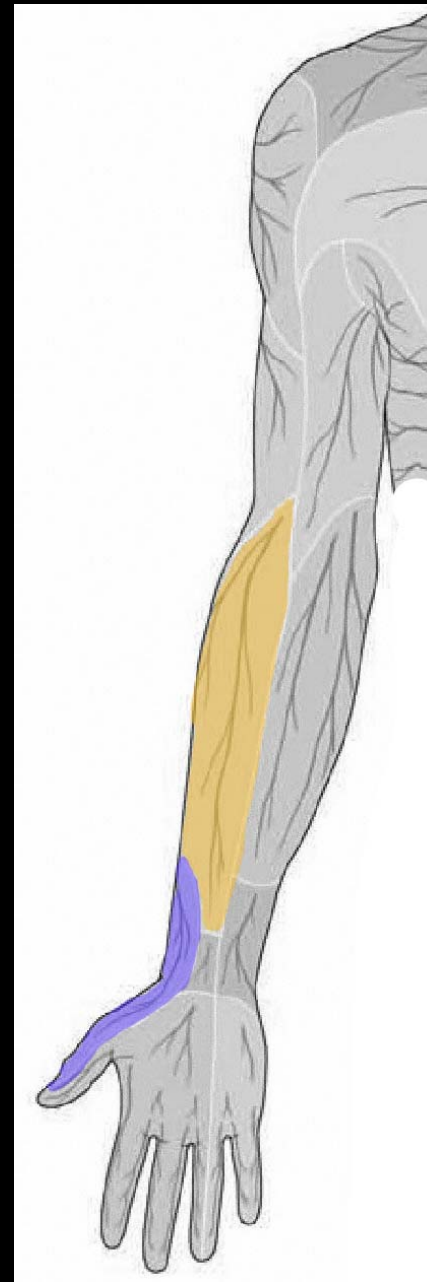


1a) Dermatomes/cutaneous fields

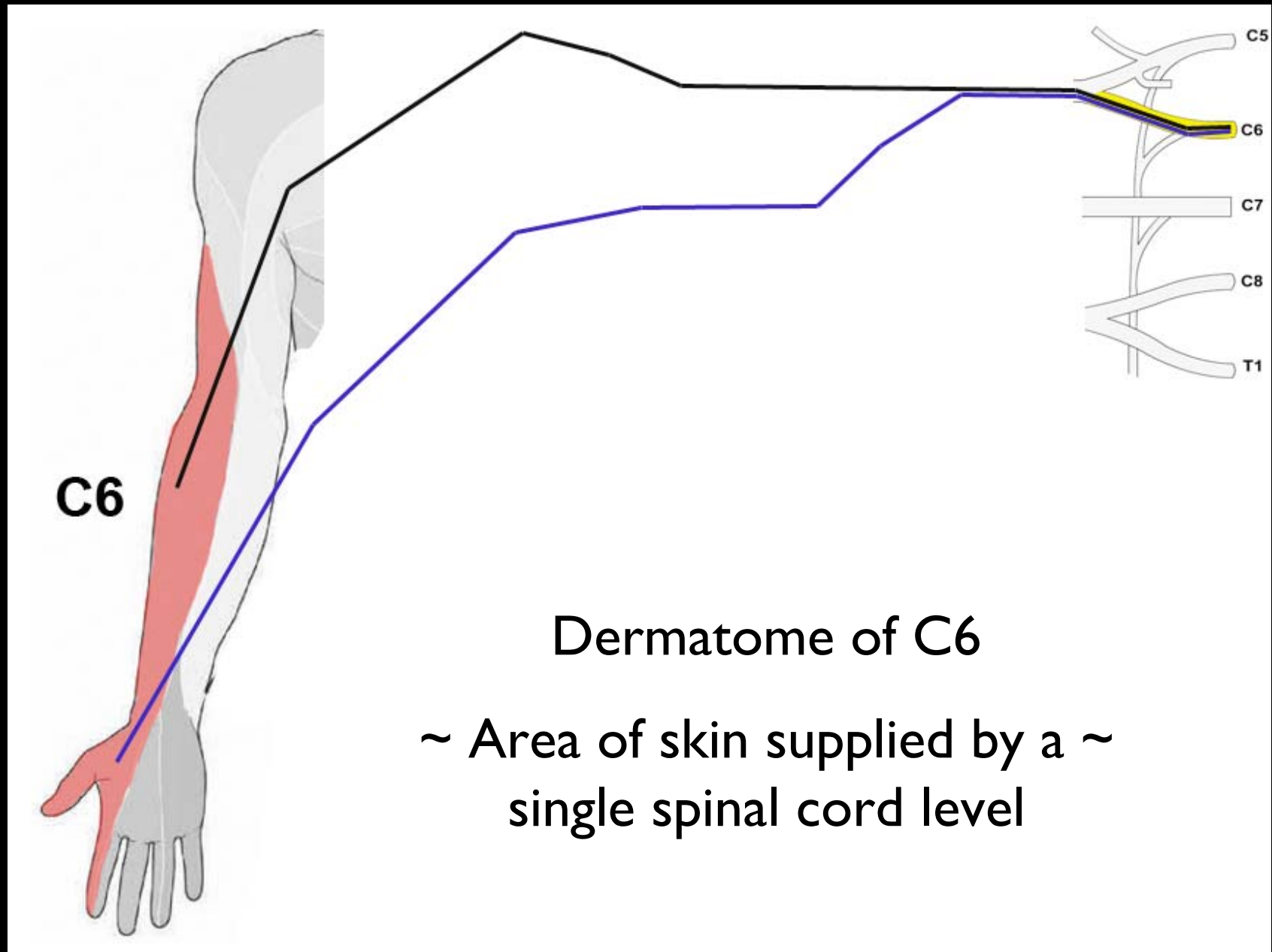


Lateral cutaneous n.
of forearm

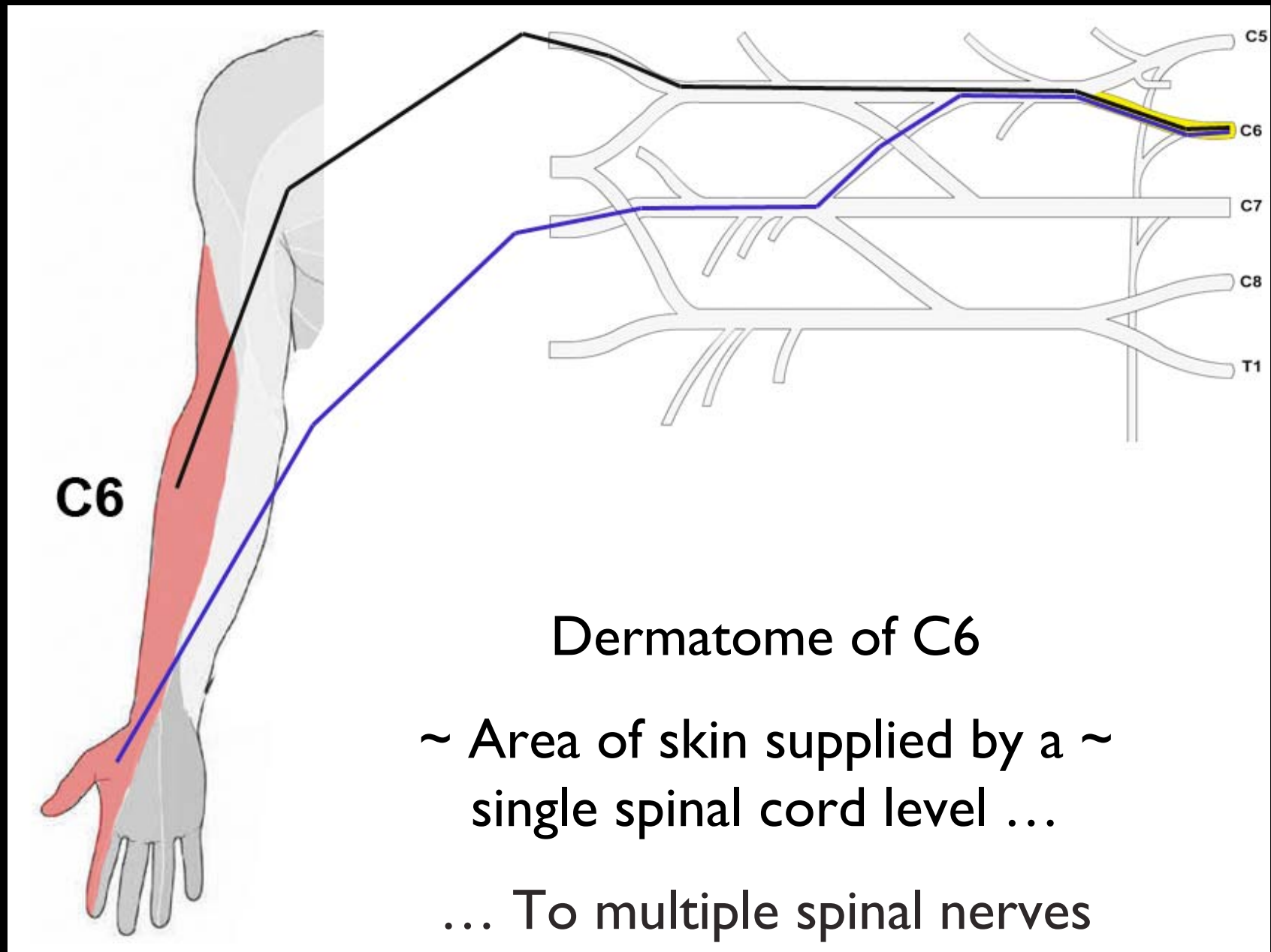
Superficial radial n.



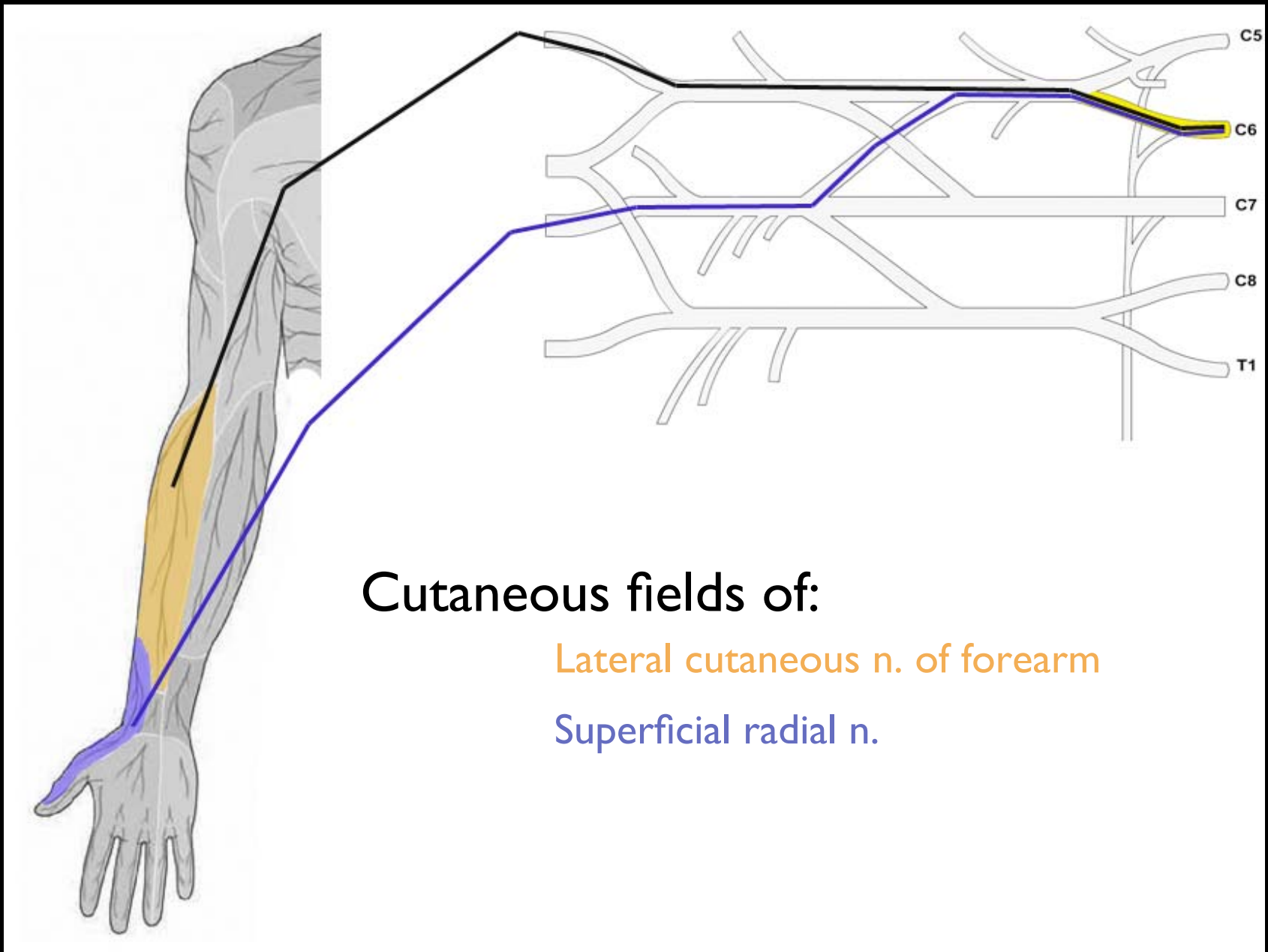
1a) Dermatomes/cutaneous fields



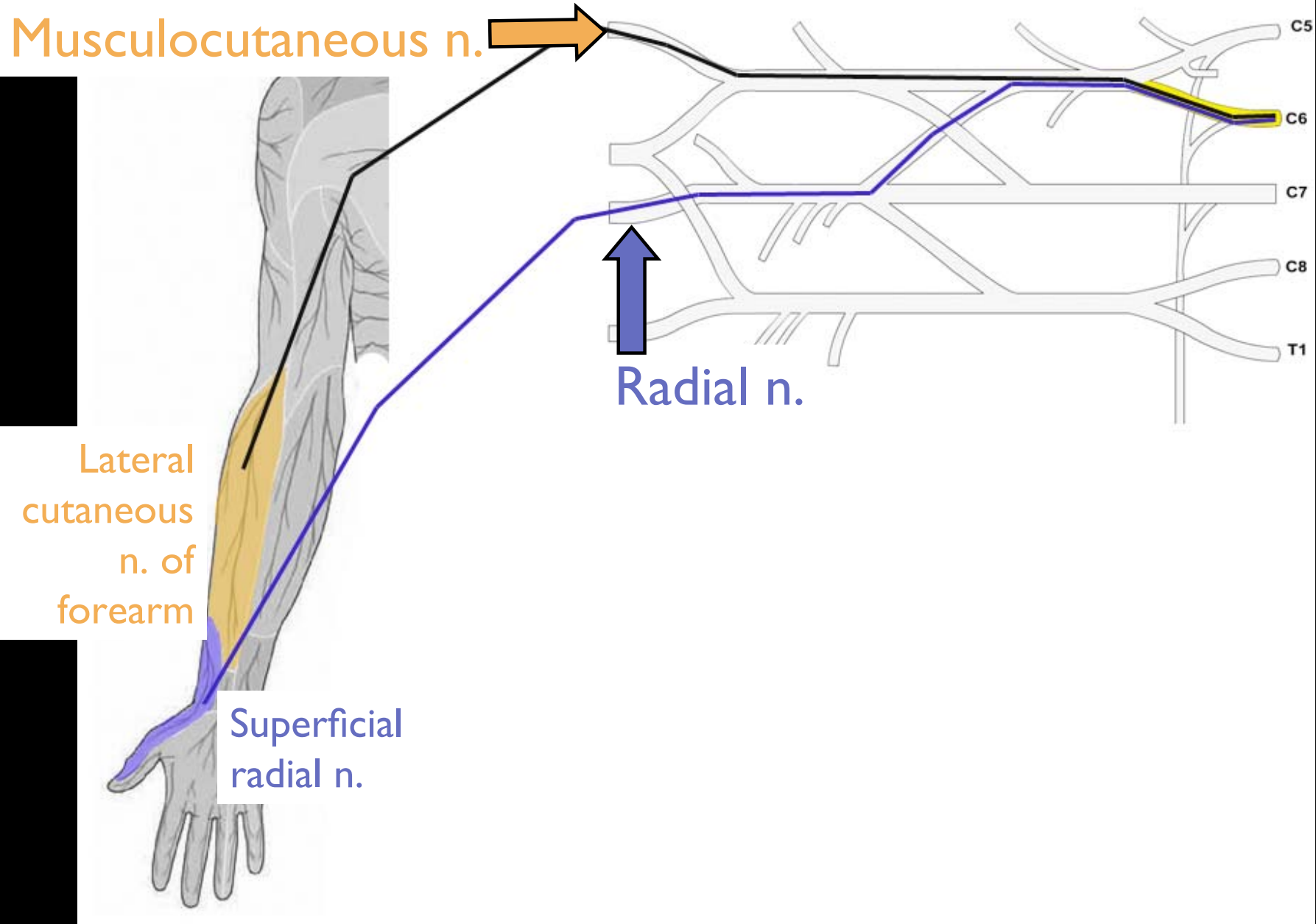
1a) Dermatomes/cutaneous fields



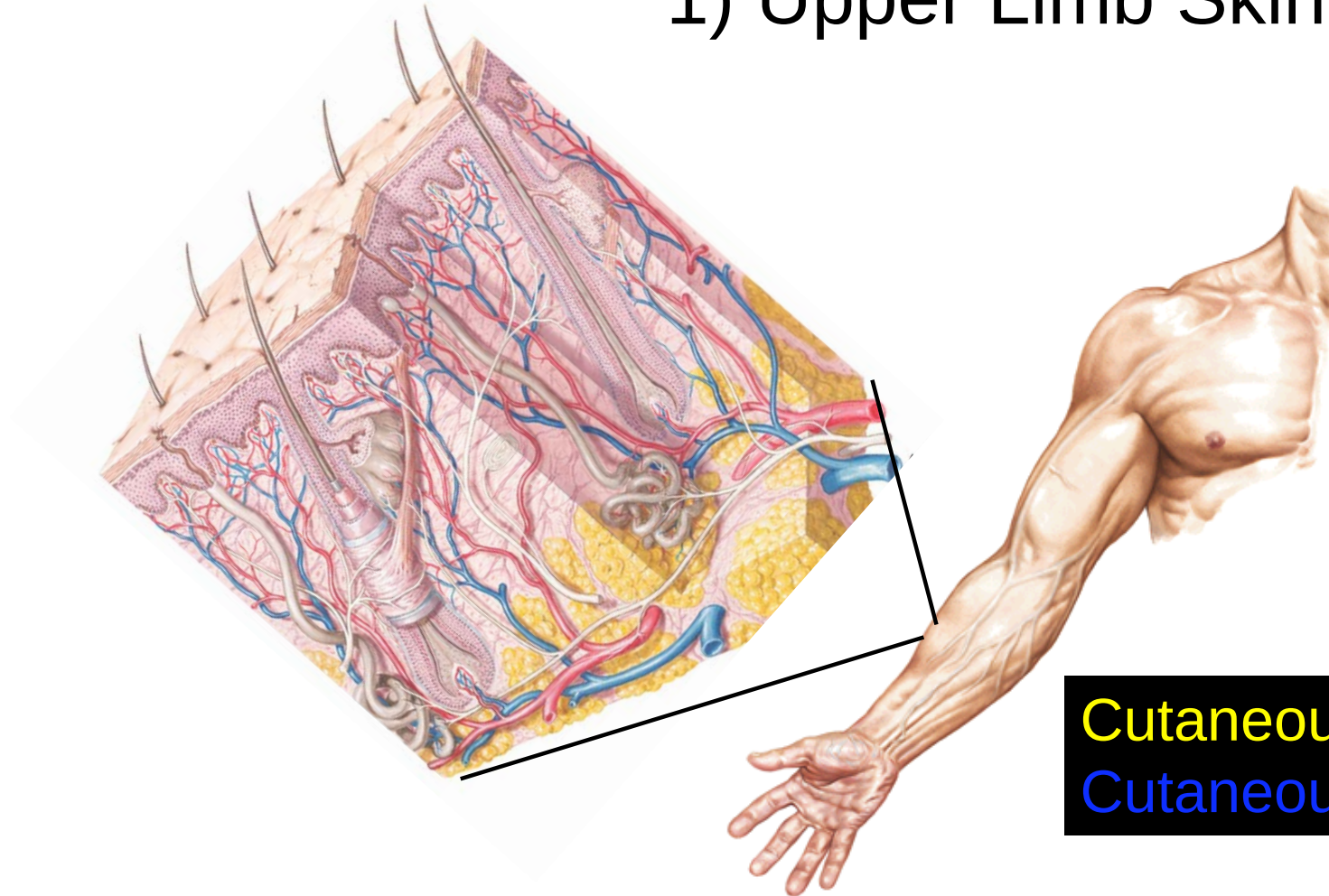
1a) Dermatomes/cutaneous fields



1a) Dermatomes/cutaneous fields



1) Upper Limb Skin



Cutaneous nerves
Cutaneous veins

b) Major vessels

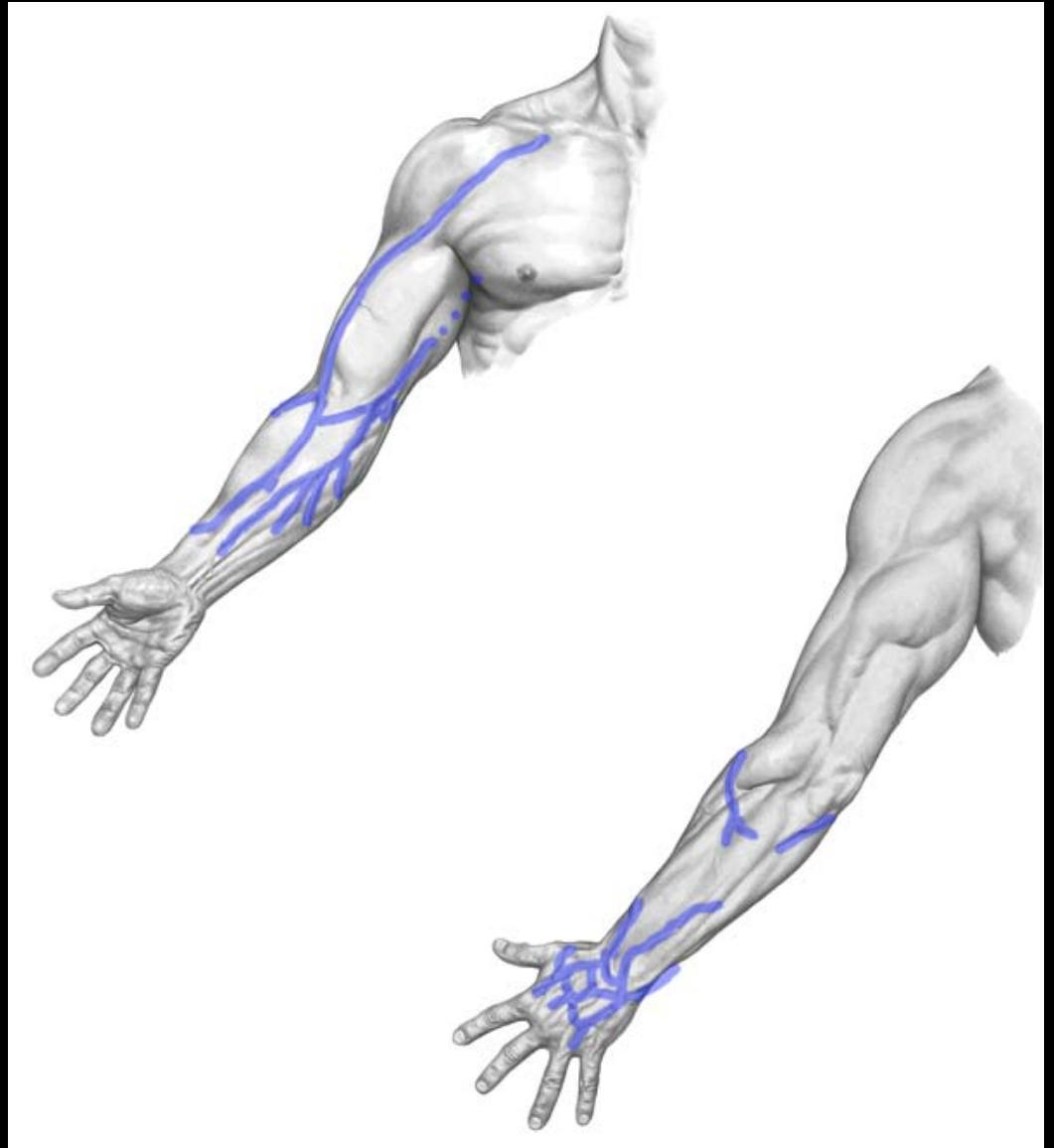
i) Veins

Cephalic v.

Basilic v.

Median cubital v.

Dorsal hand vv.



b) Major vessels

ii) Arteries

Subclavian a.

Axillary a.

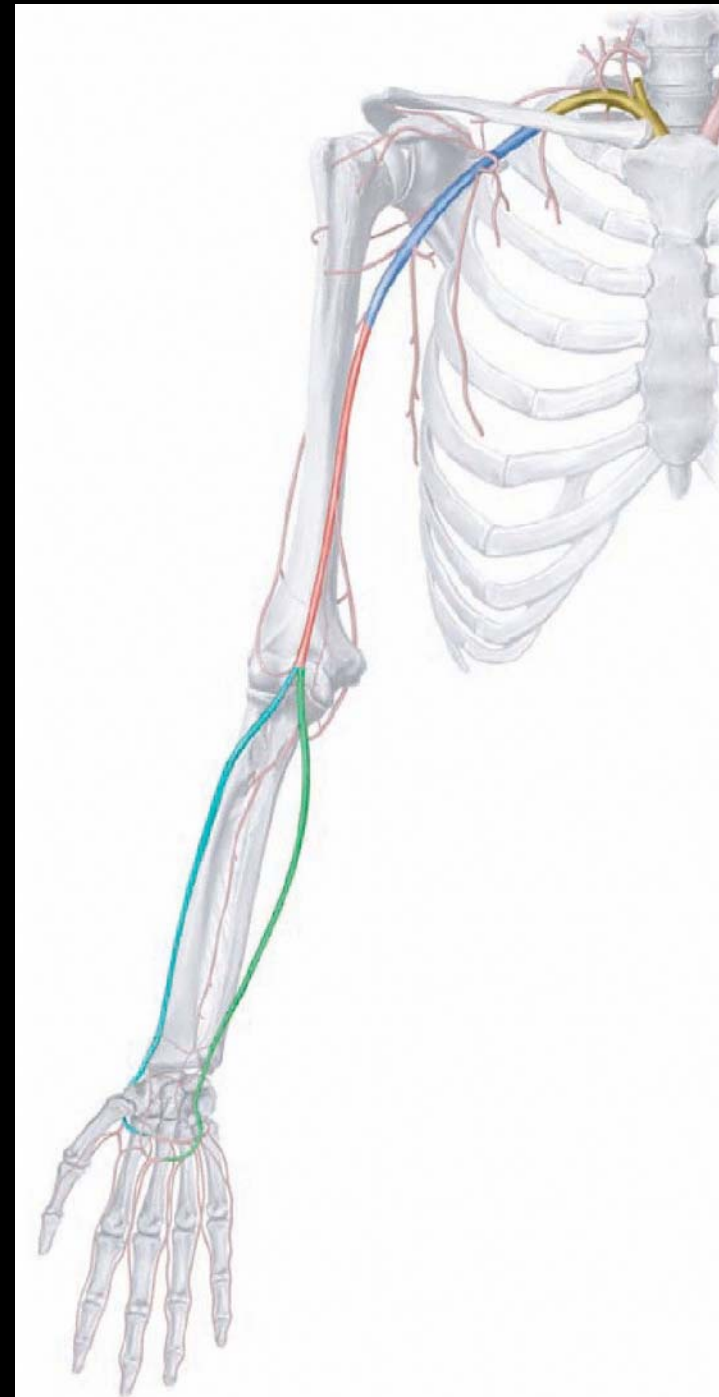
Brachial a.

Radial a.

Ulnar a.

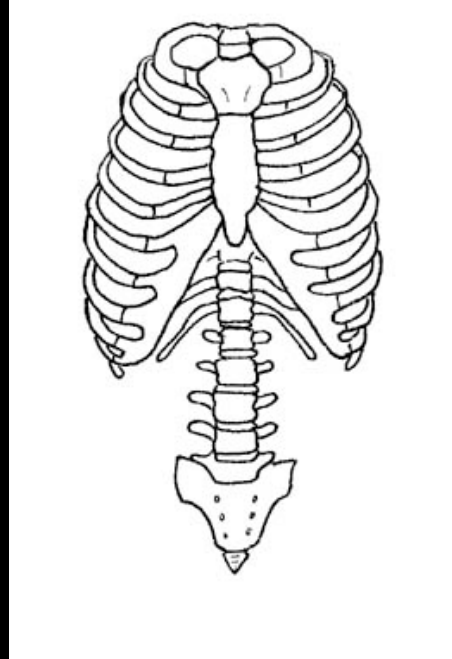
Superf. palmar arch

Deep palmar arch



2) Actions of the Upper Limb

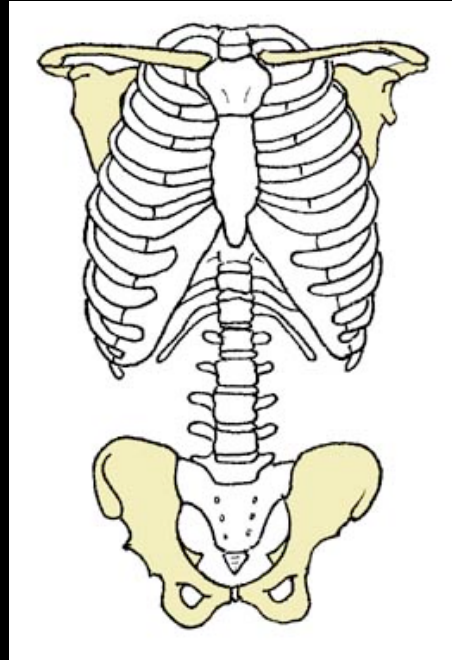
Axial skeleton



2) Actions of the Upper Limb

Pectoral girdle

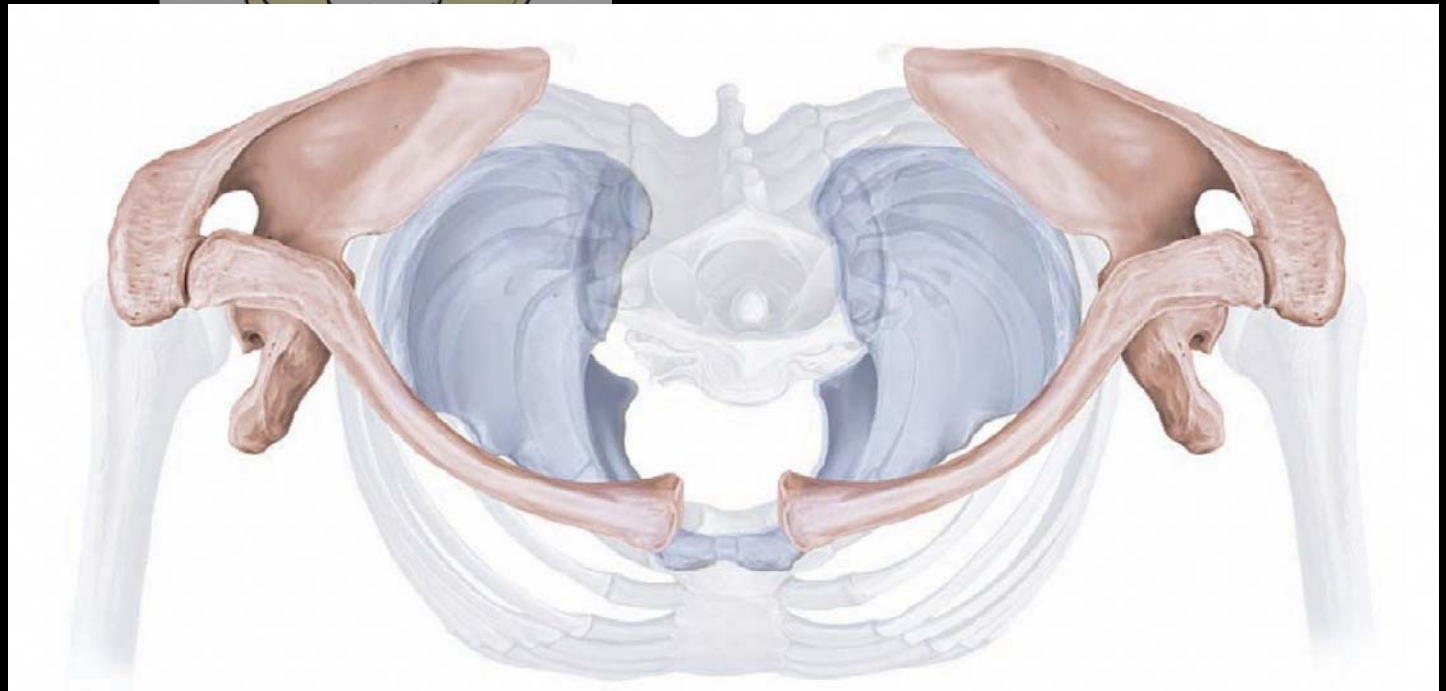
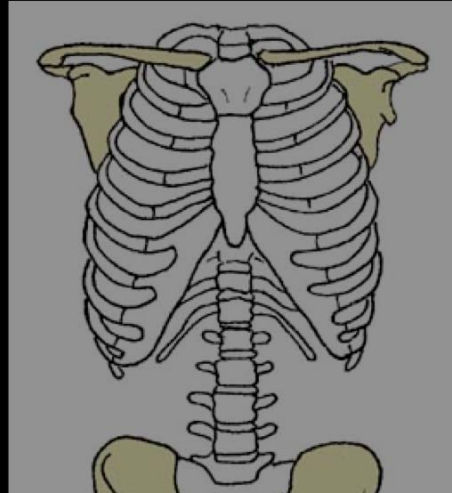
- Clavicle
- Scapula



2) Actions of the Upper Limb

Pectoral girdle

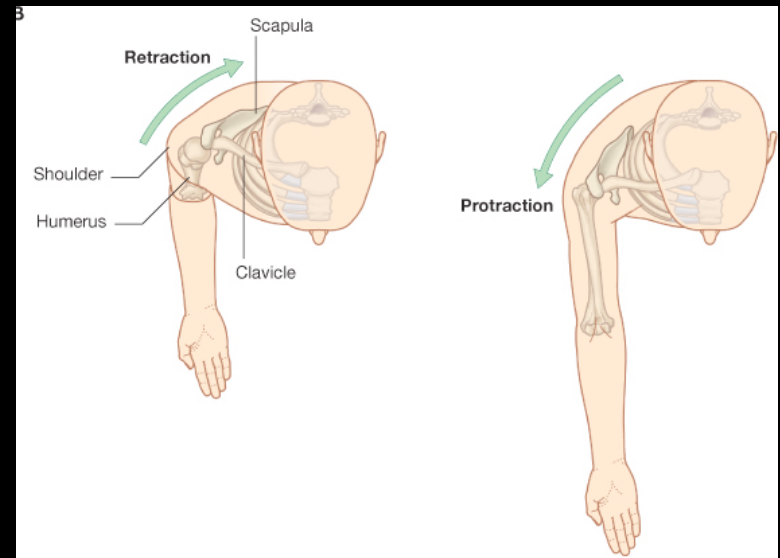
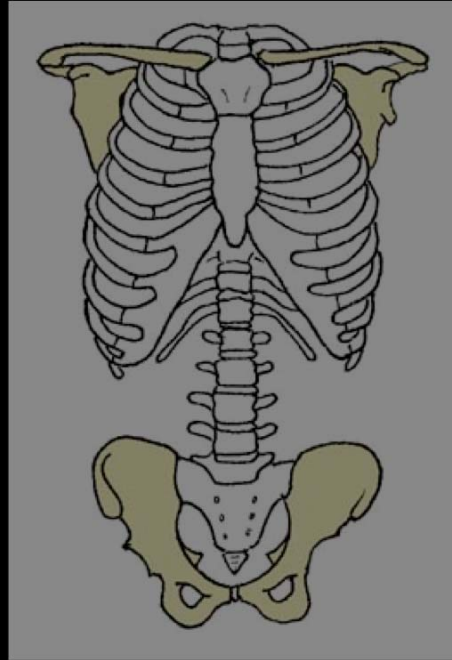
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2) Actions of the Upper Limb

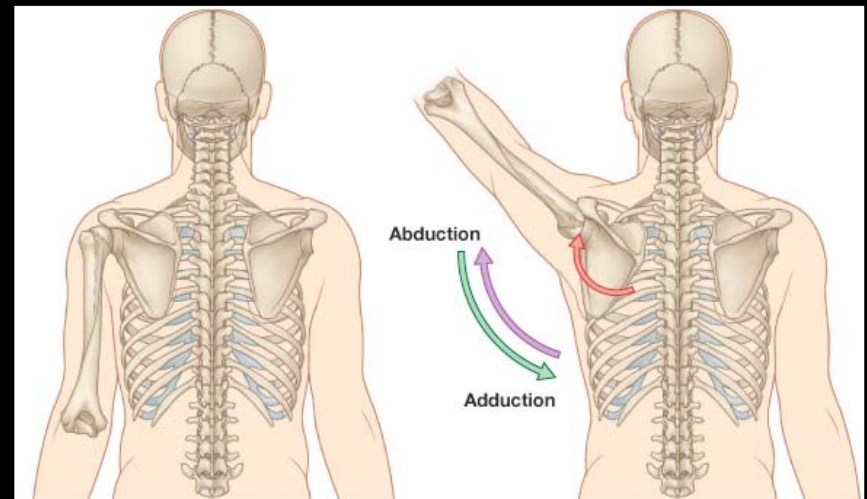
Pectoral girdle

- Clavicle
- Scapula



Scapular Movements

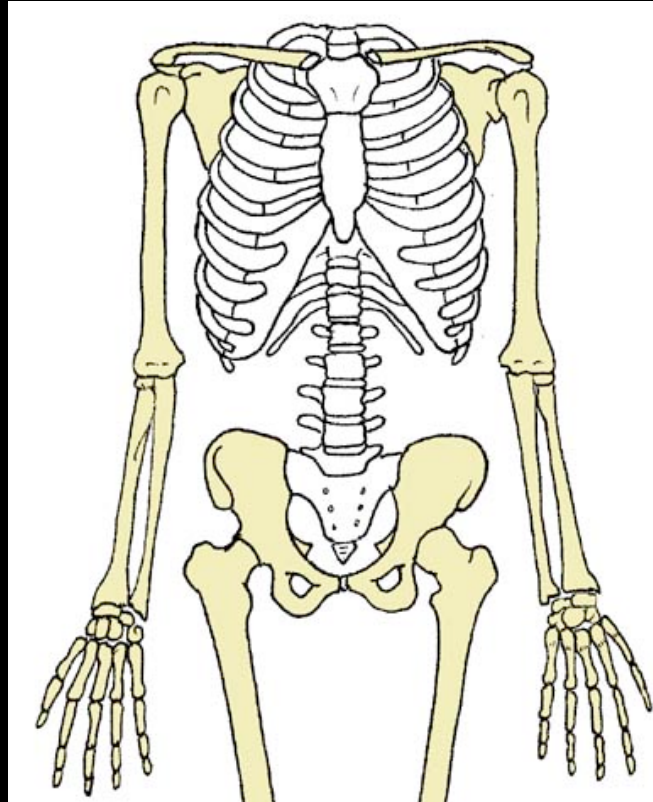
- Protraction and Retraction
- Elevation and Depression
- Rotation



2) Actions of the Upper Limb

Glenohumeral joint

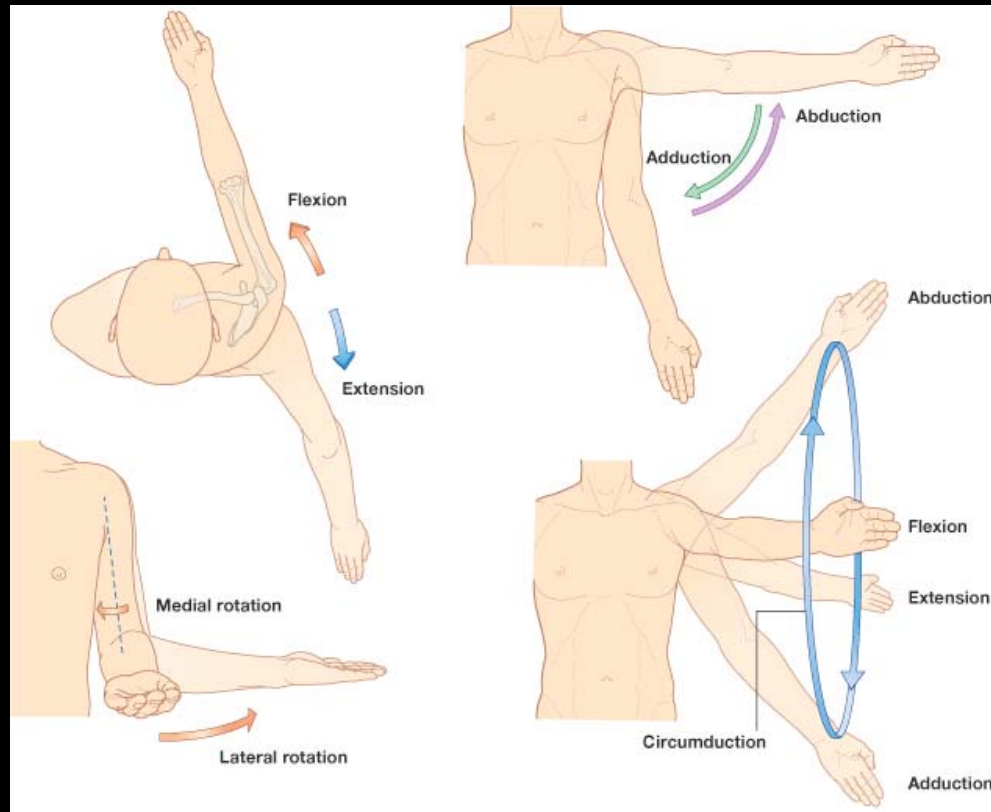
- Scapula (glenoid cavity)
- Humerus (head)



2) Actions of the Upper Limb

Glenohumeral joint

- Scapula (glenoid cavity)
- Humerus (head)



Glenohumeral Joint Movements

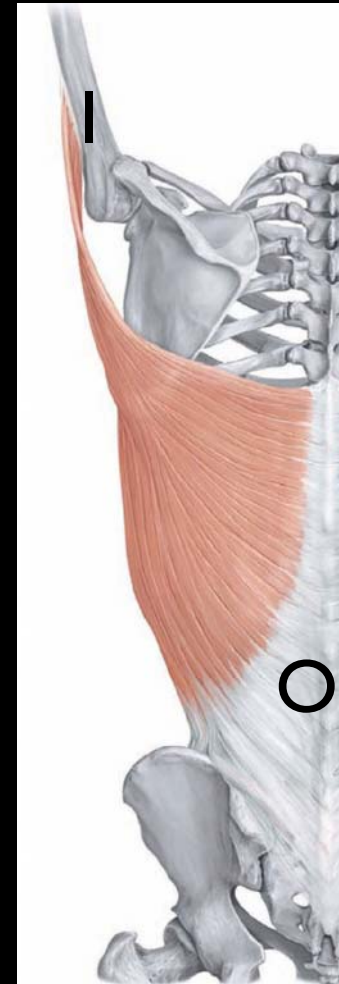
- Flexion and Extension
- Abduction and Adduction
- Medial and Lateral Rotation

3) Fascia of the Upper Limb

A little today ...
Tomorrow

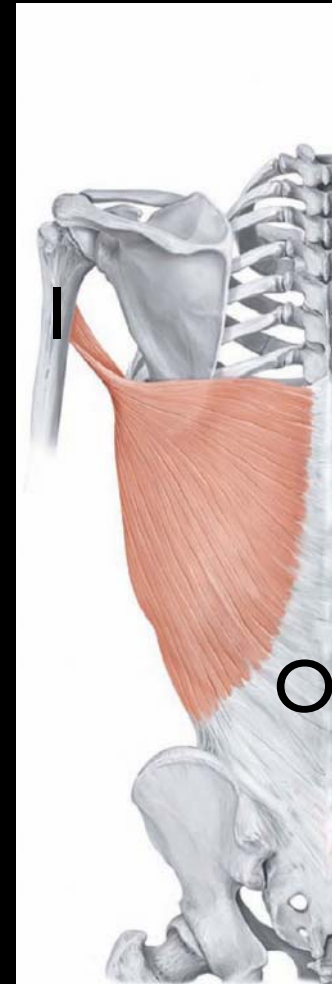
4) Skeletal muscle basics

- Skeletal muscles in the limbs:
 - Attach to at least two separate bones
 - **Origin and insertion**
 - Act on the joint(s) that the muscle crosses between the attachments



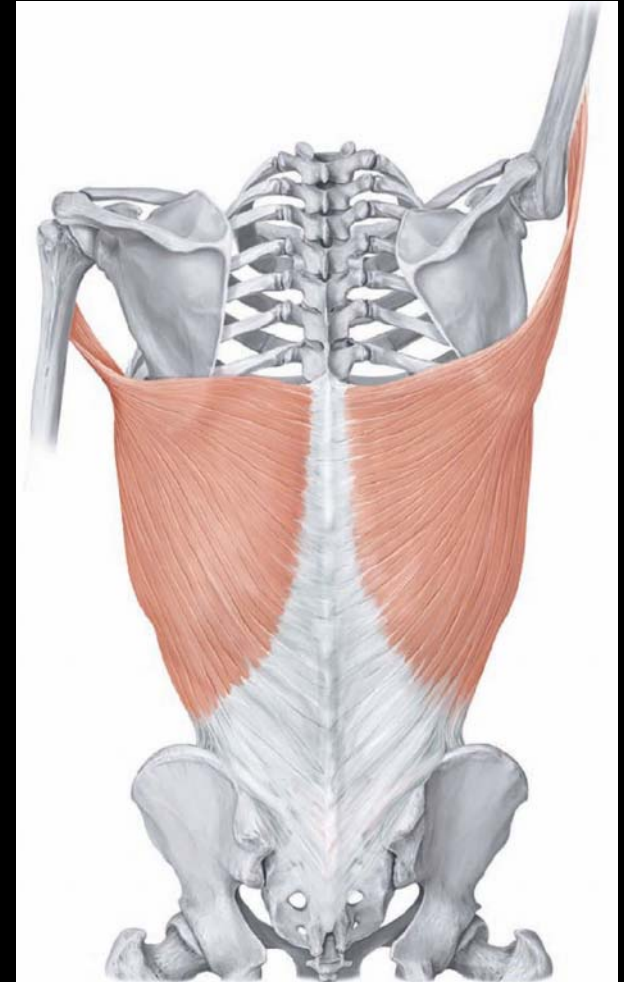
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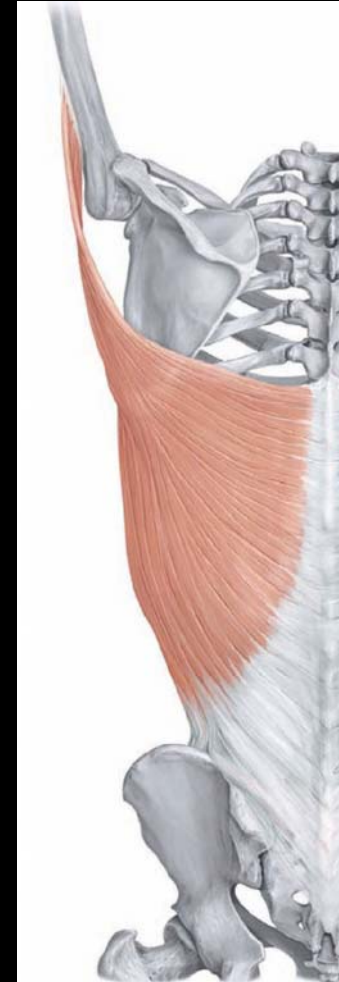
4) Skeletal muscle basics

- Skeletal muscles do not push ... they contract:
 - **Concentric** : muscle shortens
 - **Isometric** : no change in length
 - **Eccentric** : muscle lengthens



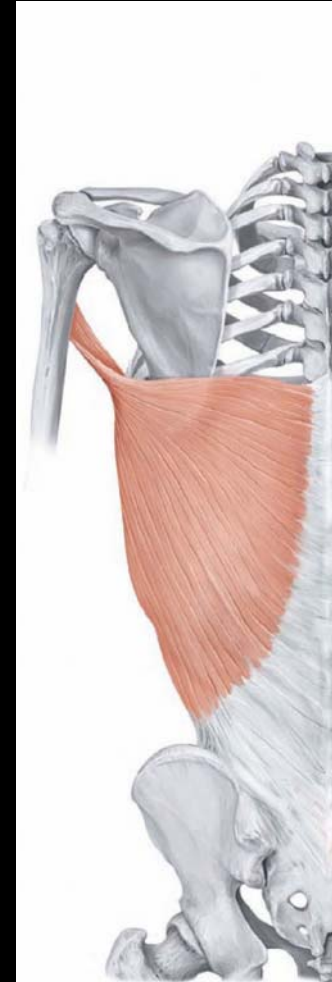
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4) Skeletal muscle basics

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Muscles of hand gripping
an object

4) Skeletal muscle basics

- Skeletal muscles contraction:
 - **Concentric** : muscle shortens
 - **Isometric** : no change in length
 - **Eccentric** : muscle lengthens



Setting an object down (a)

4) Skeletal muscle basics

- Skeletal muscles contraction:
 - **Concentric** : muscle shortens
 - **Isometric** : no change in length
 - **Eccentric** : muscle lengthens

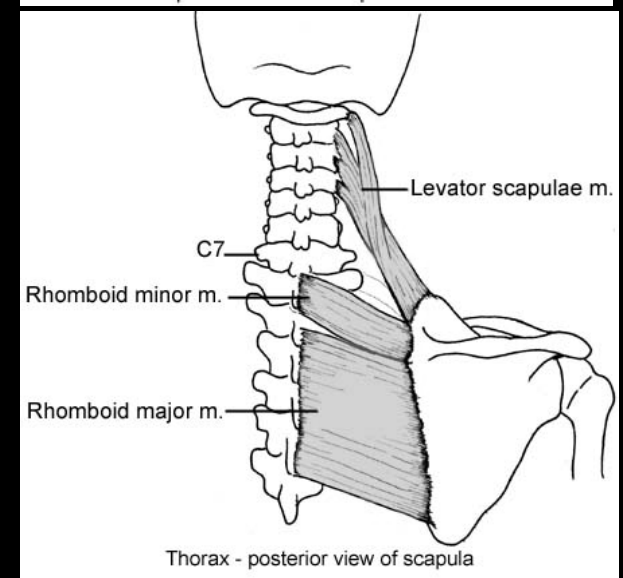
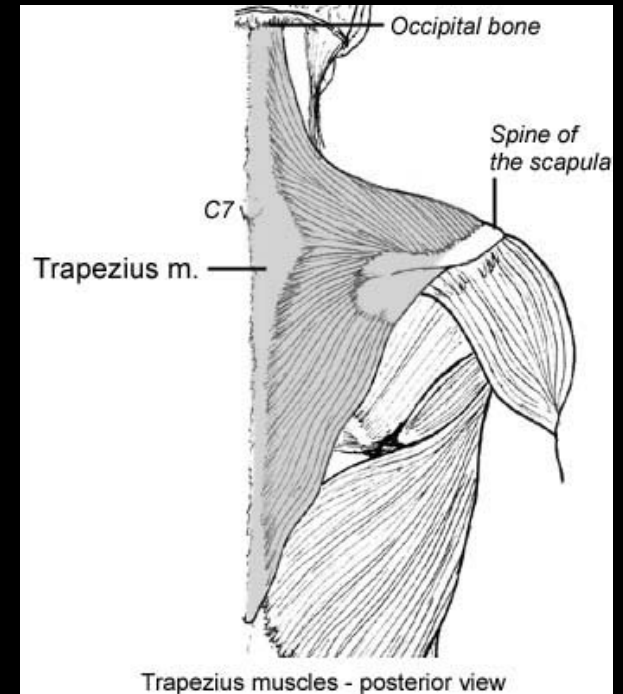


Setting an object down (b)

5) Muscles of the Shoulder Girdle

Scapular muscles

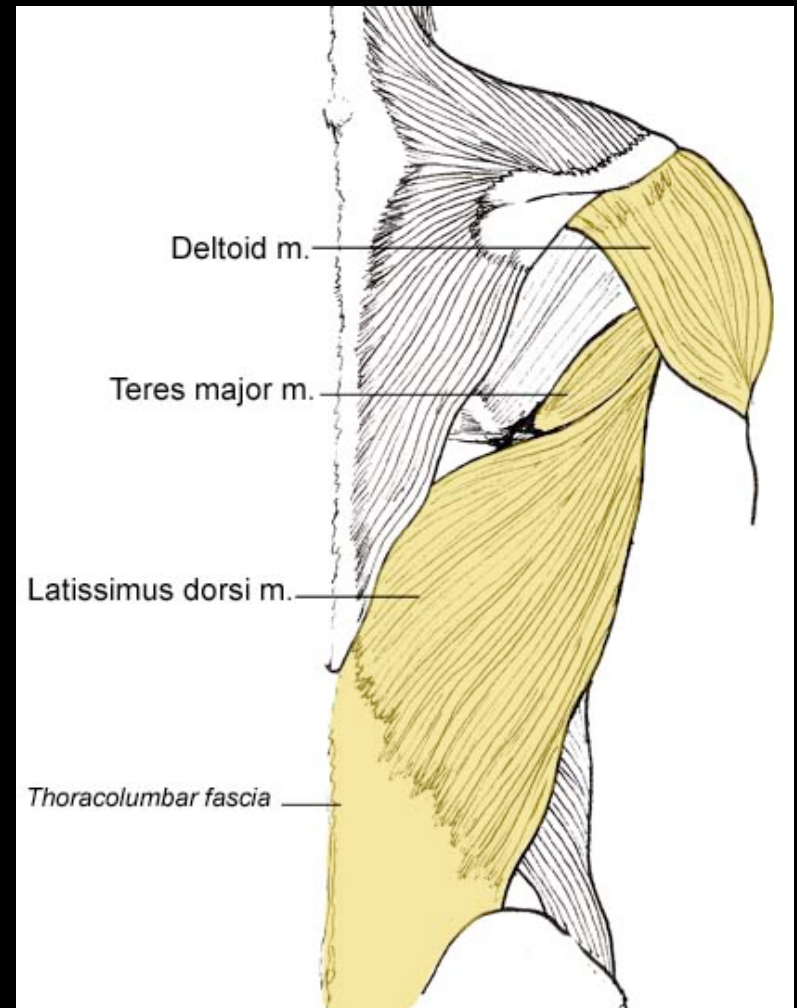
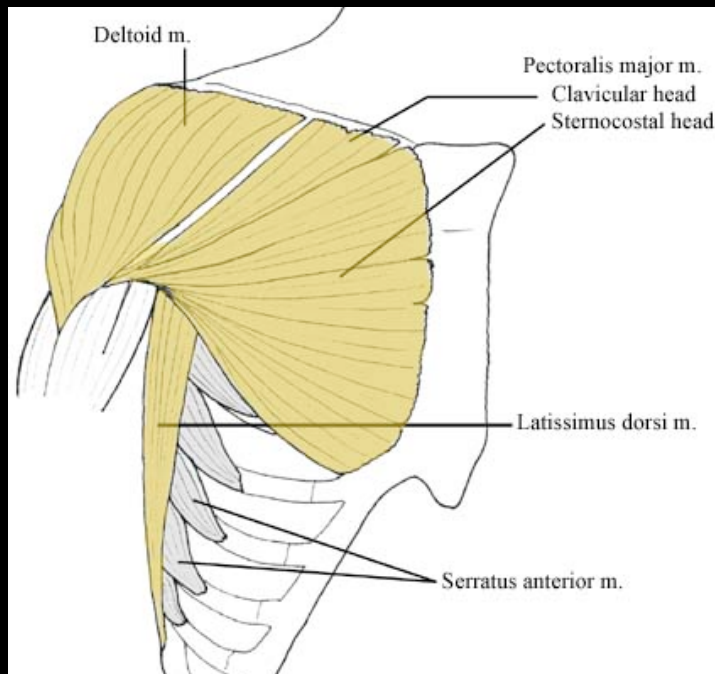
- Trapezius
- Levator scapulae
- Rhomboids
- Serratus anterior
- Pectoralis minor



5) Muscles of the Shoulder Girdle

Intertubercular groove muscles

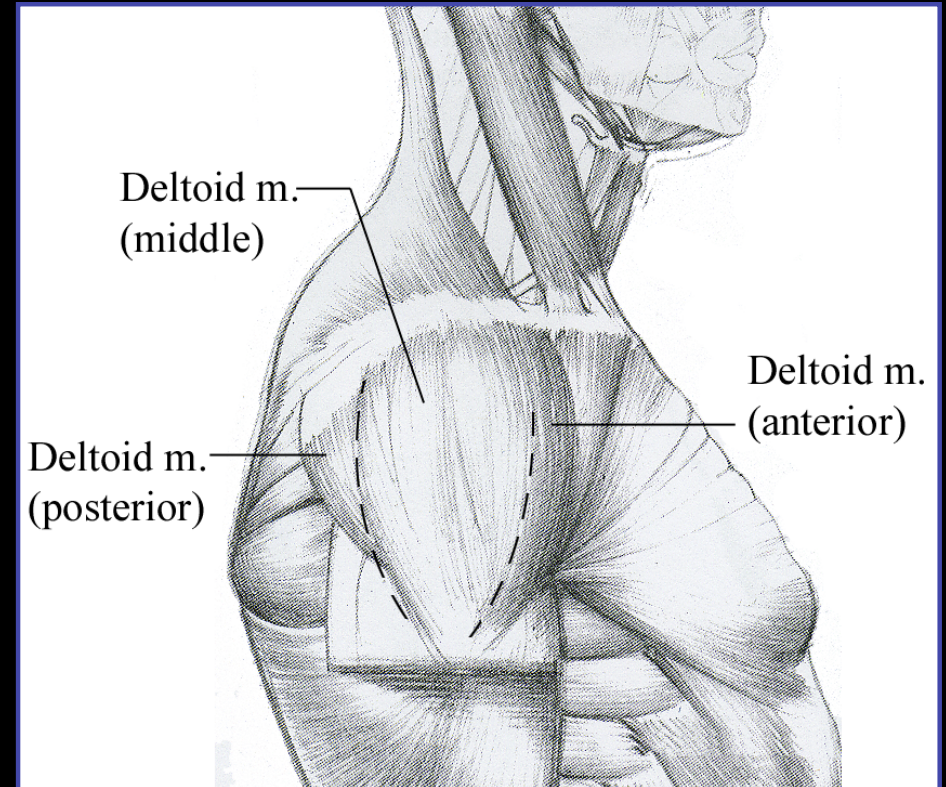
- Pectoralis major
- Teres major
- Latissimus dorsi



5) Muscles of the Shoulder Girdle

Deltoid m.

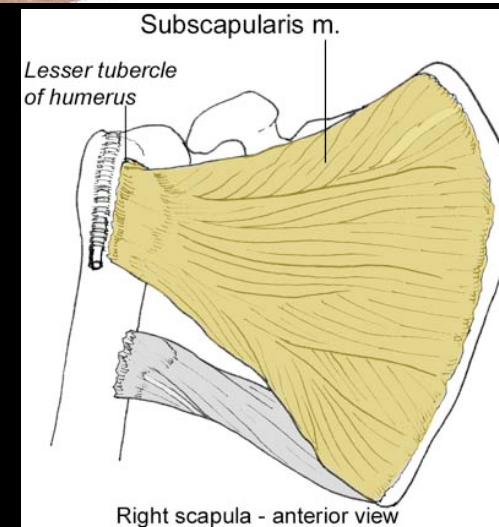
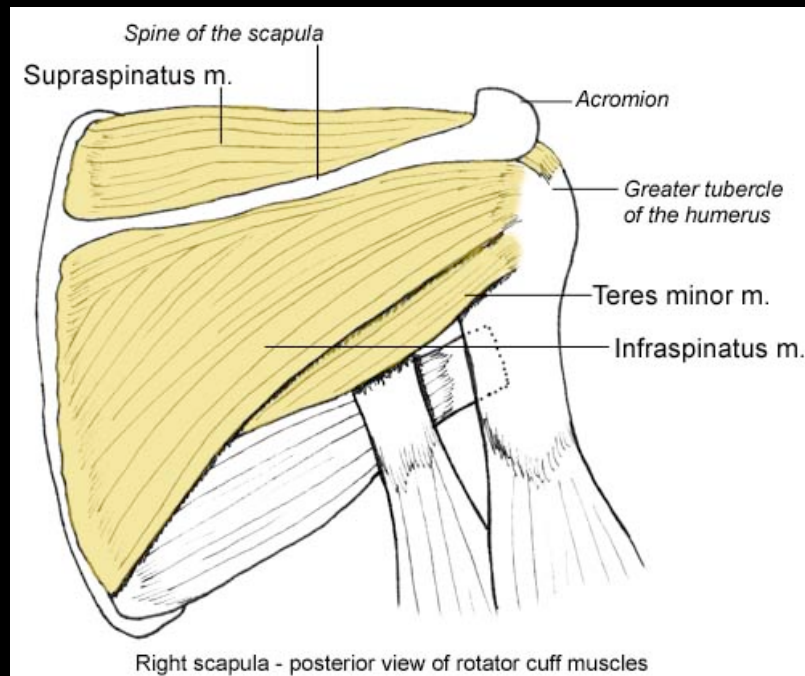
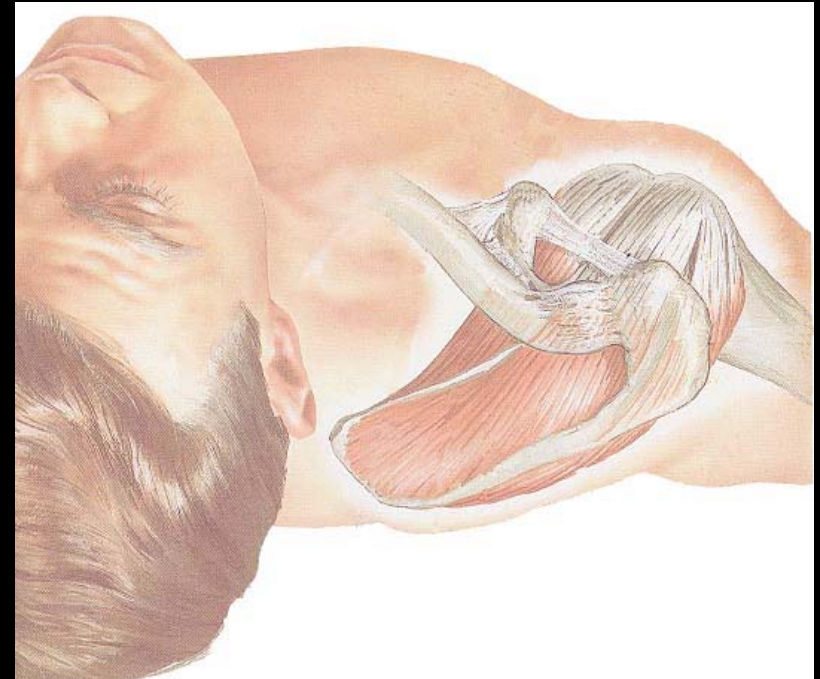
- Anterior belly
- Middle belly
- Posterior belly



5) Muscles of the Shoulder Girdle

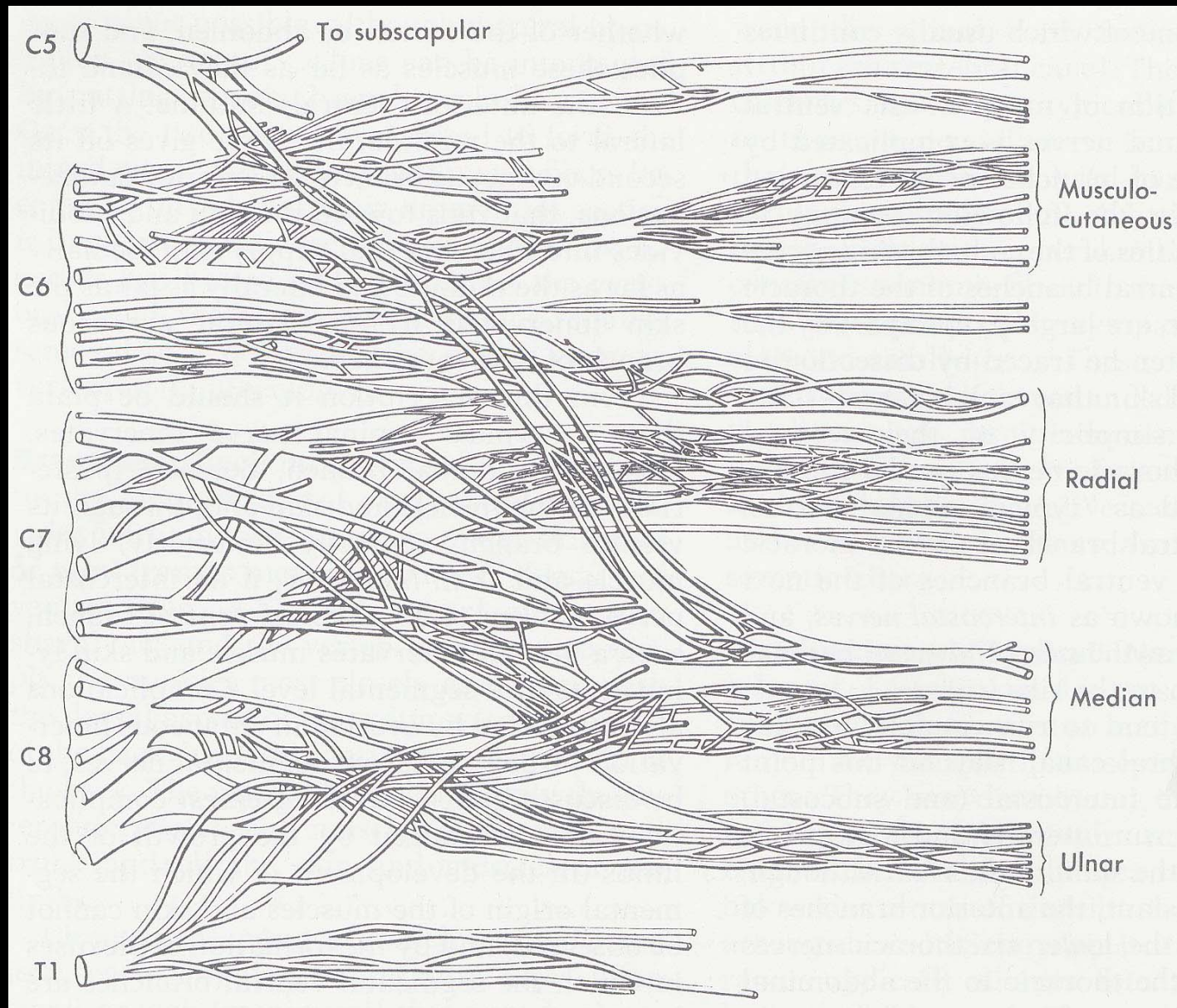
Rotator cuff mm. (SITS)

- Supraspinatus
- Infraspinatus
- Teres minor
- Subscapularis

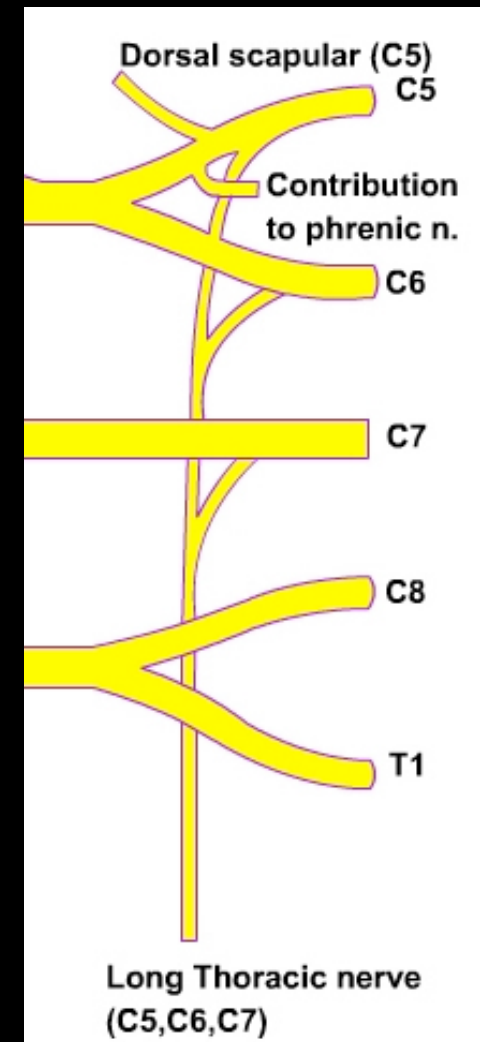


6) Brachial Plexus

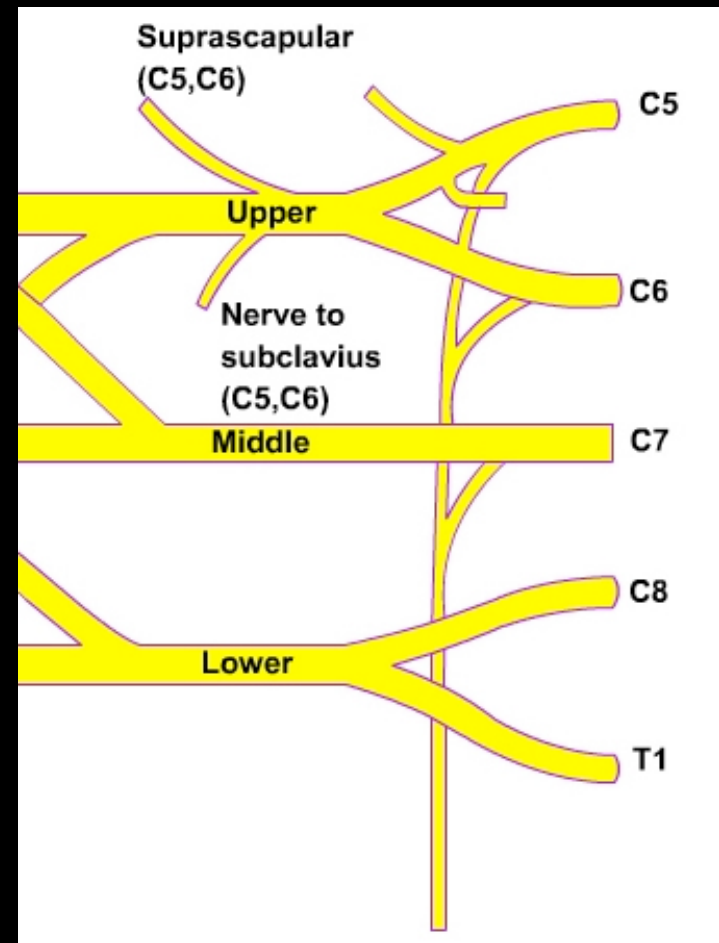
Pg. 6



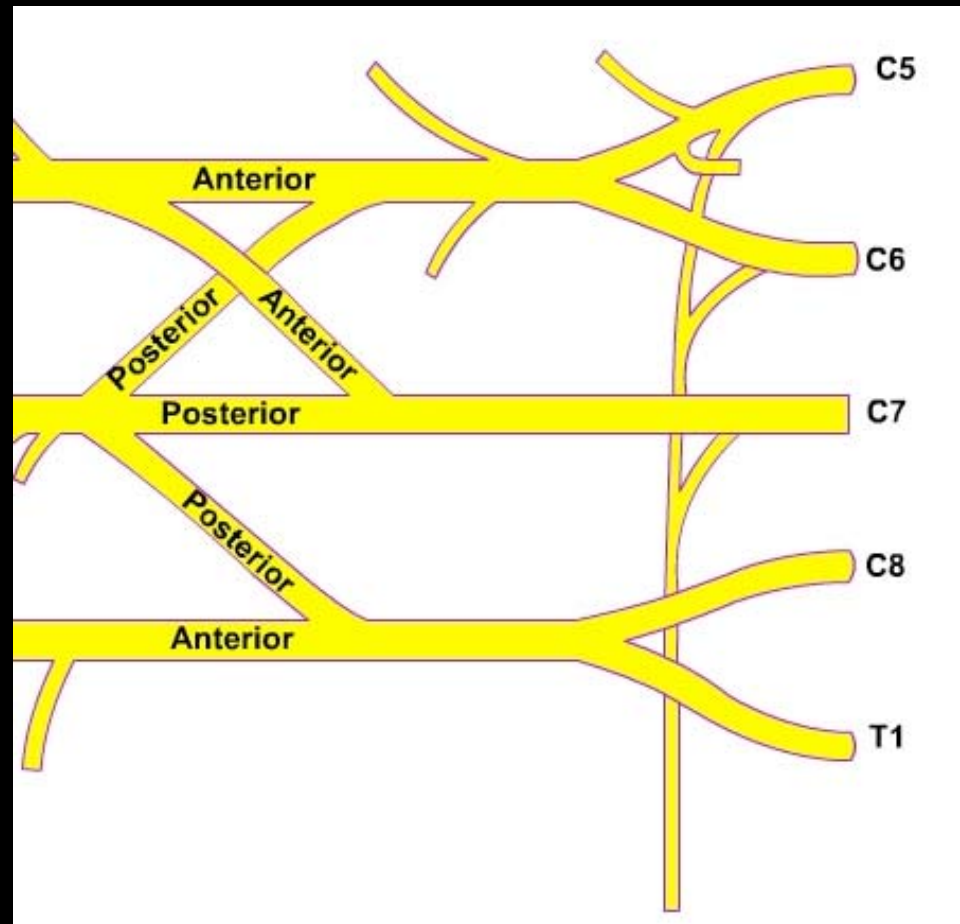
Brachial Plexus – Roots



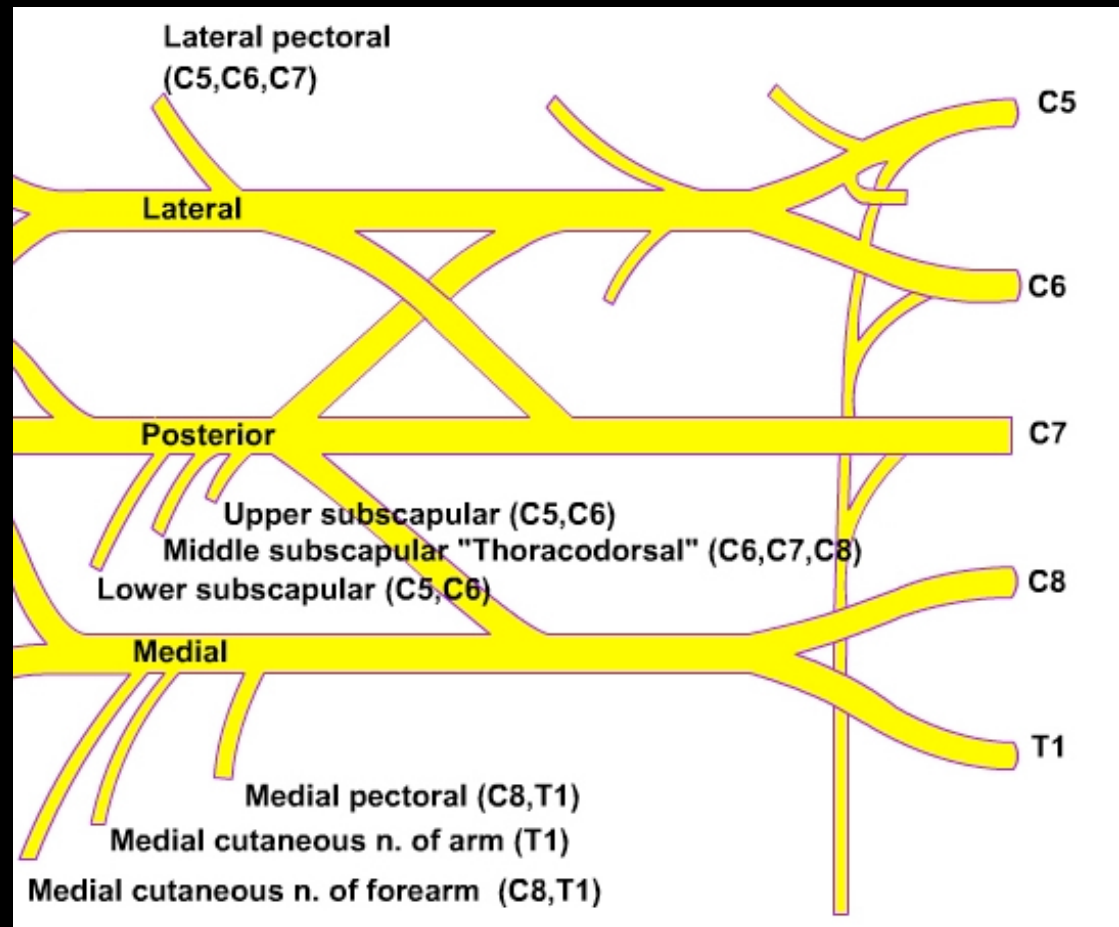
Brachial Plexus – Trunks



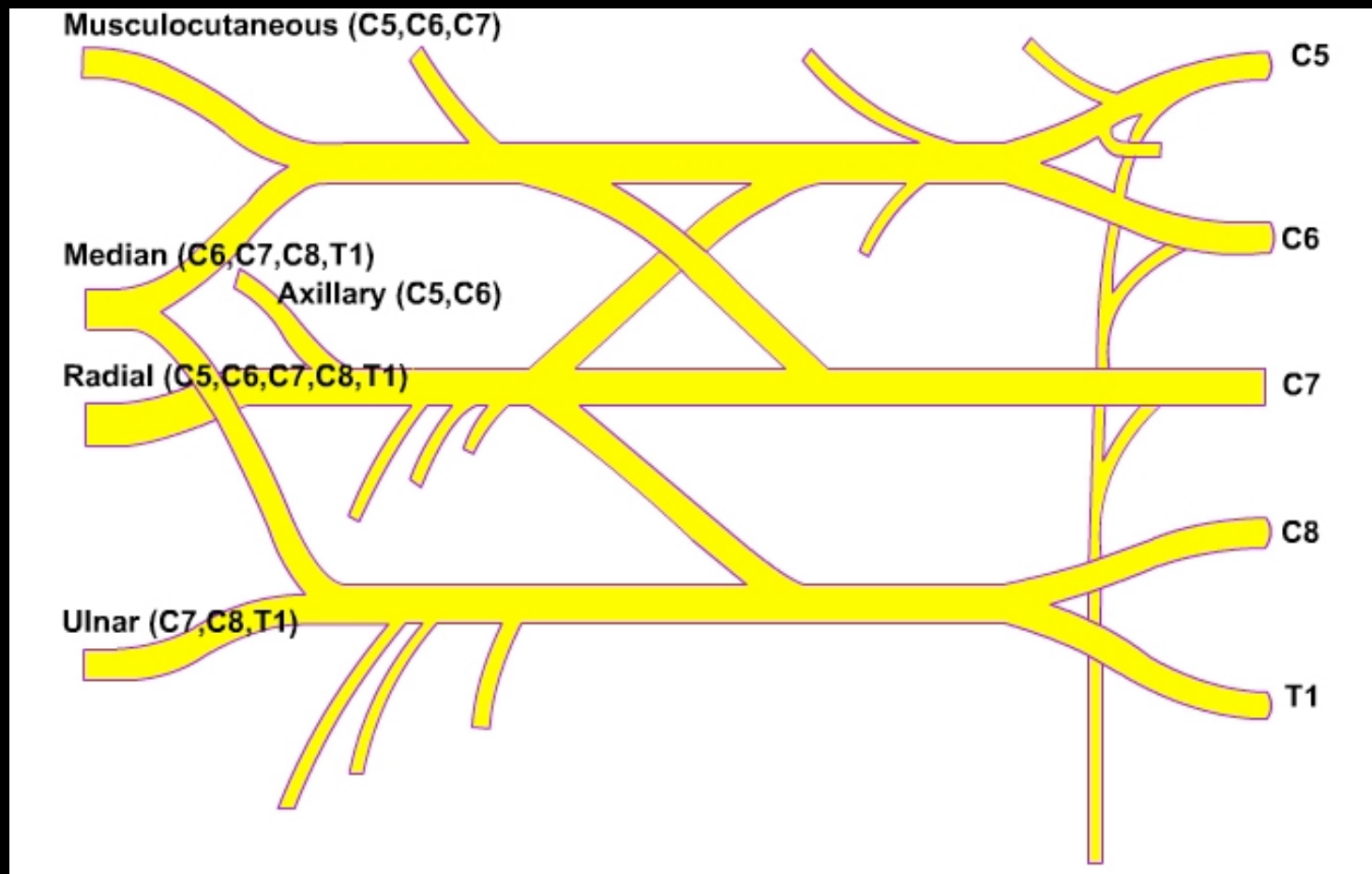
Innervation – Divisions



Innervation – Cords

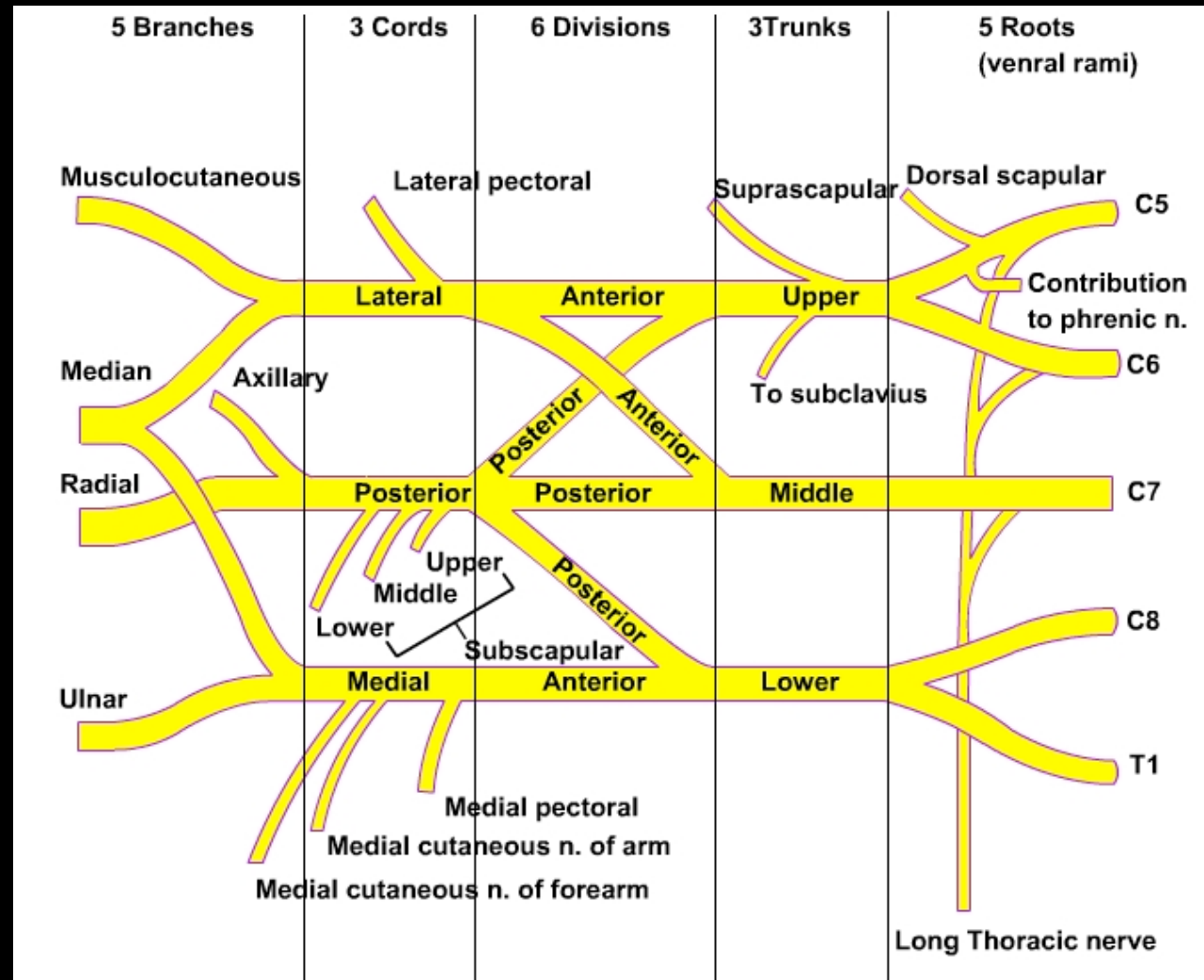


Innervation – Branches



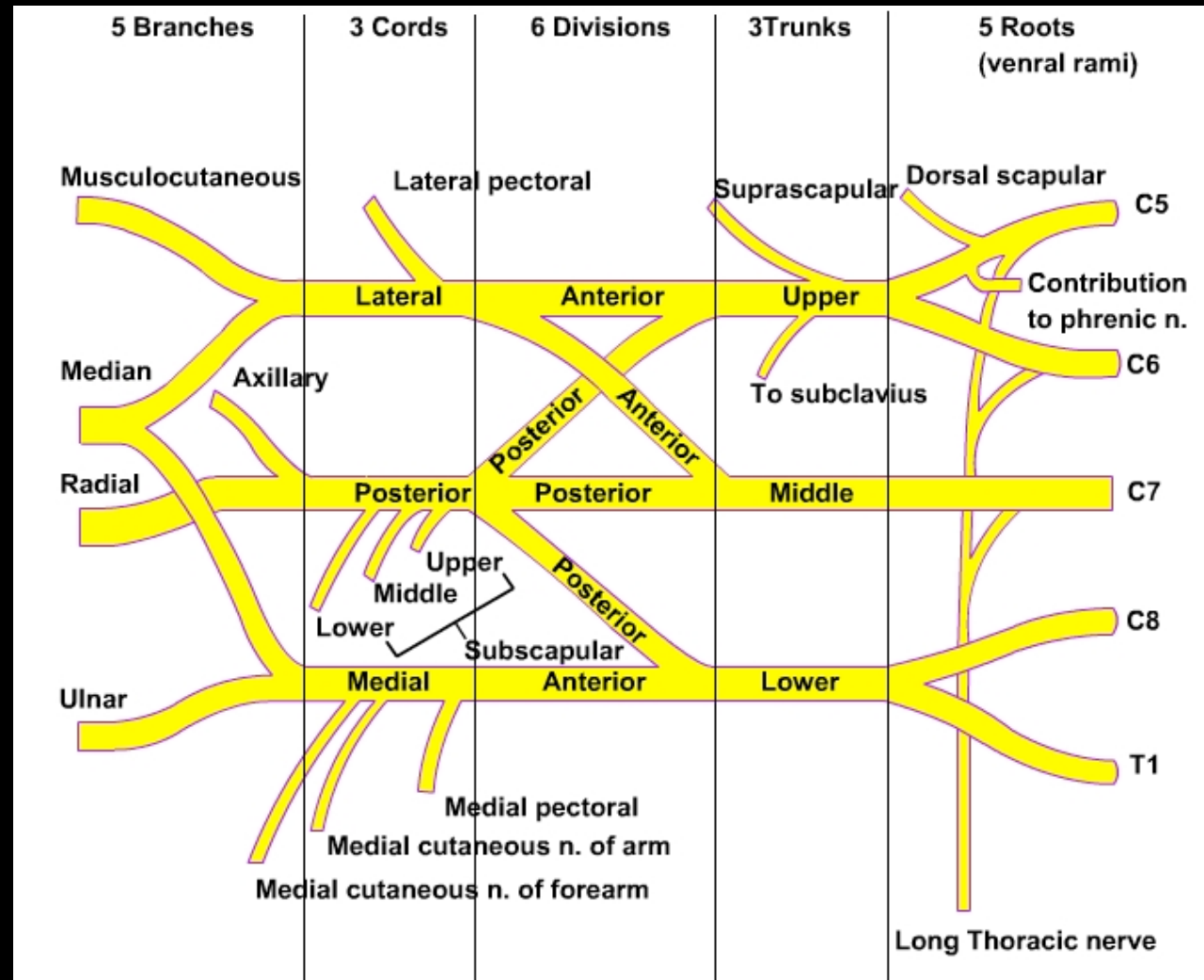
6) Innervation – Brachial Plexus

Randy
Travis
Drinks
Cold
Beer



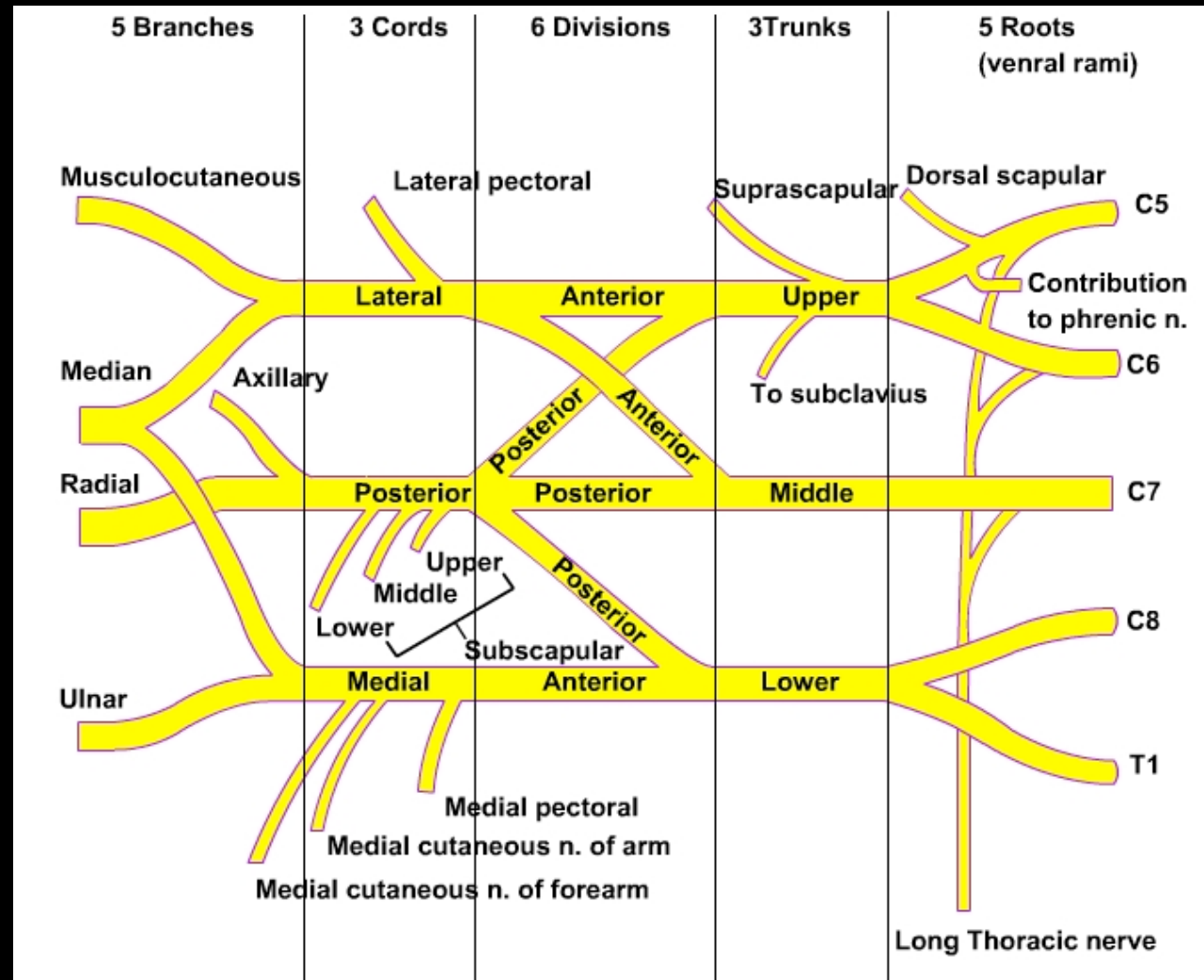
6) Innervation – Brachial Plexus

Randy
Travis
Drinks
Cold
Beverages

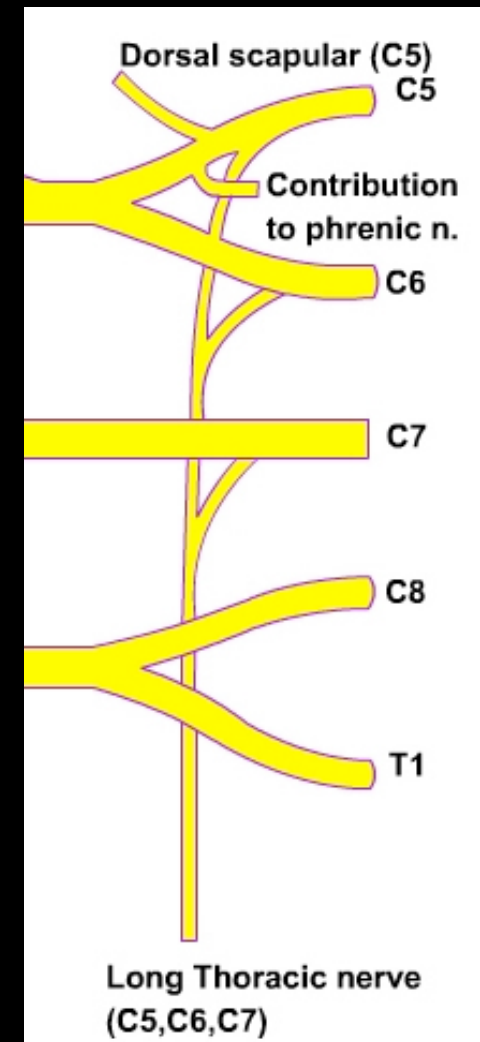


6) Innervation – Brachial Plexus

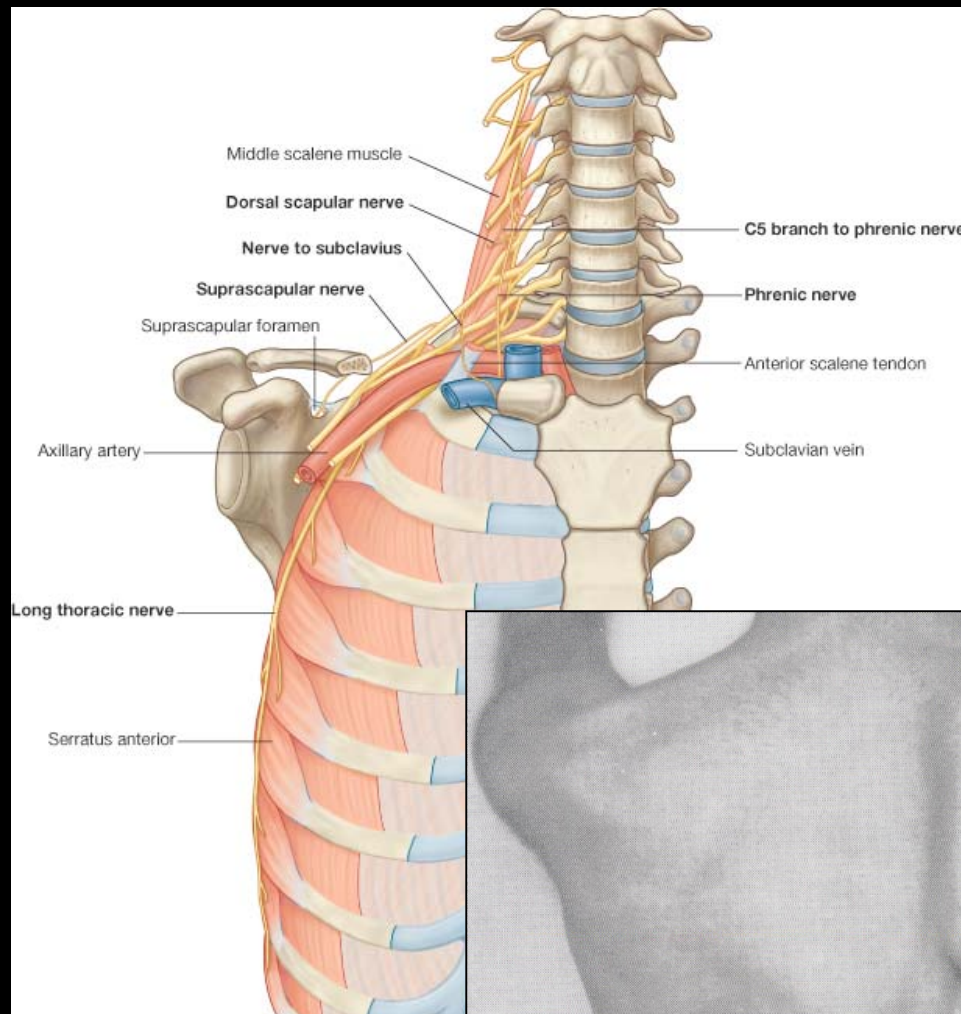
Randy
Travis
Drinks
Cold
Beer



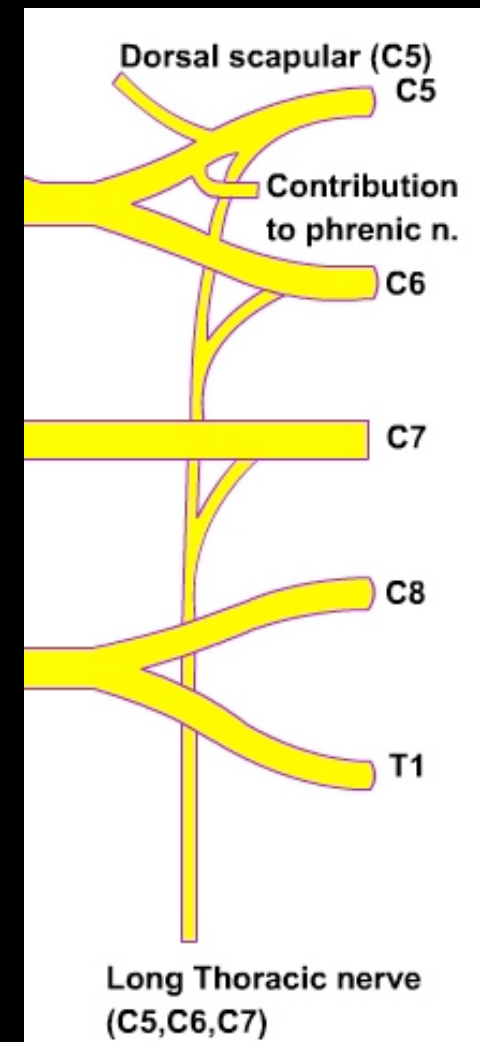
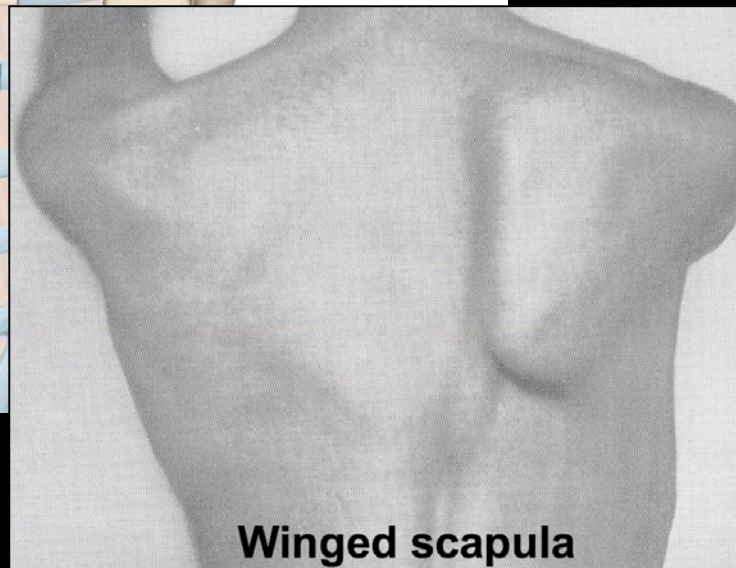
Brachial Plexus – Roots



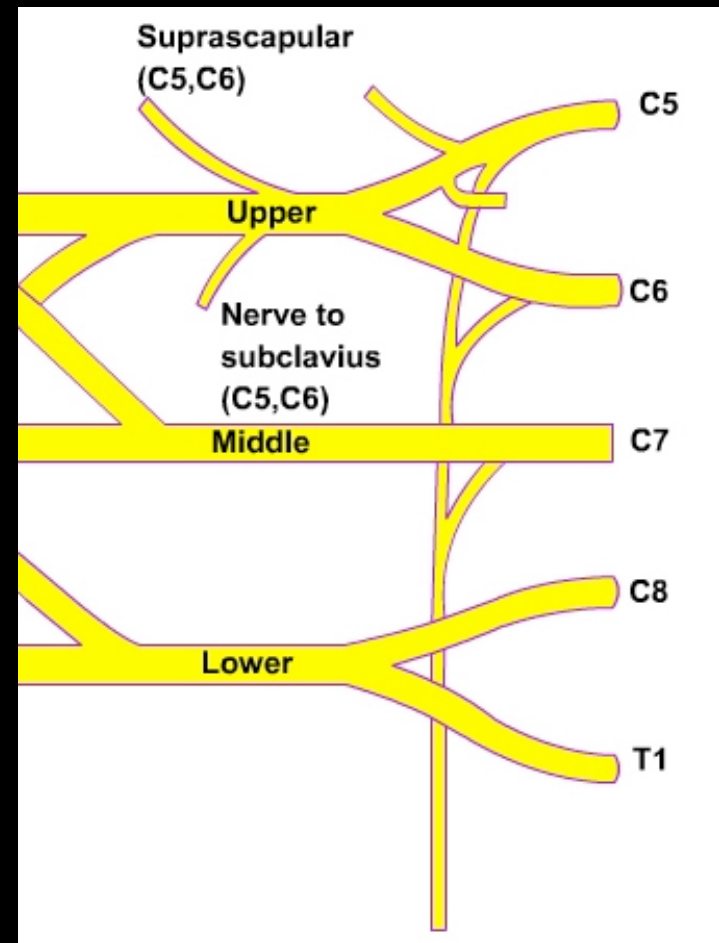
Brachial Plexus – Roots



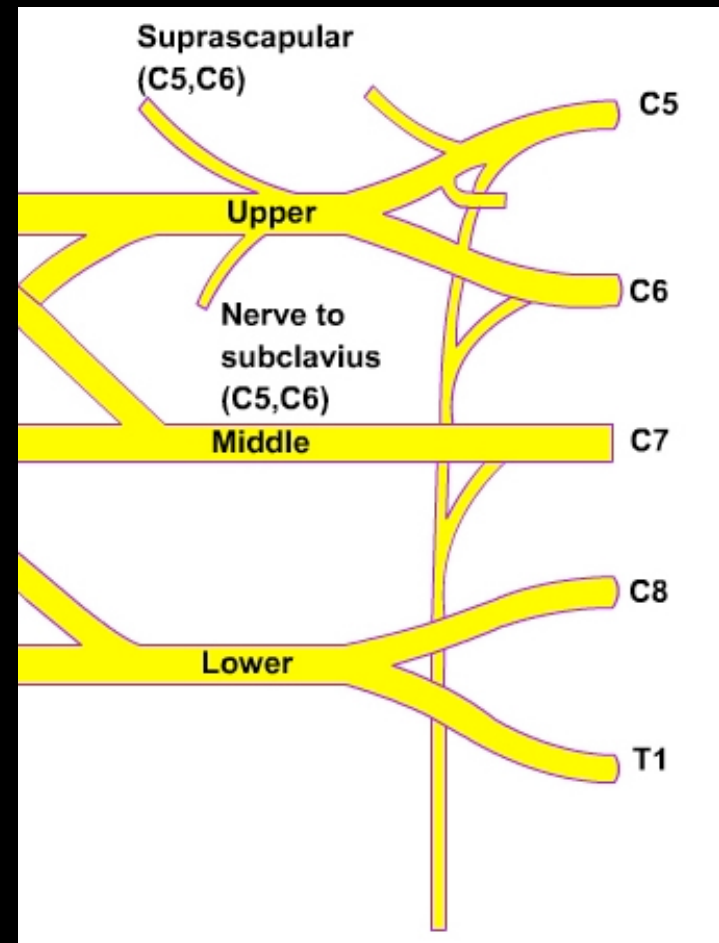
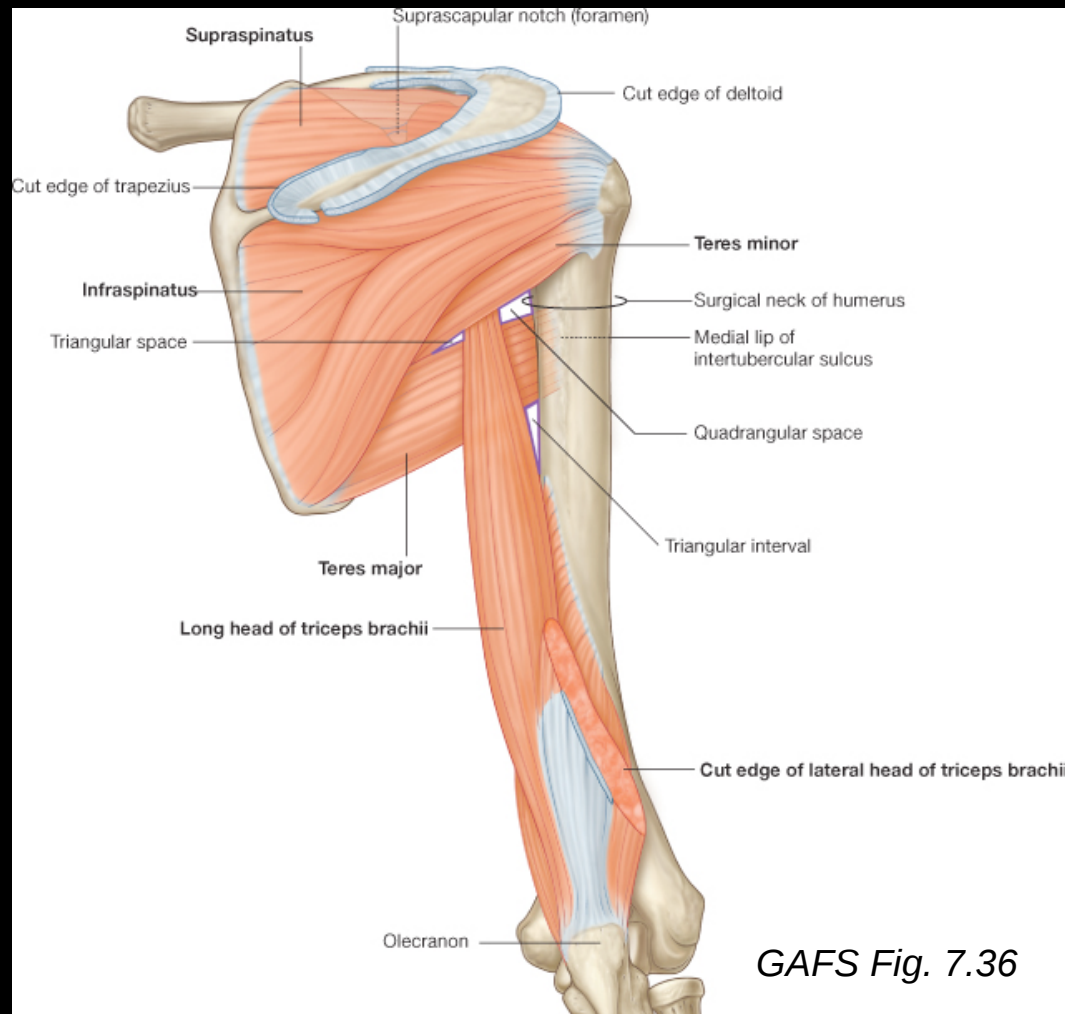
GAFS Fig. 7.53



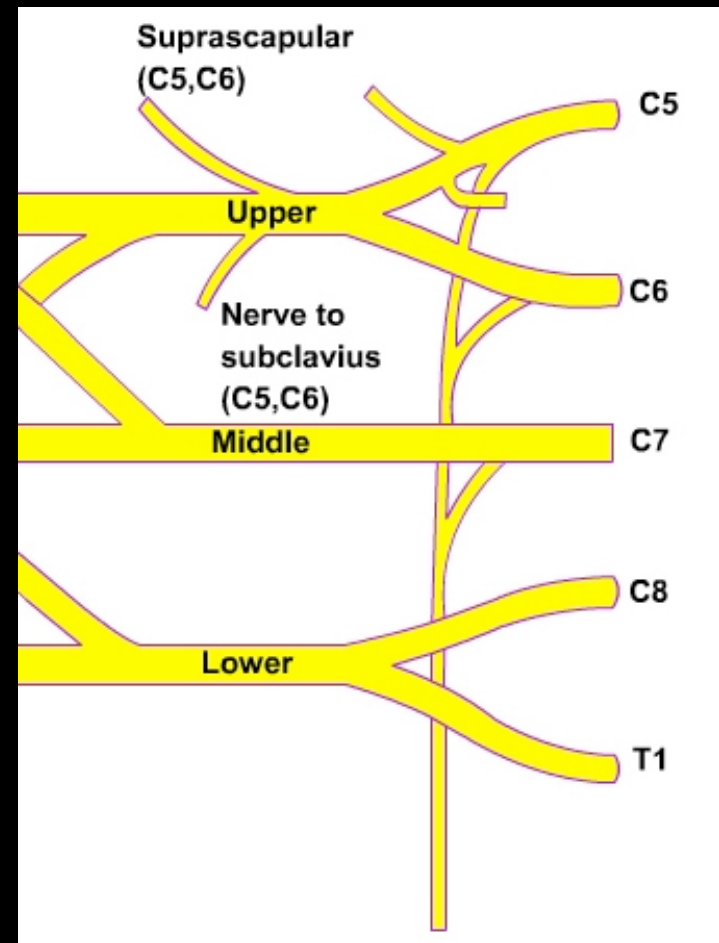
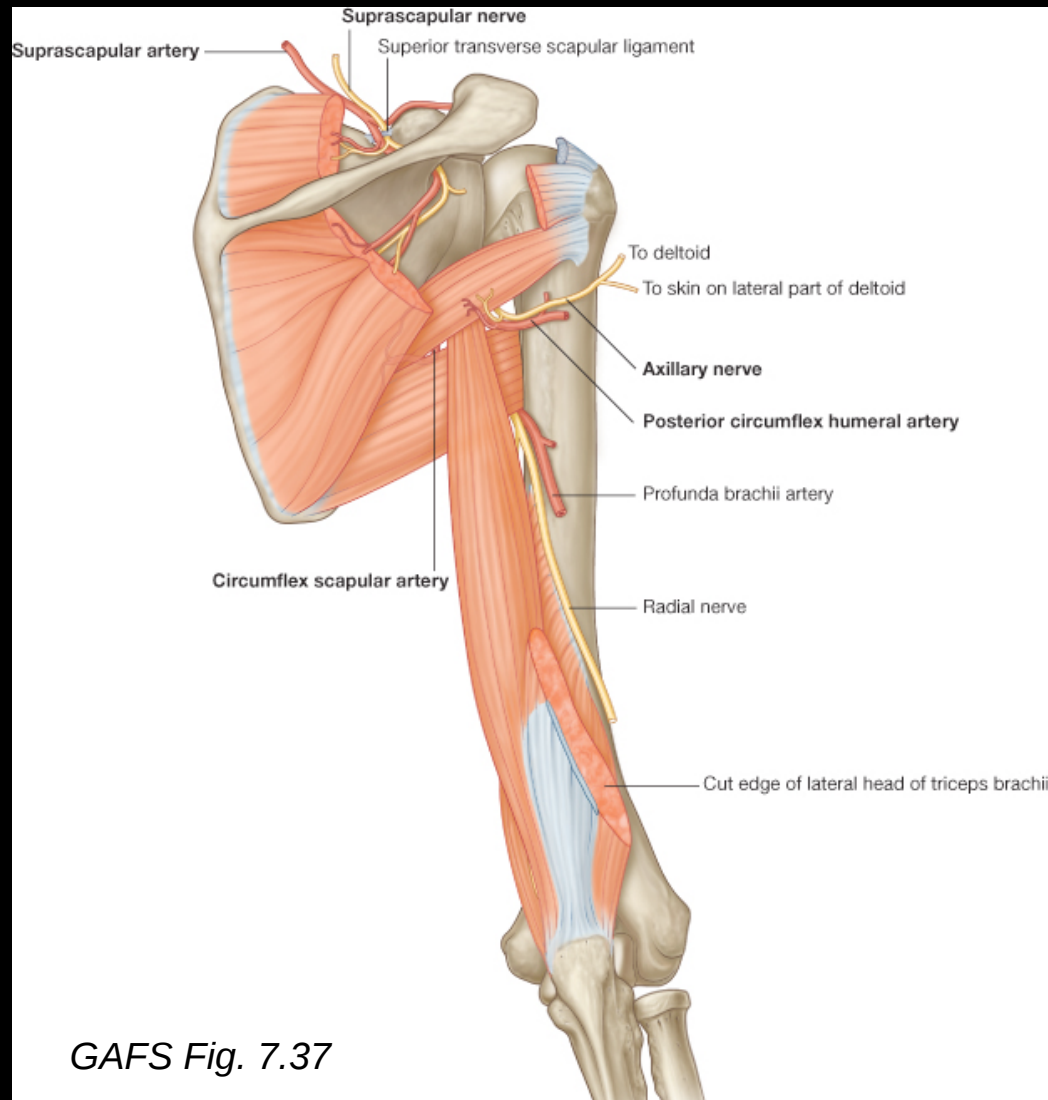
Brachial Plexus – Trunks



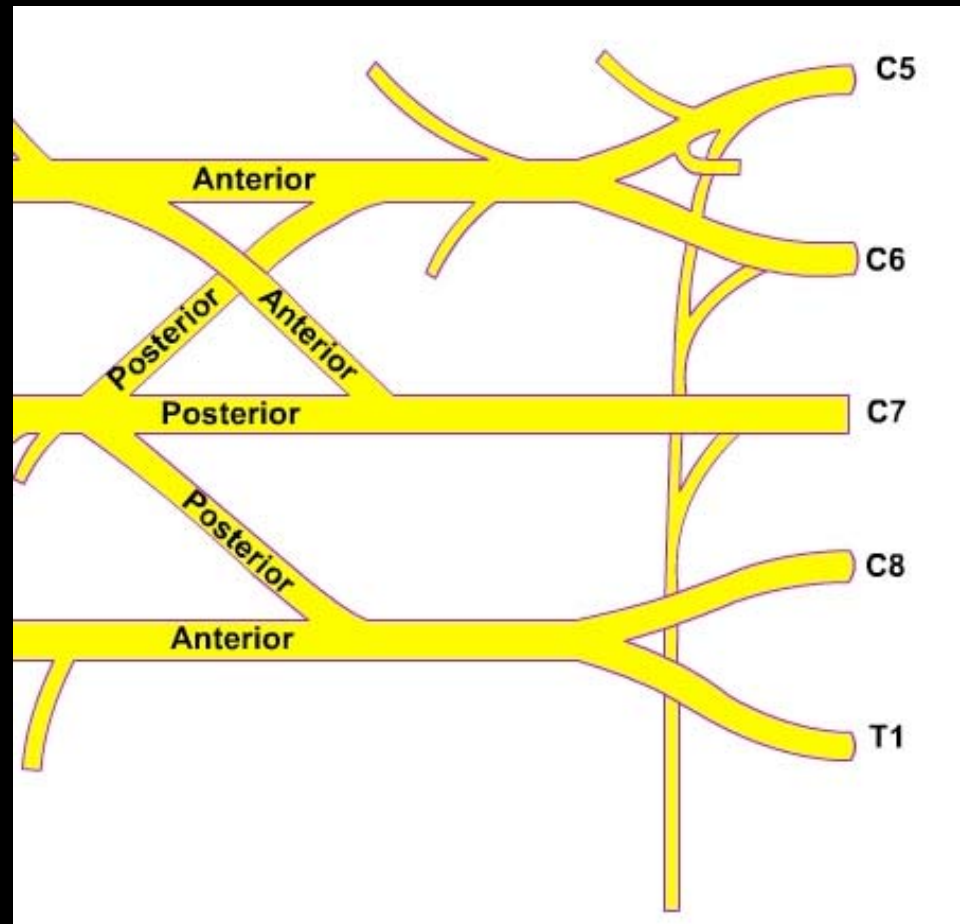
Brachial Plexus – Trunks



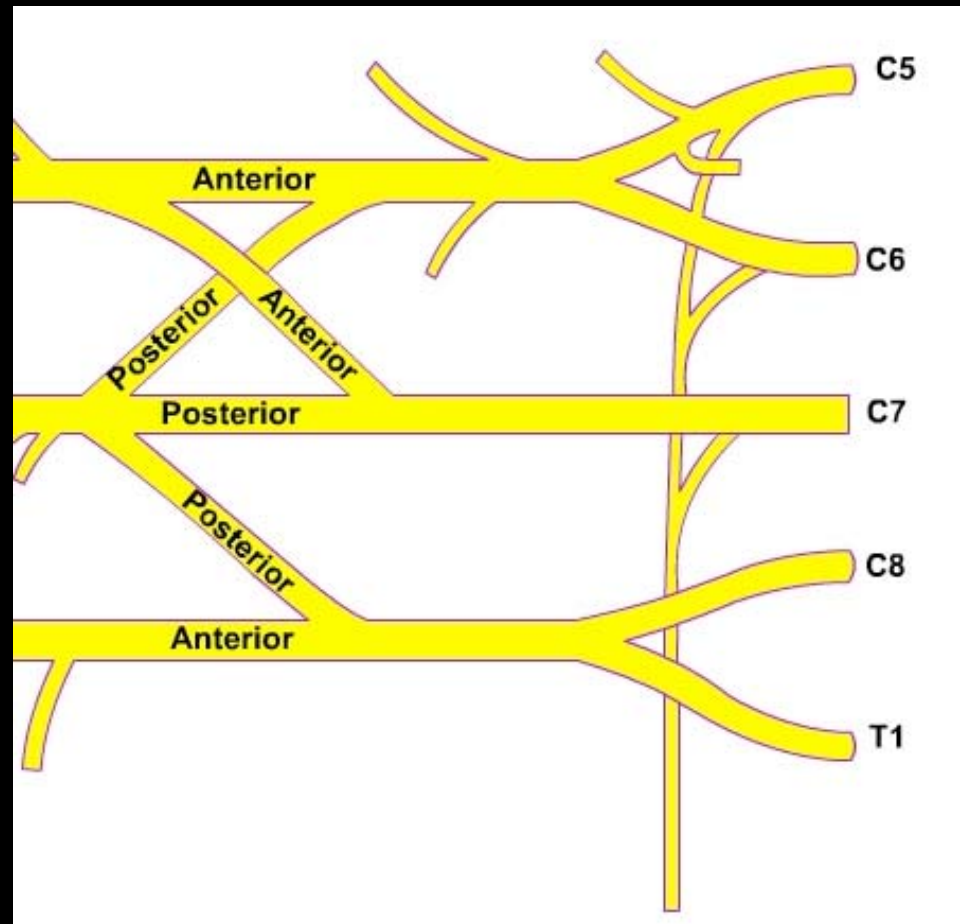
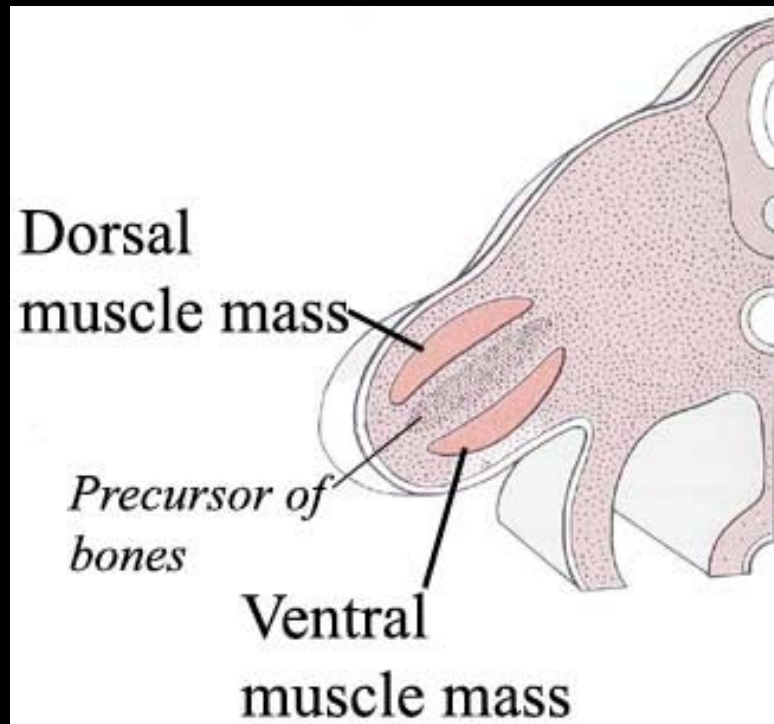
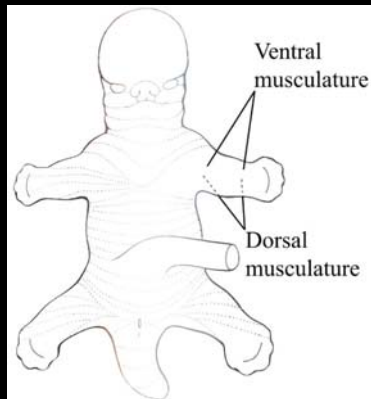
Brachial Plexus – Trunks



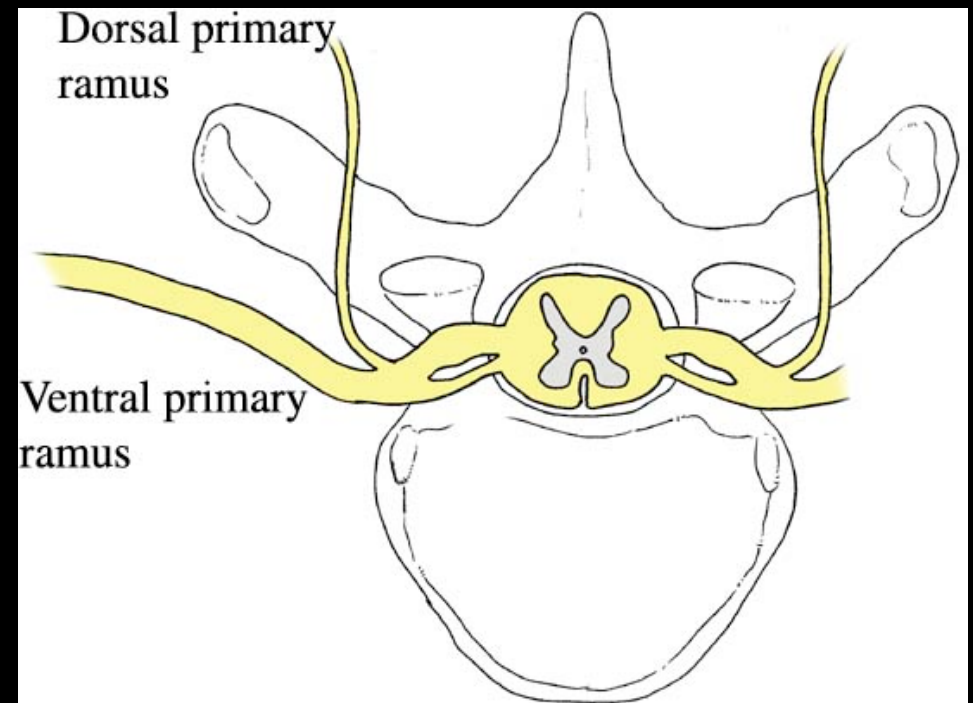
Innervation – Divisions



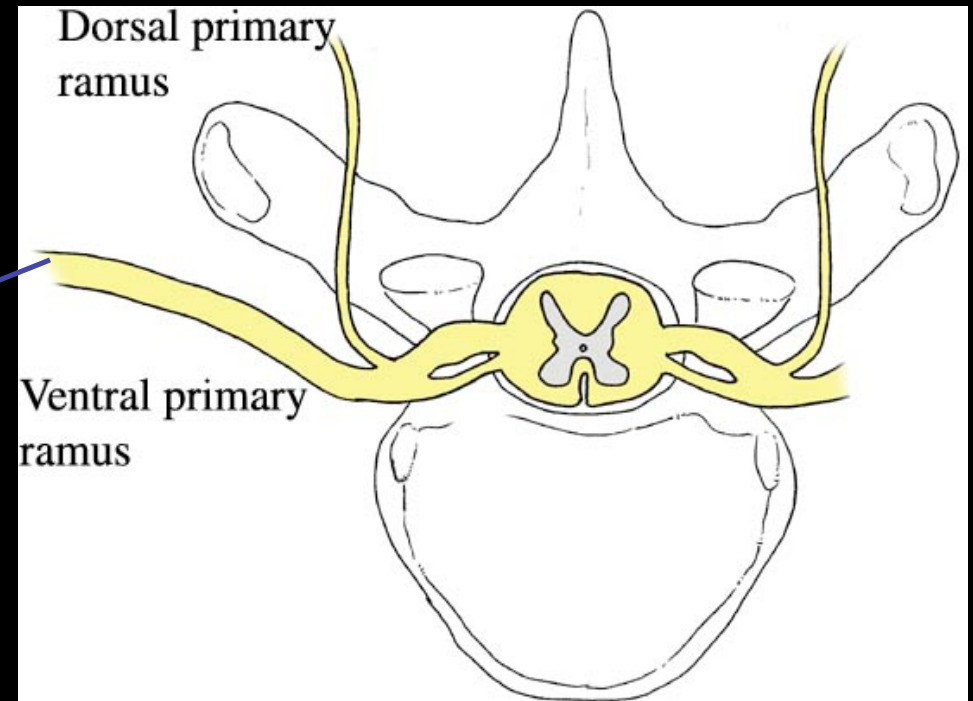
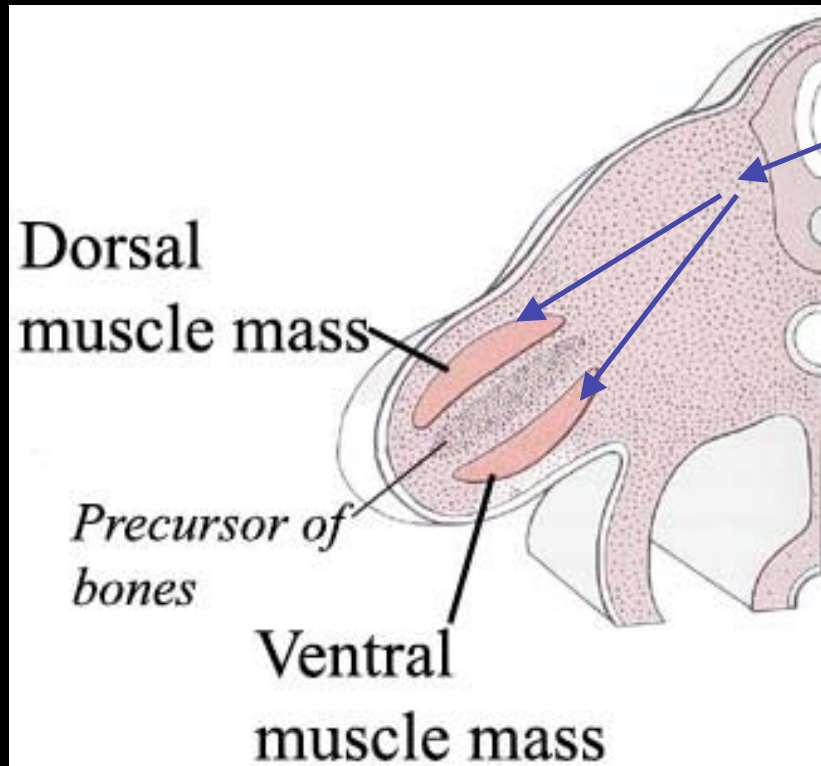
Innervation – Divisions



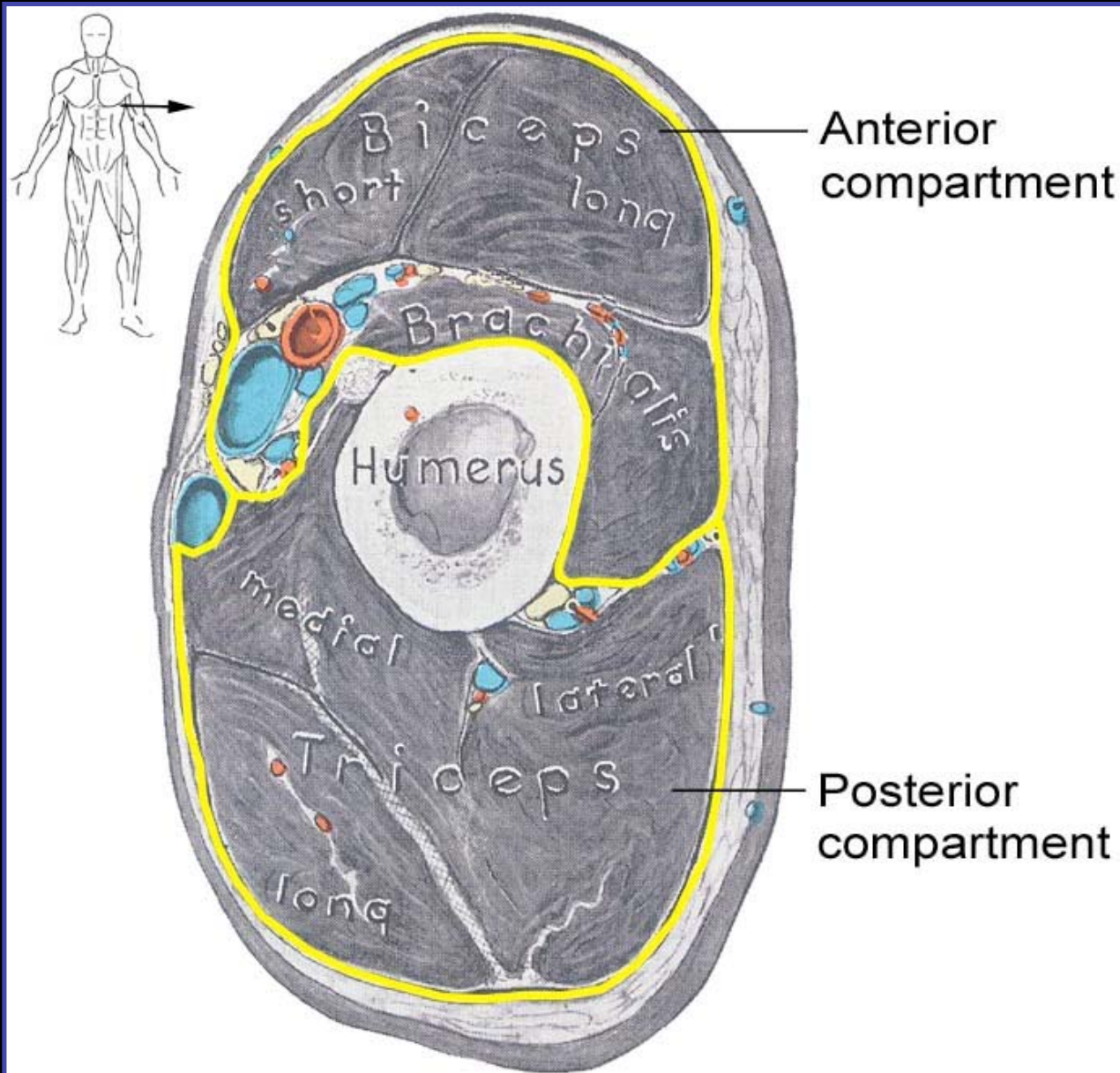
Innervation – Divisions



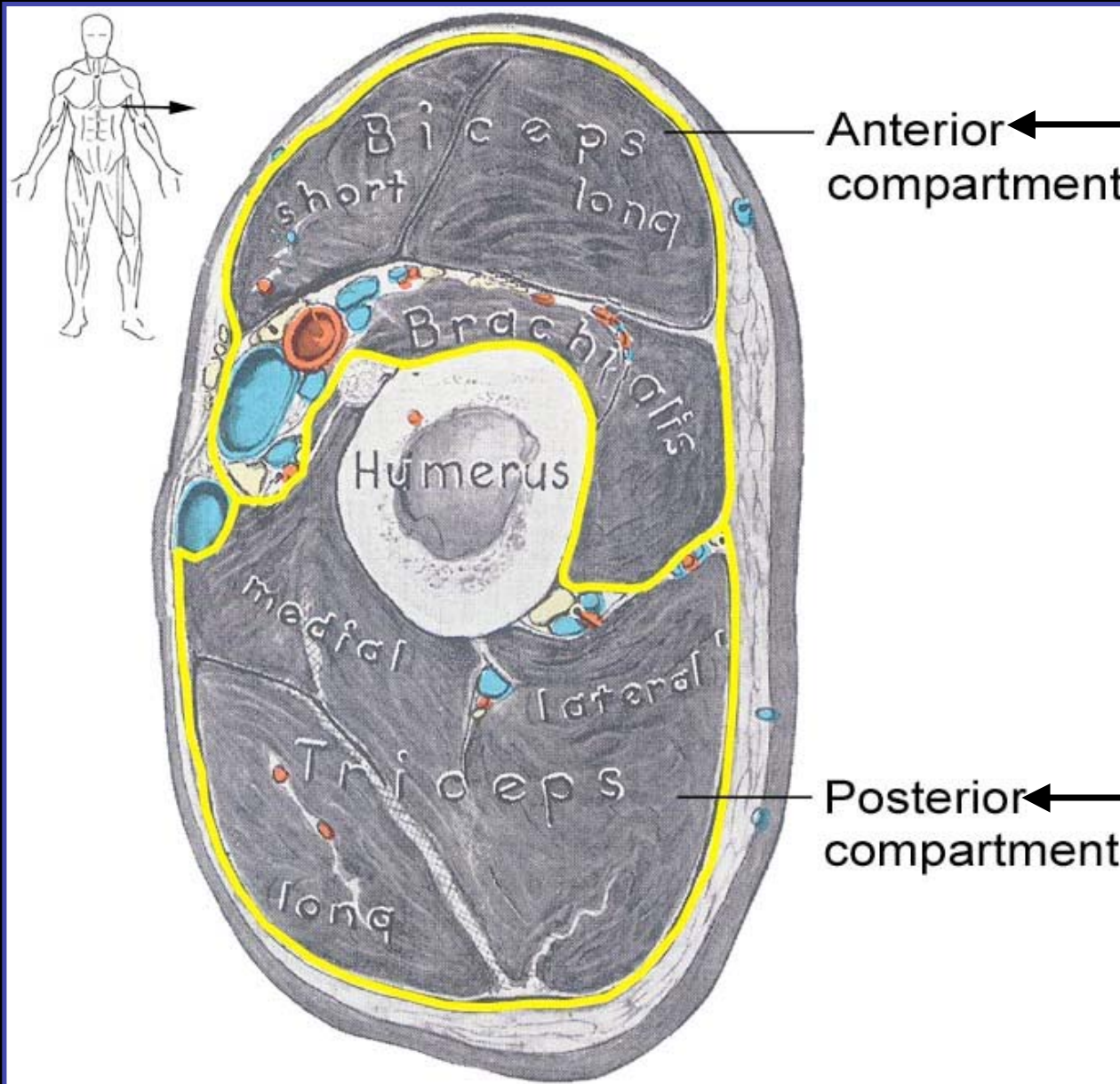
Innervation – Divisions



Innervation – Divisions



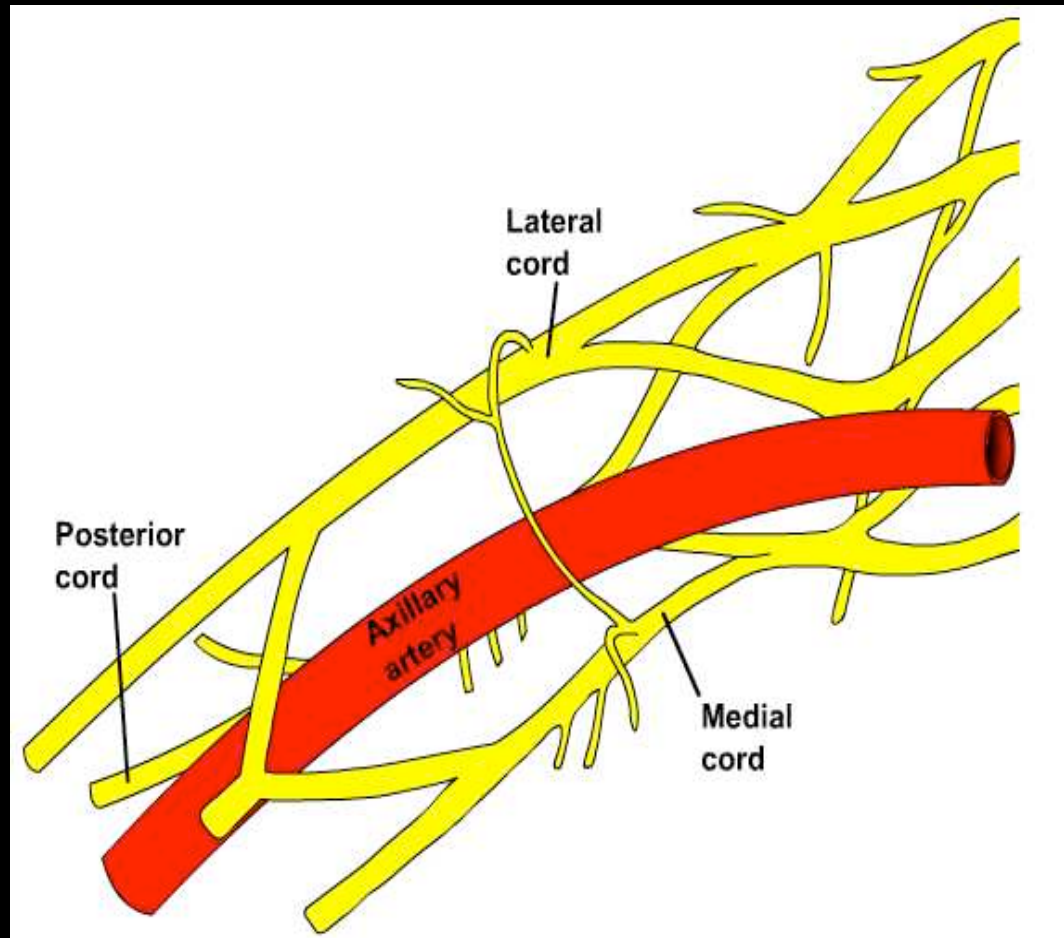
Innervation – Divisions

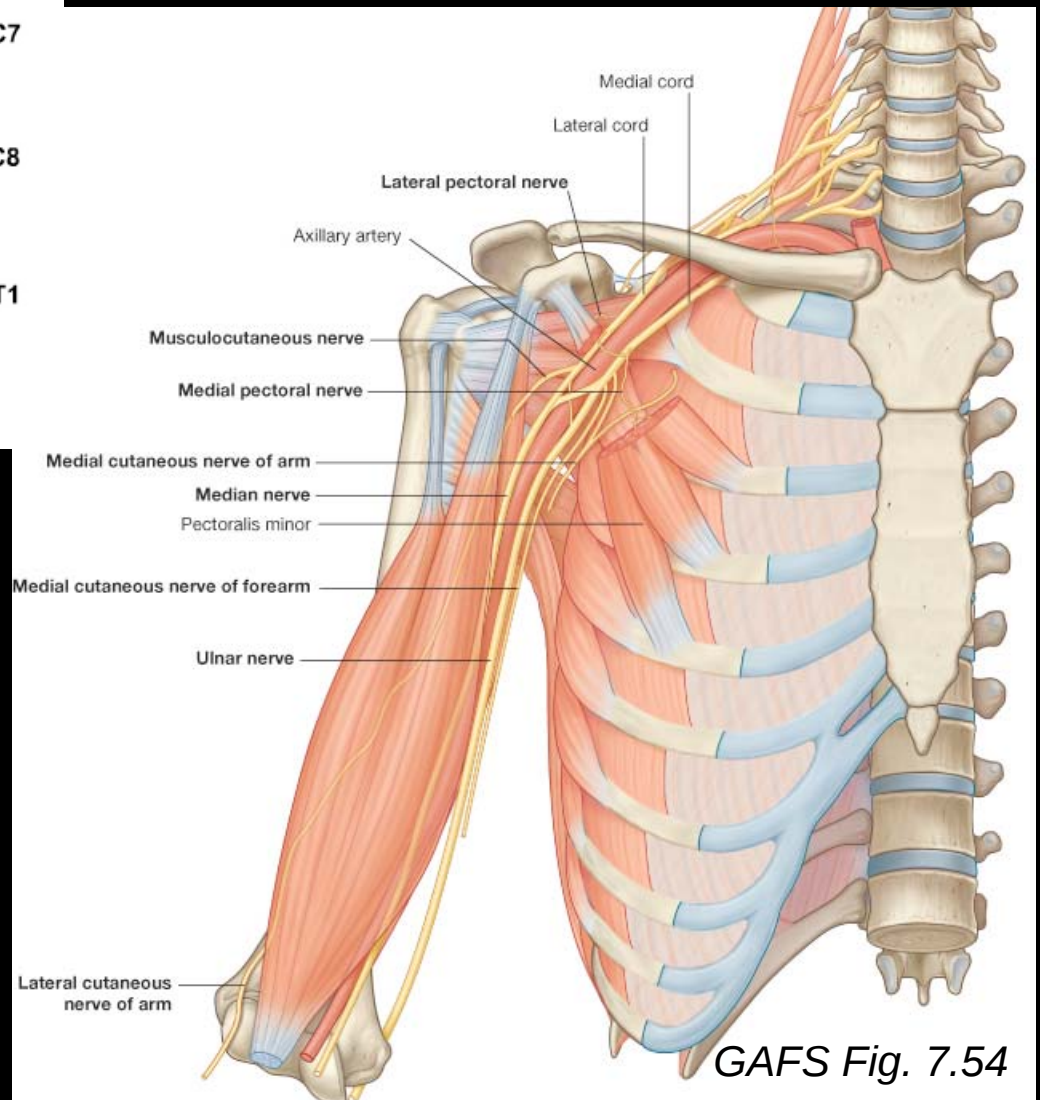
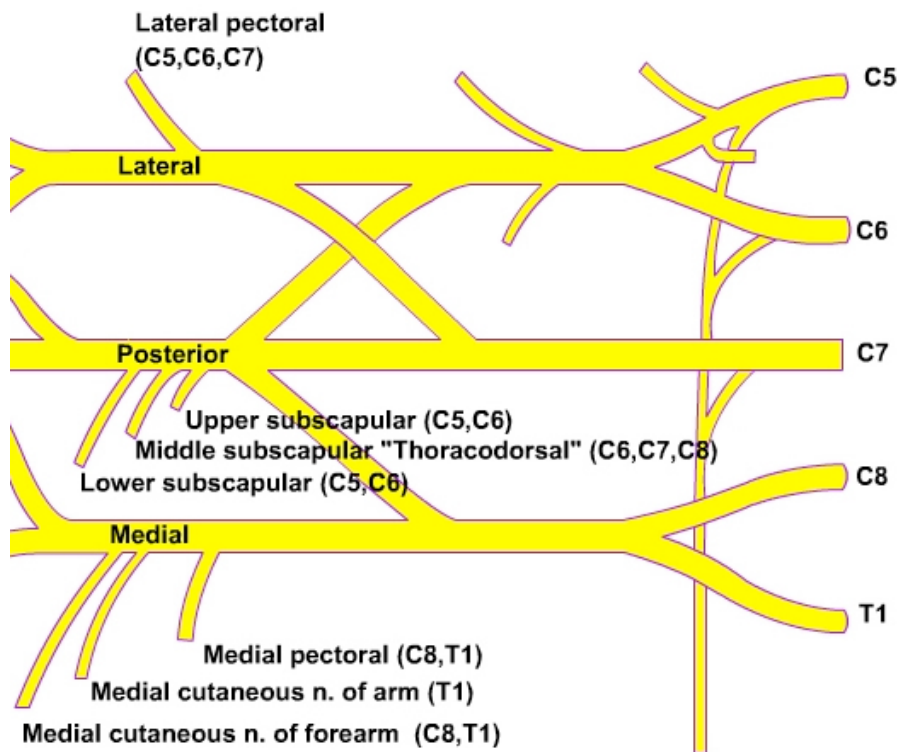


Derived from:
Ventral musculature
Innervated by Anterior
Division of Anterior Rami

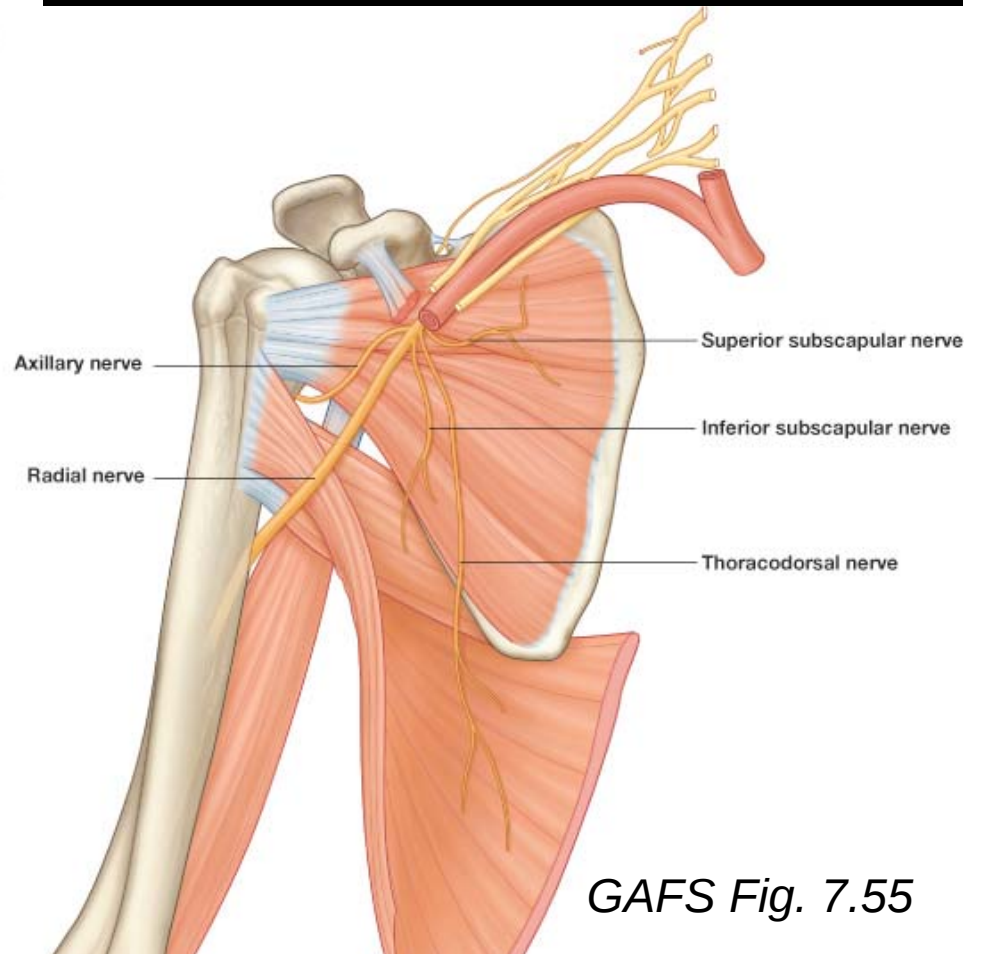
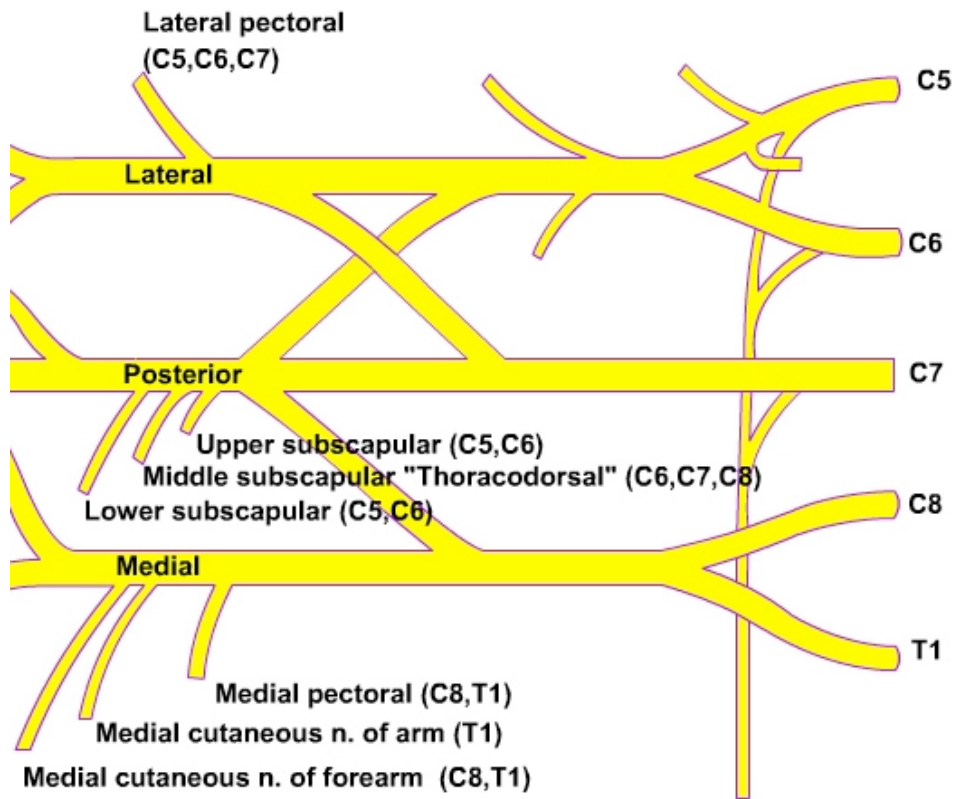
Derived from:
Dorsal musculature
Innervated by Posterior
Division of Anterior Rami

Innervation – Cords



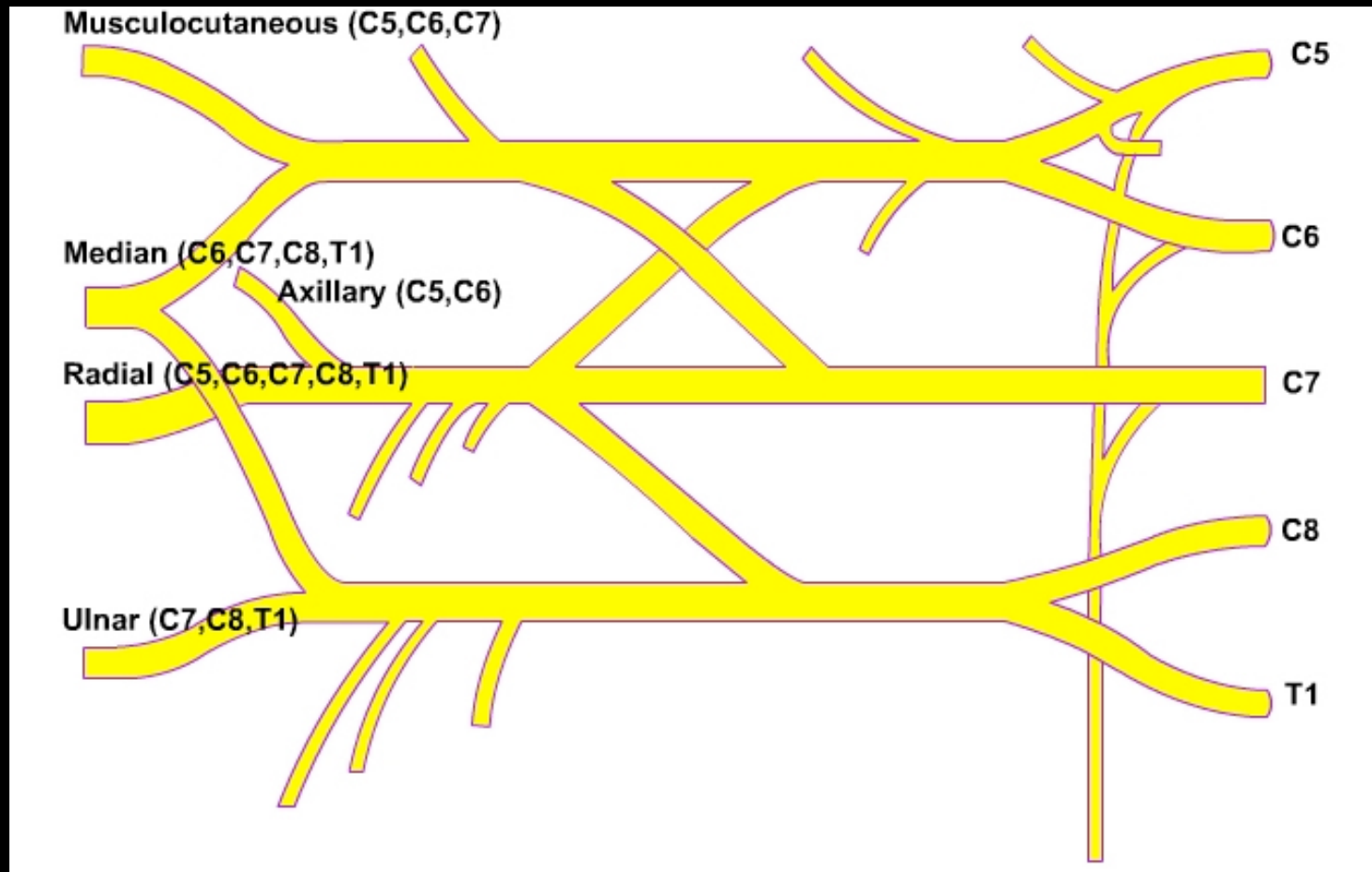


GAFS Fig. 7.54

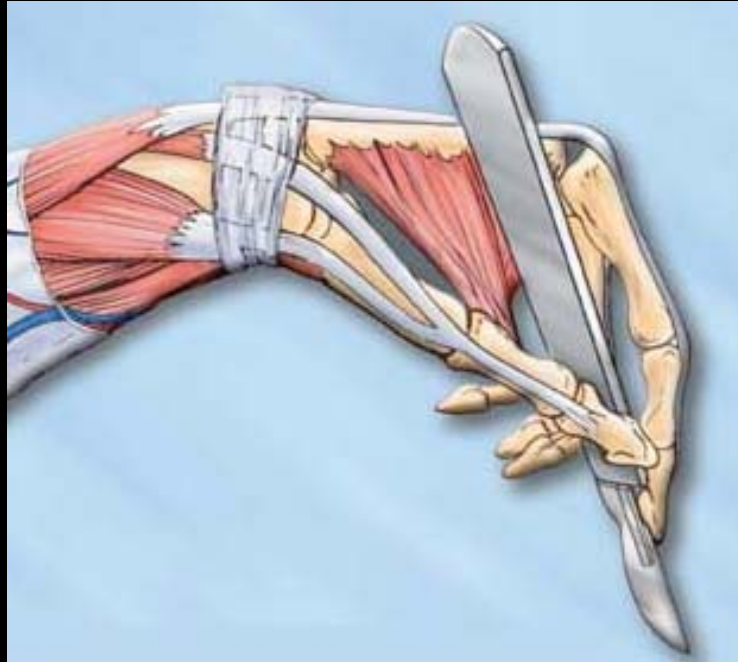


GAFS Fig. 7.55

Innervation – Branches



Pick-up with picture on pg. 7 tomorrow



THANK-YOU