

# Nerves of the Upper Extremity: The Brachial Plexus, Part 1 of 3

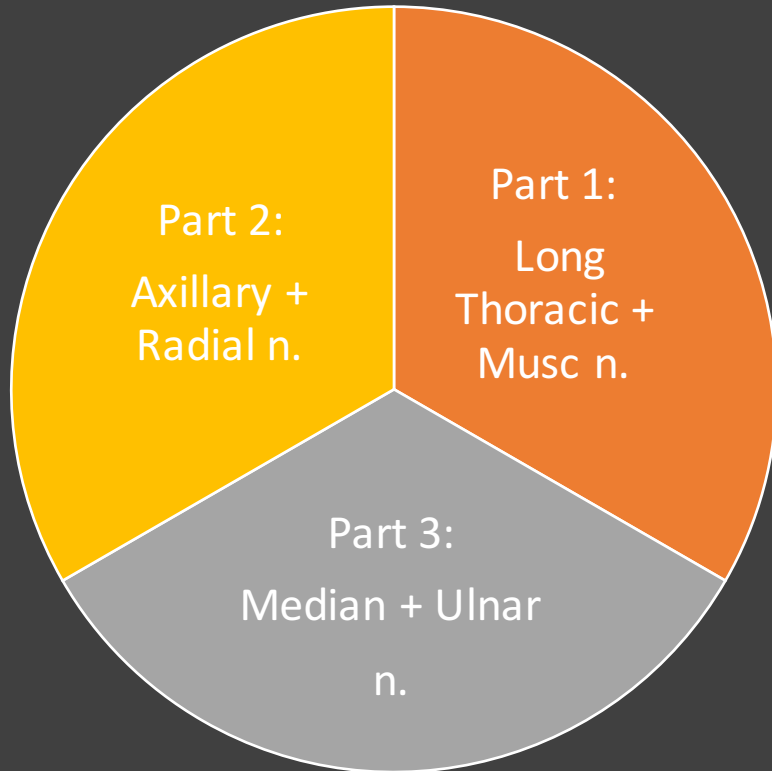
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# Video Breakdown



①

Long Thoracic and  
Musculocutaneous n.

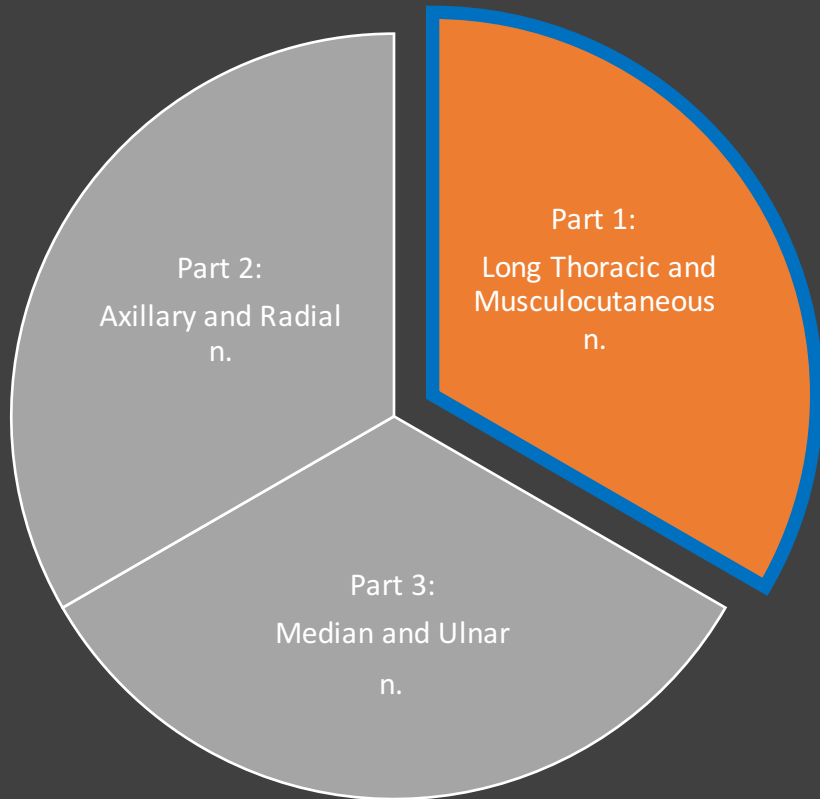
②

Axillary and Radial n.

③

Median and Ulnar n.

# Today's Focus



①

**Long Thoracic and  
Musculocutaneous n.**

②

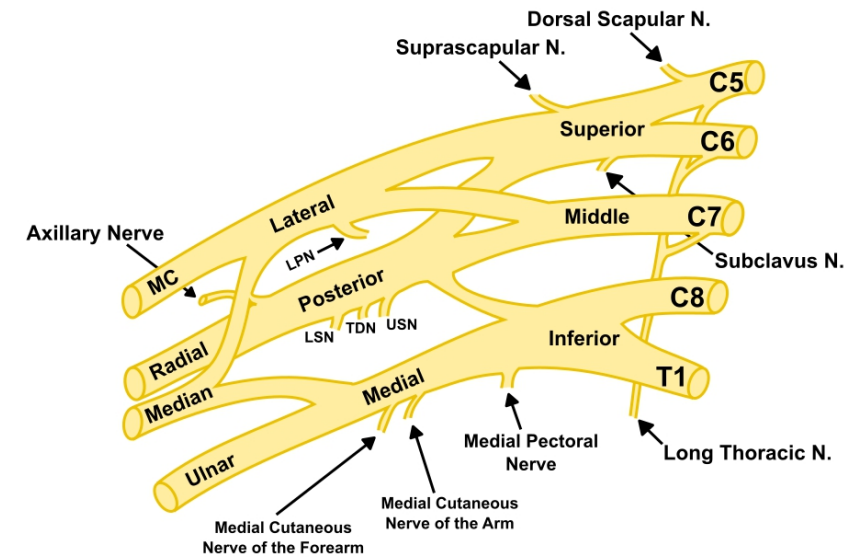
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# The Brachial Plexus

- A network of nerves formed by the ventral rami of **C5-T1**
- Function: Supplies **motor** and **sensory** innervation to the shoulder, arm, and hand

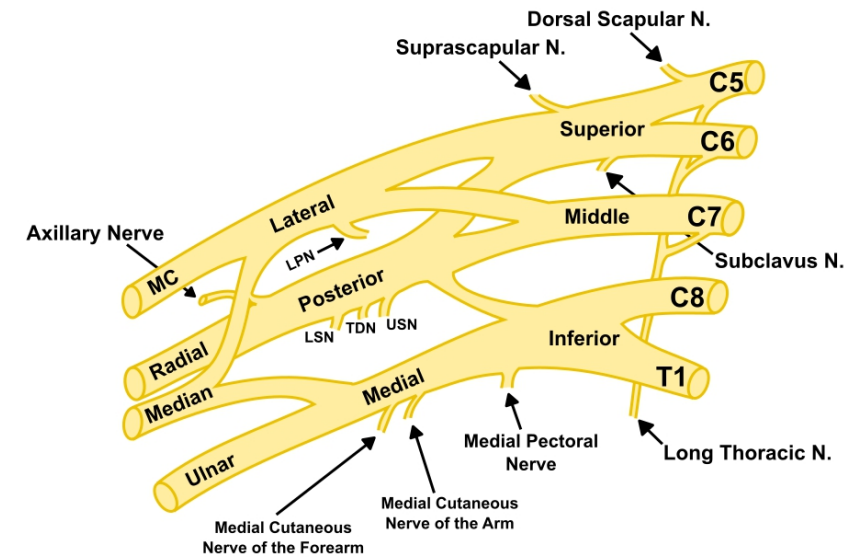


## Key

- MC = Musculocutaneous nerve
- LPN = Lateral pectoral nerve
- USN = Upper subscapular nerve
- TDN = Thoracodorsal nerve
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- Made up of:
  - Roots
  - Trunks
  - Divisions
    - Upper, C5-C6
    - Middle, C7
    - Lower, C8-T1
  - Cords
  - Branches

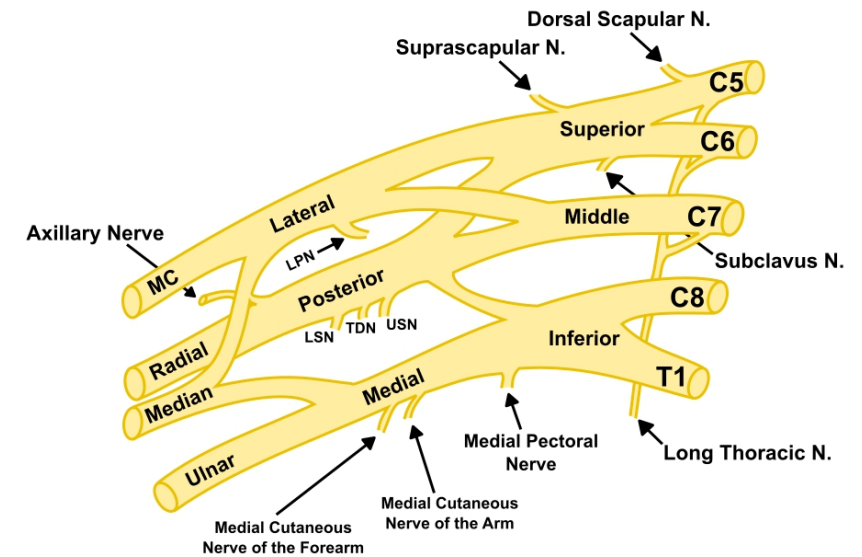


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  - Cords
  - Branches
- Injuries result in characteristic clinical signs
  - Muscle weakness
  - Sensory loss or paresthesia

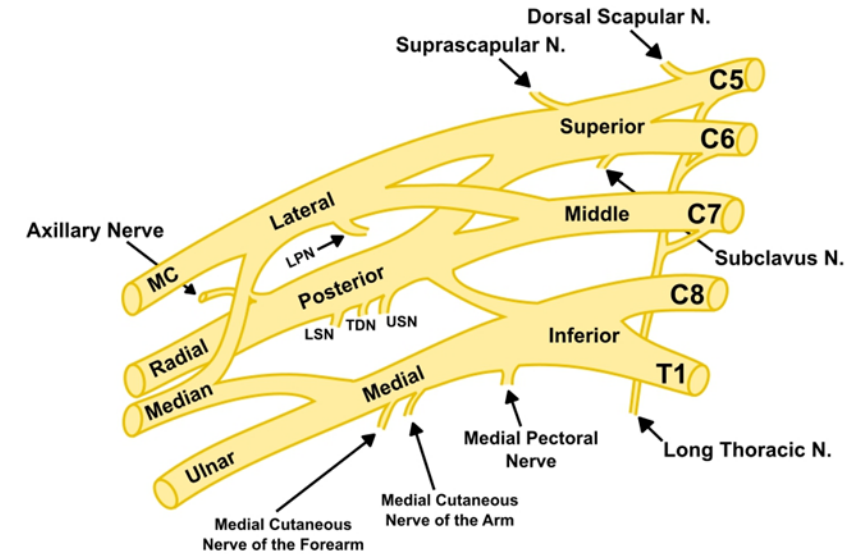


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# Tackling Brachial Plexus Questions

- Most commonly tested brachial plexus nerves include:
  - Long thoracic\*
  - Musculocutaneous
  - Axillary
  - Median
  - Radial
  - Ulnar



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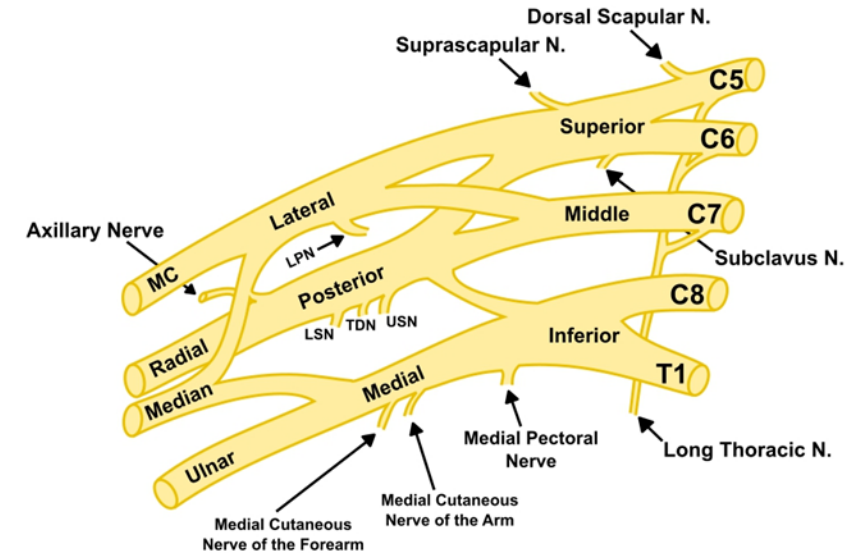
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*\*not a terminal branch of the brachial plexus*

# Tackling Brachial Plexus Questions

- Most commonly tested brachial plexus nerves include:
  - Long thoracic\*
  - Musculocutaneous
  - Axillary
  - Median
  - Radial
  - Ulnar
- Be familiar with:
  - The course of the nerves as they leave the spinal cord
  - The muscles and dermatomes these nerves are responsible for innervating
  - Deficits and characteristic clinical findings a/w nerve lesions

*\*not a terminal branch of the brachial plexus*



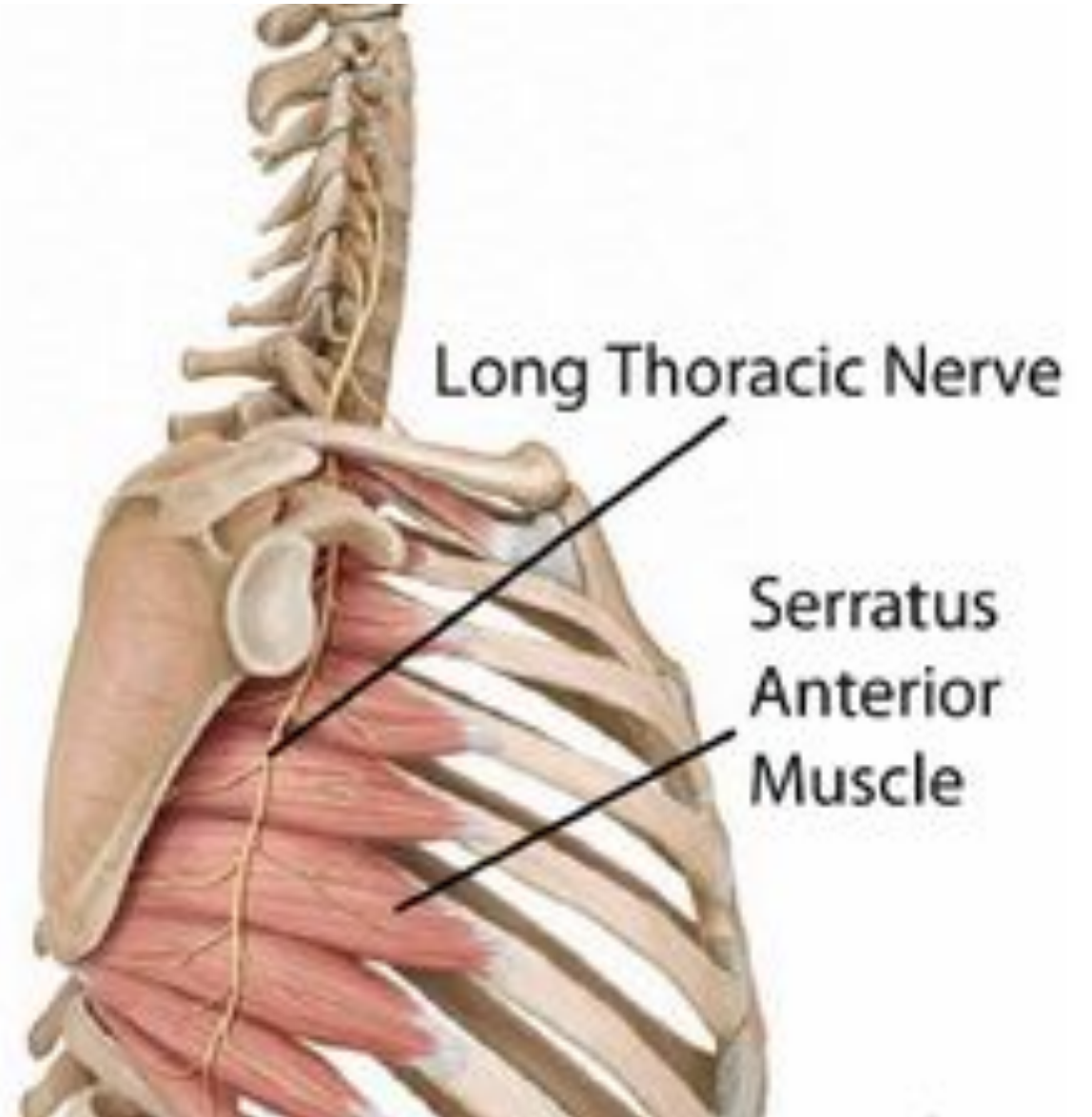
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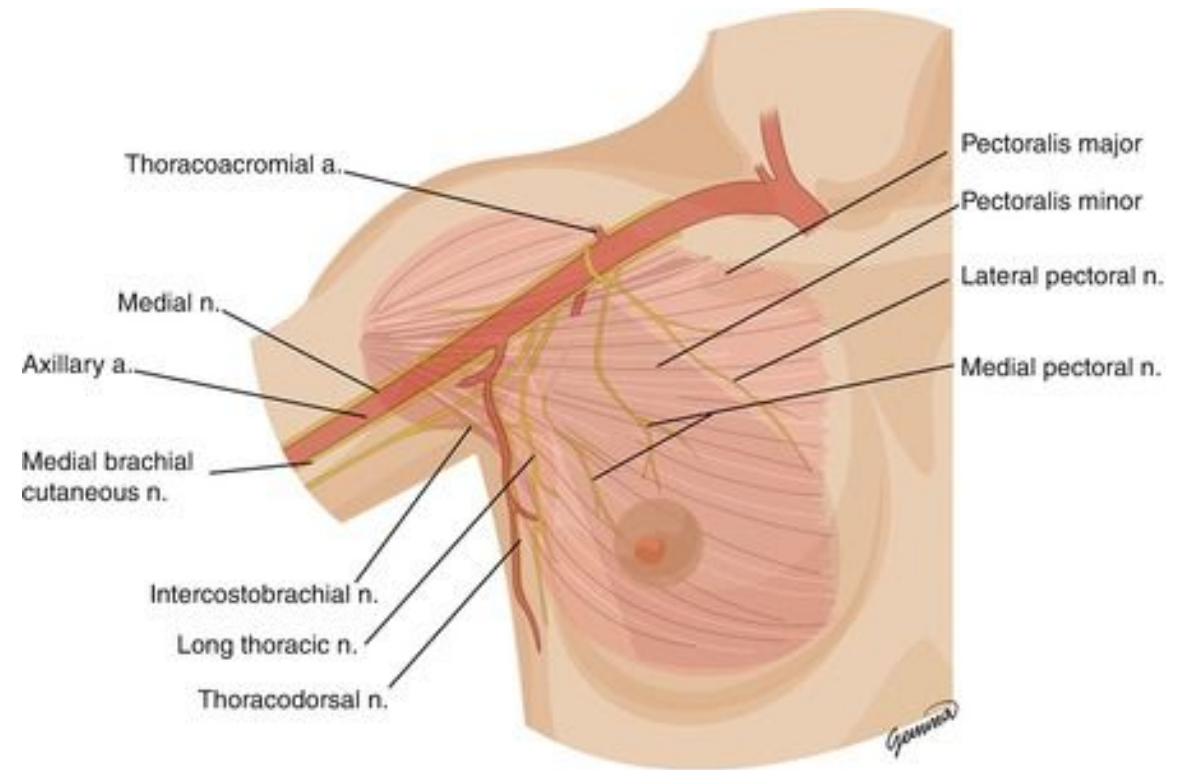
# Long Thoracic Nerve C5-C7

- **Course:** Inferiorly along lateral chest wall
- **Innervation:** Serratus Anterior
  - Protracts and upwardly rotates scapula
- **Injury:** Winging of the scapula
  - ❖ s/p Mastectomy



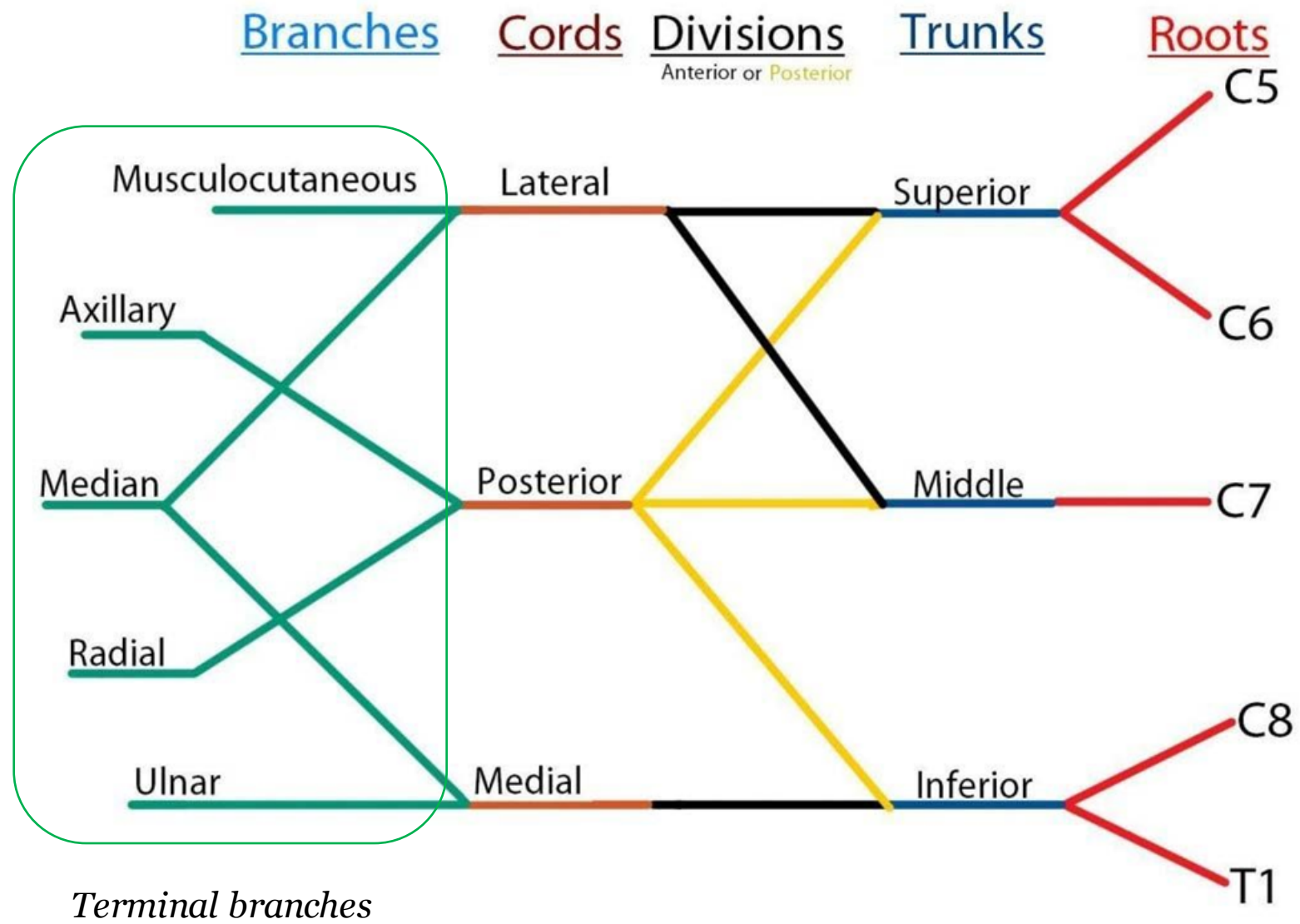
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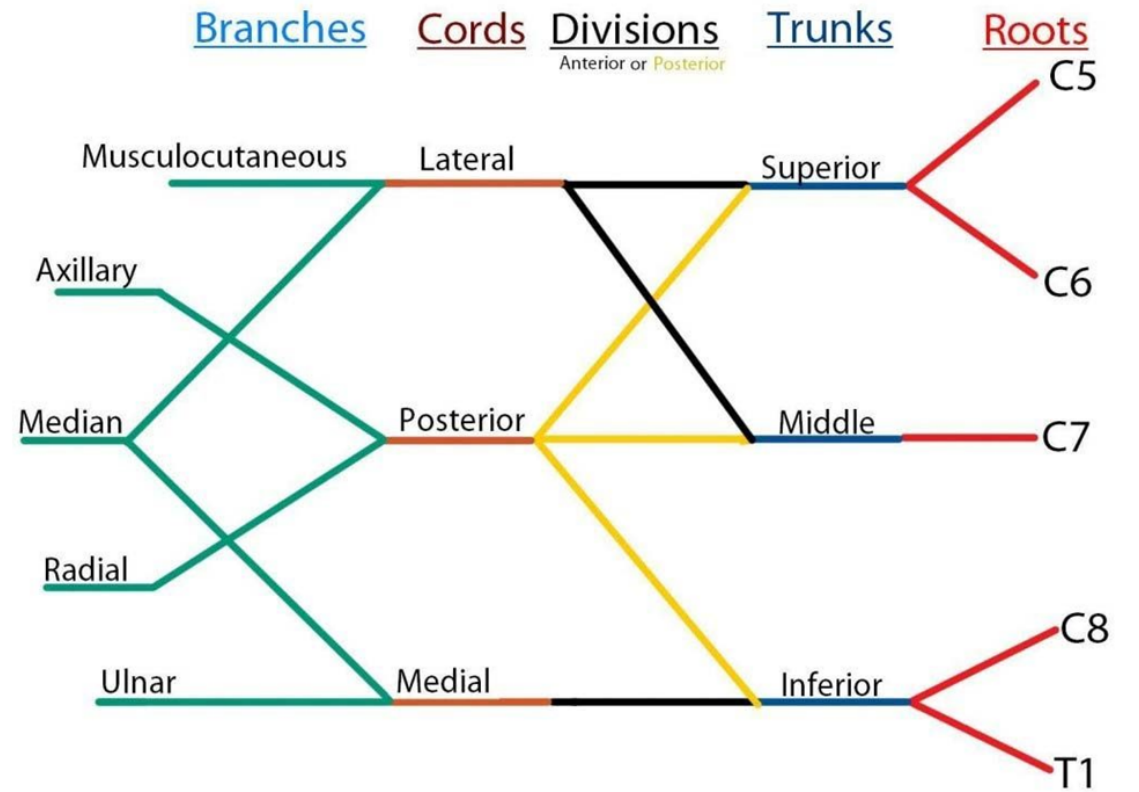


Winged Scapula:  
*Long Thoracic Nerve Injury*  
*(dorsal and medial protrusion)*



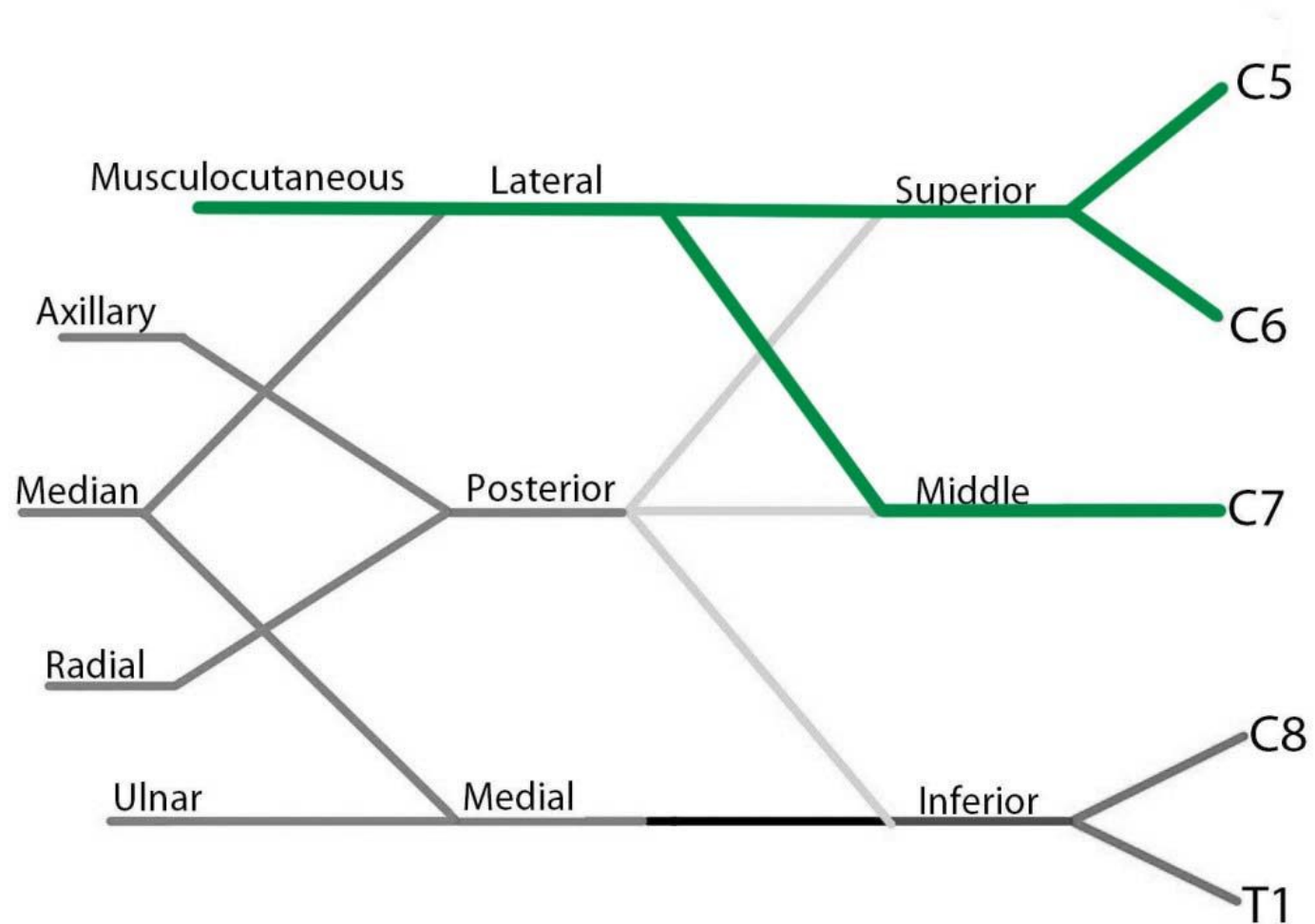


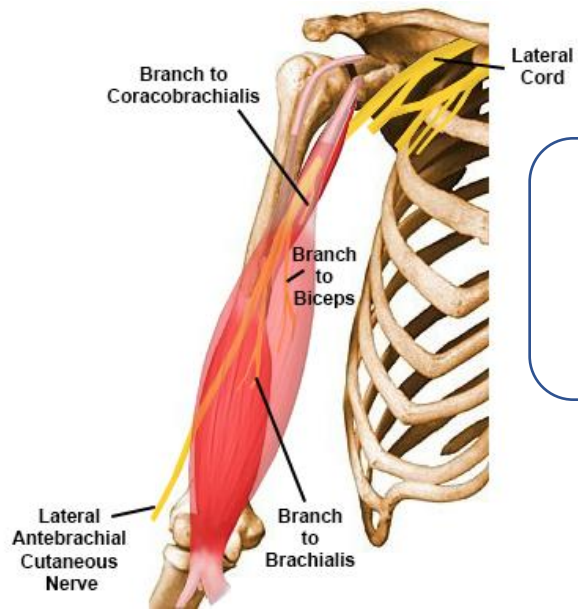
Many  
Alcoholics  
Must  
Really  
Urinate





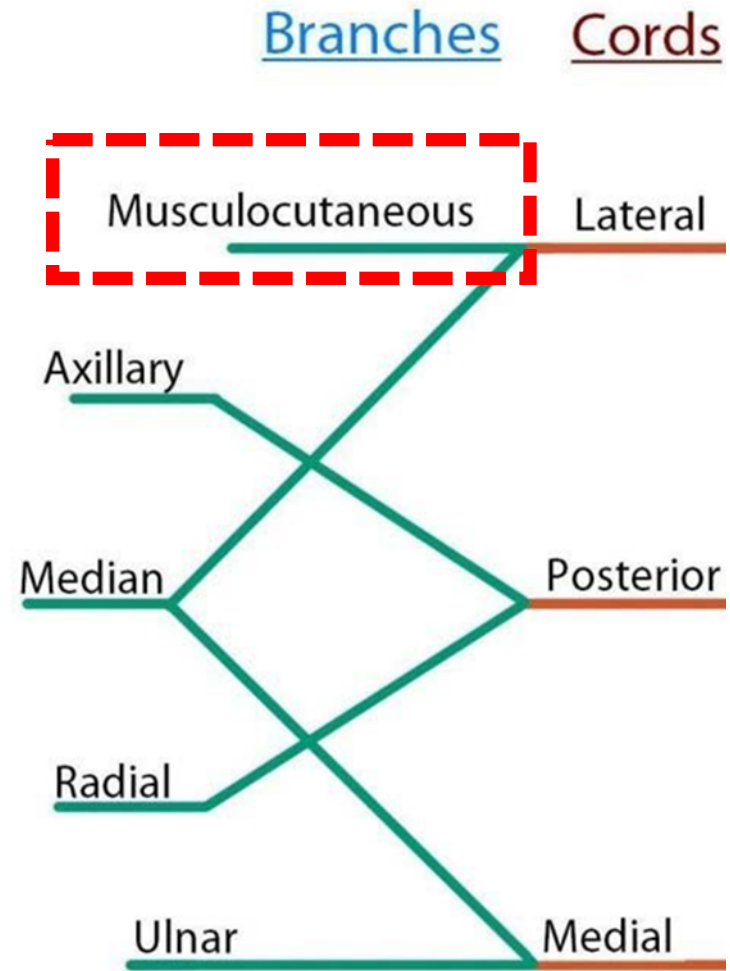
# Musculocutaneous Nerve C5-C7

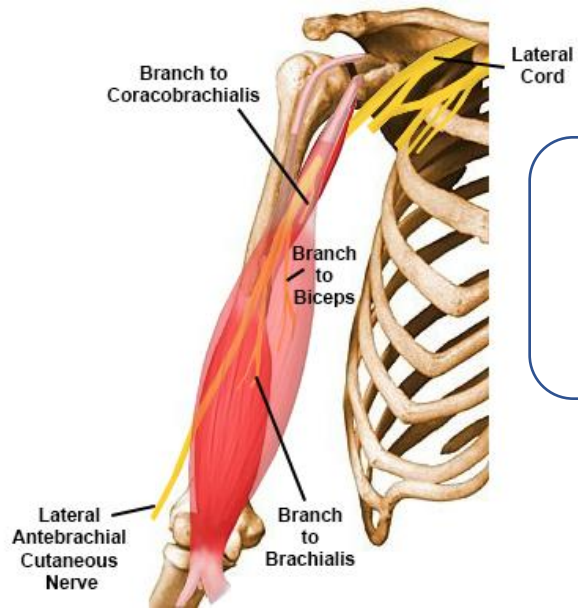




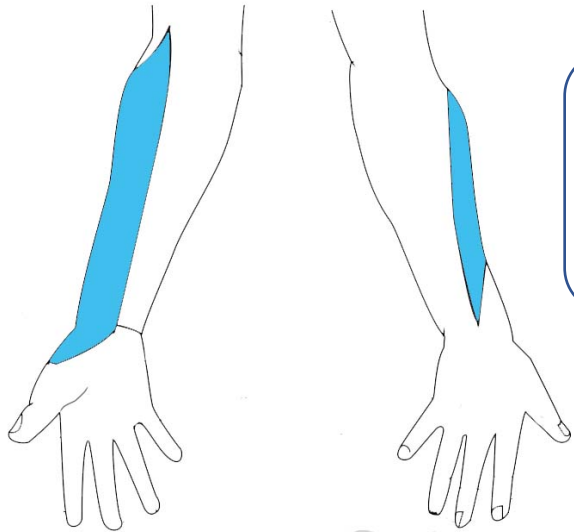
Motor innervation to **flexor** compartment

Flexors: Biceps, Brachialis and Coracoradialis

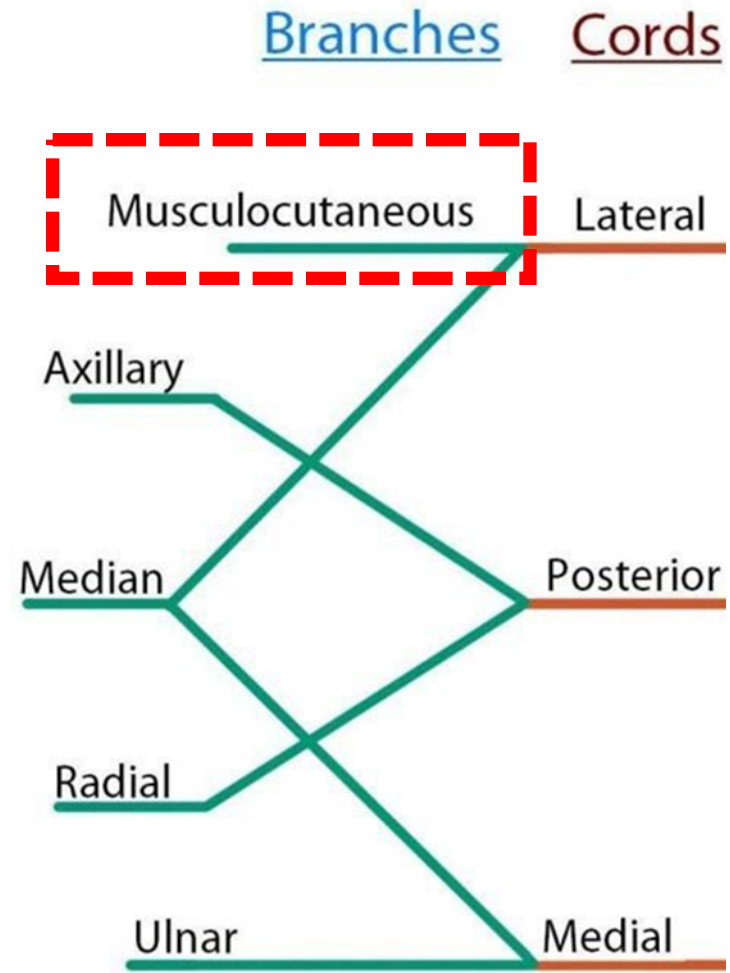




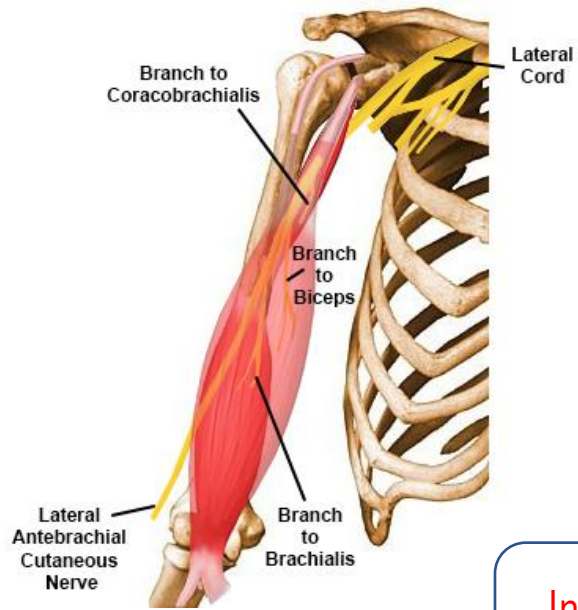
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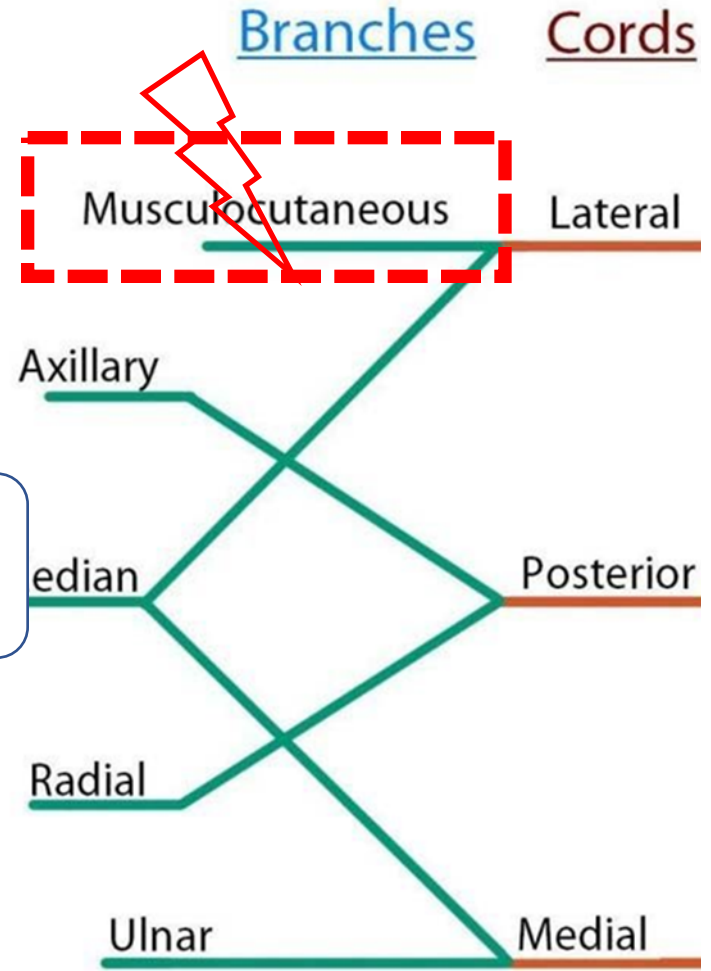
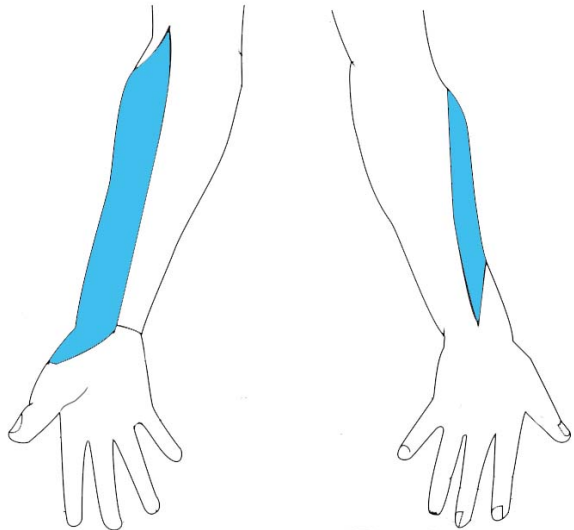
Sensory innervation to **lateral** forearm







**Injury** = weakness w/ elbow flexion, supination, lateral forearm sensory loss

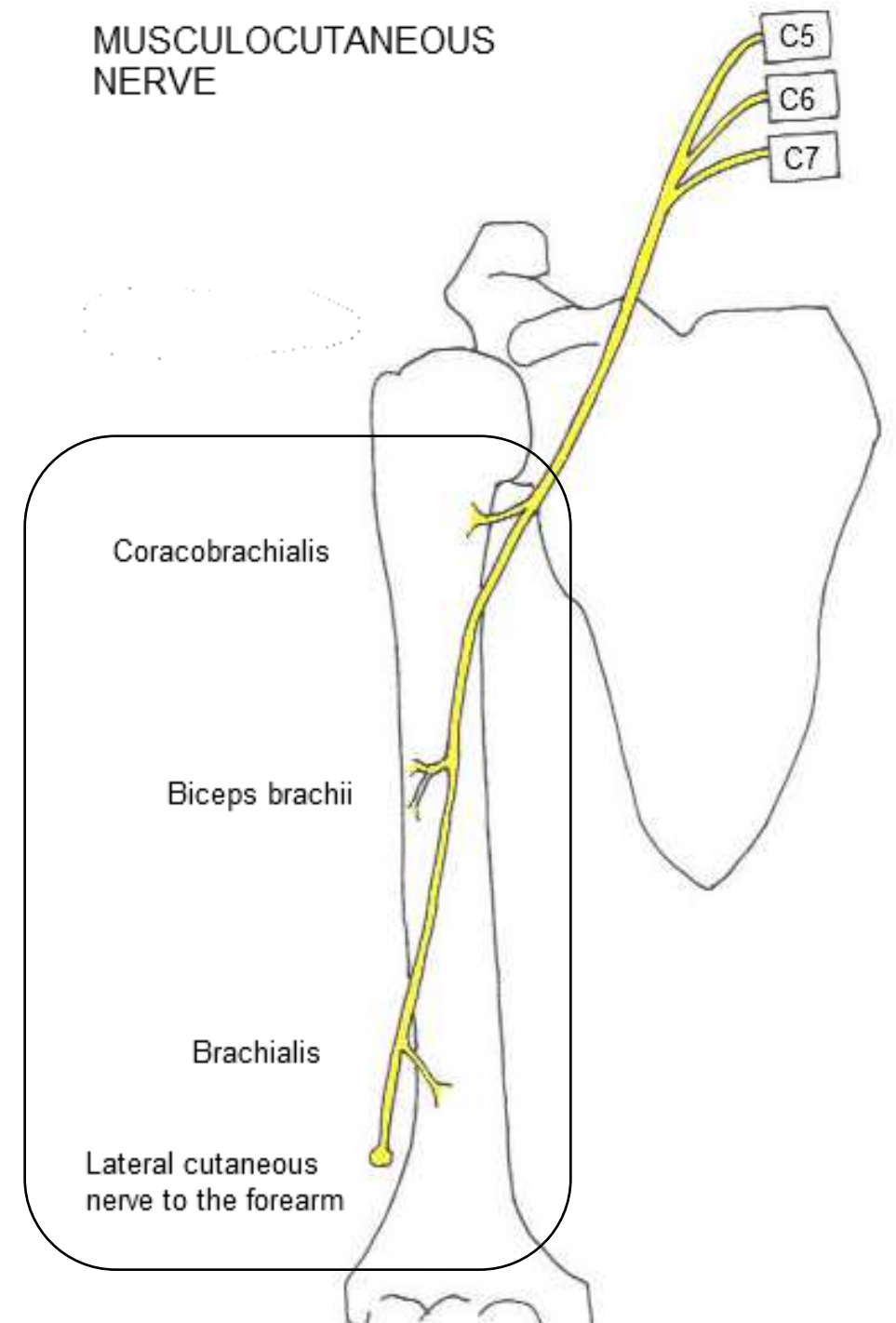


Flexors: Biceps, Brachialis and Coracobrachialis

# SUMMARY

## Musculocutaneous Nerve C5-C7

- **Course:** Lateral cord, anterior arm
- **Motor Innervation:** Flexor compartment of arm
- **Sensory Innervation:** Lateral aspect of forearm
- **Injury:** Loss of *elbow flexion* and sensation at lateral forearm





THANK YOU FOR WATCHING

Don't forget to tune into parts 2 and 3!