

General Surgical Sciences Examination Tips and Resources

Matthew Jacob Smith

GSSE Basics

- Digital MCQ examination covering anatomy, physiology, and pathology
- Pre-requisite to applying to SET for all RACS specialties (excl. OMFS)
- Sittings in February, June, and October
 - Applications open 2-3 months before the sitting
 - Results are released 1 month following
- Costs \$4,500 per sitting
- Venues in all state capitals

GSSE Structure

- Two 150 minute (2.5 hour) exams held on consecutive days; anatomy first followed by physiology and pathology
- Conducted digitally with a Moodle-like format, you can access all questions and change your answers throughout the exam
- Four types of questions:
 - Type A: classical MCQ, four to five answers provided, with one being 'most' correct
 - Type B: statement, reason, and relationship
 - Type X: 'bulk' true/false
 - Spot test: only in the anatomy exam, answers being only a few words, typed out by the examinee

Question Type: Type A

19348 – Structures penetrating the diaphragm include

- A. the oesophagus at the level of T8
- B. the aorta at the level of T10
- C. the splanchnic nerves, through the crura
- D. the right phrenic nerve through the muscle of the right dome
- E. the left phrenic nerve through the central tendon

726 – The right hepatic artery may arise anomalously from the

- A. superior mesenteric artery.
- B. left gastric artery.
- C. splenic artery.
- D. superior pancreatic-duodenal artery.
- E. short gastric arteries.

Question Type: Type B

20199 – S. The femoral nerve remains outside the femoral sheath BECAUSE R. the femoral nerve lies behind the fascia iliaca

Answer: S is true, R is true and a valid explanation of S

15928 – S: Complement activation through the ‘bypass’ mechanism is of critical importance in early defence against infection by virulent pyogenic bacteria not previously encountered because R: some subgroups of immunoglobulin G (IgG) do not activate complement by the ‘classical’ pathway following reaction with specific (bacterial) antigen.

Answer: S is true, R is true but not a valid explanation of S

Question Type: Type X

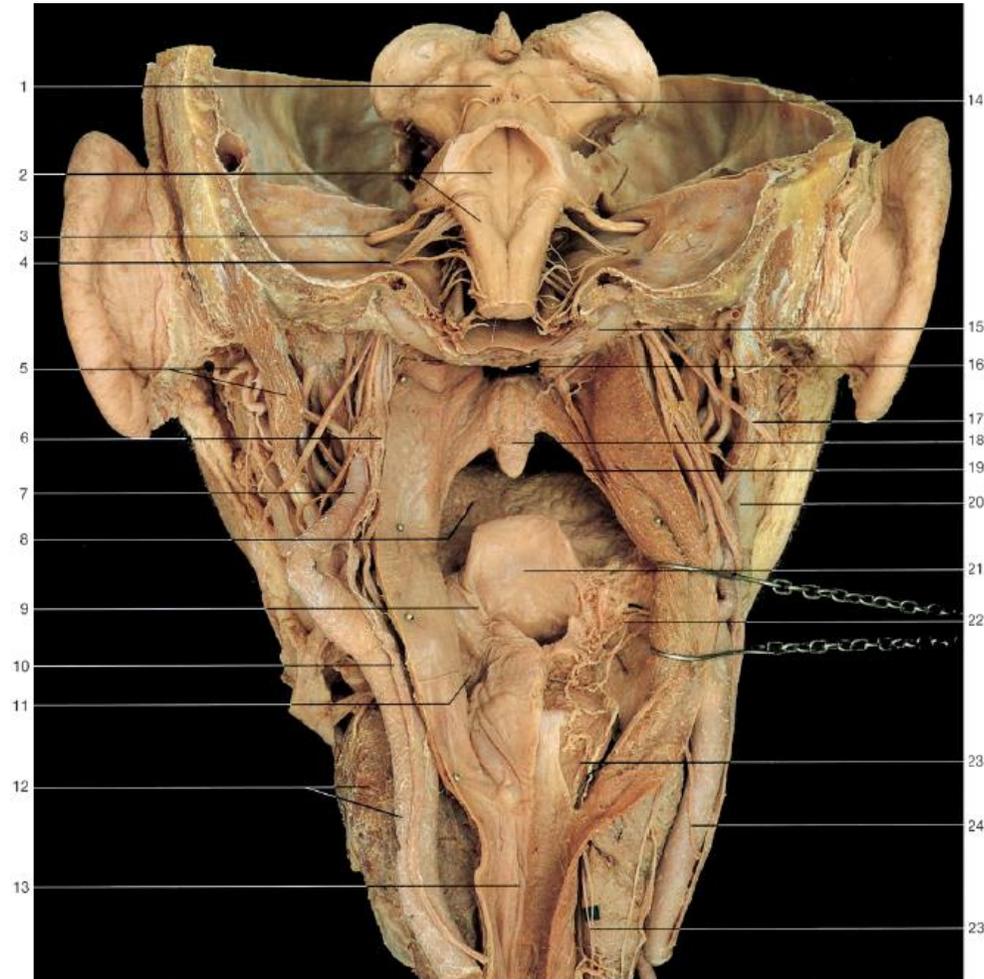
22609 – Antibiotics/combinations which are adequate prophylaxis for biliary surgery include

- 1: Augmentin (co-amoxyclov)
- 2: penicillin
- 3: amoxicillin plus gentamicin
- 4: flucloxacillin plus metronidazole

27523 – The right ovary

- 1 : is covered by peritoneum in the adult
- 2: has its lymphatic drainage to internal iliac nodes
- 3: has a mesovarium attached equatorially around the ovary
- 4: is attached to the anterior (inferior) layer of the broad ligament

Question Type: Spot Tests



Question Breakdown

Anatomy category	Number of MCQs
Abdomen	9
CNS	3
Development	2
Head & neck	10
Histology	2
Lower limb	9
Upper limb	9
Pelvis	7
Thorax	9

Type X: 60 questions
Spots: 20 questions
50% of overall mark

Pathology category	Number of MCQs
Antibiotics	4
Blood	2
General Pathology	11
Immunology	6
Infection	11
Neoplasia	12
Pharmacology	4
Statistics	4
Response to injury	11

Type A&B: 15 questions
Type X: 45 questions
25% of overall mark

Physiology category	Number of MCQs
Blood	5
Cardiovascular	10
Endocrine	5
Gastrointestinal	10
Metabolism	5
Neurophysiology	5
Respiratory	10
Urinary	10

Type A&B: 12 questions
Type X: 48 questions
25% of overall mark

Passing the GSSE

- Candidates must pass the examination on the basis of their overall score, but also through meeting benchmarks for each component (anatomy, pathology, physiology)
- Previously stated pass mark was 65%, although this has changed to a dynamic/calculated benchmark
- Most candidates fail the examination in pathology or physiology

Passing the GSSE

Anatomy	Map Code	Candidate's Score	Cohort's Average	Pathology	Map Code	Candidate's Score	Cohort's Average	Physiology	Map Code	Candidate's Score	Cohort's Average
Abdomen	AB	86%	77%	Antibiotics	AN	75%	74%	Cardiovascular	CAR	87%	70%
CNS	CNS	100%	75%	General pathological phenomena	GPP	93%	70%	Endocrine	EN	95%	72%
Development	DE	100%	80%	Immunology	IM	81%	74%	Gastro	GA	90%	68%
Head And Neck	HN	89%	64%	Infection	IN	72%	62%	Metabolism and Nutrition	MN	90%	71%
Histology	HI	88%	78%	Neoplasia	NE	85%	75%	Neurophysiology	NP	95%	79%
Lower Limb	LL	100%	79%	Pathology of Blood	PAB	100%	68%	Physiology of Blood	PHB	79%	70%
Pelvis	PE	100%	76%	Pharmacology	PHA	92%	66%	Respiratory	RE	90%	71%
Respiratory	RE	75%	75%	Statistics	ST	92%	77%	Urinary Tract	UT	74%	66%
Thorax	TH	92%	71%	Systems	SY	100%	72%				
Upper Limb	UL	97%	74%	Tissue response to injury	TRI	88%	64%				
Spots		90%	60%								

Component	Your Score (%)	Minimum Standard (%)	Component Result
Anatomy	92.2	57.7	Component Requirement Met
Pathology	85.1	61.4	Component Requirement Met
Physiology	87.1	63.9	Component Requirement Met

Overall	Your Overall Score (%)	Required Overall Score to Pass (%)	Overall Result
	89.1	66.6	PASS

Reference Texts/Curricula

Primary Texts

- Last's Anatomy, Regional and Applied
9th Edition
- Rothen's Color Atlas of Anatomy
8th Edition
- Robbins and Cotran Pathologic Basis
of Disease
9th Edition (*first 10 chapters*)
- Ganong's Review of Medical
Physiology
25th Edition
- West's Respiratory Physiology
10th Edition

Supplemental Resources

- Instant Anatomy
- Gray's Anatomy
- Radiopaedia
- RACS Question Bank
- Prof Mundy's questions and mock
exams
- Leon Lai's physiology notes

Additional Recommended Readings

Wheater's Functional Histology 6th Edition, 2013 - Young, B., Lowe, J. S., Stevens, A., and Heath, J.W., Churchill Livingstone

Langman's Medical Embryology, 13th Edition, 2014 - Sadler T.W., Lippincott Williams and Wilkins

Infectious Diseases: A Clinical Approach 3rd Edition, - Yung A et al (eds). Melbourne: IP Communications, December 2010.

Clinical Biostatistics and Epidemiology Made Ridiculously Easy - Ann Weaver and Stephen Goldberg, 2011

Pharmacology 9th Edition, 2019 – Rang.HP; Dale MM; Ritter JM; and Moore PK Churchill Livingstone

Textbook of Medical Physiology, 13th Edition Guyton and Hall

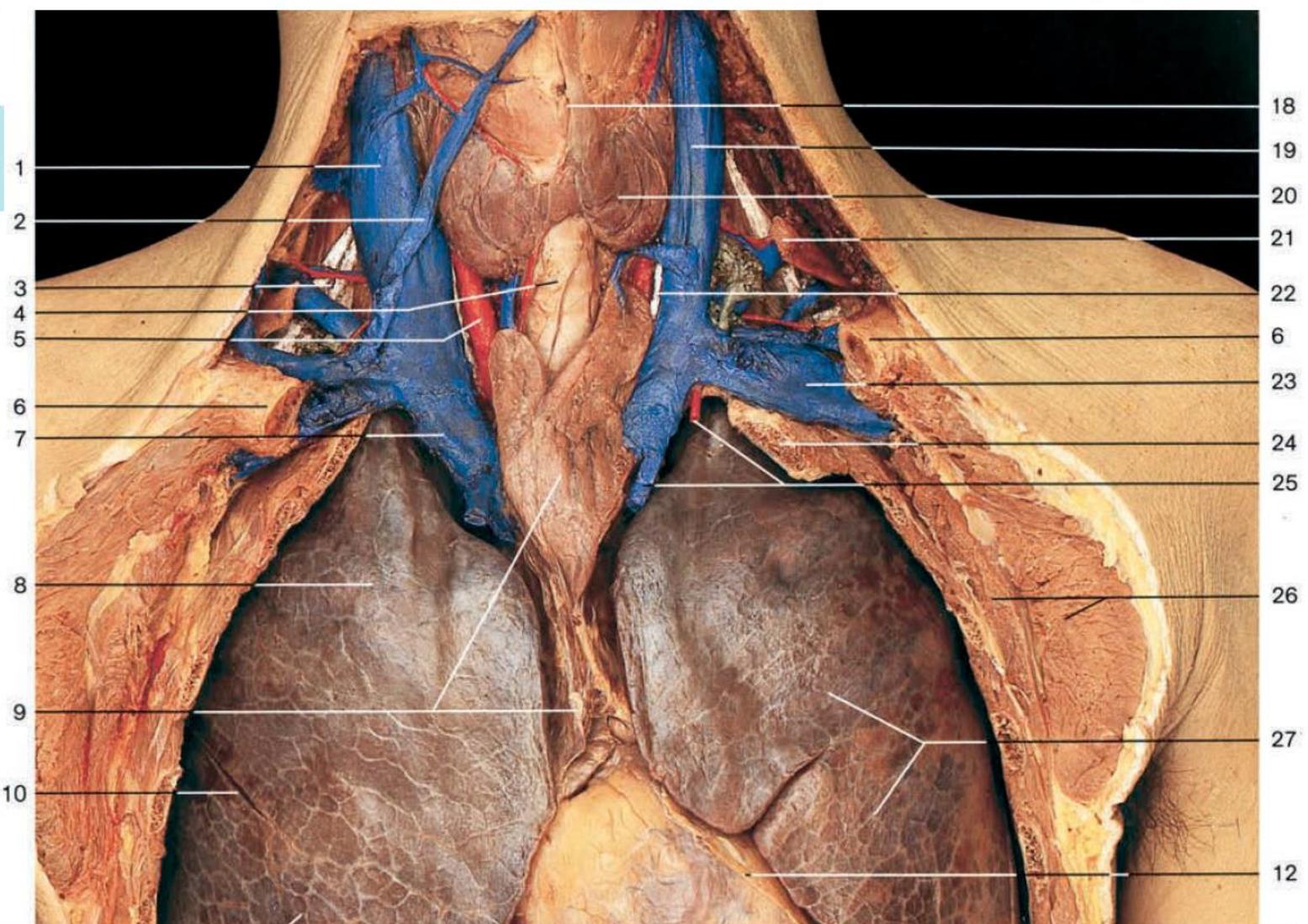
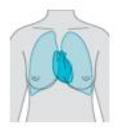
Are you going to find the time?

Study Plan

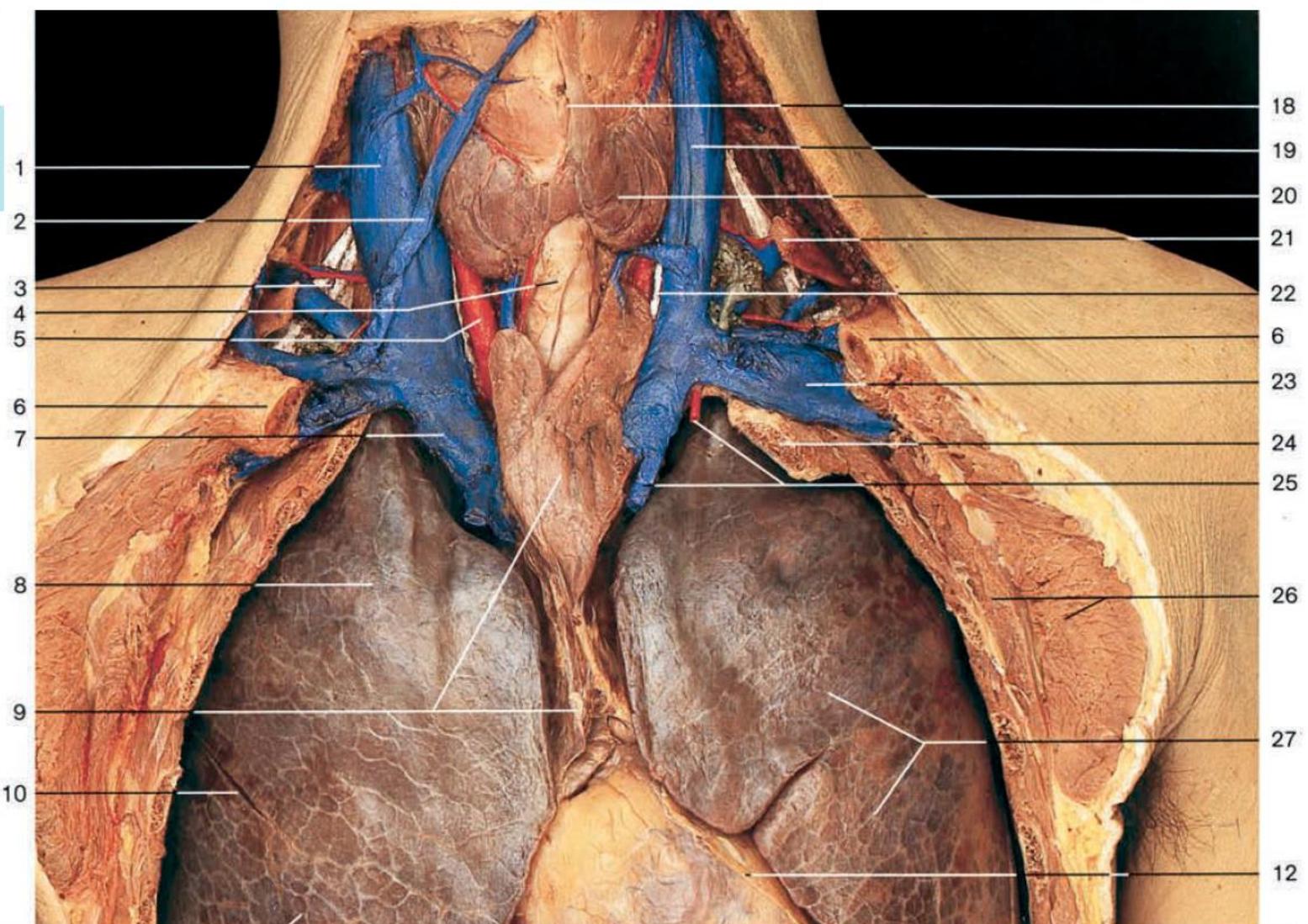
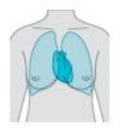
1. Decide what sitting fits best into your terms (when will you be on relief/ED/ICU) and when you can get study leave/annual leave
2. Sign up for the sitting as soon as applications opens (light the fire)
3. Spend a day charting your course and gathering resources
4. Begin reading the primary texts two to three months out from the exam (consensus is one or two cover-to-cover reads of each)
5. Two weeks out of the exam start going through the question bank and other supplemental/supportive resources. This should coincide with a period of leave
6. Return to areas of deficit you have identified within the primary texts
7. Don't be afraid to withdraw

Additional Tips

- Get in contact with Prof Mundy as soon as you know which session you will be sitting to be added to the resource/mock exam mailing list
 - Julie.Mundy@health.qld.gov.au
- Have a resource that provides illustrations supplement Lasts
 - Examples include Gray's, Netter's, Instant Anatomy, or Google Images
- Wait until you have gone through all the texts before tackling the question bank and Rohen's
- Have an efficient system for going through Rohen's and the question bank, these should only take a few days each
- Spend equal amounts of time studying each of the three sections, despite the difference in weighting
- ? Sign up for paid courses



- 1 Internal jugular vein
- 2 External jugular vein (displaced medially)
- 3 Brachial plexus
- 4 Trachea

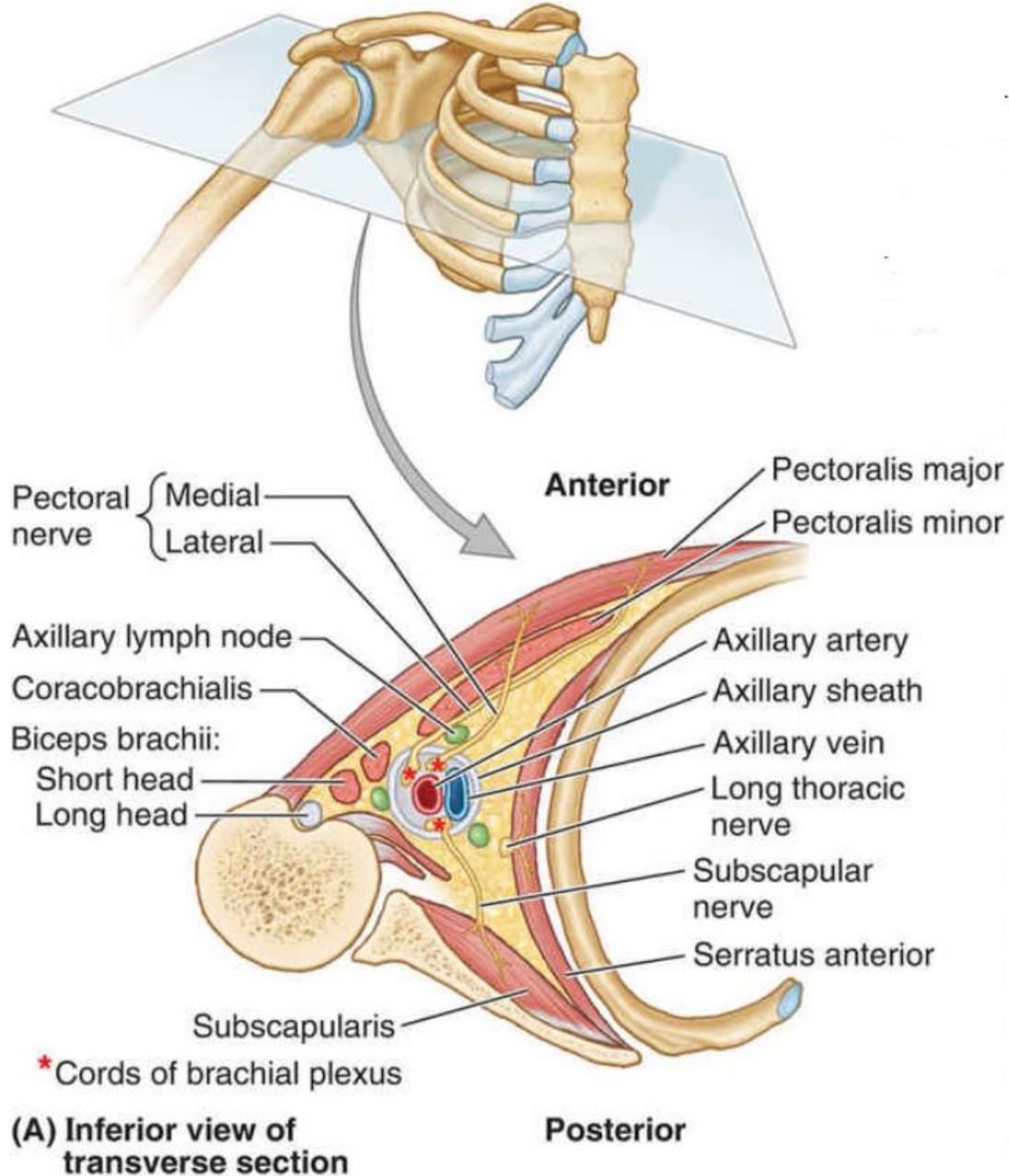


- 1 Internal jugular vein
- 2 External jugular vein (displaced medially)
- 3 Brachial plexus
- 4 Trachea
- 5 Right common carotid artery

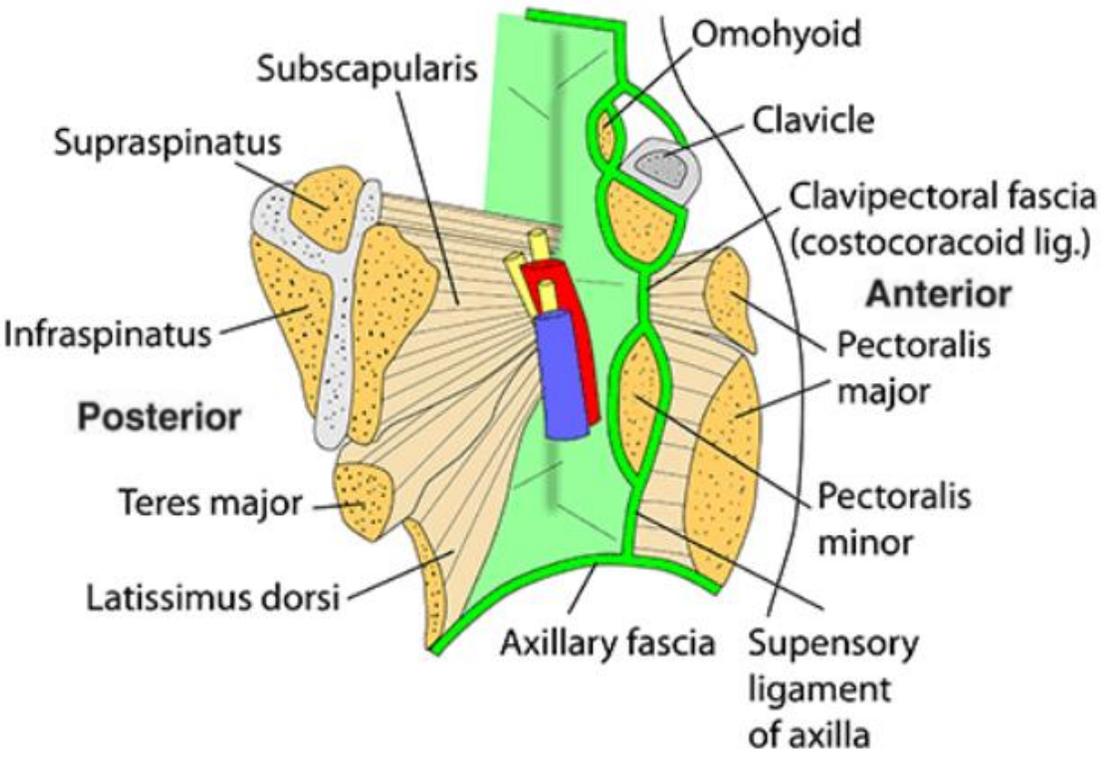
Upper Limb Anatomy

Matthew Jacob Smith

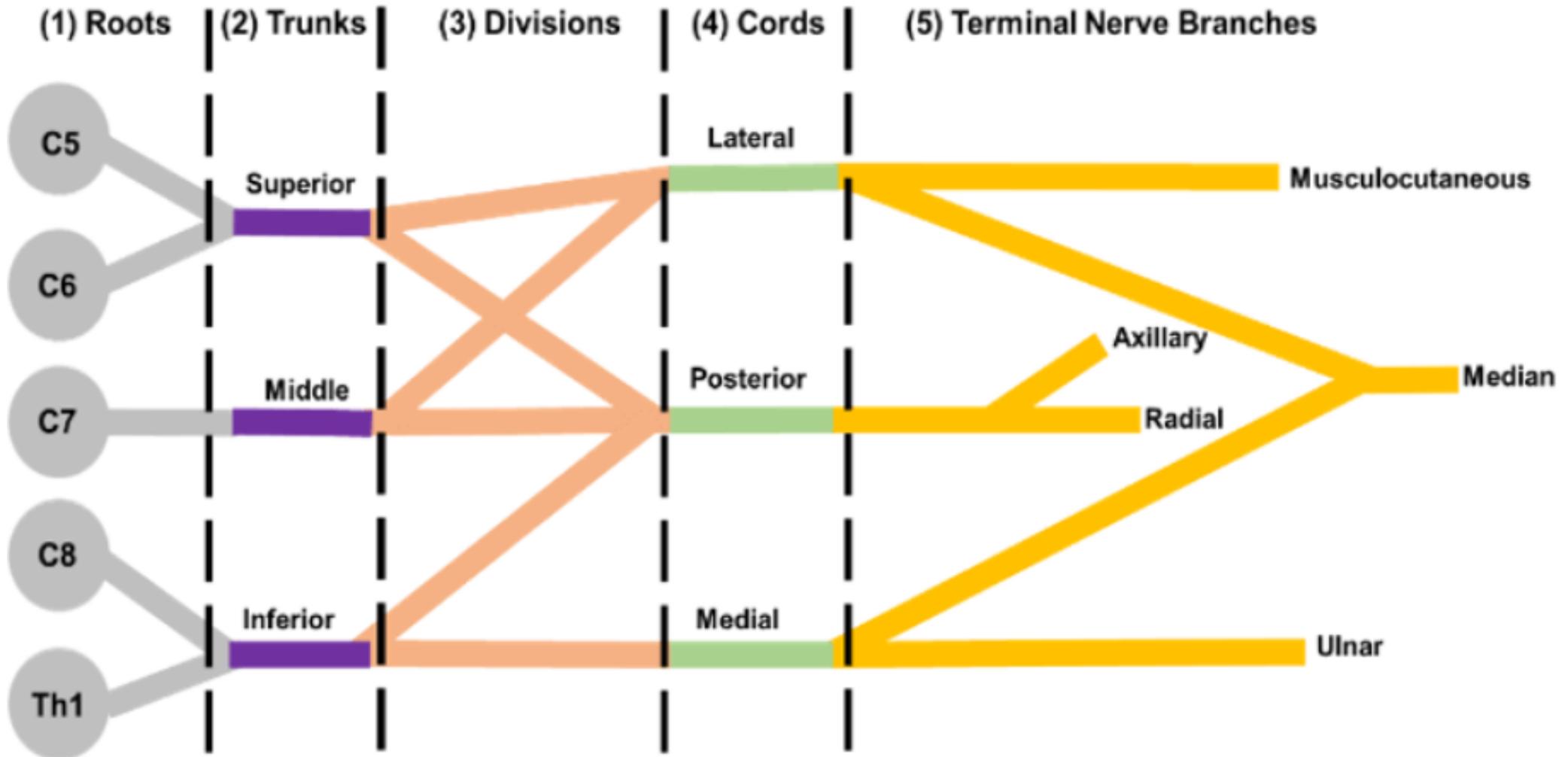
Axilla



LEFT AXILLA LOOKING Laterally

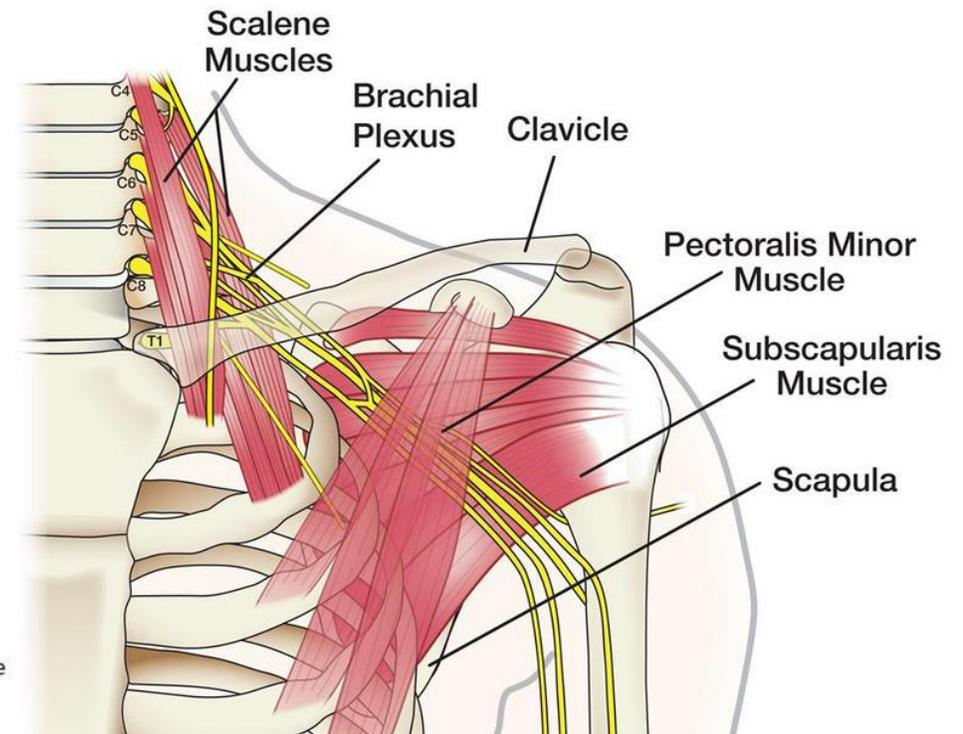
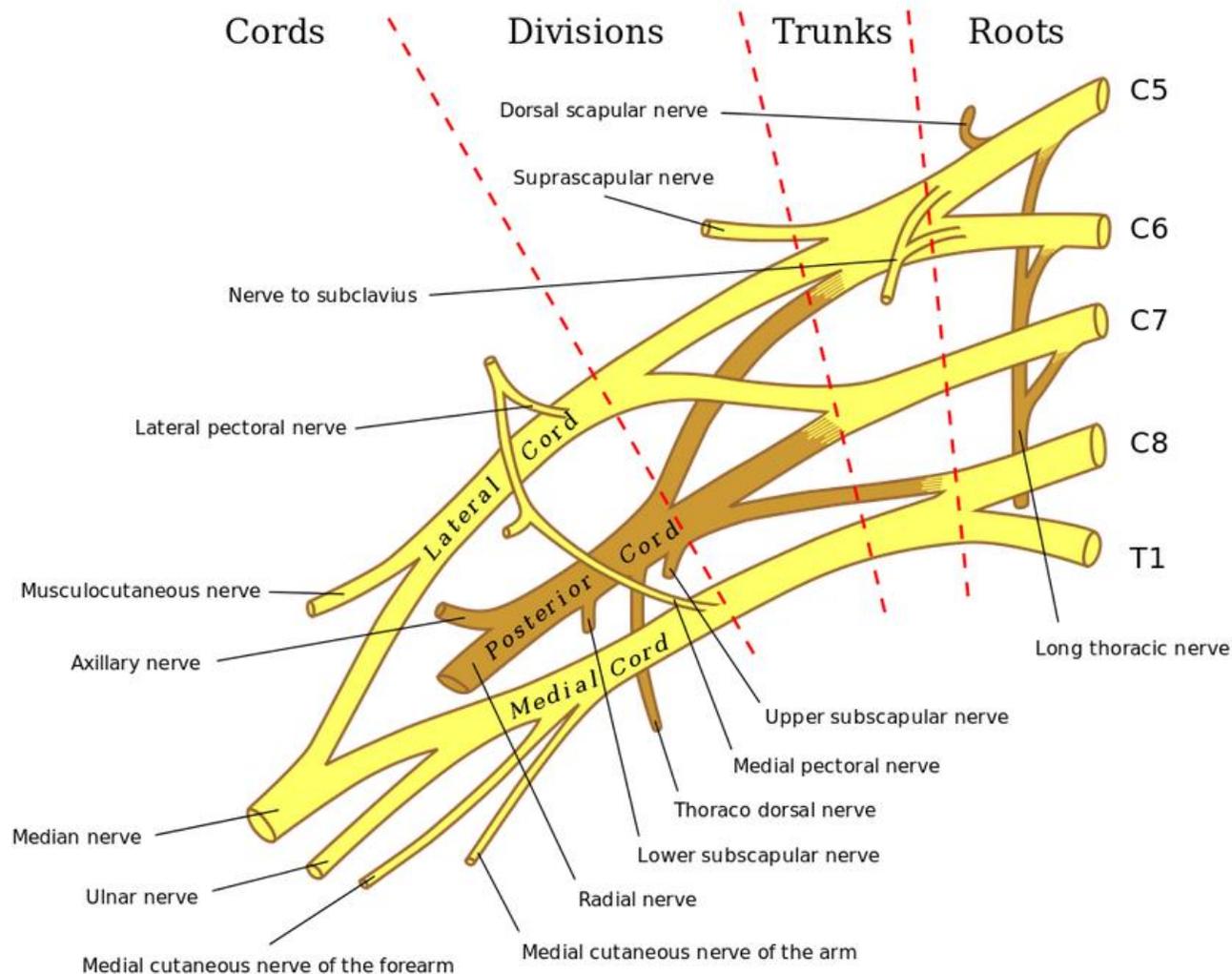


Brachial Plexus



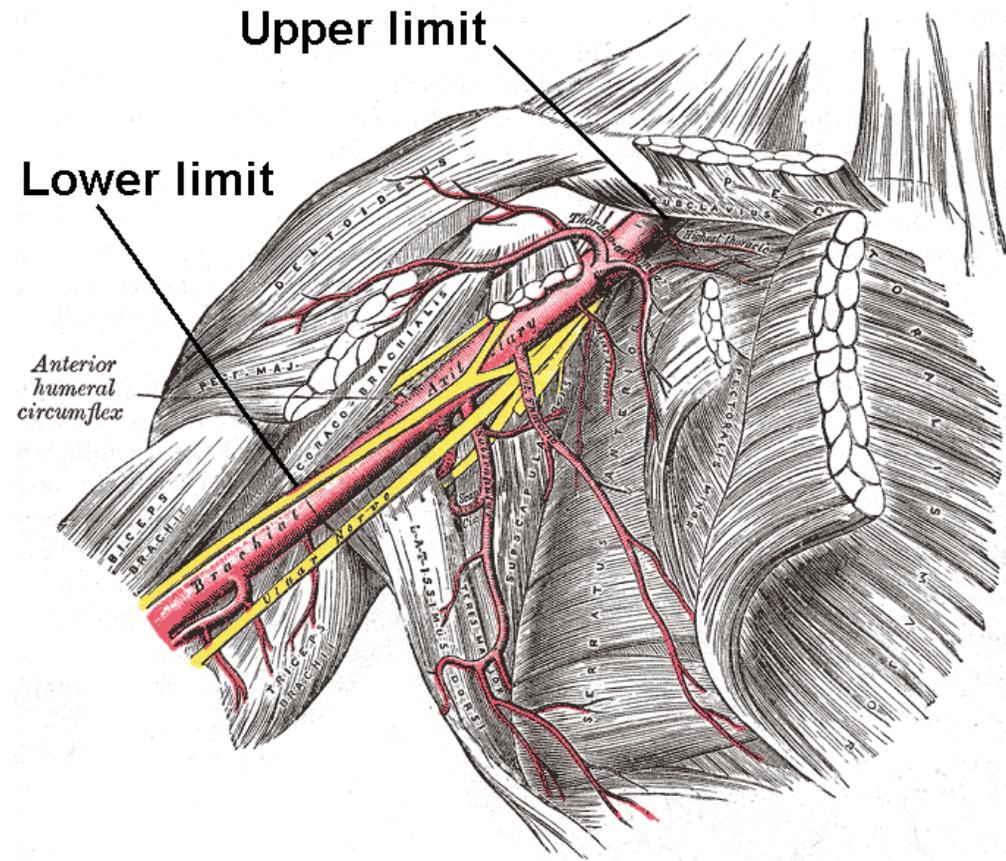
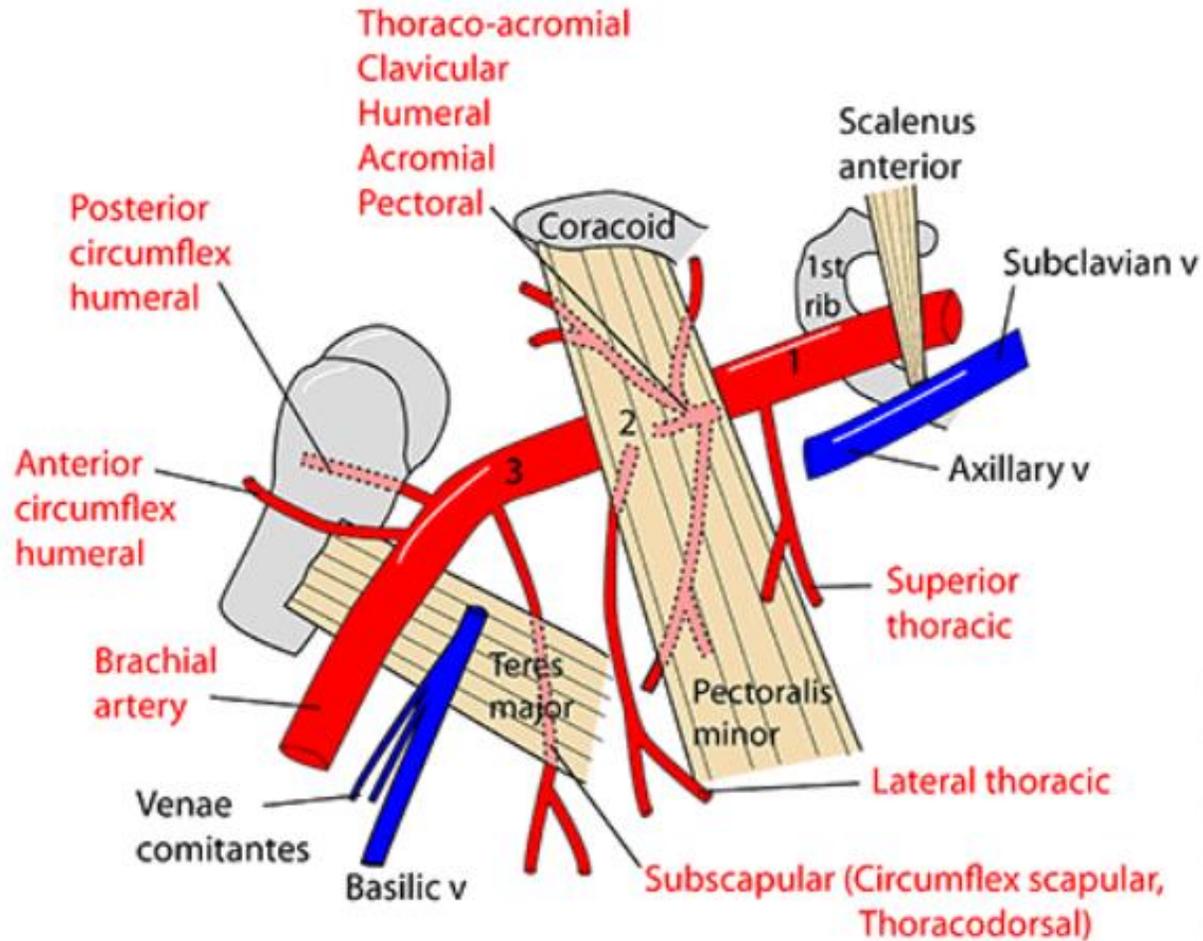
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Brachial Plexus



ROOTS - Posterior to scalenus anterior
TRUNKS - In posterior triangle of neck
DIVISIONS - Posterior to clavicle
CORDS - In axilla

Axillary Artery



1st part: Outer border of 1st rib to medial edge of pectoralis minor

1 branch: **SUPERIOR THORACIC**

Relations: 3 cords of brachial plexus lie laterally

2nd part: Behind pectoralis minor

2 branches: **THORACO-ACROMIAL, LATERAL THORACIC**

Relations: 3 cords around it according to their names

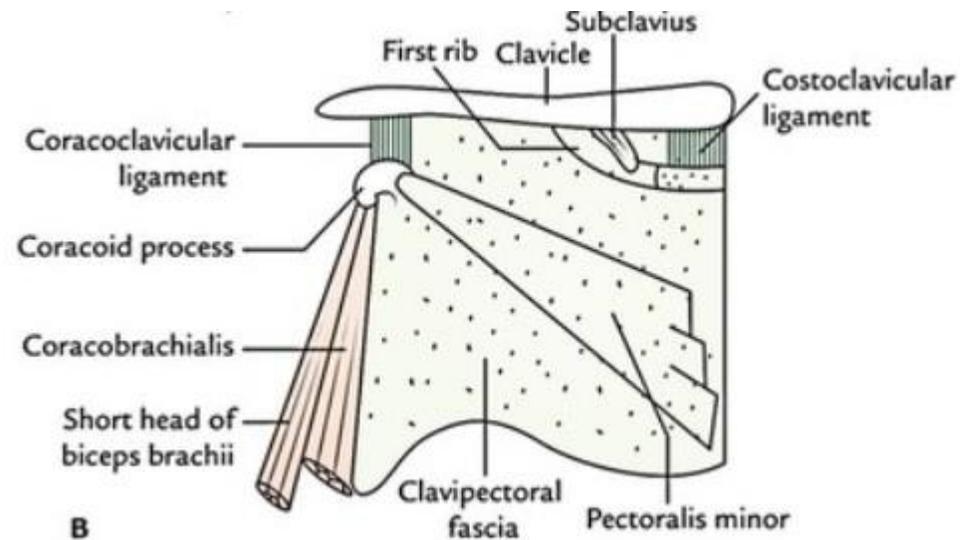
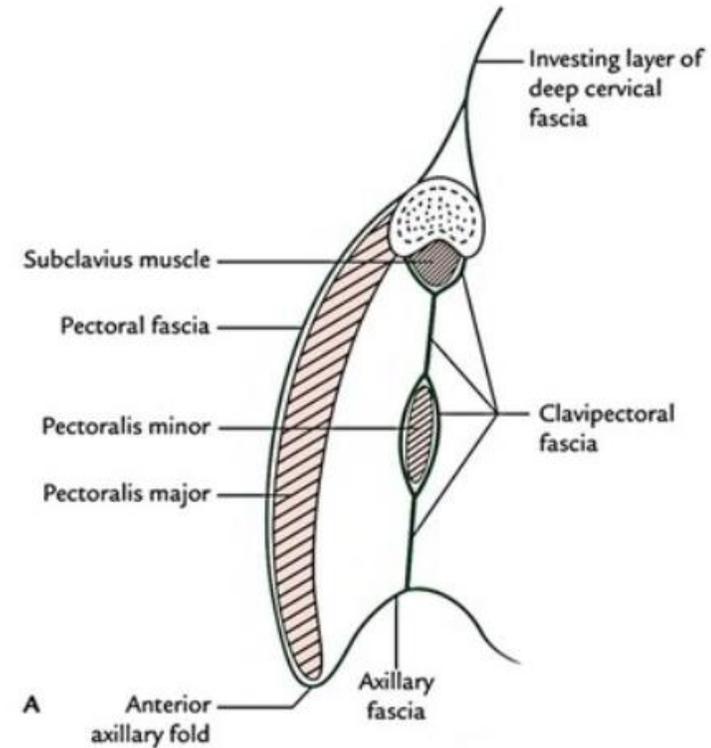
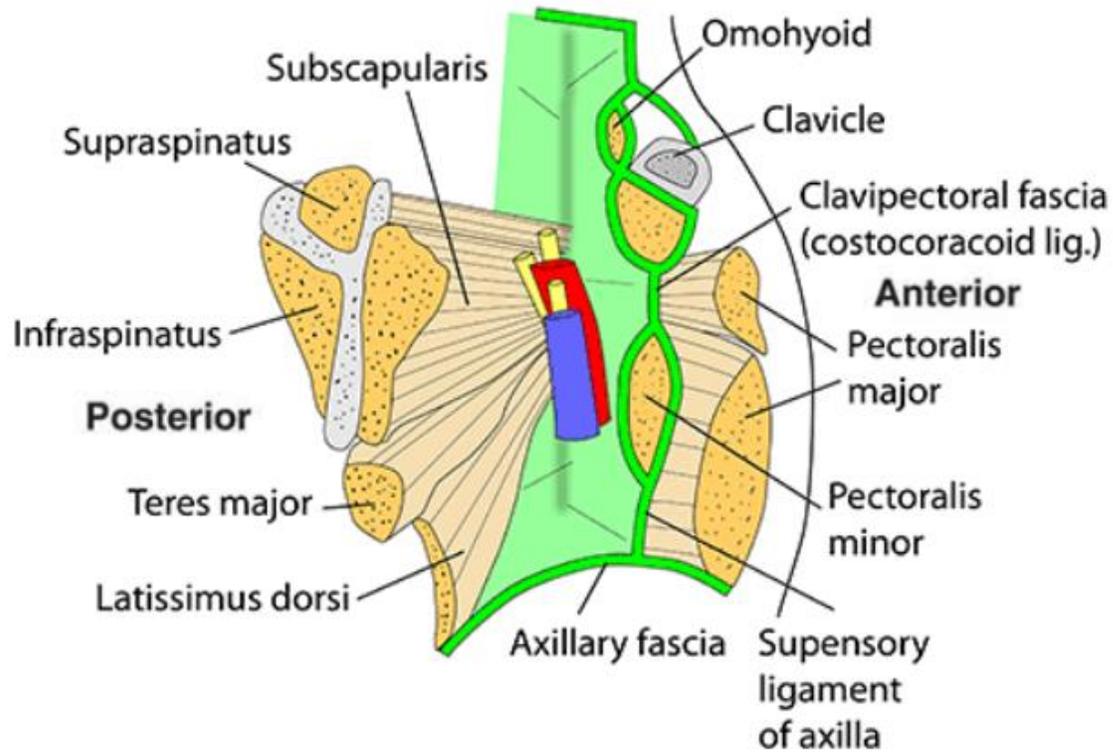
3rd part: Lateral edge of pectoralis minor to lower border of teres major

3 branches: **SUBSCAPULAR, ANTERIOR & POSTERIOR CIRCUMFLEX HUMERAL**

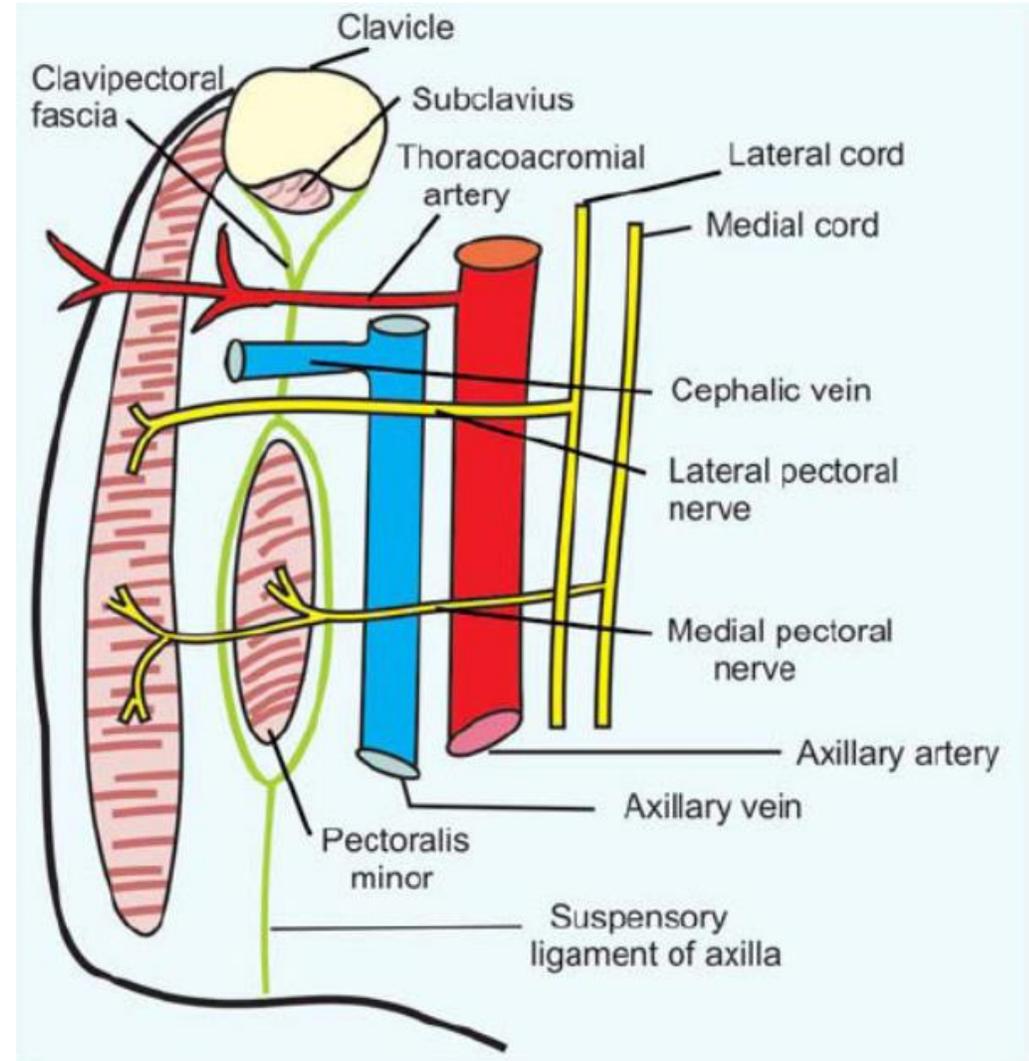
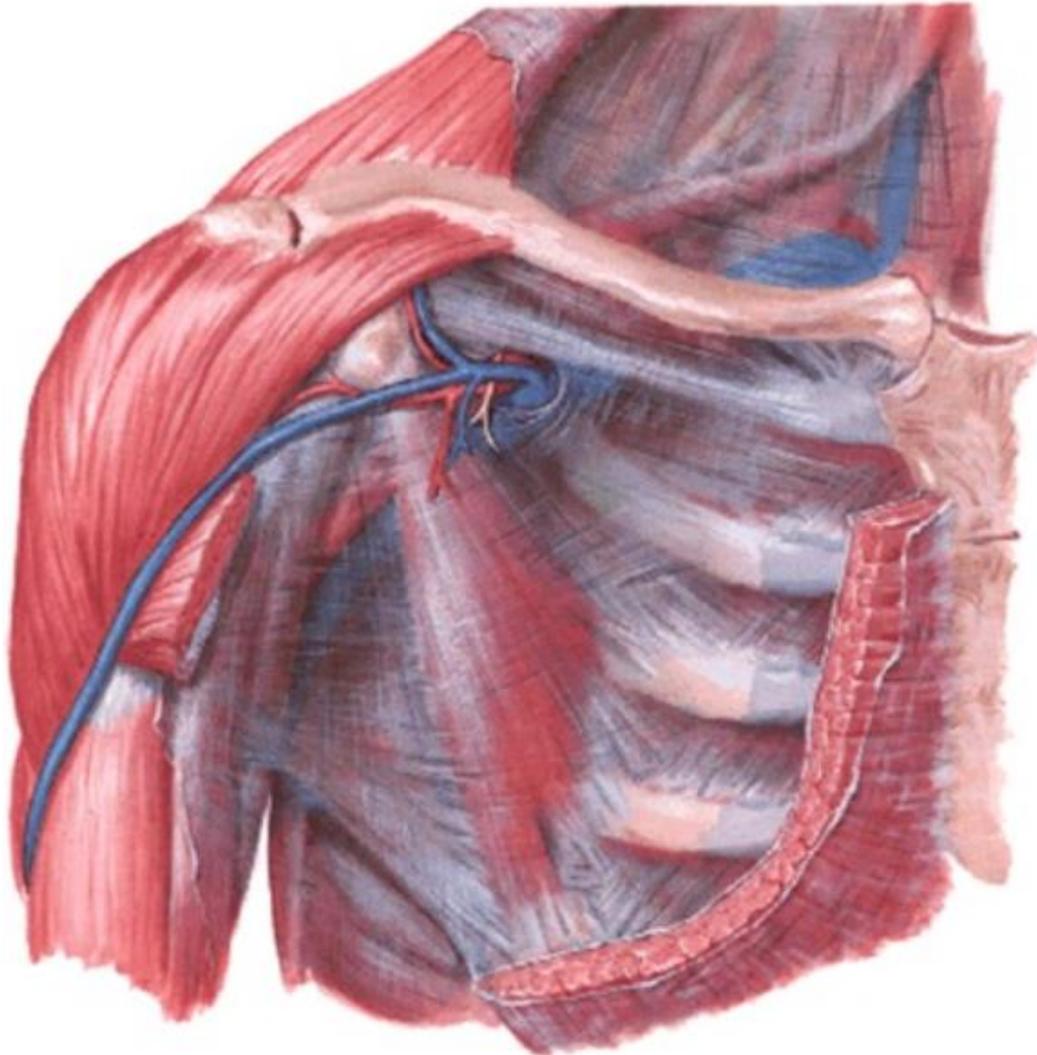
Relations: Median nerve forming from its two heads anterior to artery

Clavipectoral Fascia

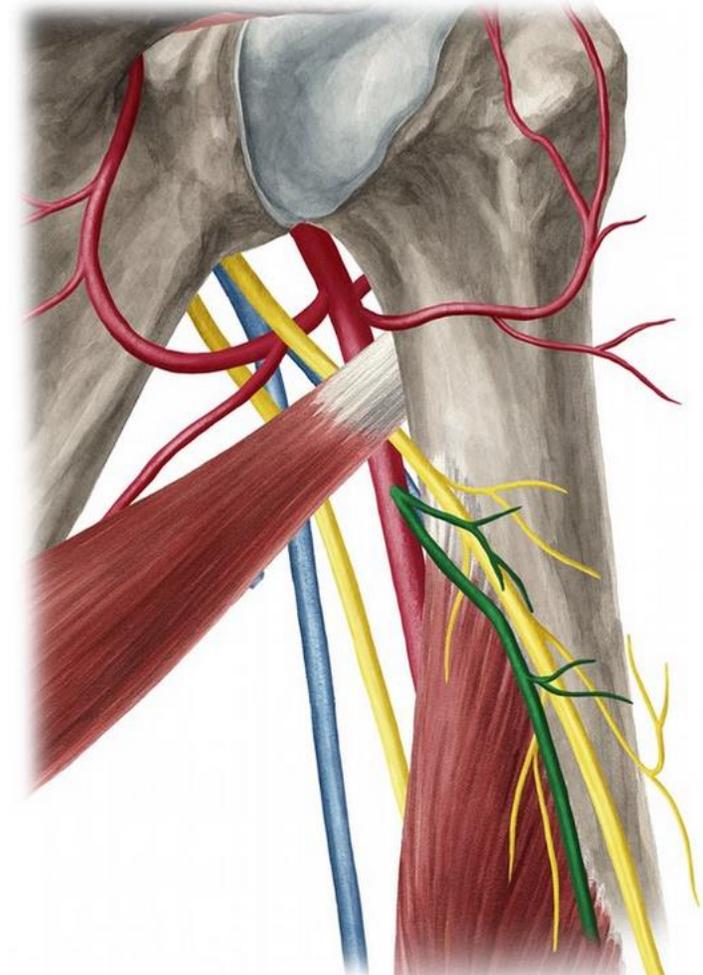
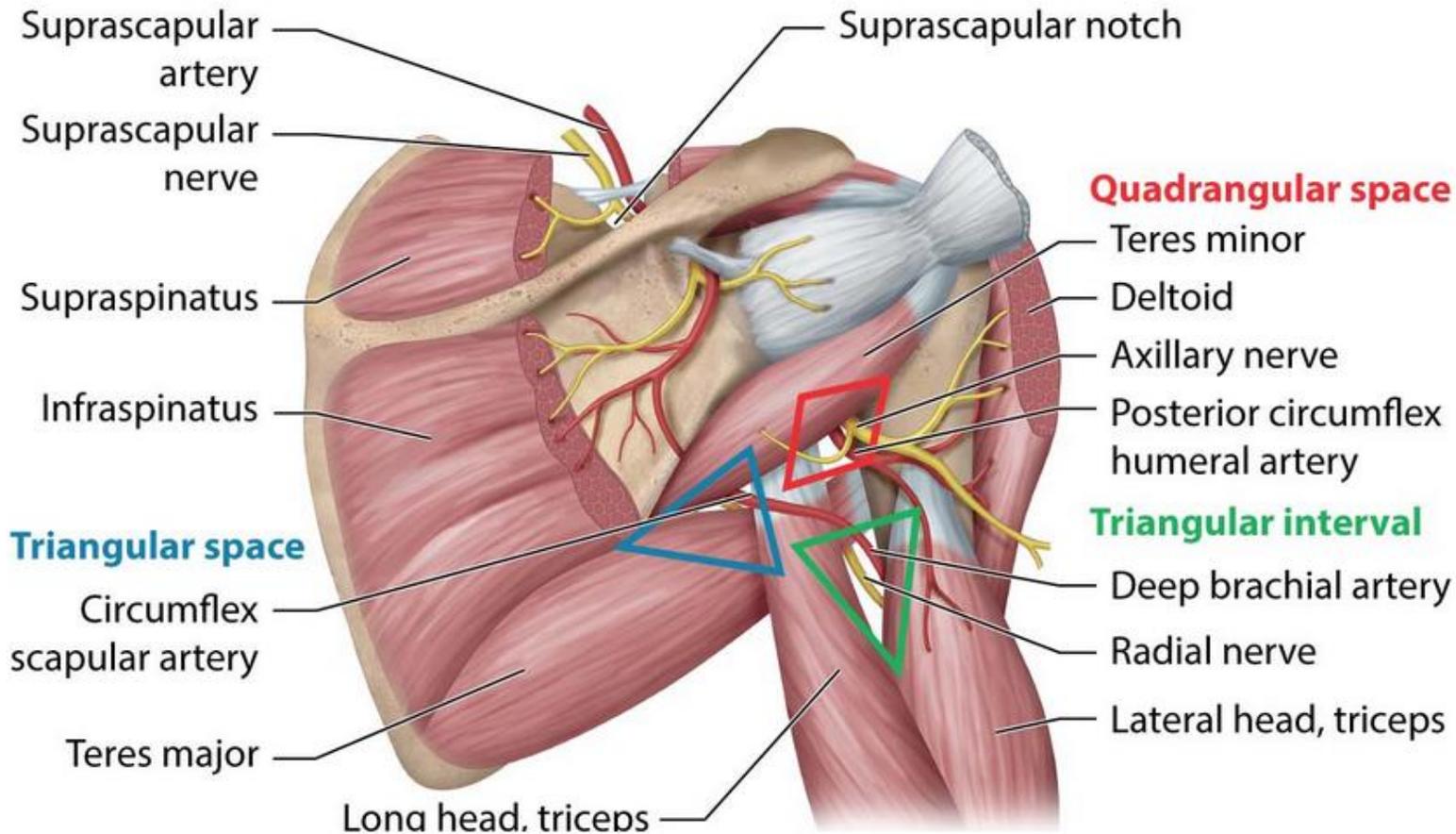
LEFT AXILLA LOOKING Laterally



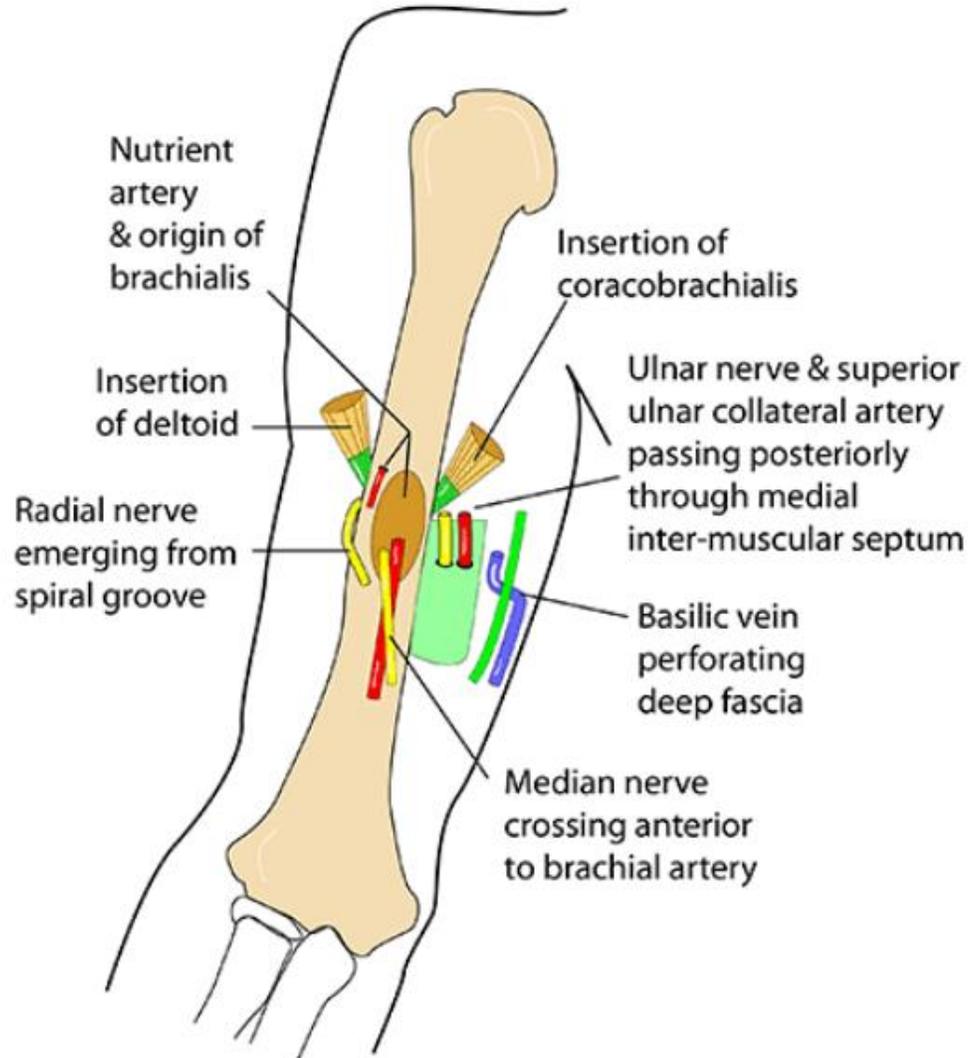
Clavipectoral Fascia



Triangular and Quadrangular Space

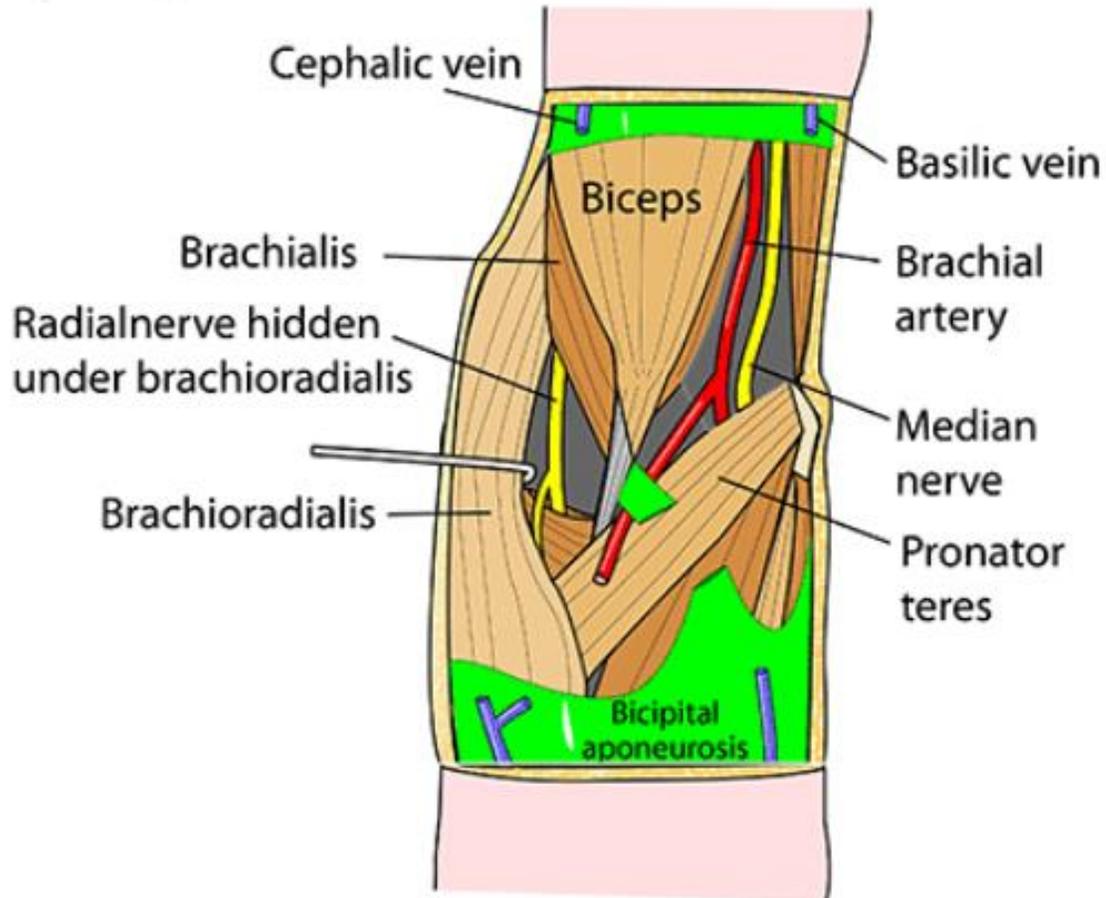


Midpoint of the Humerus



- Nutrient artery entering humerus
- Origin of brachialis
- Insertion of deltoid
- Insertion of coracobrachialis
- Radial nerve emerging from spiral groove
- Basilic vein perforating deep fascia
- Median nerve crossing anterior to brachial artery
- Ulnar nerve & superior ulnar collateral artery passing posteriorly through medial inter-muscular septum

Cubital Fossa



Boundaries:

Triangular area between:

Pronator teres

Brachioradialis

Line between epicondyles

Contains:

Brachial artery

Median nerve

Biceps tendon

lymph nodes

Roof:

Deep fascia of forearm

Bicipital aponeurosis

Median cubital vein

Medial cutaneous nerve of forearm

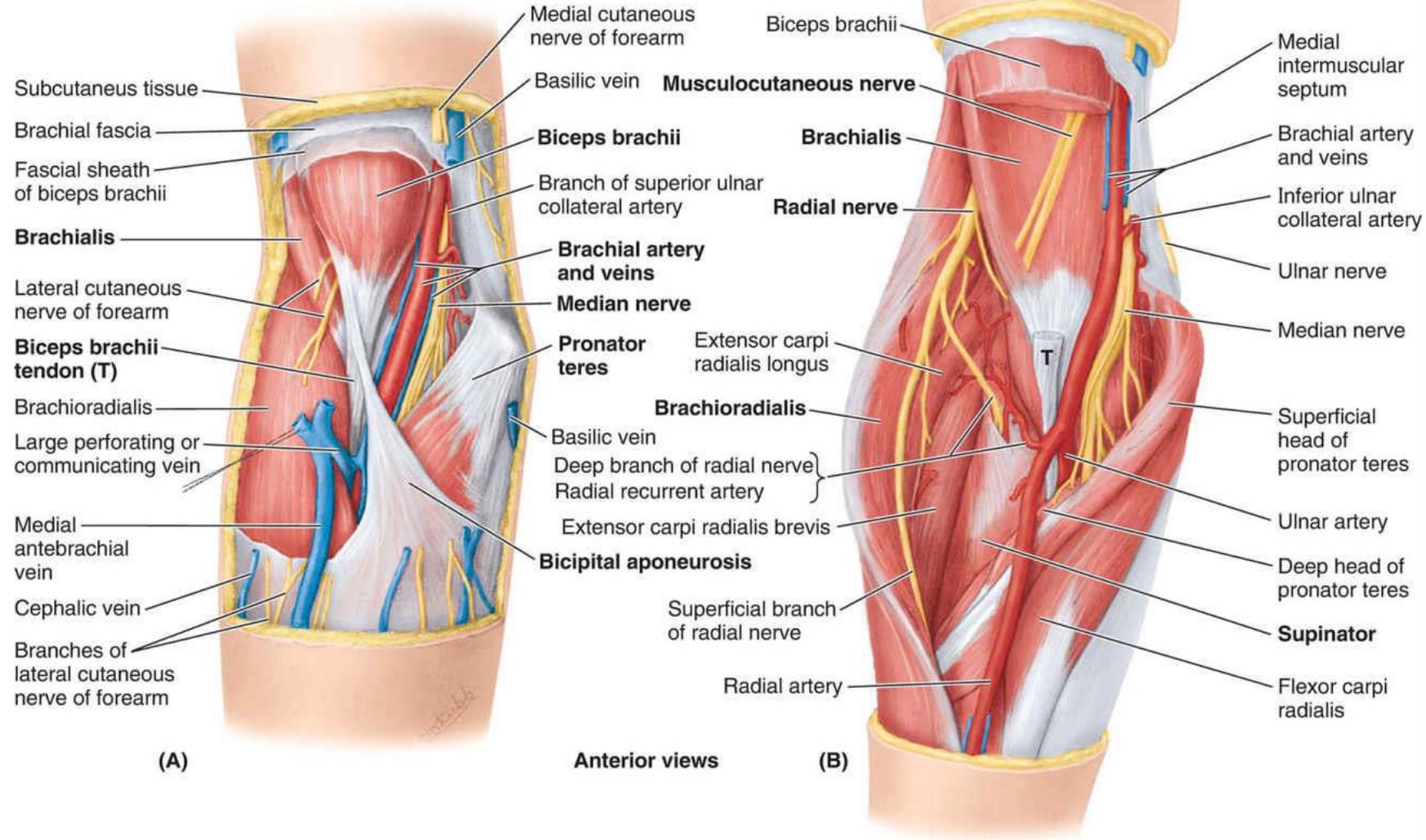
Lateral cutaneous nerve of forearm

Floor

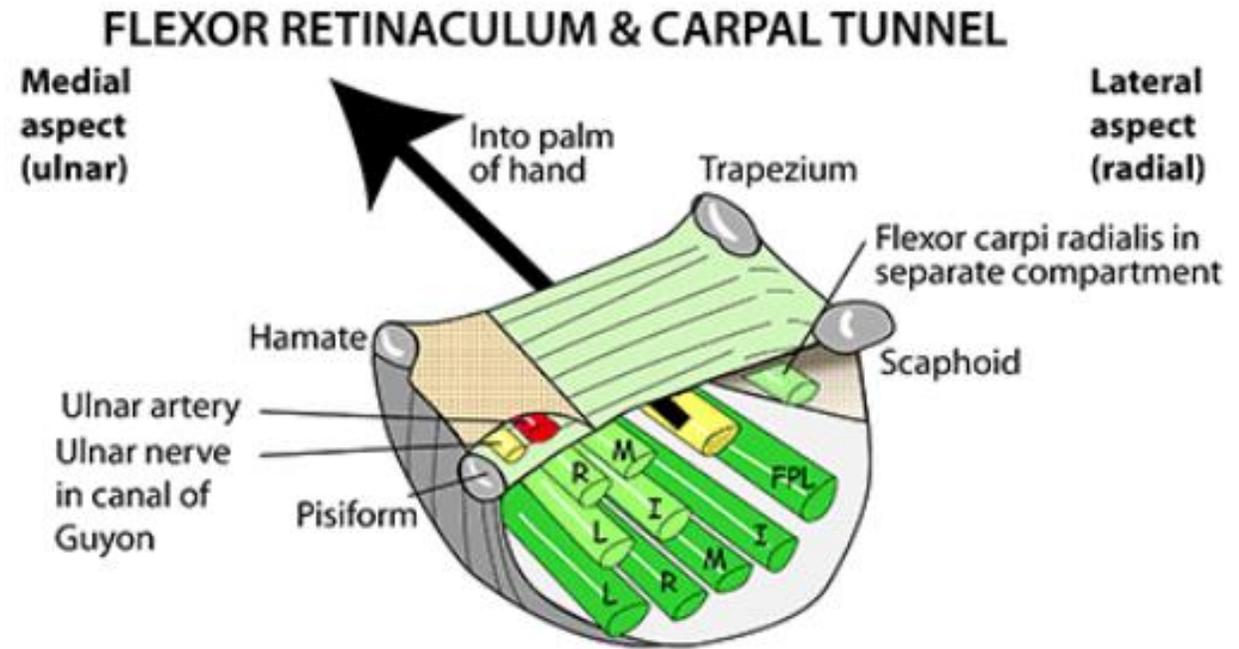
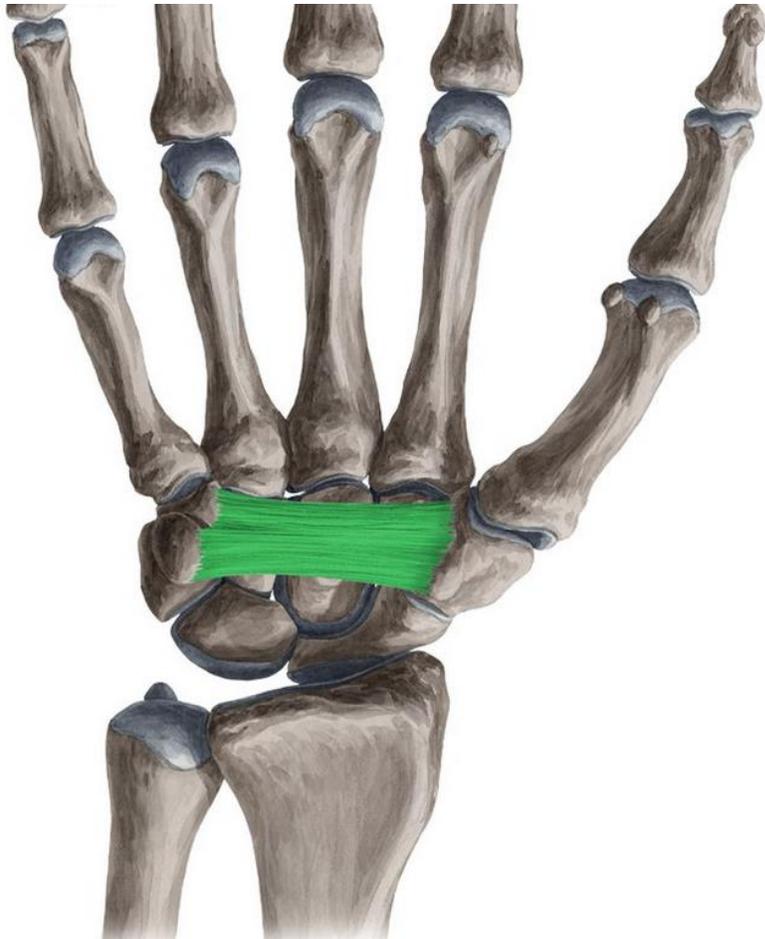
Brachialis

Supinator

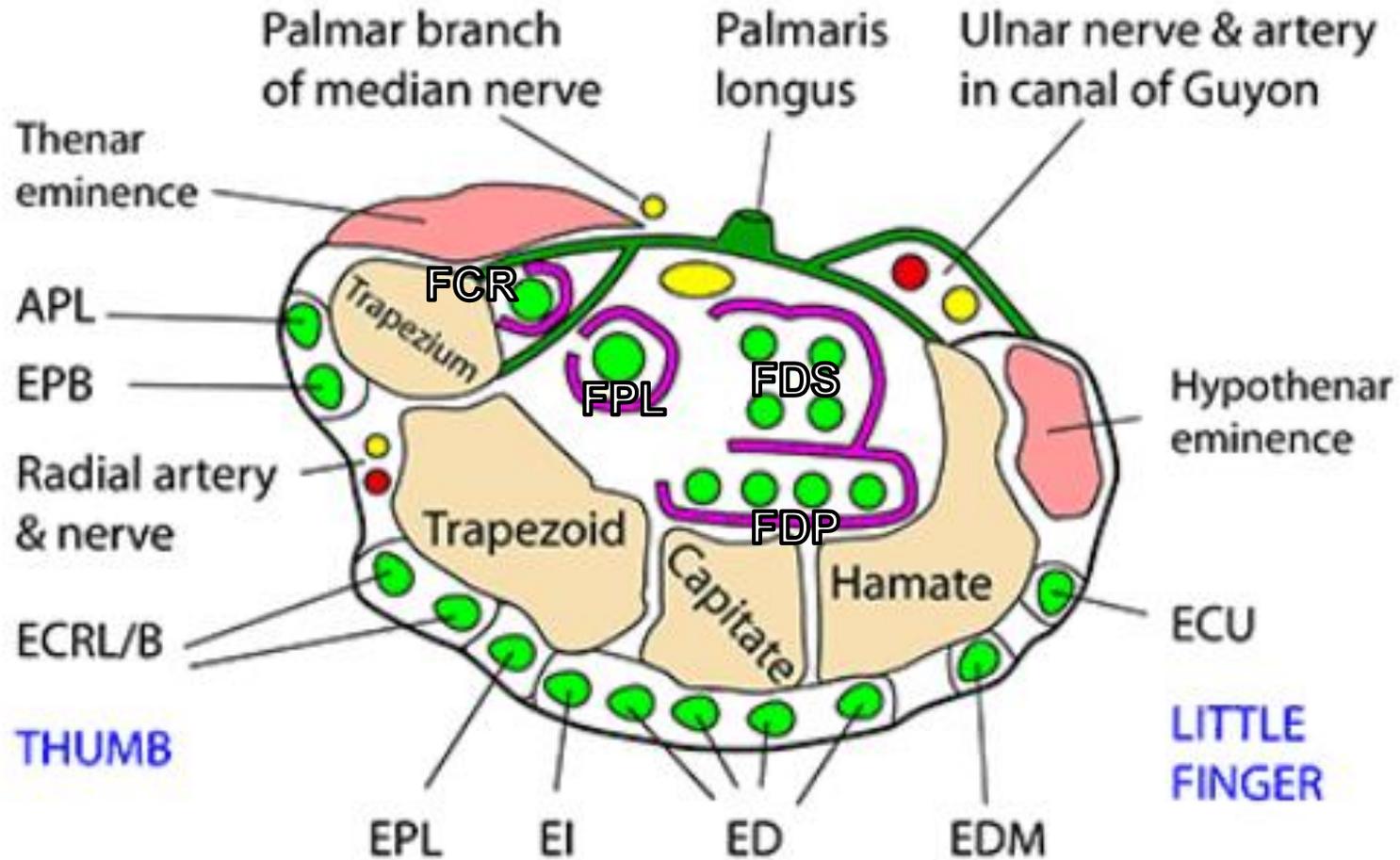
Cubital Fossa



Flexor Retinaculum



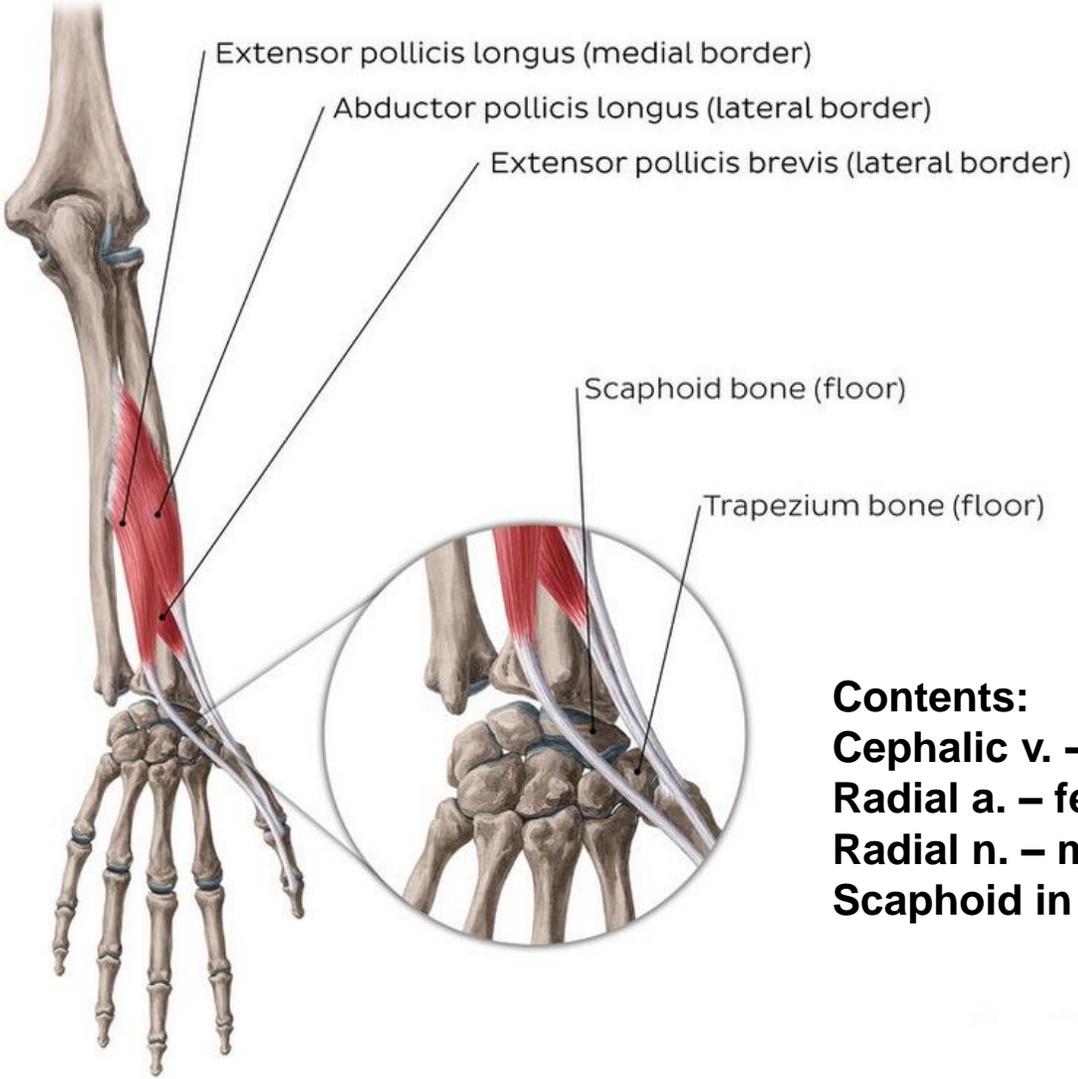
Carpal Tunnel



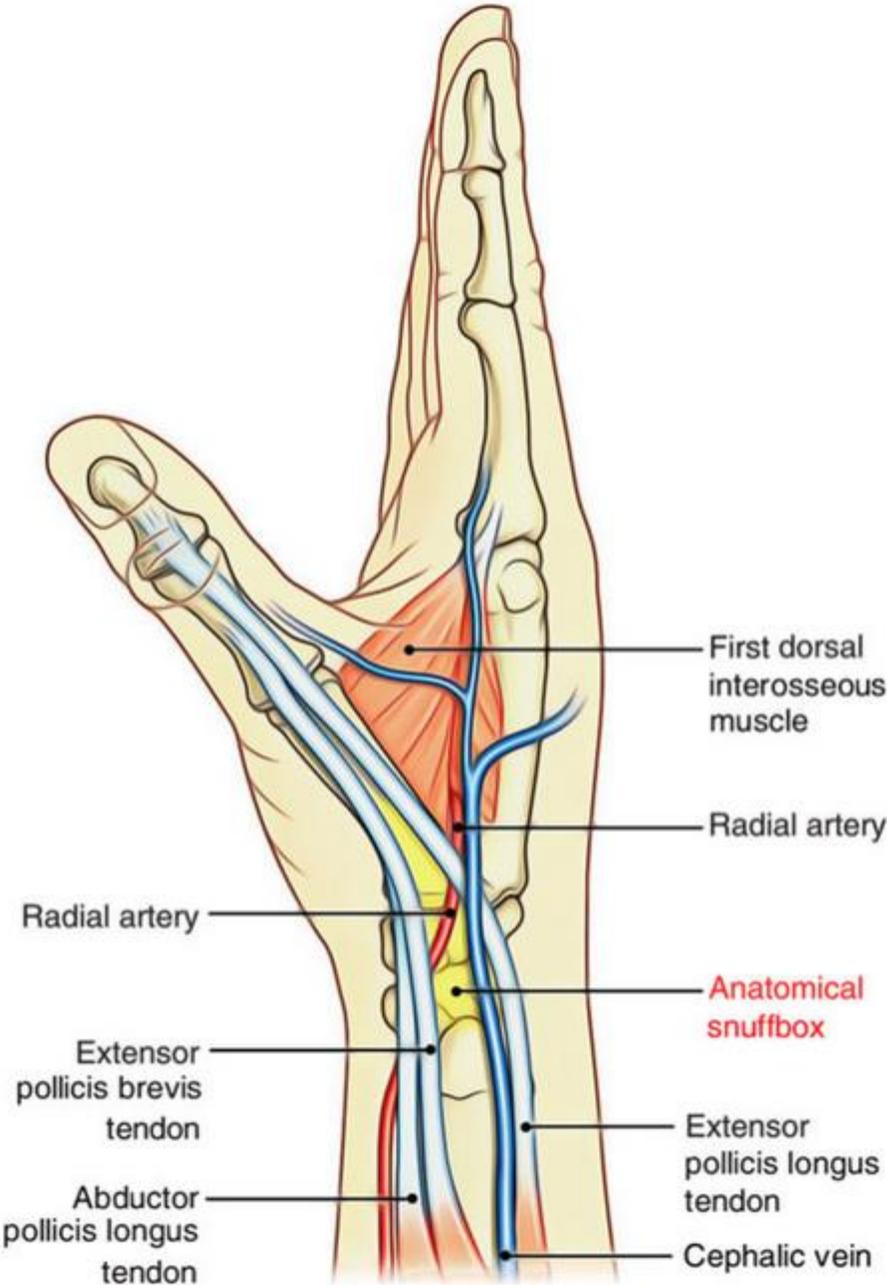
Anatomical Snuff Box



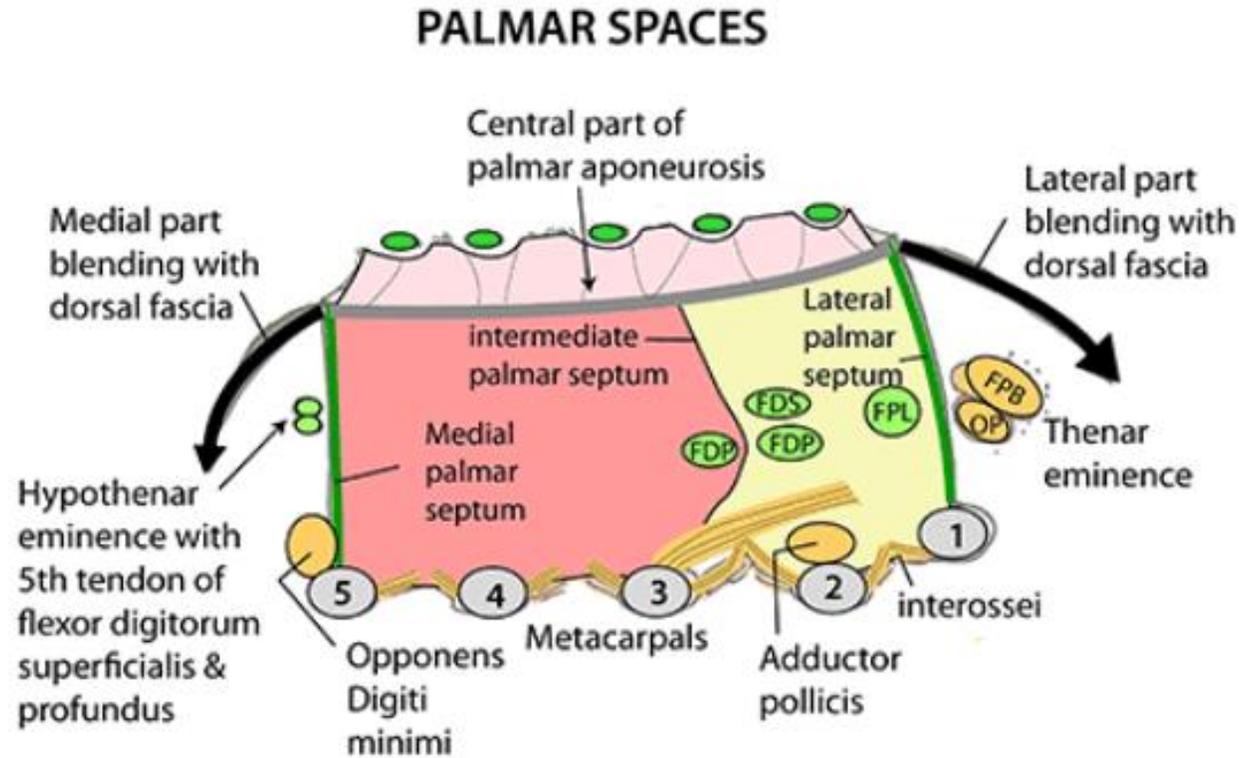
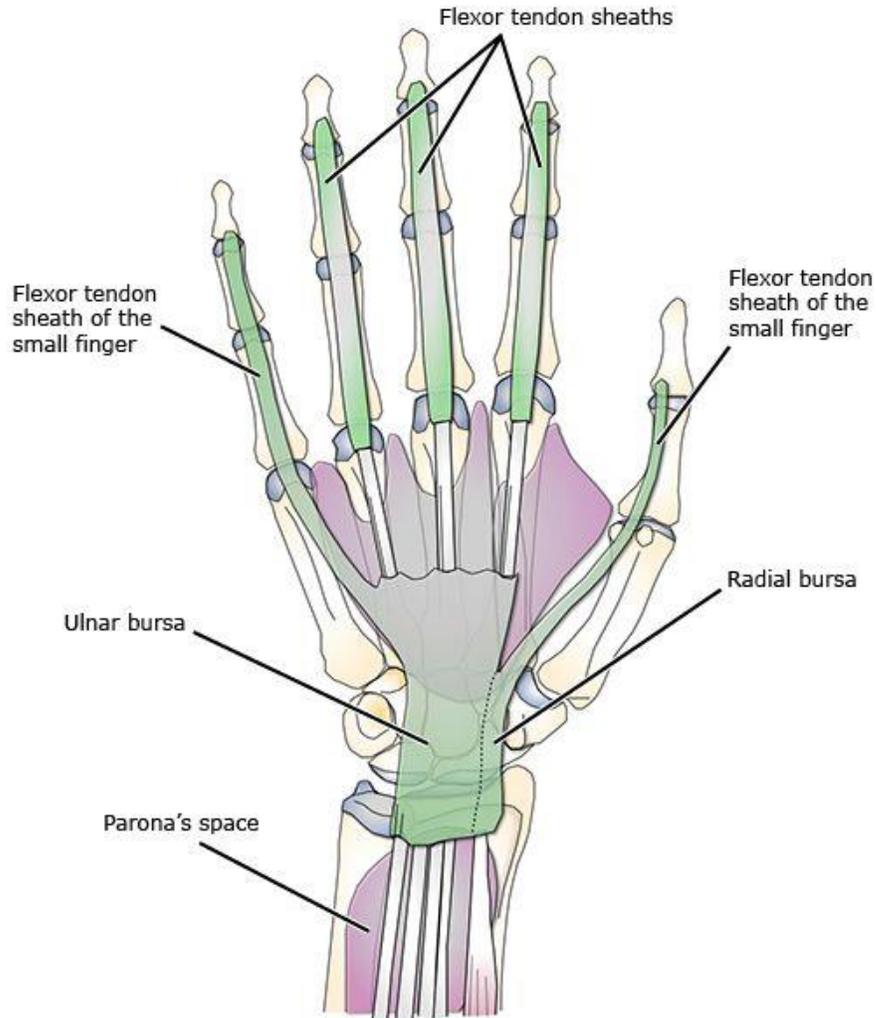
Anatomical Snuff Box



Contents:
Cephalic v. – look
Radial a. – feel
Radial n. – move
Scaphoid in floor



Palmar Spaces and Synovial Sheaths



10

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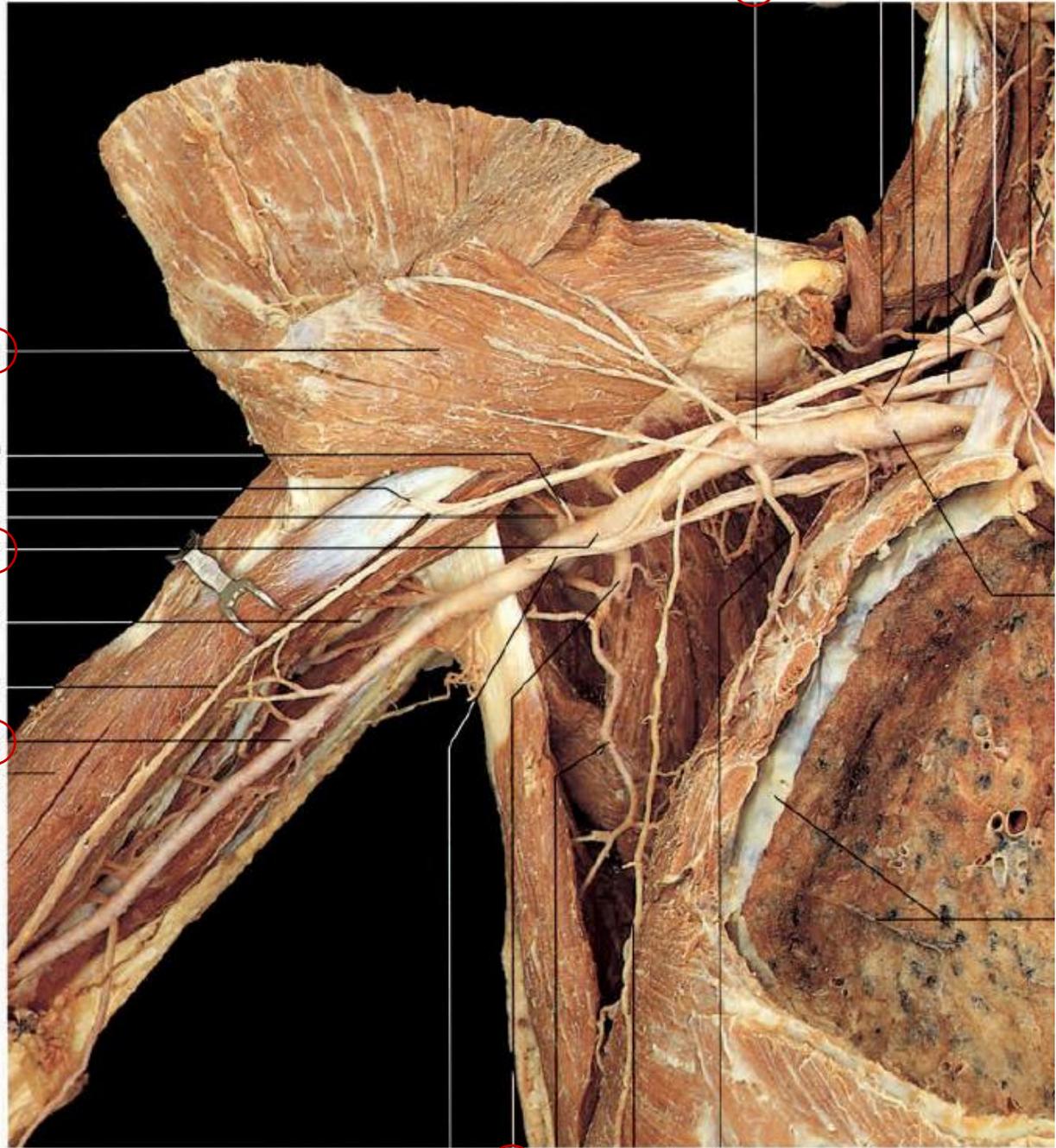
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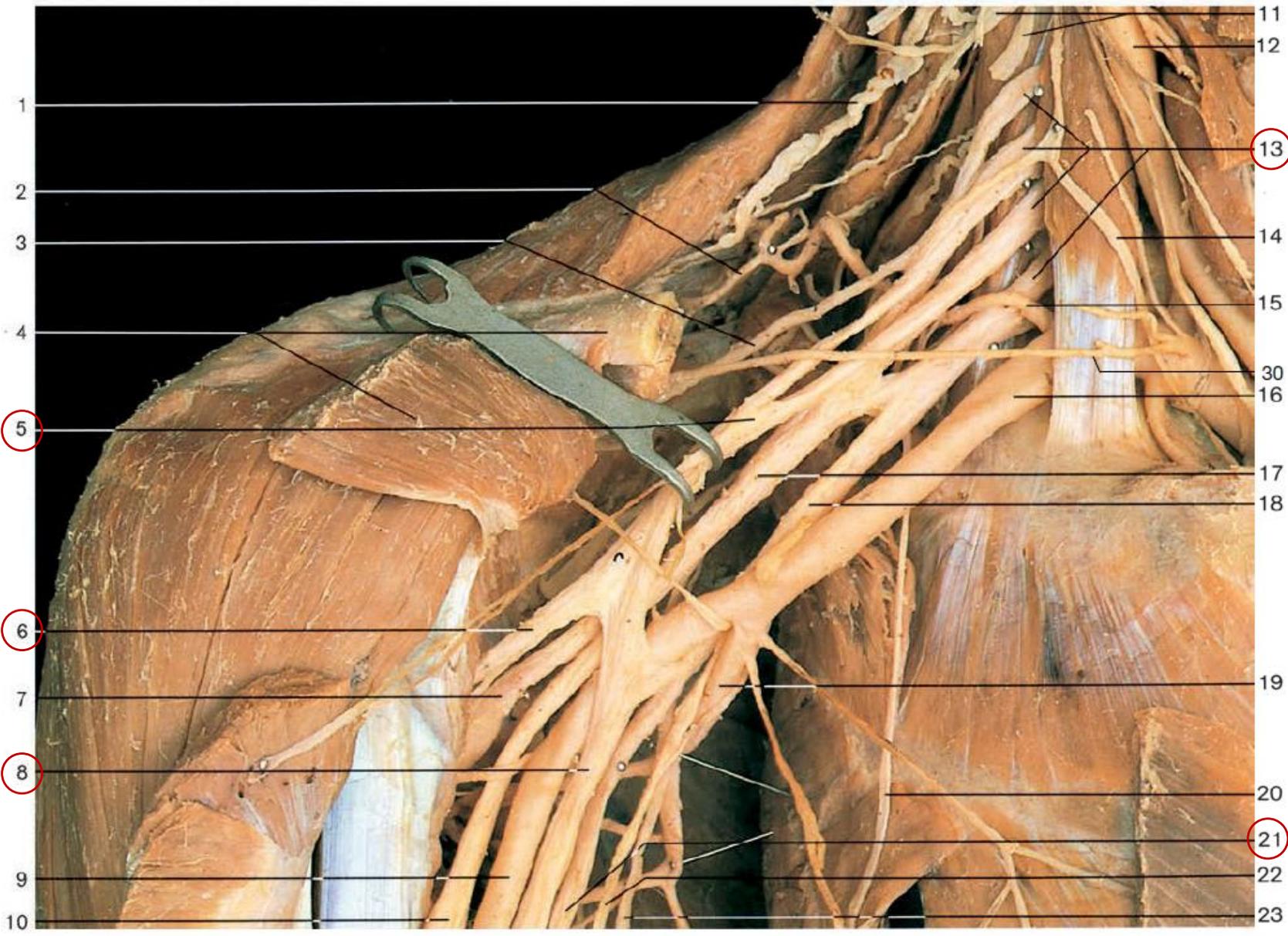
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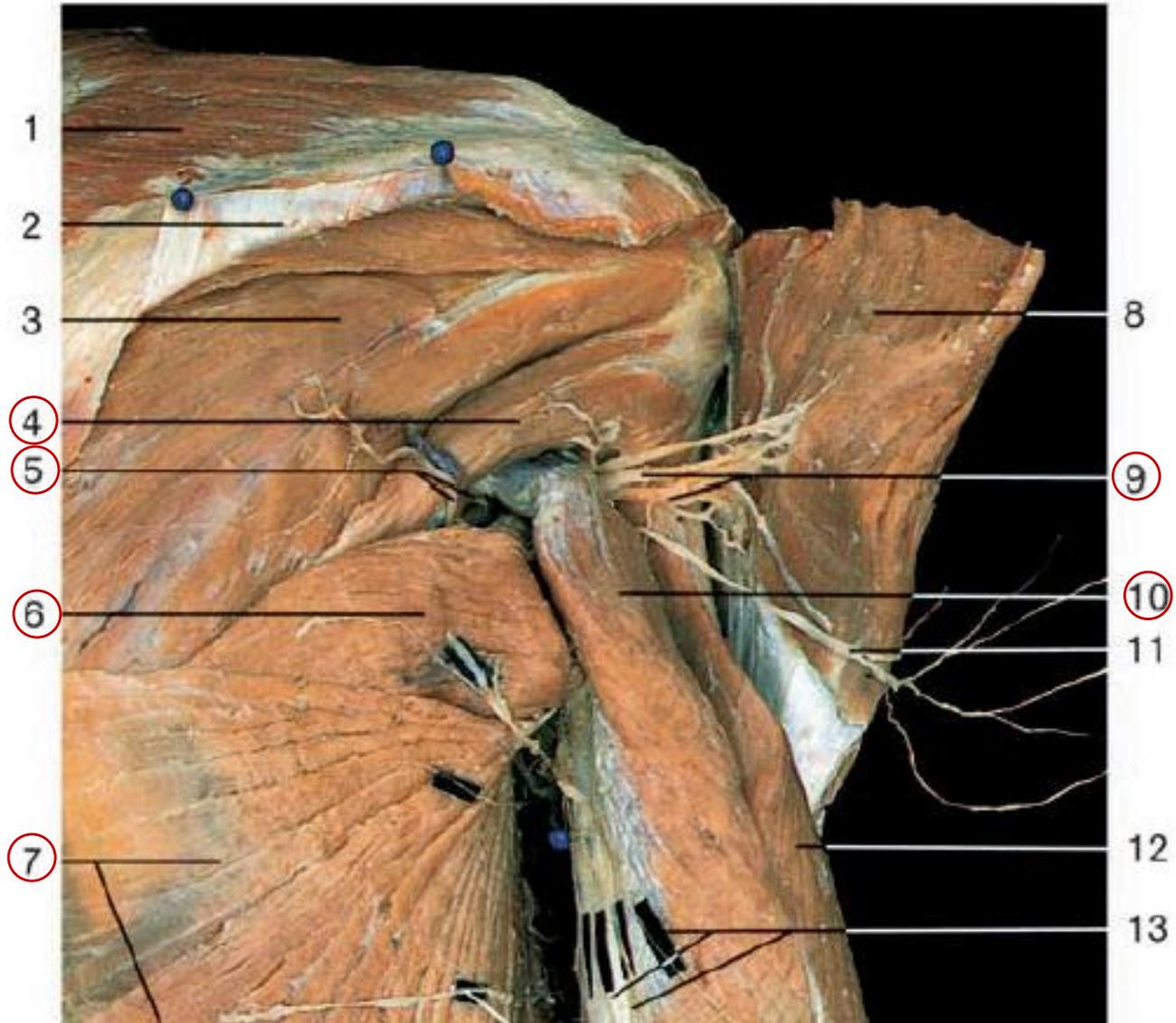
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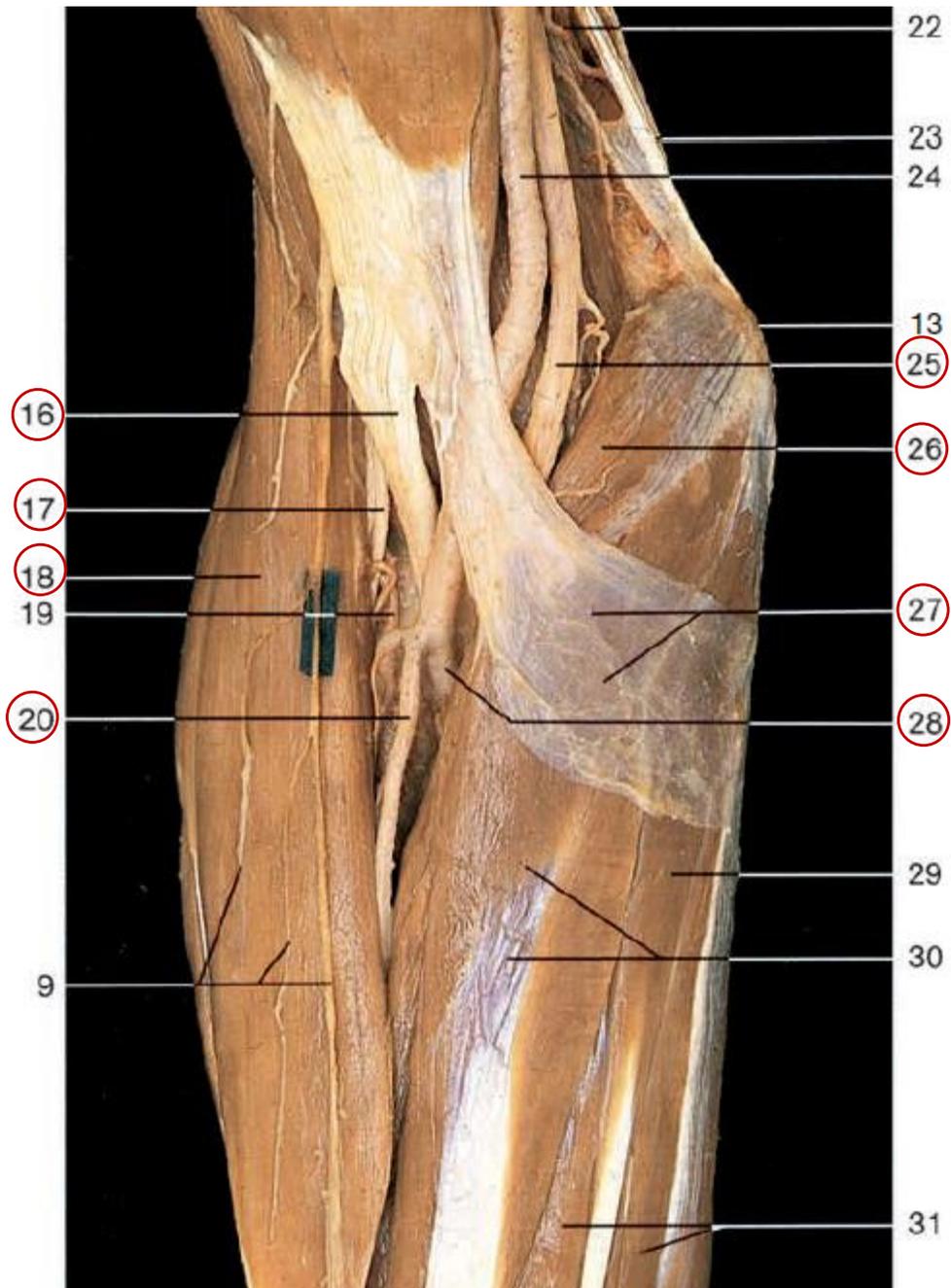
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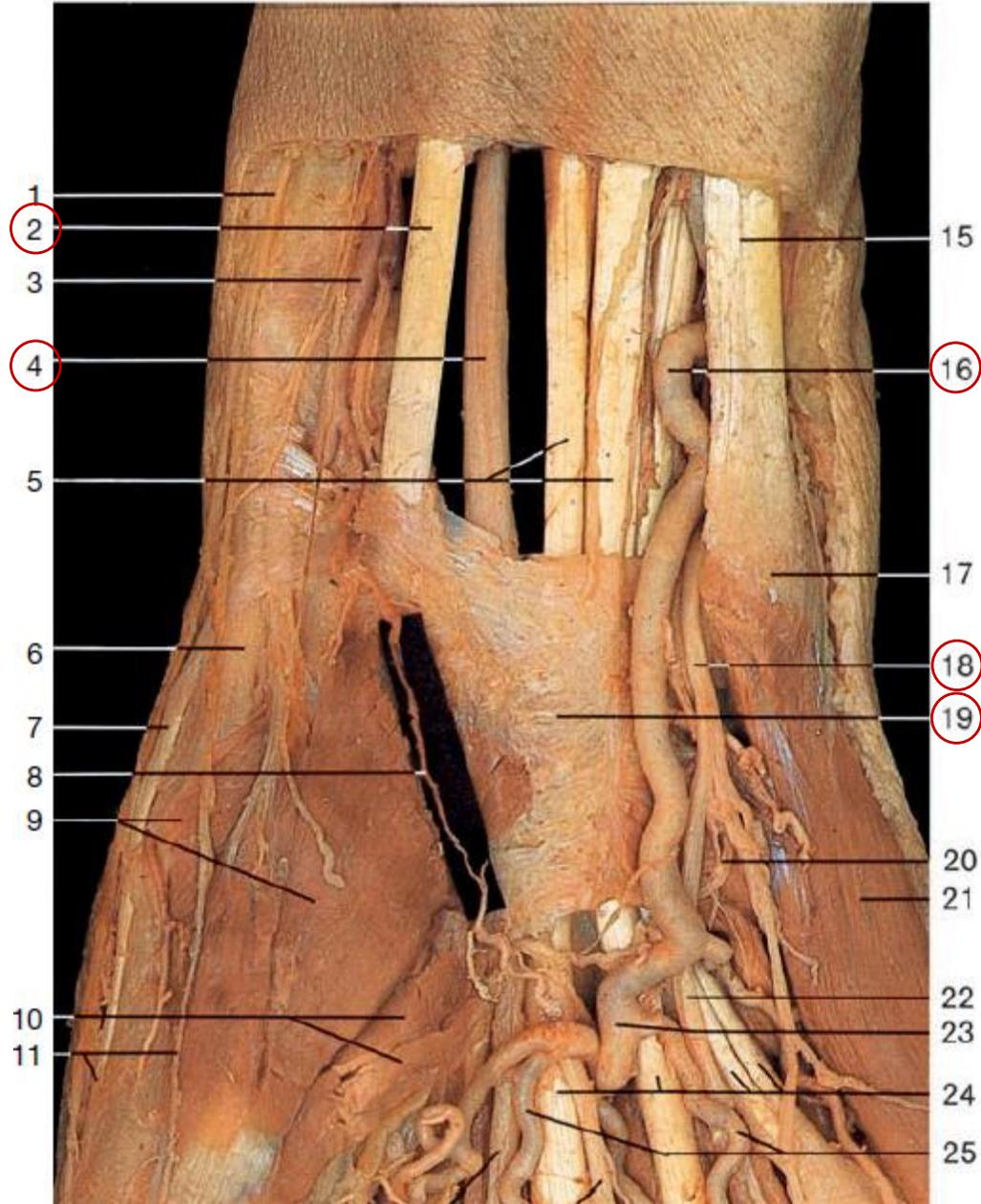
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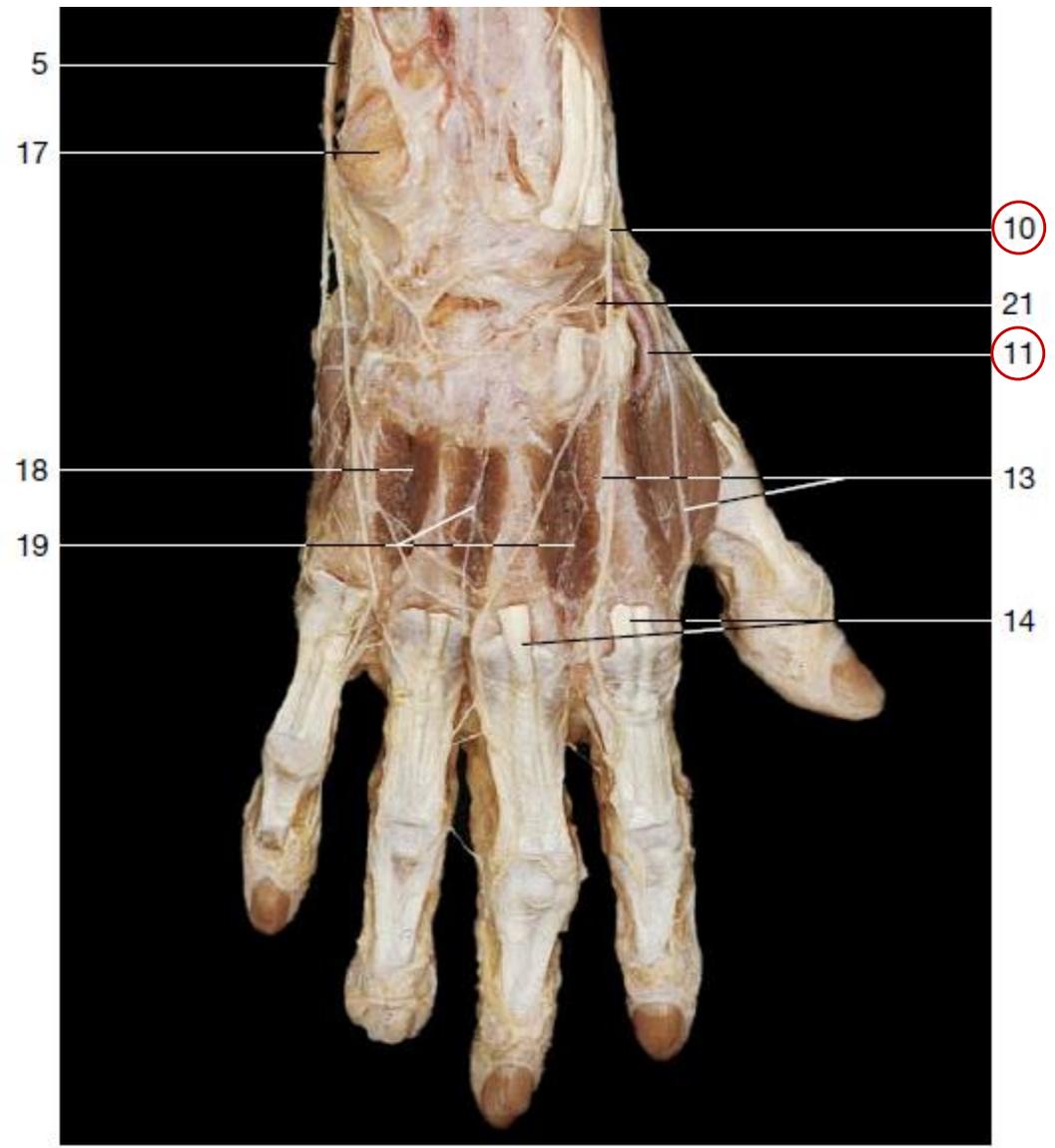
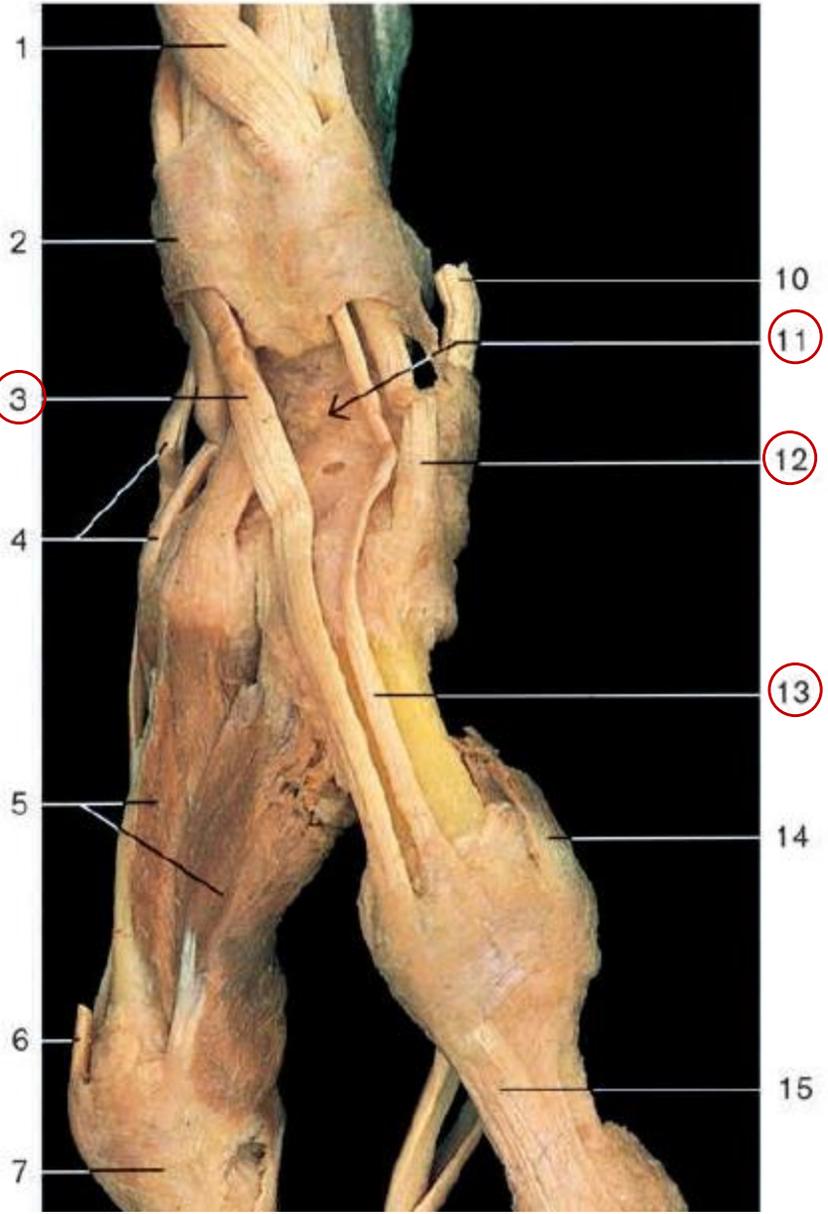
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Questions?