

Nuova nomenclatura dei blocchi degli arti superiori

G.SEPOLVERE

State of the Art Safety Standards in RA
THE EUROPEAN SOCIETY OF REGIONAL ANAESTHESIA & PAIN THERAPY

European Society of Regional Anaesthesia & Pain Therapy
ESRA ITALIA

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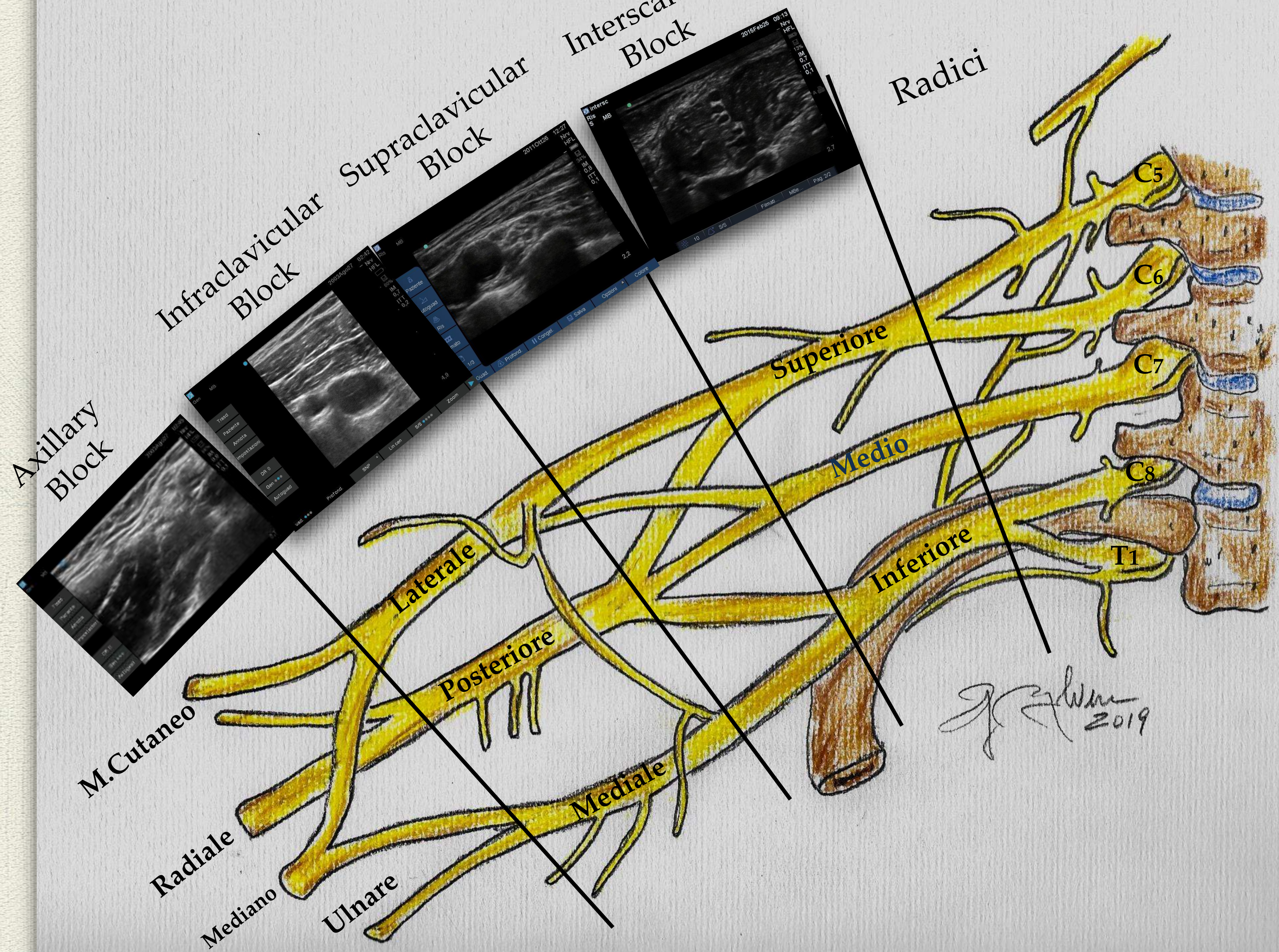
Axillary Block

Infraclavicular Block

Supraclavicular Block

Interscalene Block

Radici



[Interscalene block and shoulder surgery. Literature review and new method of infiltration]

[Article in French]

K Medjahed ¹, N Mefleh ¹, J P Lecoq ², D Ndjekembo Shango ³, D Khodr ¹, J F Brichant ²

Suprascapular and Interscalene Nerve Block for Shoulder Surgery: A Systematic Review and Meta-analysis

Nasir Hussain ¹, Ghazaleh Goldar, Neli Ragina, Laura Banfield, John G Laffey, Faraj W Abdallah

Supraclavicular block versus interscalene brachial plexus block for shoulder surgery: A meta-analysis of clinical control trials

C W Guo ¹, J X Ma ², X L Ma ³, B Lu ², Y Wang ², A X Tian ², L Sun ², Y Wang ², B C Dong ², Y B Teng ²

[Axillary nerve block under ultrasonography: review of evidence]

[Article in French]

P Cuvillon ¹

Infraclavicular Nerve Block

Lesley M. Williams, Karampal Singh, Anterpreet Dua ¹, Abhishek Singh ², Adrienne Cummings

BACKGROUND



The advent of ultrasound-guidance with improved sonoanatomy and researchers to refine regional anesthetic approaches and de



Has led to an unwieldy expansion of the nomenclature in regi



This contributes to inconsistent communication in clinical and
May also hamper interpretation and synthesis of clinical resea



This has been successfully performed for abdominal, paraspinal, and chest wall blocks, there remains no consensus on nomenclature for upper and lower limb regional anesthetic techniques.

THUS, THERE IS A NEED TO STANDARDIZE NOMENCLATURE OF REGIONAL ANESTHETIC TECHNIQUES FOR THE BENEFIT OF TRAINEES, RESEARCHERS, CLINICIANS, AND PATIENTS.

Regional Anesthesia & Pain Medicine

Original research

Standardizing nomenclature in regional anesthesia:
an ASRA-ESRA Delphi consensus study of abdominal
wall, paraspinal, and chest wall blocks

Reg Anesth Pain Med: first
published as 10.1136/
rapm-2020-102451 on 18
June 2021

Original research

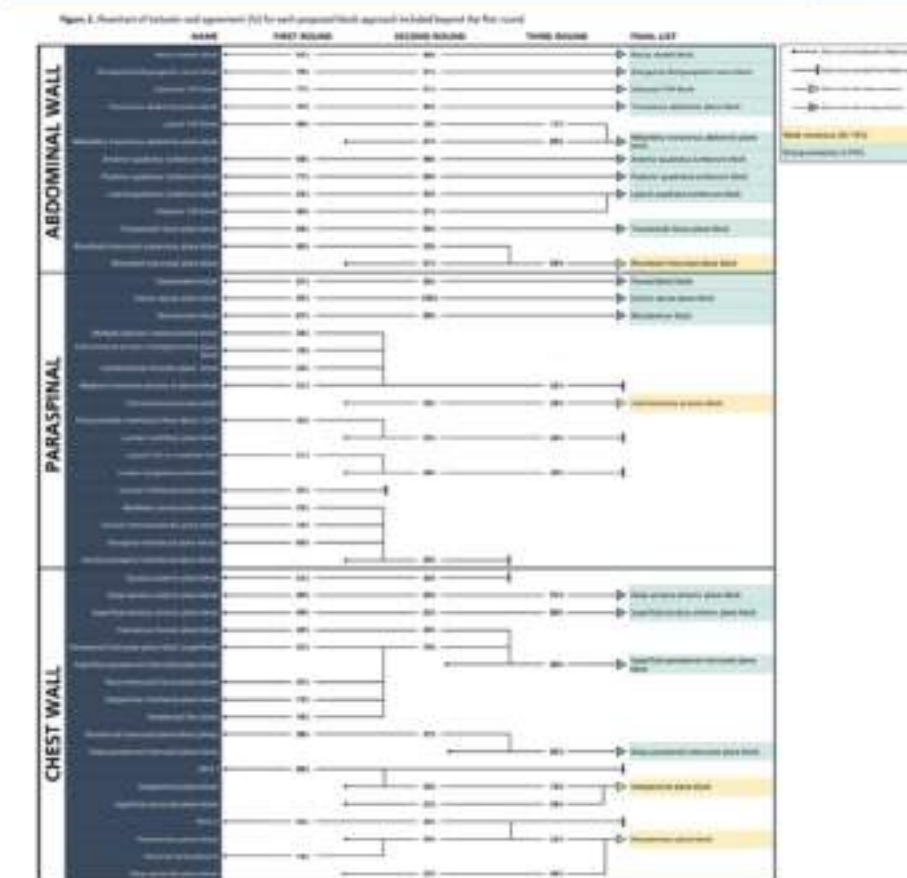


Figure 1. Flowchart of inclusion and agreement (%) for each proposed block approach included beyond the first round TAP, transversus abdominis plane; T10-T12, thoracic paravertebral block.

Original research

Table 1. Consensus achieved for the block names. Strong consensus (>75% agreement) was achieved for all block names except for the thoracic paravertebral block, transversus abdominis plane block, interscalene plexus block, and pectoral nerve plexus block, that had a weak consensus (25%–74% agreement)

Region	Name (%)	Anatomical description (%)
Abdominal wall	1. T10-T12 transversus abdominis plane (TAP) block (95%)	Injection in the plane between the external oblique muscle and posterior rectus abdominis muscle (95%)
	2. Interscalene brachial plexus nerve block (97%)	Injection in proximity to the longubul and shortubul nerves, located within the plane between the lateral oblique and transverse abdominis muscles in the lower quadrants of the anterior abdominal wall (97%)
	3. Transversus abdominis plane (TAP) block (97%)	Injection in the plane between the external oblique and transversus abdominis muscles (97%)
	4. Interscalene brachial plexus nerve block (97%)	Injection in the plane between the external oblique and transversus abdominis muscles at the midclavicular line (97%)
	5. Subcostal transversus abdominis plane block (97%)	Injection in the plane between the external oblique and transversus abdominis muscles along the midclavicular line in the upper quadrants of the anterior abdominal wall (97%)
	6. Anterior quadratus lumborum block (QLB) (97%)	Injection in the plane between quadratus lumborum and psoas major muscles (97%)
	7. Lumbal quadratus lumborum nerve block (QLB) (97%)	Injection in the plane between the quadratus lumborum and transversus abdominis muscles in the lateral border of the quadratus lumborum muscle (97%)
	8. Posterior quadratus lumborum block (QLB) (97%)	Injection in the plane between the quadratus lumborum and posterior quadratus lumborum muscles (97%)
	9. Transversus abdominis plane (TAP) block (97%)	Injection in the plane between the transversus abdominis and the transversus abdominis muscles (97%)
	10. Interscalene brachial plexus nerve block (97%)	Injection in the plane between the shortubul and longubul nerves (97%)
Thoracic	11. Thoracic paravertebral block (TPVB) (95%)	Injection in the paravertebral space between the superior costal transverse ligament and pedicle (paravertebral) at the thoracic region (95%)
	12. Interscalene brachial plexus (IBP) block (97%)	Injection in the plane between two transverse processes, posterior to the superior costal transverse ligament or halfway between the posterior aspect of the transverse processes and the pleura (97%)
Chest wall	13. Supraclavicular brachial plexus (SAP) block (95%)	Injection in the plane superficial to the serratus anterior muscle (95%)
	14. Deep serratus anterior plane block (SAP) (97%)	Injection in the plane between the posterior surface of the serratus anterior muscle and the pectoralis major muscle (97%)
	15. Interscalene brachial plexus (IBP) block (97%)	Injection in the plane superficial to the longubul and shortubul nerves and the midclavicular line (97%)
16. Deep serratus anterior plane (SAP) block (97%)	Injection in the plane between the external oblique and the transversus abdominis muscles (97%)	
17. Interscalene brachial plexus (IBP) block (97%)	Injection in the plane between the posterior aspect and the pectoralis major muscle (97%)	
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Standardizing nomenclature in regional anesthesia: an ASRA-ESRA Delphi consensus study of upper and lower limb nerve blocks

El-Boghdadly K, Albrecht E, Wolmarans M, Mariano ER, Kopp S, Perlas A, Thottungal A, Gadsden J, Tulgar S, Adhikary S, Aguirre J, Agur AMR, Altıparmak B, Barrington MJ, Bedford N, Blanco R, Bloc S, Boretsky K, Bowness J, Breebaart M, Burckett-St Laurent D, Carvalho B, Chelly JE, Chin KJ, Chuan A, Coppens S, Costache I, Dam M, Desmet M, Dhir S, Egeler C, Elsharkawy H, Bendtsen TF, Fox B, Franco CD, Gautier PE, Grant SA, Grape S, Guheen C, Harbell MW, Hebbard P, Hernandez N, Hogg RMG, Holtz M, Ihnatsenka B, Ilfeld BM, Ip VHY, Johnson RL, Kalagara H, Kessler P, Kwofie MK, Le-Wendling L, Lirk P, Lobo C, Ludwin D, Macfarlane AJR, Makris A, McCartney C, McDonnell J, McLeod GA, Memtsoudis SG, Merjavy P, Moran EML, Nader A, Neal JM, Niazi AU, Njathi-Ori C, O'Donnell BD, Oldman M, Orebaugh SL, Parras T, Pawa A, Peng P, Porter S, Pulos BP, Sala-Blanch X, Saporito A, Sauter AR, Schwenk ES, Sebastian MP, Sidhu N, Sinha SK, Soffin EM, Stimpson J, Tang R, Tsui BCH, Turbitt L, Uppal V, van Geffen GJ, Vermeylen K, Vlassakov K, Volk T, Xu JL, Elkassabany NM. Standardizing nomenclature in regional anesthesia: an ASRA-ESRA Delphi consensus study of upper and lower limb nerve blocks. *Reg Anesth Pain Med.* 2023 Nov 22:rapm-2023-104884. doi: 10.1136/rapm-2023-104884. Epub ahead of print. PMID: 38050174.

International Delphi study aims to achieve consensus on nomenclature for upper and lower limb nerve blocks

SCOPE



We aimed to achieve consensus on two characteristics of common upper and lower limb peripheral nerve blocks:

Names by which they are referred to
Names were defined as the word or set of words by which each technique is known, addressed, or referred to

Anatomical descriptions for the position of the needle-tip during injection for each of these regional anesthetic techniques
Anatomical descriptions were defined by the anatomical location of the needle-tip



Non-ultrasound-guided methods of needle-tip localization were not considered (eg, landmark-based techniques).



The type of needle used, needle trajectory, patient position, the position of the ultrasound transducer, use of catheters, or any other technical elements related to the performance of regional anesthetic techniques were not considered unless there was a fundamental requirement for doing so (eg, two techniques with identical needle-tip position but significantly different needle trajectories)

Infraclavicular

RESULTS

Standardizing nomenclature in regional anesthesia:
an ASRA-ESRA Delphi consensus study of upper and
lower limb nerve blocks



The consensus we achieved should clarify nomenclature for **approaches** that we **anticipated to be controversial** and those that required **further anatomical interpretation**



Obtained consensus on a recommended **template** for naming peripheral nerve blocks

Original research

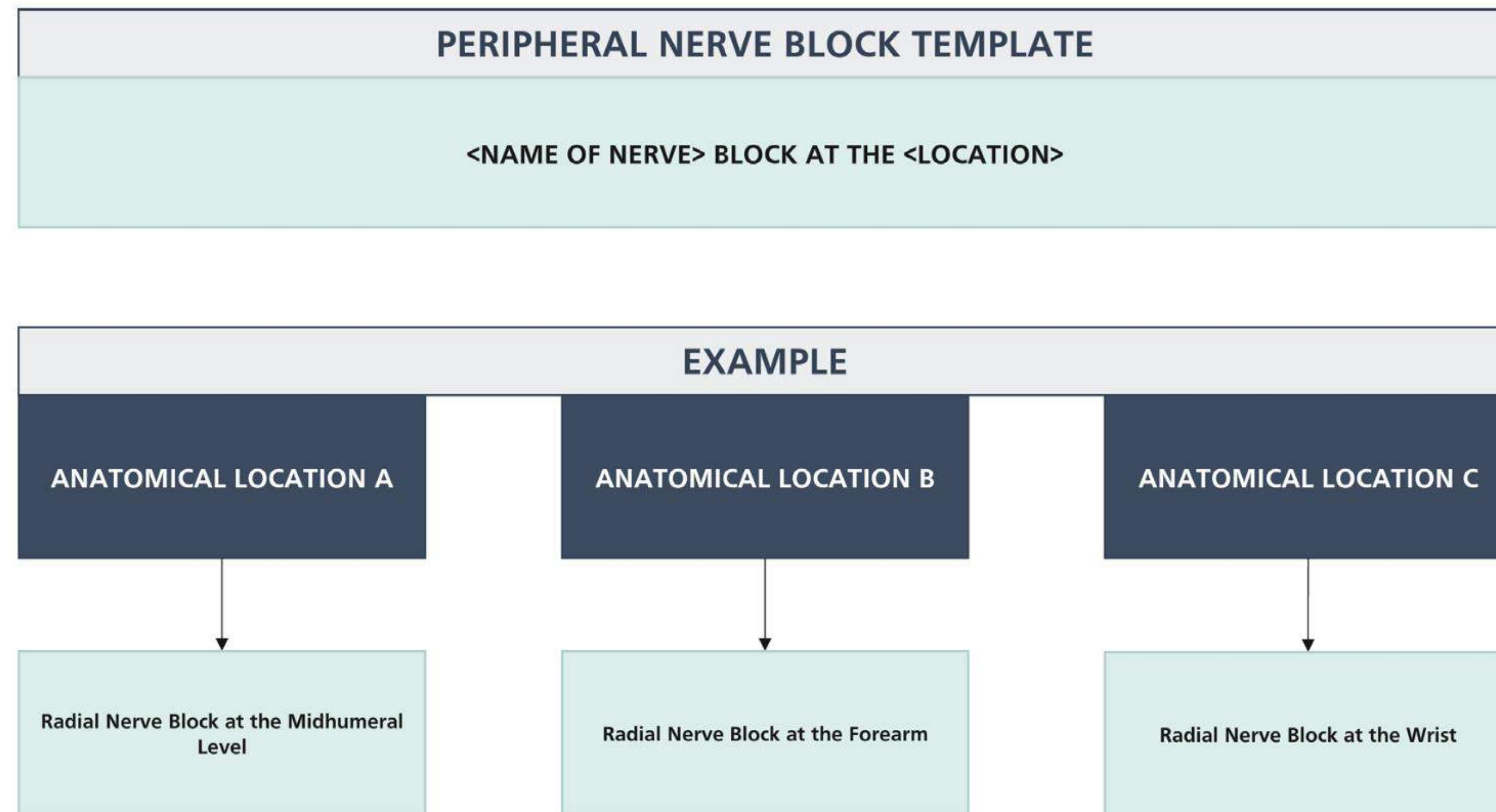


Figure 4 Template for naming peripheral nerve blocks.

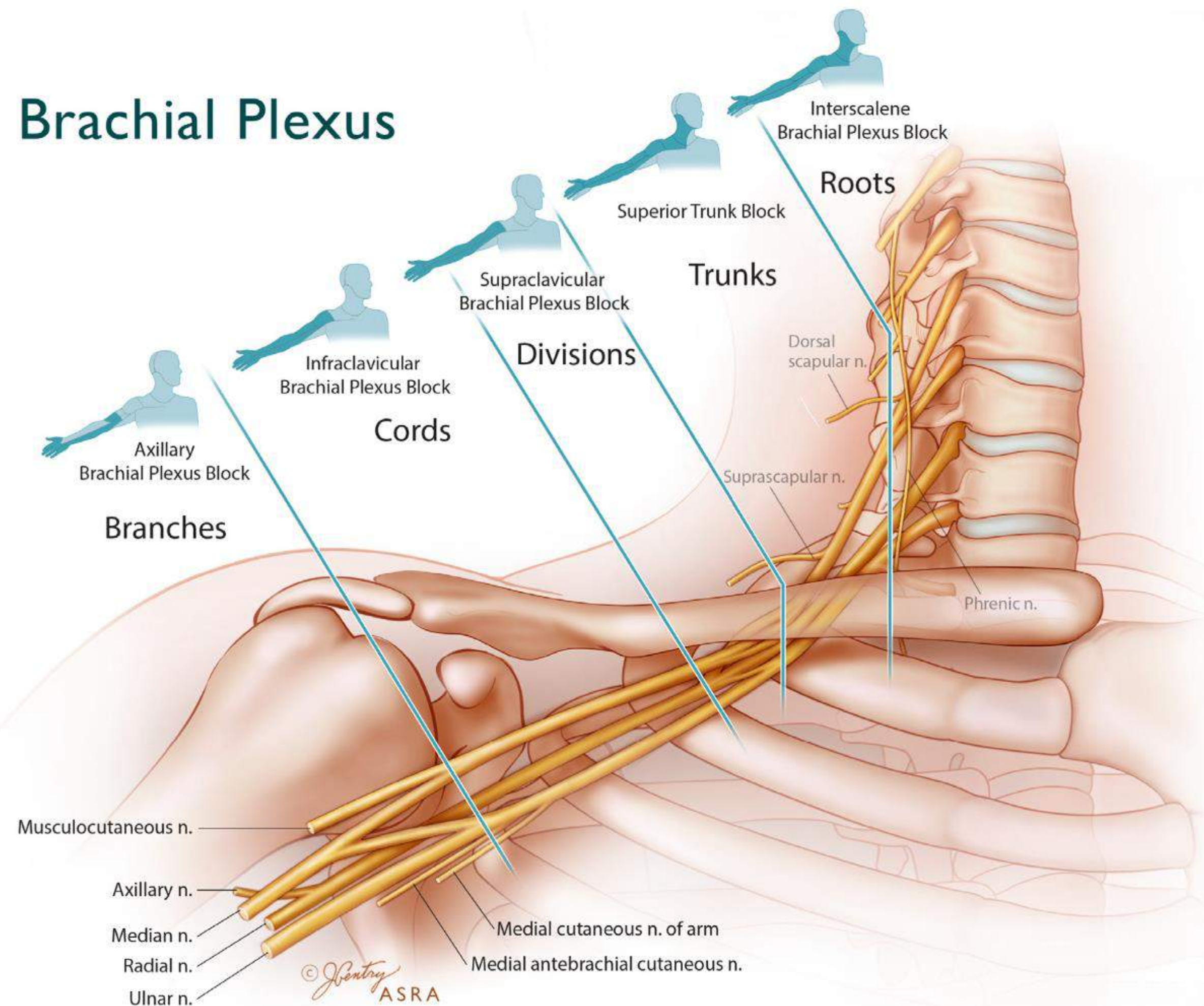
TEMPLATE

One of the key agreements achieved was to name peripheral nerve blocks based on a template that includes the name of the nerve and the anatomical location at which it is blocked

Blocks in which no consensus was achieved followed the proposed template of naming the block using the name of the nerve and the anatomical area where the block was performed

Standardizing nomenclature in regional anesthesia:
an ASRA-ESRA Delphi consensus study of upper and
lower limb nerve blocks

Brachial Plexus



PLEXUS

The other clarifying question that was included in the first round of voting was whether to include the word ‘plexus’ in the block name. This promotes clarity, which is obvious when we discuss axillary nerve blocks versus axillary brachial plexus blocks or the supraclavicular nerve block versus the supraclavicular brachial plexus block

Table 1 Consensus achieved for upper limb block names and anatomical descriptions

Name (%)	Anatomical description (%)
1 Interscalene brachial plexus block (98)	Injection at the C5 and C6 nerve roots between anterior and middle scalene muscles (83)
2 Superior trunk block (92)	Injection at the superior trunk before the suprascapular nerve emerges (80)
3 Supraclavicular brachial plexus block (99)	Injection at the divisions of the brachial plexus immediately cephalad to the clavicle (78)
4 Infraclavicular brachial plexus block (82)	Injection at the cords of the brachial plexus (87)
5 Infraclavicular brachial plexus block (retroclavicular approach) (78)	Injection at the cords of the brachial plexus where the needle insertion is proximal to the clavicle (72)
6 Infraclavicular brachial plexus block (costoclavicular approach) (85)	Injection at the cords of the brachial plexus in the medial infraclavicular fossa at the first part of the axillary artery (90)
7 Infraclavicular brachial plexus block (coracoid approach) (85)	Injection at the cords of the brachial plexus in the lateral infraclavicular fossa at the second part of the axillary artery (82)
8 Axillary brachial plexus block (95)	Injection at the branches of the brachial plexus in the axillary region (66)
9 Suprascapular nerve block (anterior approach) (87)	Injection of the suprascapular nerve coming off superior trunk and traveling to posterior neck under the posterior belly of omohyoid muscle (84)
10 Suprascapular nerve block (posterior approach) (89)	Injection of the suprascapular nerve in the suprascapular notch or suprascapular fossa (84)
11 Deep cervical plexus block (95)	Injection at one or more of the nerve roots of C2, 3, and 4, deep to the prevertebral fascia (88)
12 Intermediate cervical plexus block (93)	Injection deep to the investing fascia and superficial to the prevertebral fascia at the midpoint of the posterior border of sternocleidomastoid muscle (93)
13 Superficial cervical plexus block (98)	Injection superficial to the investing fascia at the midpoint of the posterior border of sternocleidomastoid muscle (85)

Strong consensus ($\geq 75\%$ agreement) was achieved for all block names and anatomical descriptions except for descriptions for the infraclavicular brachial plexus block (retroclavicular approach) and axillary brachial plexus block, which had weak consensus (50%–74% agreement).

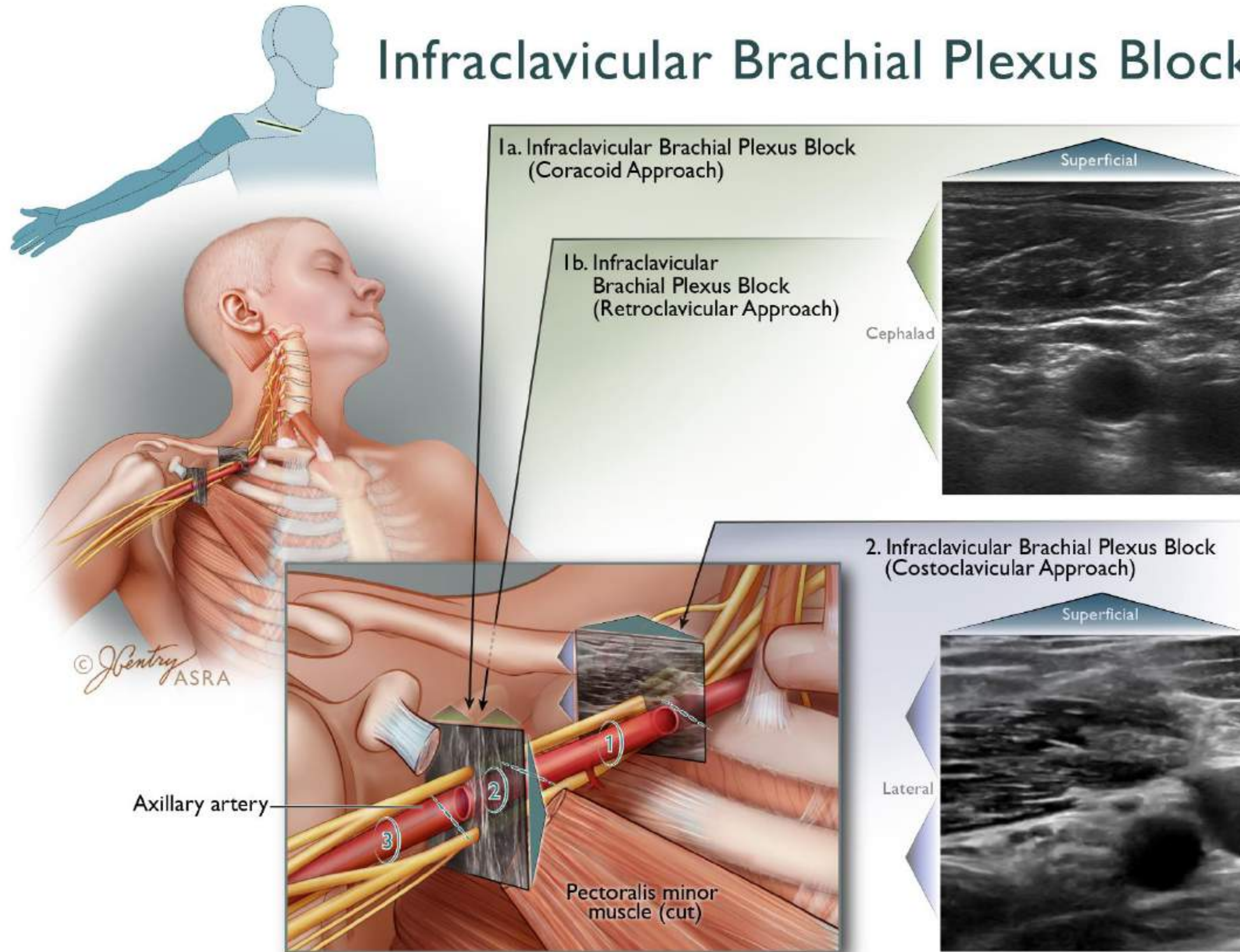
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There was consensus that the approach should be added after the block name and listed in parentheses. For example, we adopted this methodology in naming various infraclavicular brachial plexus block approaches.

Standardizing nomenclature in regional anesthesia:
an ASRA-ESRA Delphi consensus study of upper and
lower limb nerve blocks

Infraclavicular Brachial Plexus Block



Moreover, the difference between approaches should be rooted in anatomical concepts: a retroclavicular approach is where the needle is inserted cephalad to the clavicle; a costoclavicular approach is where the final position of the needle tip is located adjacent to the cords of the brachial plexus around the first part of the axillary artery; and the coracoid approach is where the final position of the needle tip is located adjacent to the cords around the second part of the axillary artery. Describing the needle trajectory explicitly, or its position relative to the subclavian artery is intuitive and relevant as different approaches to the block may land the needle adjacent to the cords in different parts of the infraclavicular fossa and be associated with non-identical risks based on each trajectory

PLEXUS ?

**ANATOMICAL
LOCATION?**

APPROACH ?

BRACHIAL

INFRACLAVICULAR

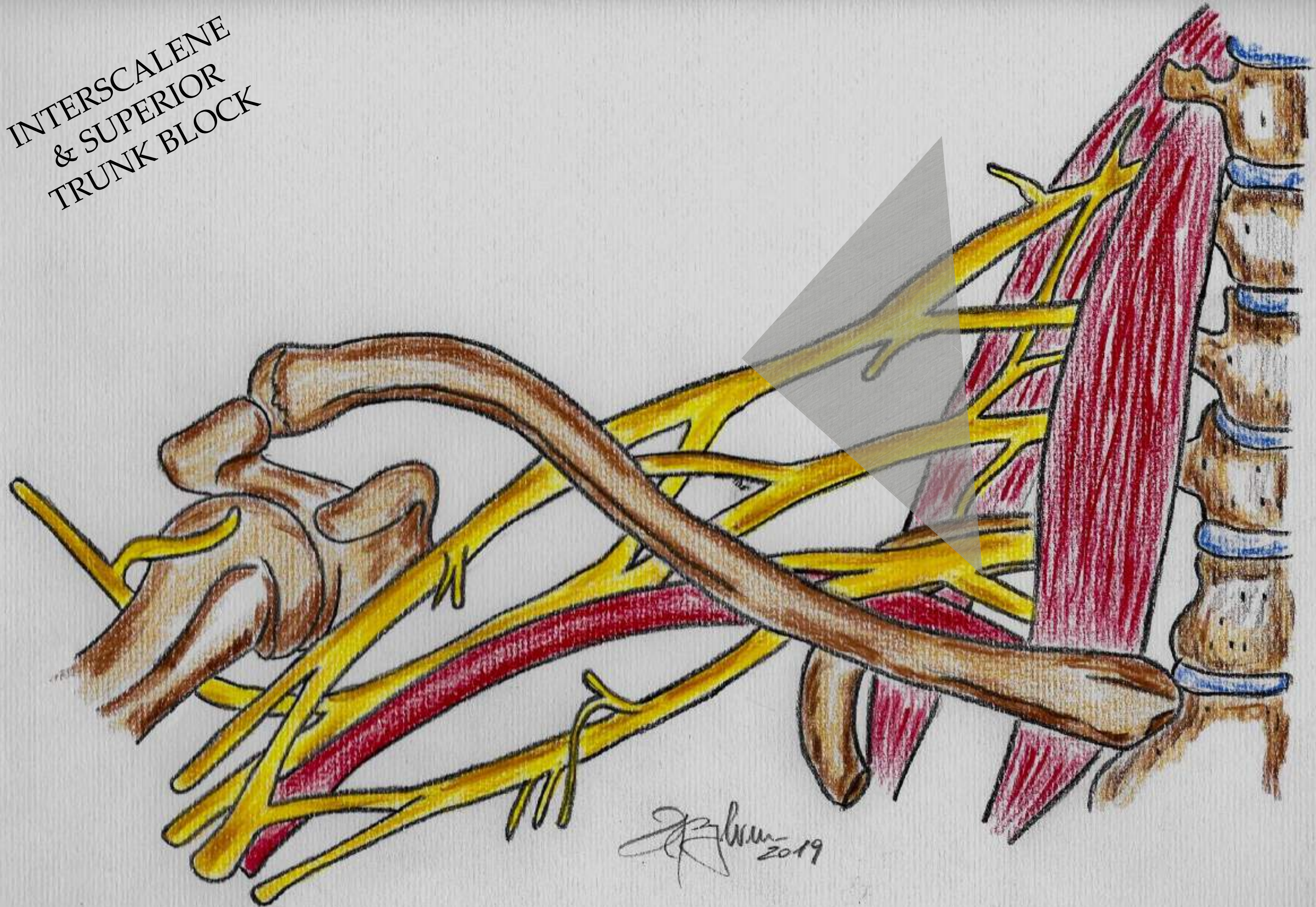
CORACOID

INFRACLAVICULAR BRACHIAL PLEXUS BLOCK (CORACOID APPROACH)

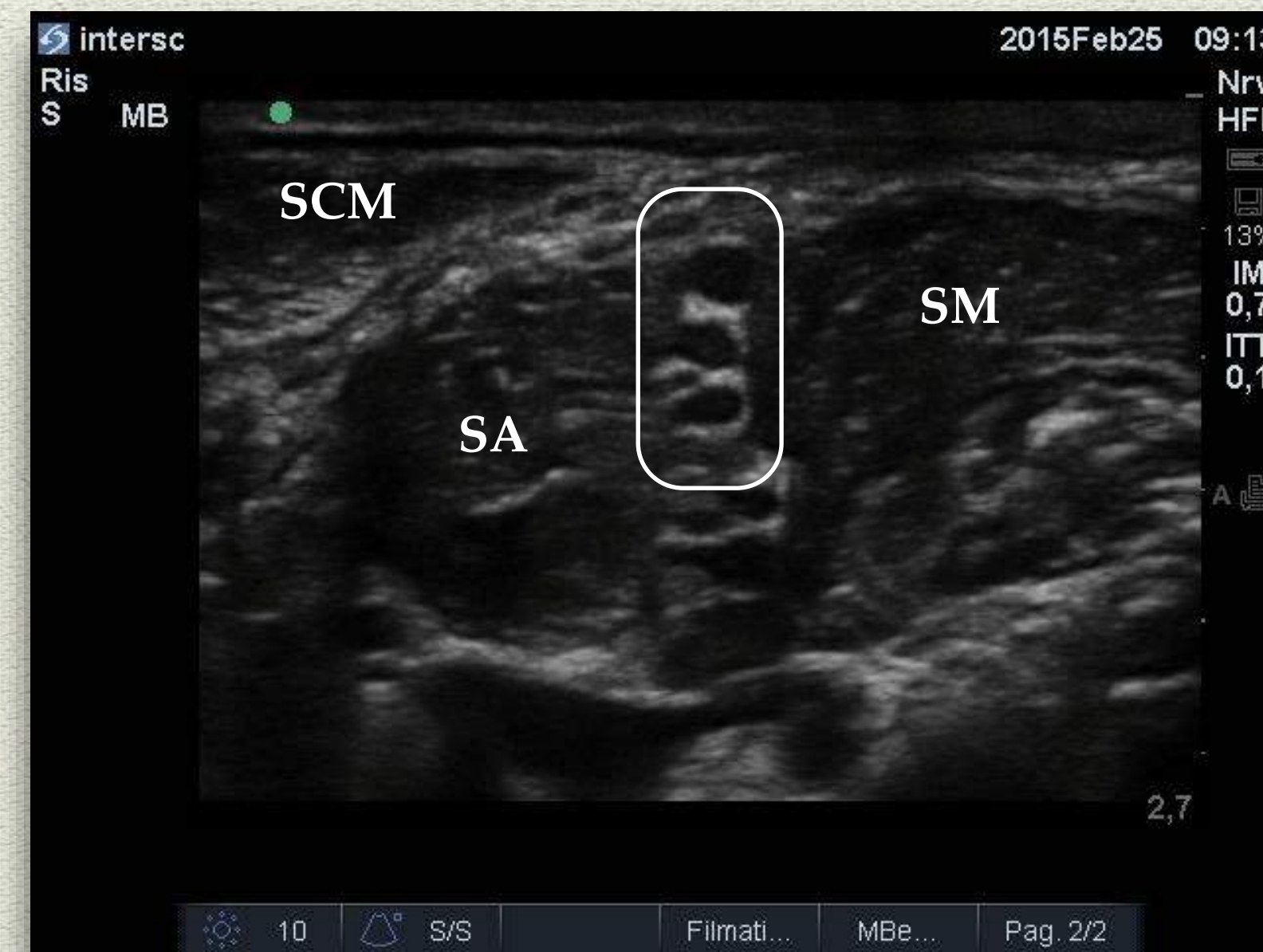
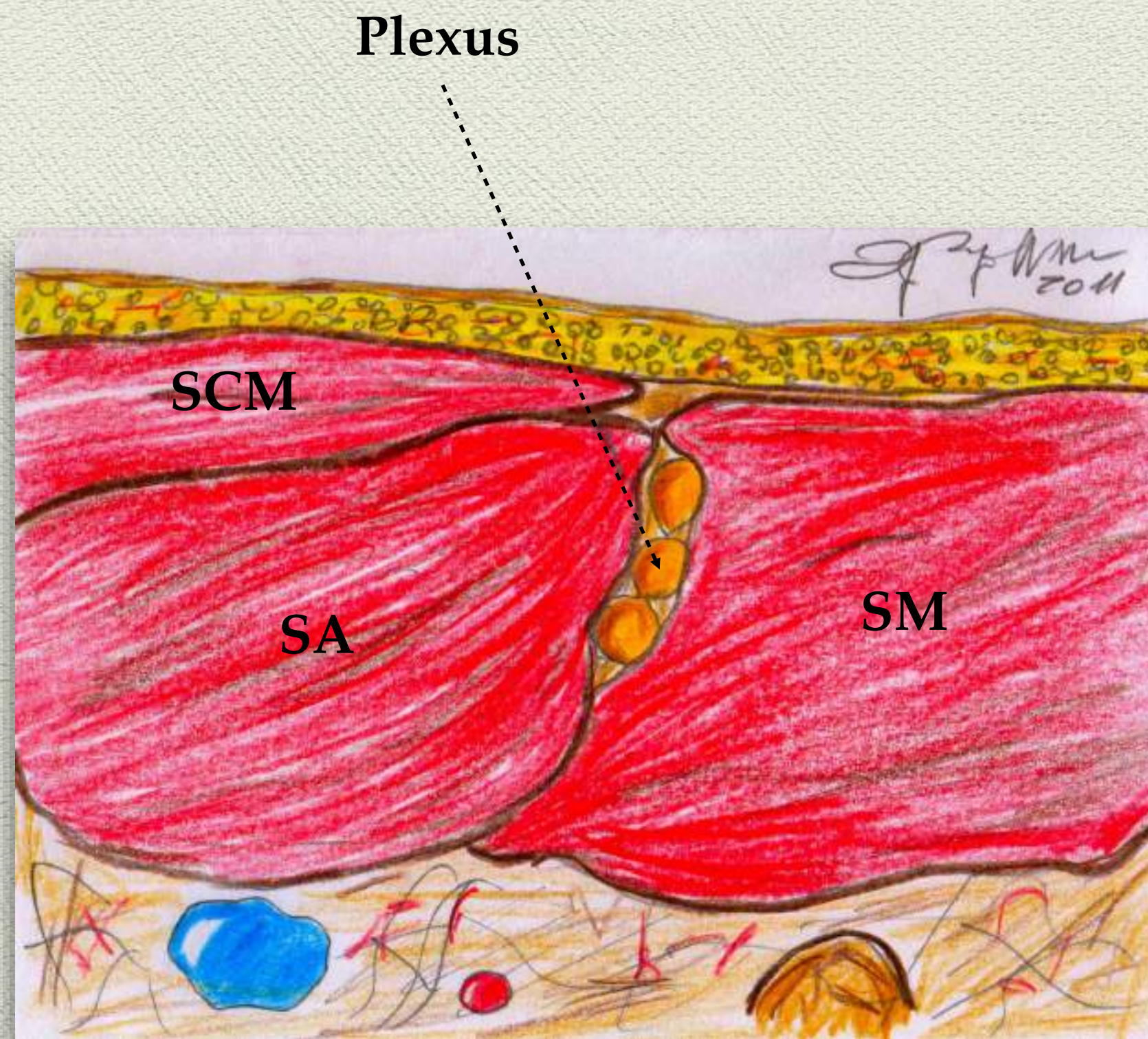
Infraclavicular Nerve Block

Lesley M. Williams, Karampal Singh, Anterpreet Dua ¹, Abhishek Singh ², Adrienne Cummings

INTERSCALENE
& SUPERIOR
TRUNK BLOCK

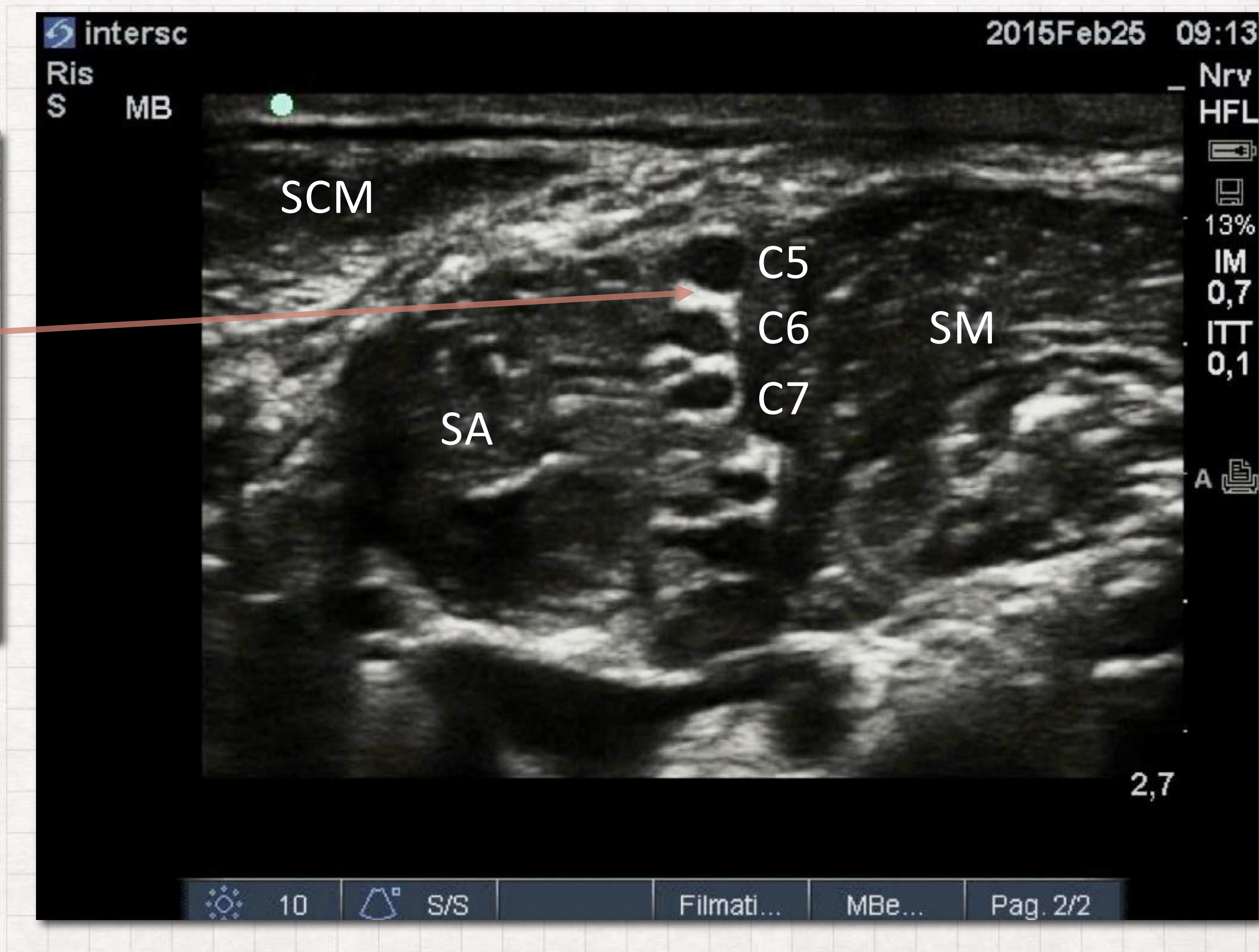


INTERSCALENE BRACHIAL PLEXUS



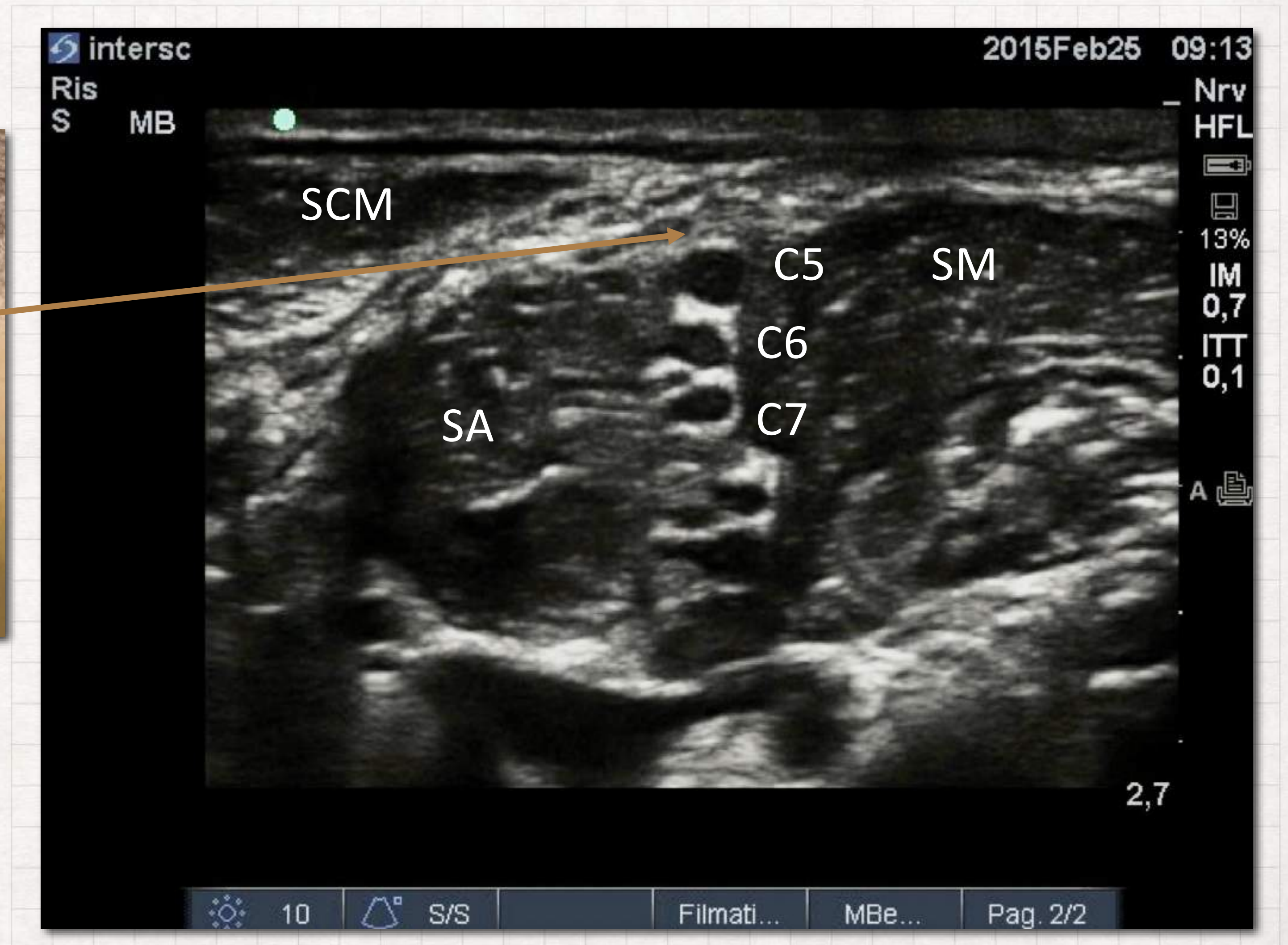
INTERSCALENE BRACHIAL PLEXUS BLOCK

INJECTION AT C5 AND C6 NERVE ROOTS BETWEEN ANTERIOR AND MIDDLE SCALENE MUSCLES

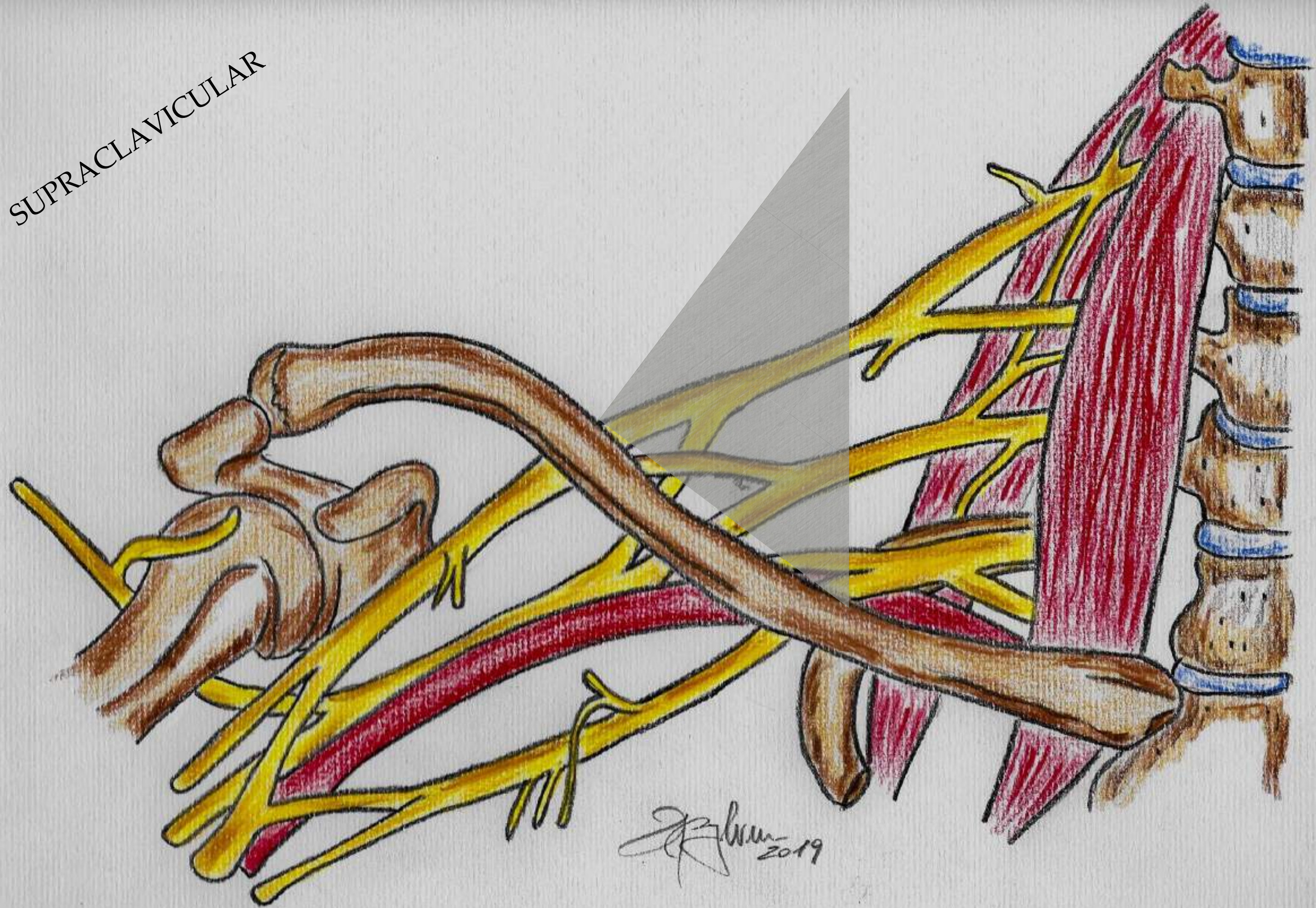


SUPERIOR TRUNK BLOCK

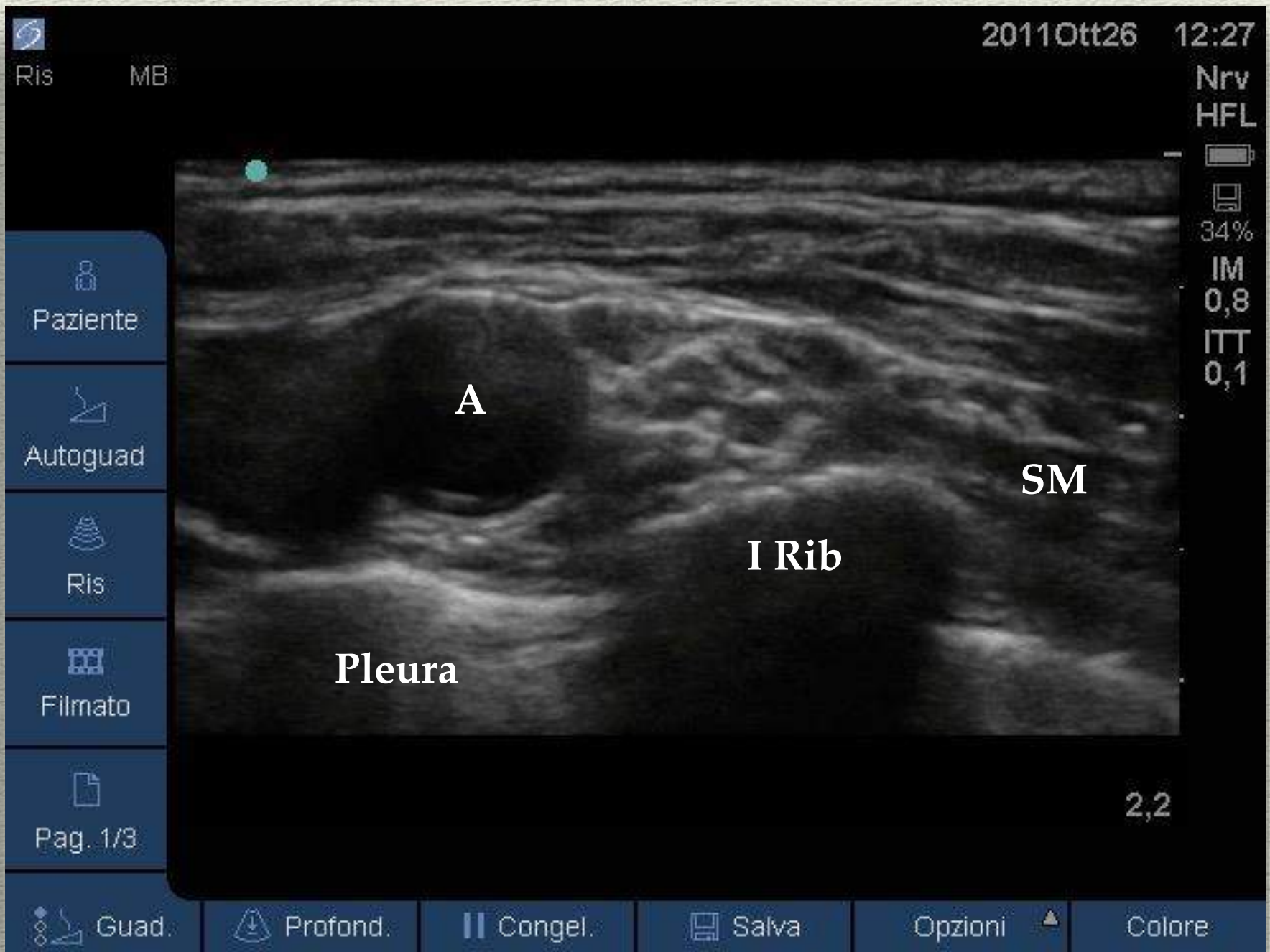
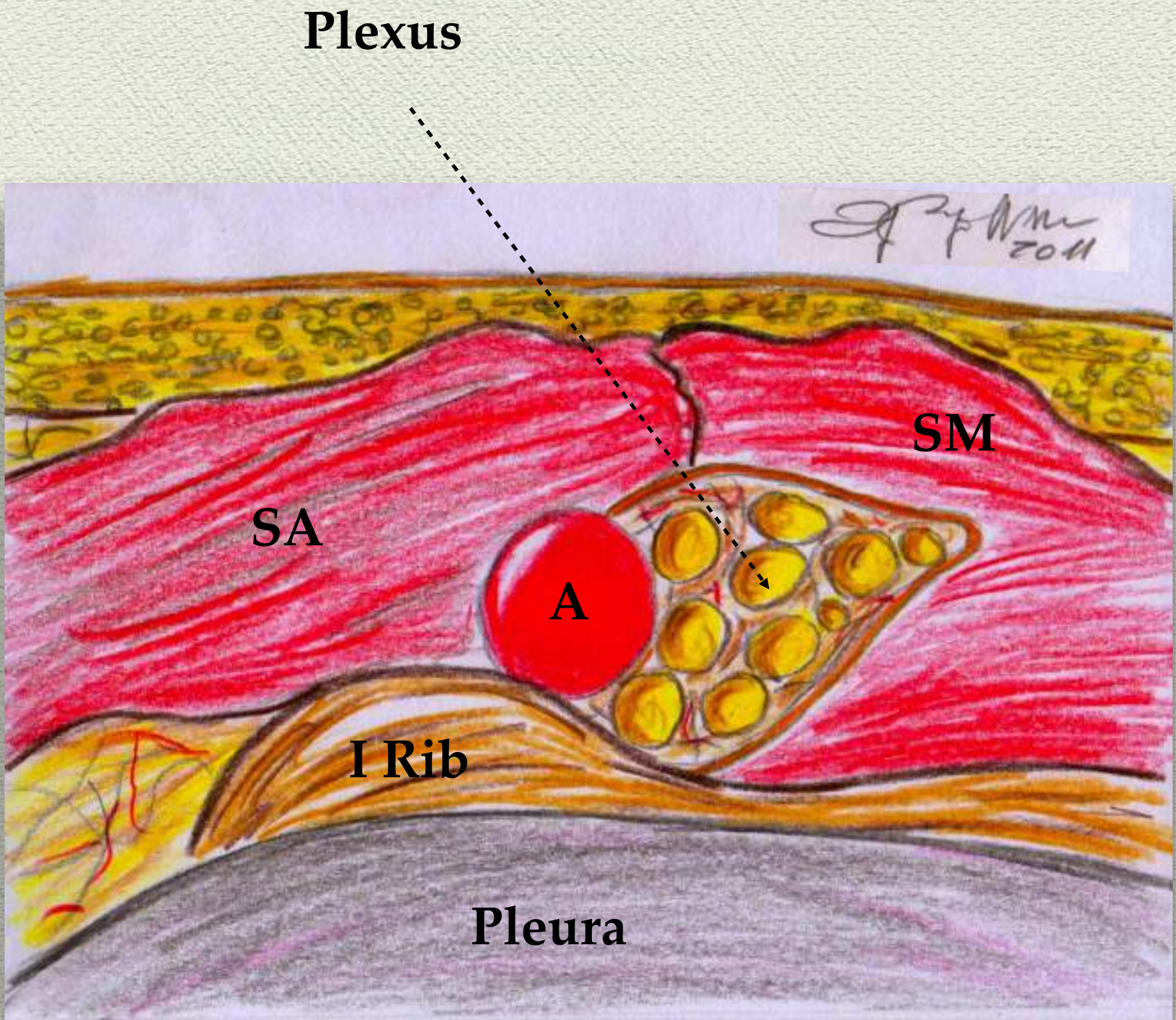
INJECTION AT SUPERIOR TRUNK BEFORE THE SUPRASCAPULAR NERVE EMERGES



SUPRACLAVICULAR

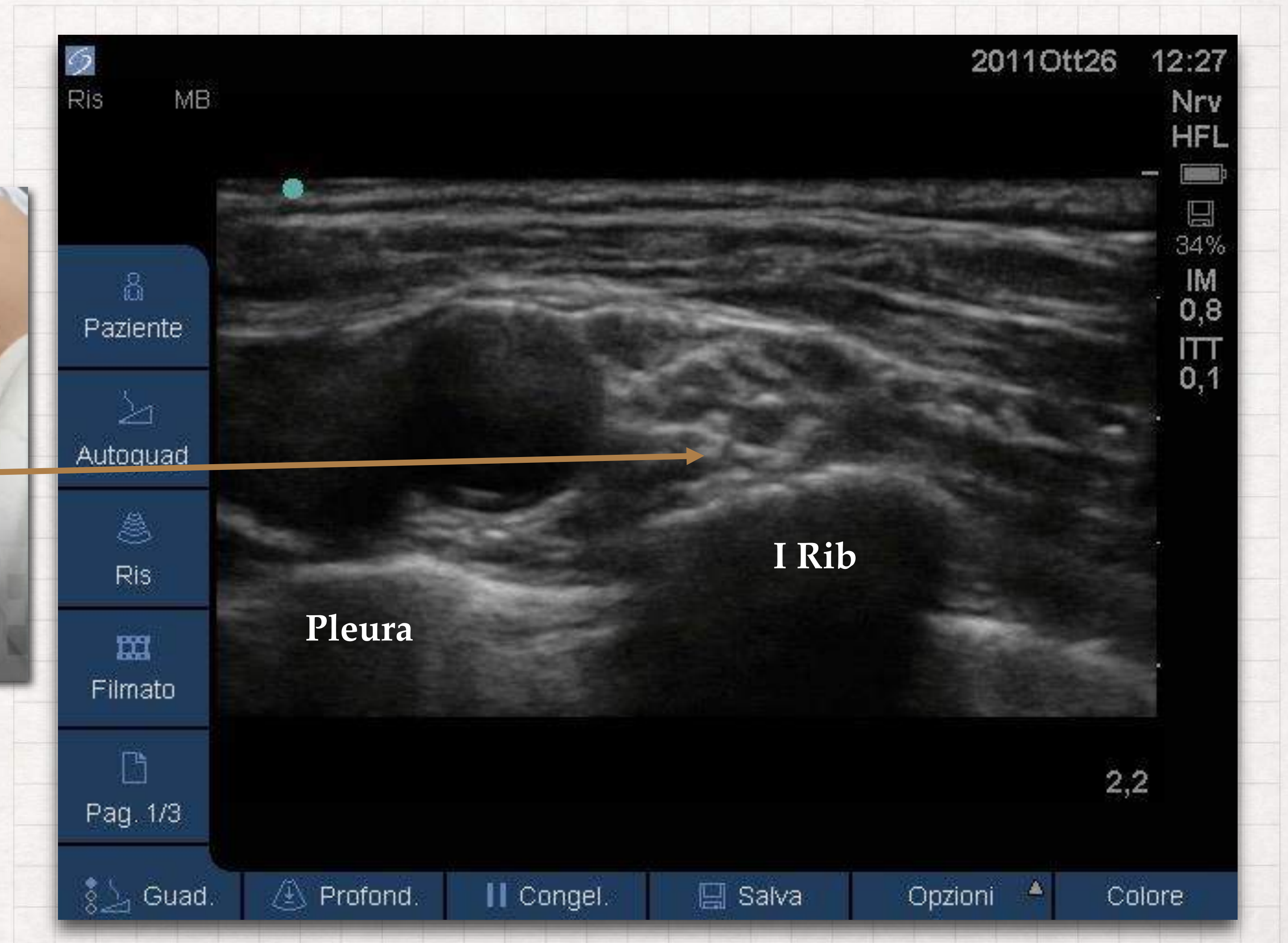


SUPRACLAVICULAR BRACHIAL PLEXUS

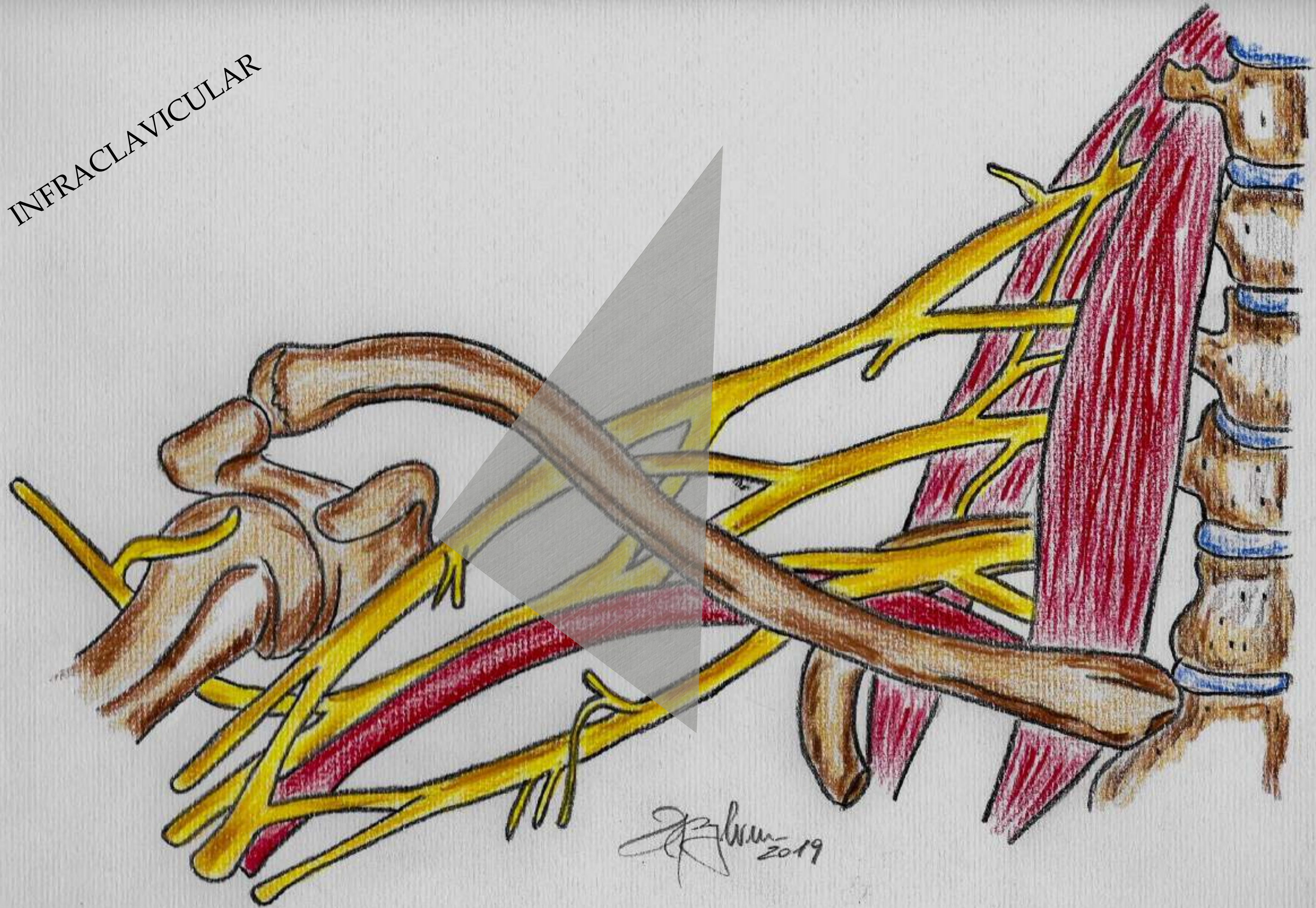


SUPRACLAVICULAR BRACHIAL PLEXUS BLOCK

INJECTION AT DIVISIONS OF THE BRACHIAL PLEXUS IMMEDIATELY CEPHALAD TO THE CLAVICLE

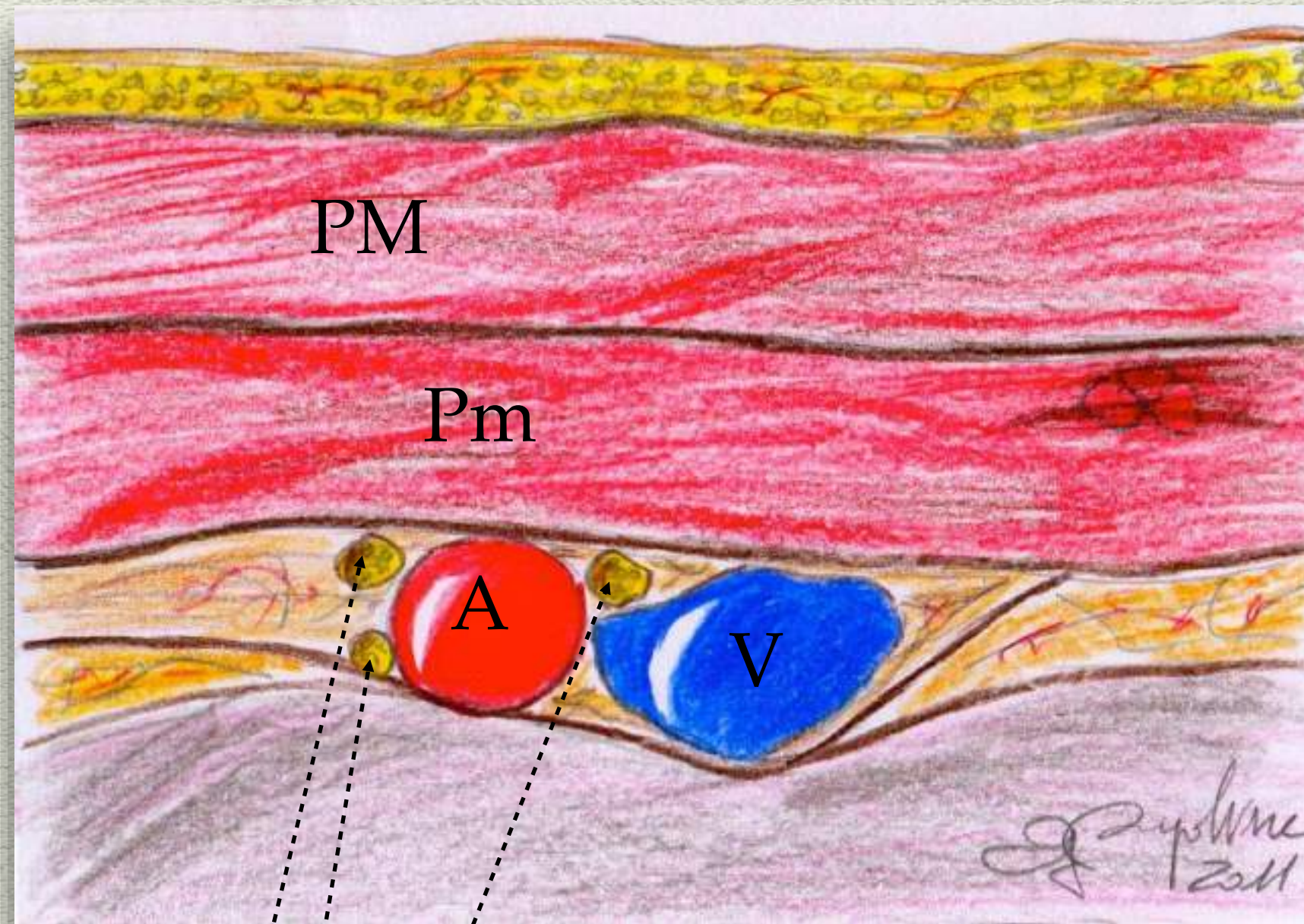


INFRACLAVICULAR

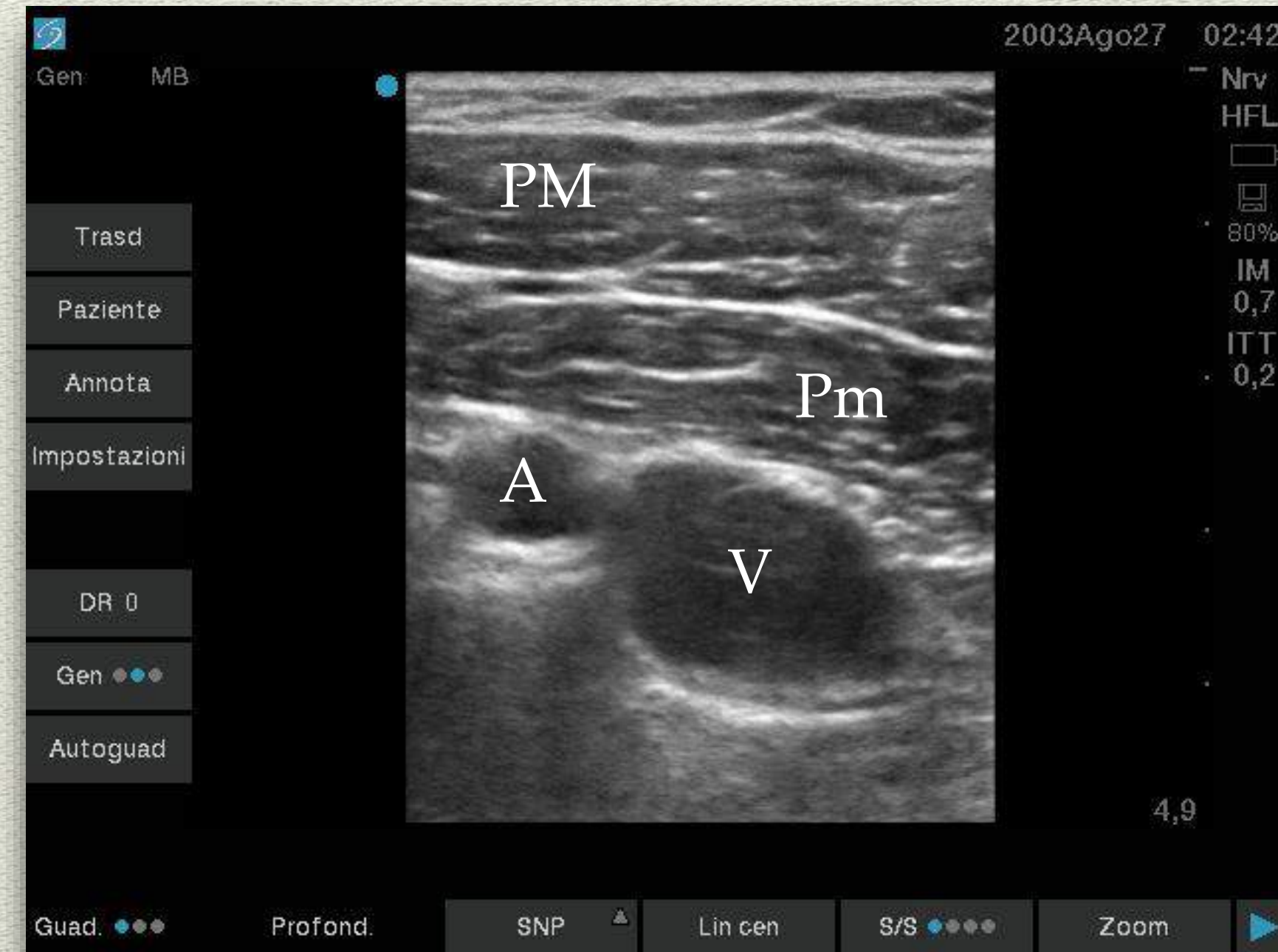


INFRACLAVICULAR BRACHIAL PLEXUS

Three different approaches

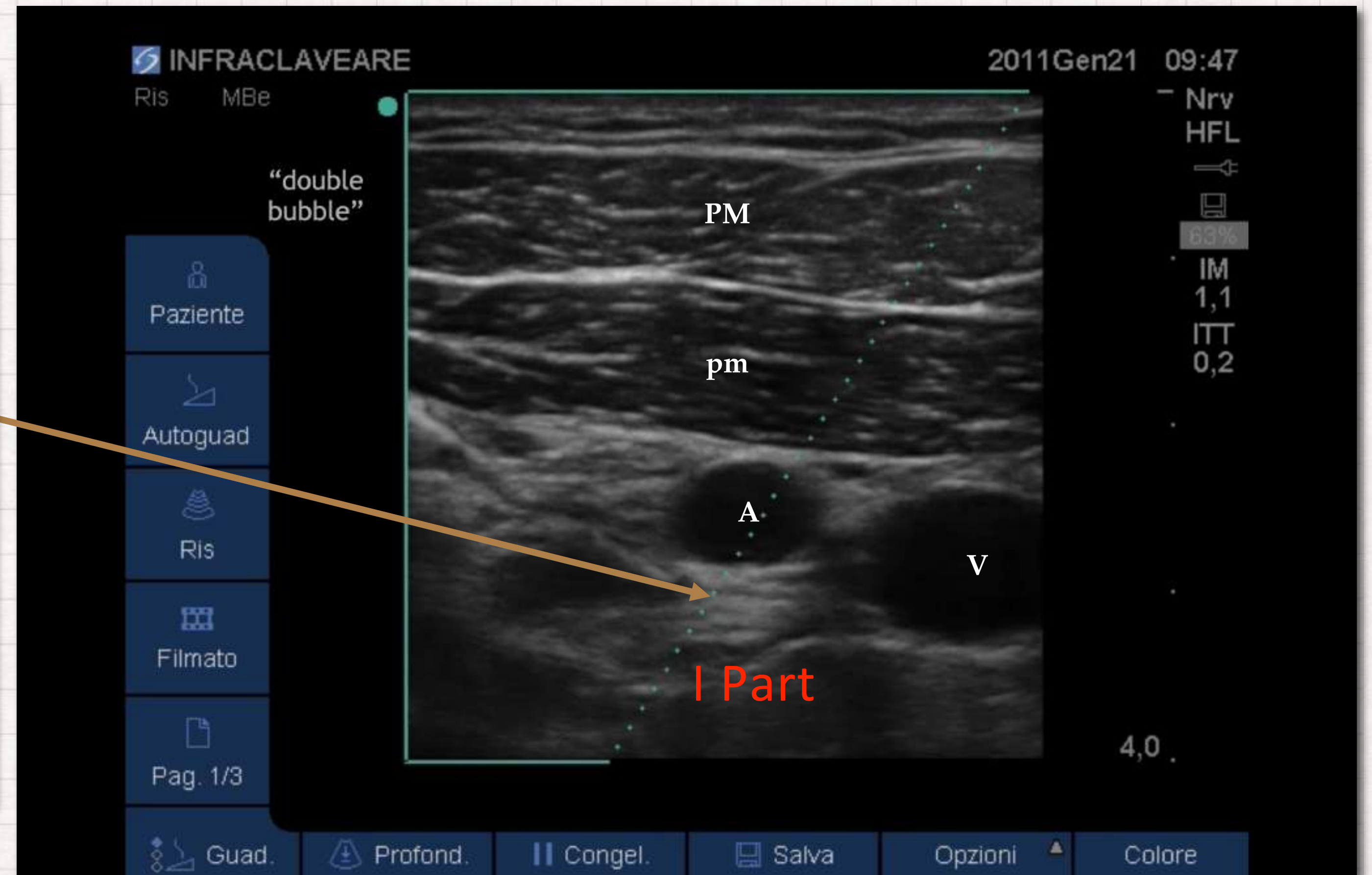
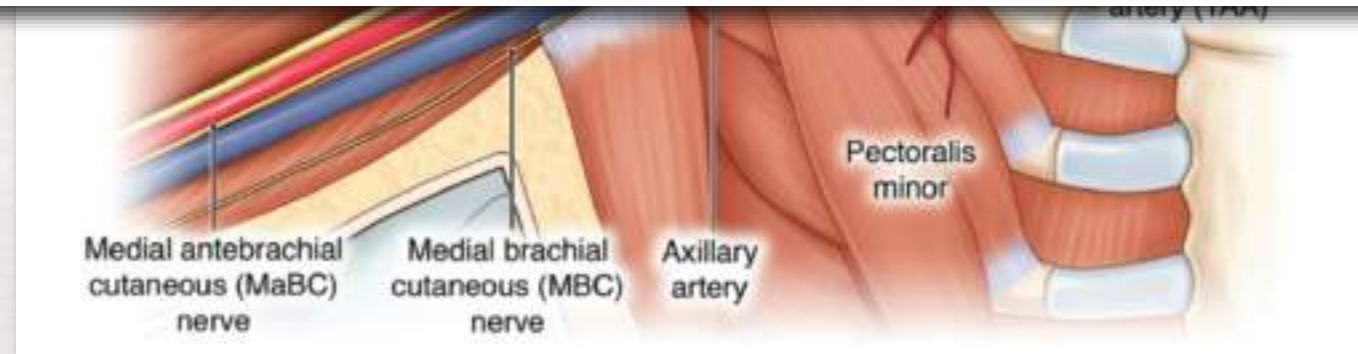
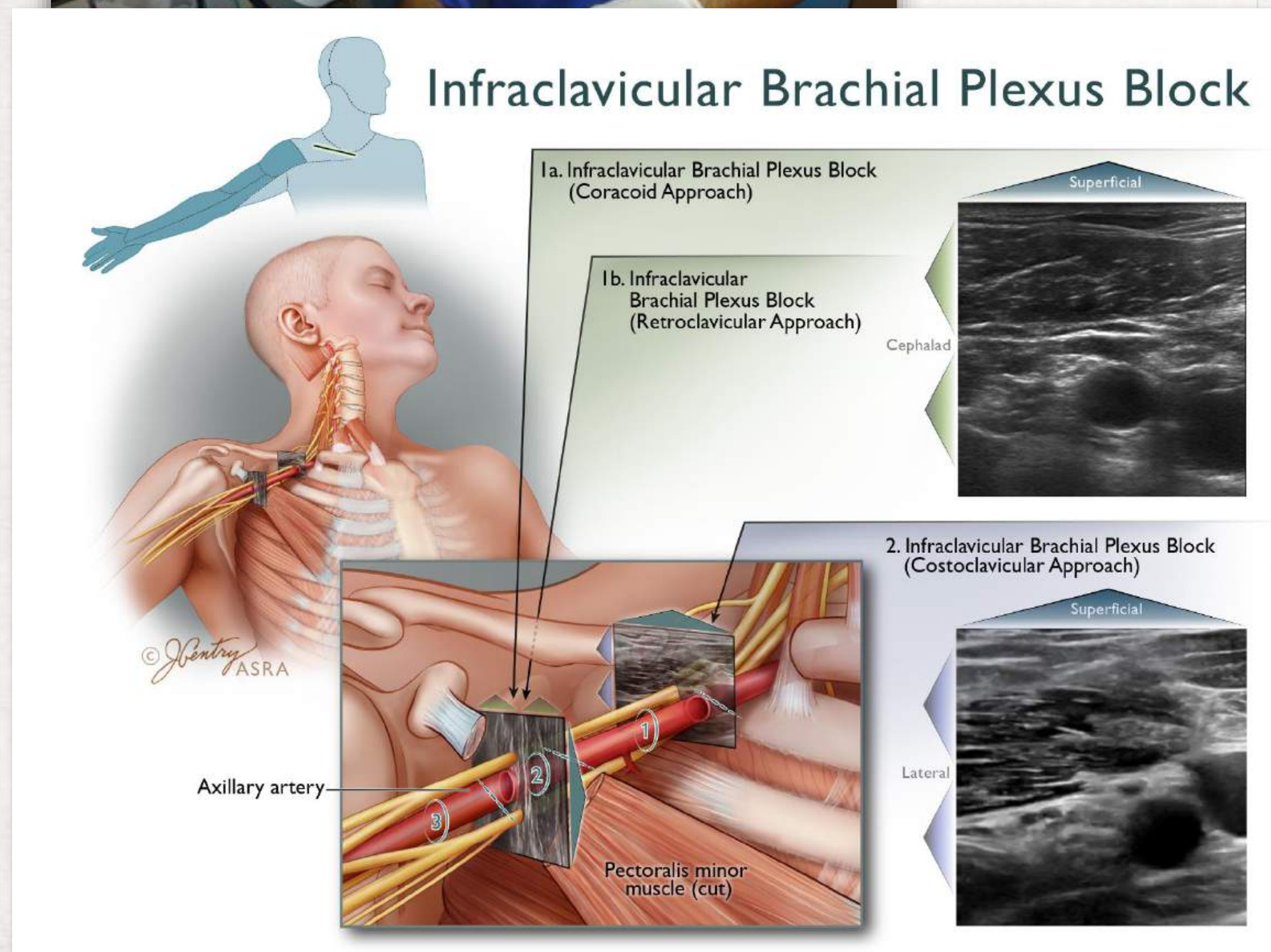


LP M
Corde



INFRACLAVICULAR BRACHIAL PLEXUS BLOCK (COSTOCLAVICULAR APPROACH)

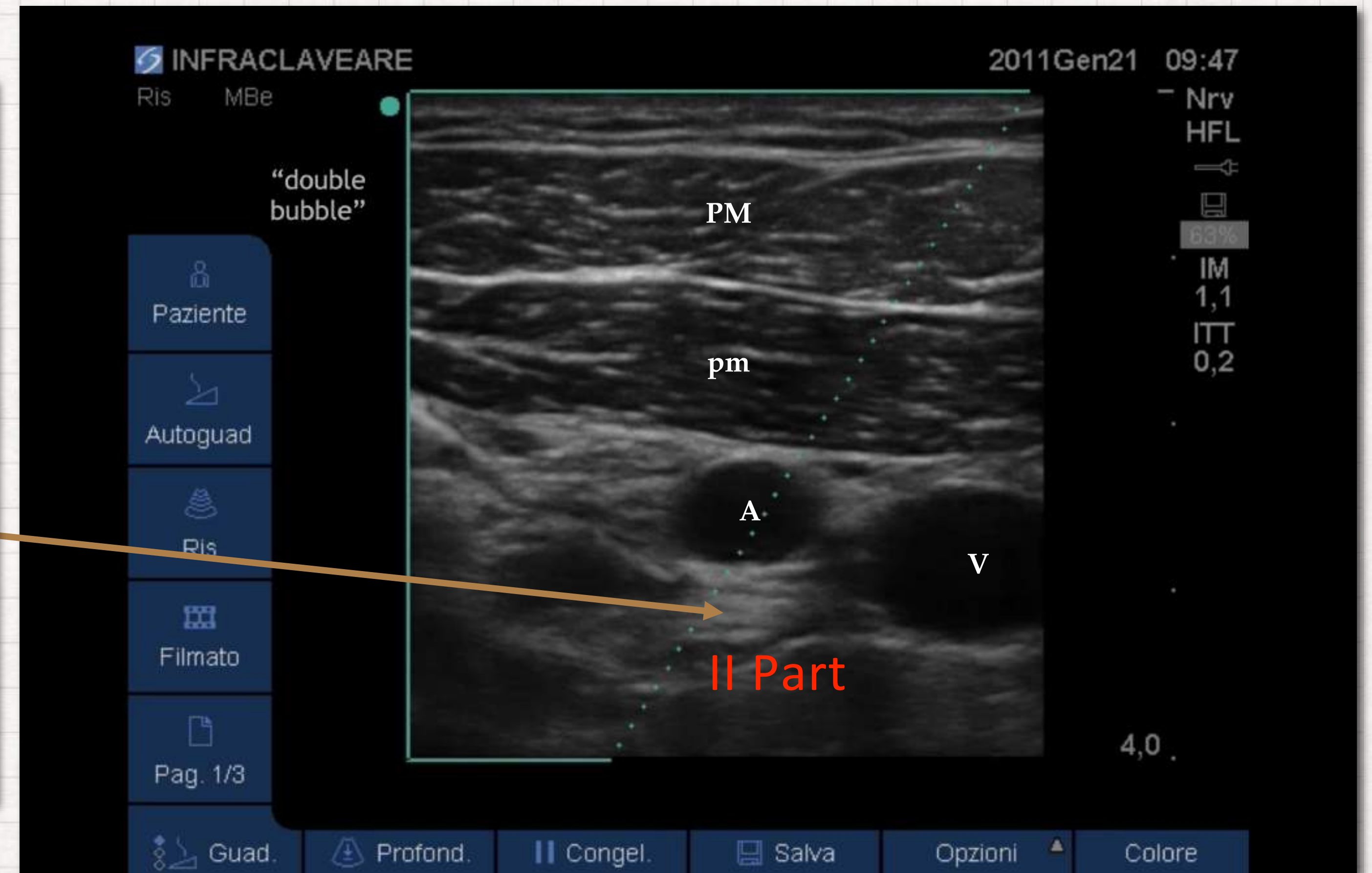
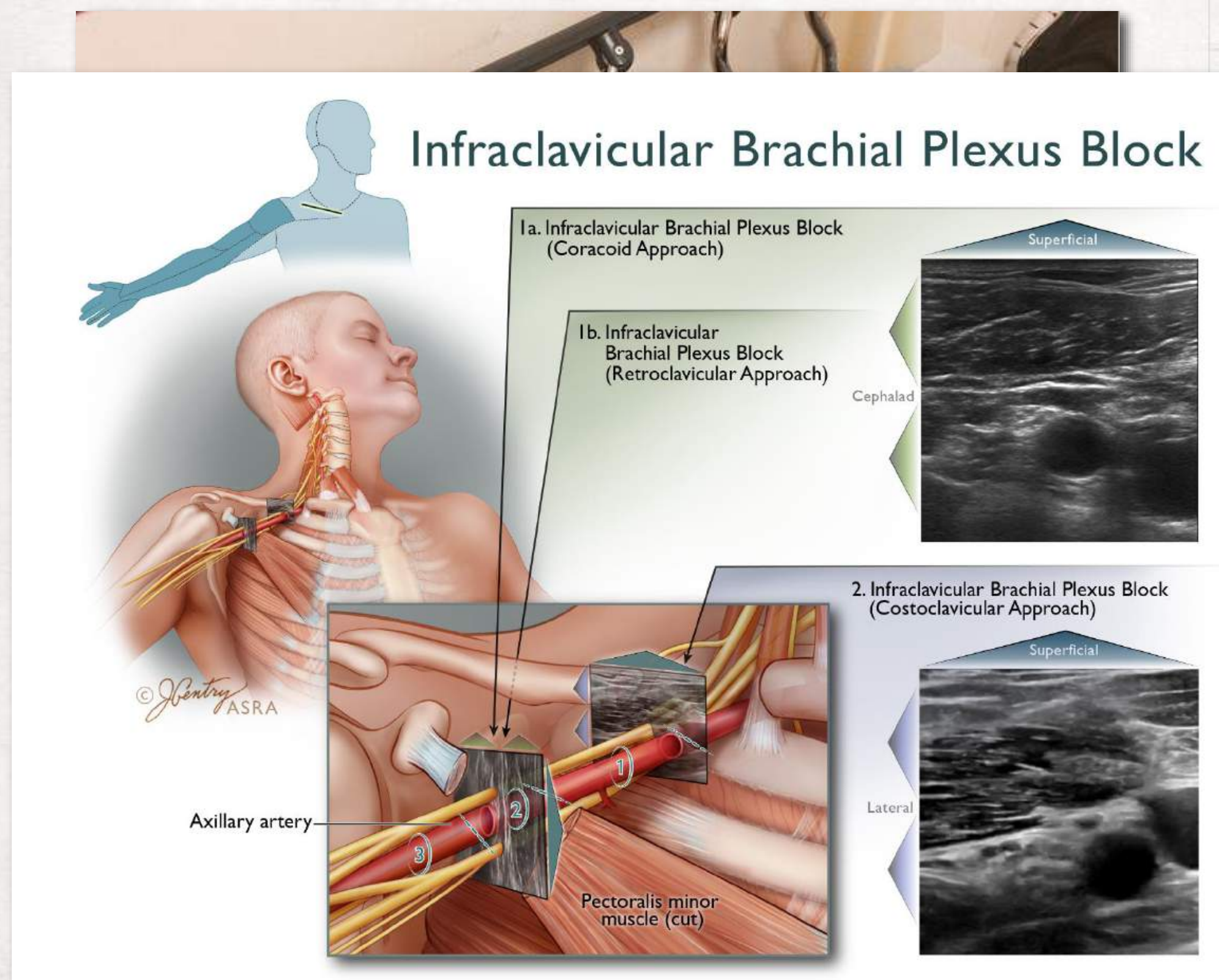
INJECTION AT THE CORD OF THE BRACHIAL PLEXUS - NEEDLE INSERTION IN THE MEDIAL INFRACLAVICULAR FOSSA AT THE FIRST PART OF AXILLARY ARTERY



INFRACLAVICULAR BRACHIAL PLEXUS BLOCK (RETROCLAVICULAR APPROACH)

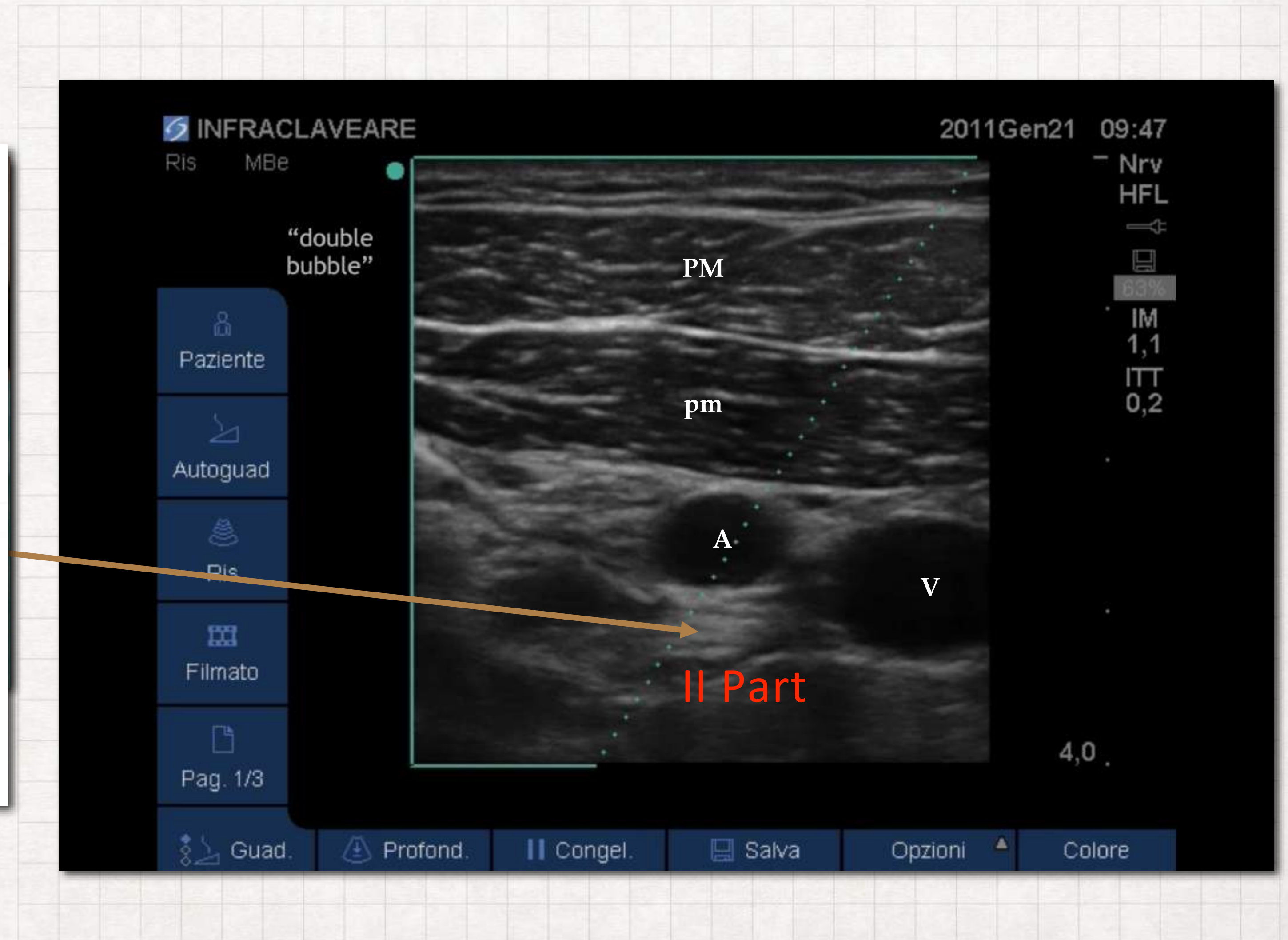
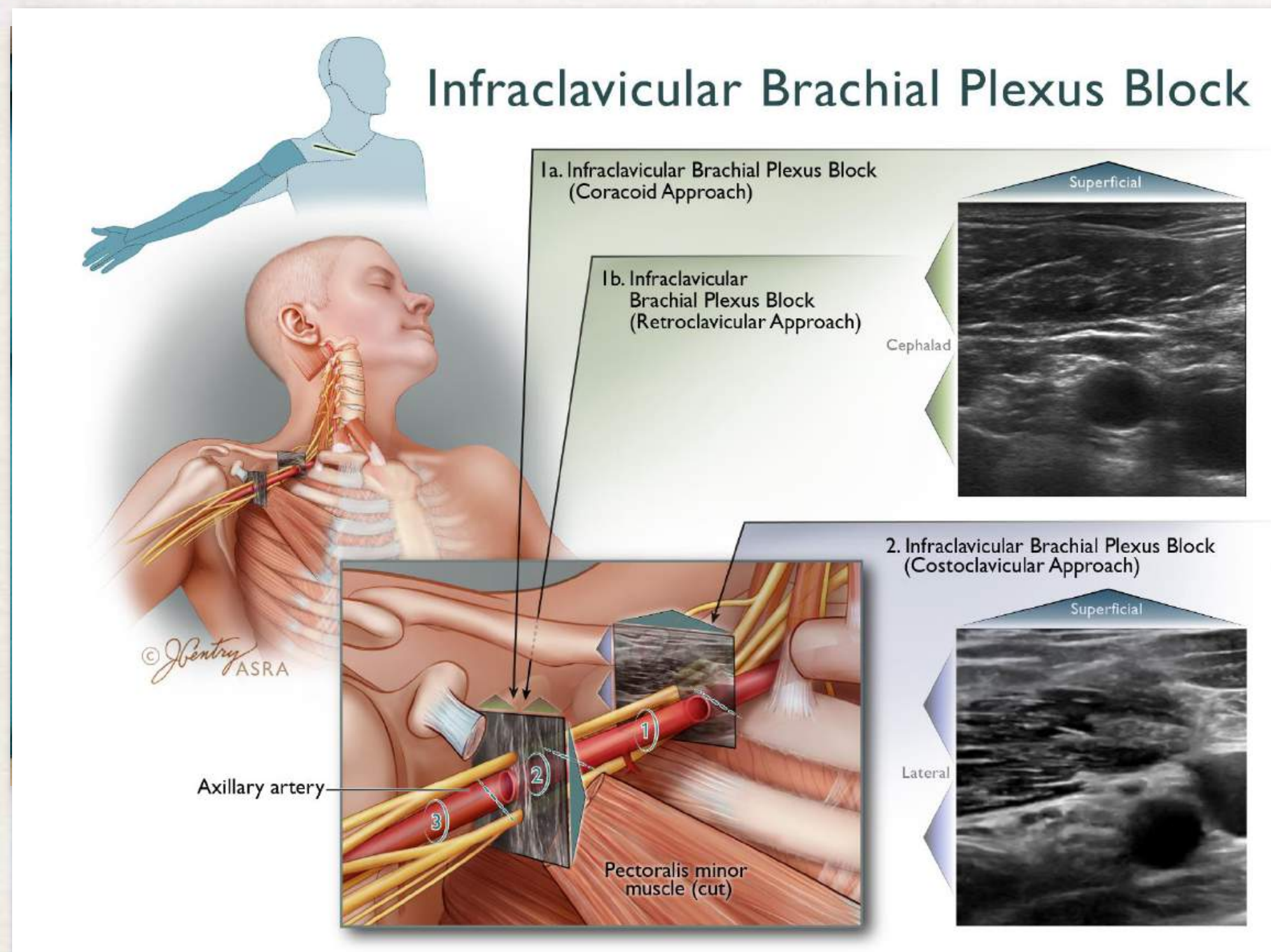
INJECTION AT THE CORD OF THE BRACHIAL PLEXUS - NEEDLE INSERTION IS PROXIMAL TO THE CLAVICLE

WEAK CONSENSUS

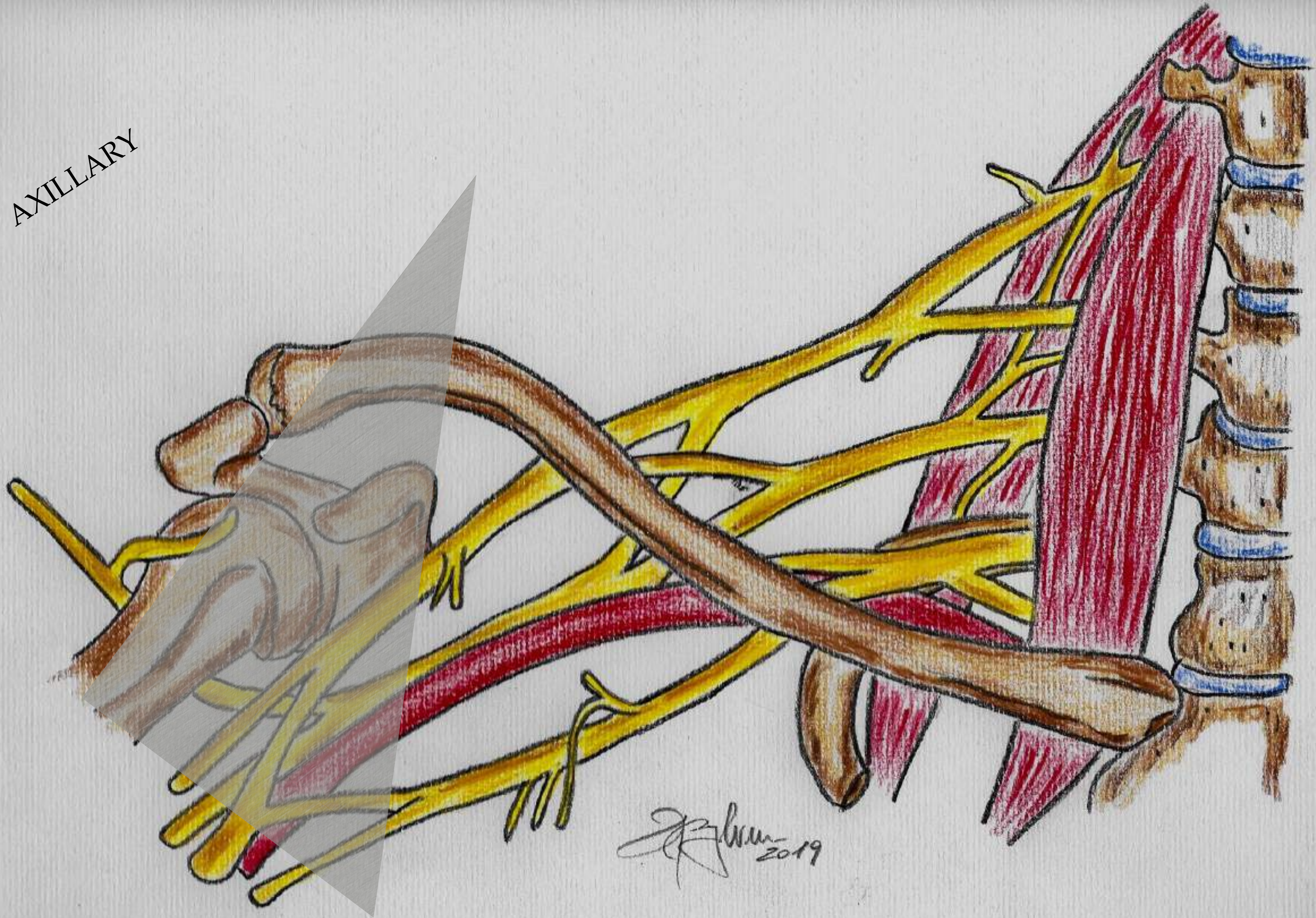


INFRACLAVICULAR BRACHIAL PLEXUS BLOCK (CORACOID APPROACH)

INJECTION AT THE CORD OF THE BRACHIAL PLEXUS - NEEDLE INSERTION IN THE LATERAL INFRACLAVICULAR FOSSA AT THE SECOND PART OF AXILLARY ARTERY

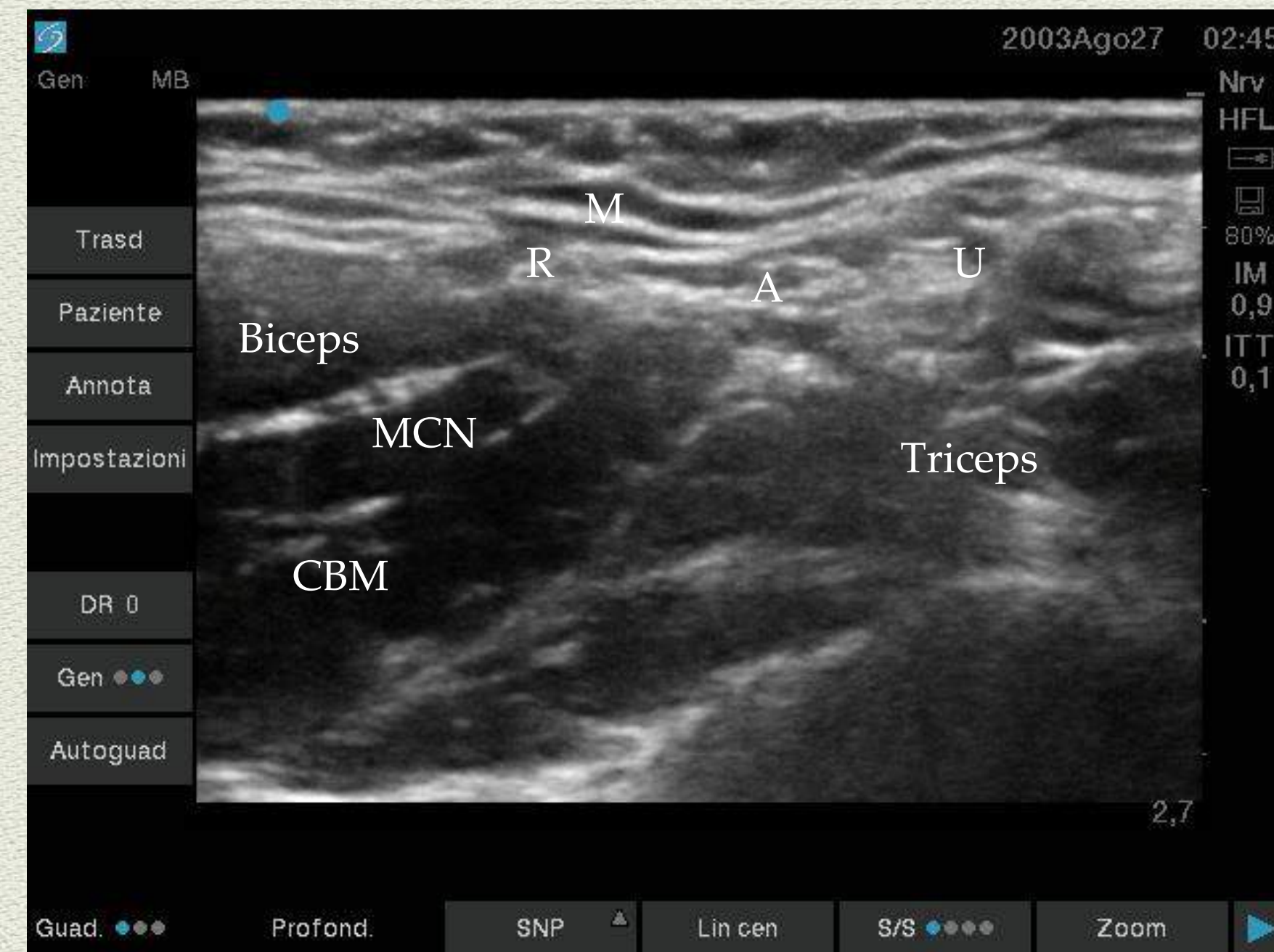
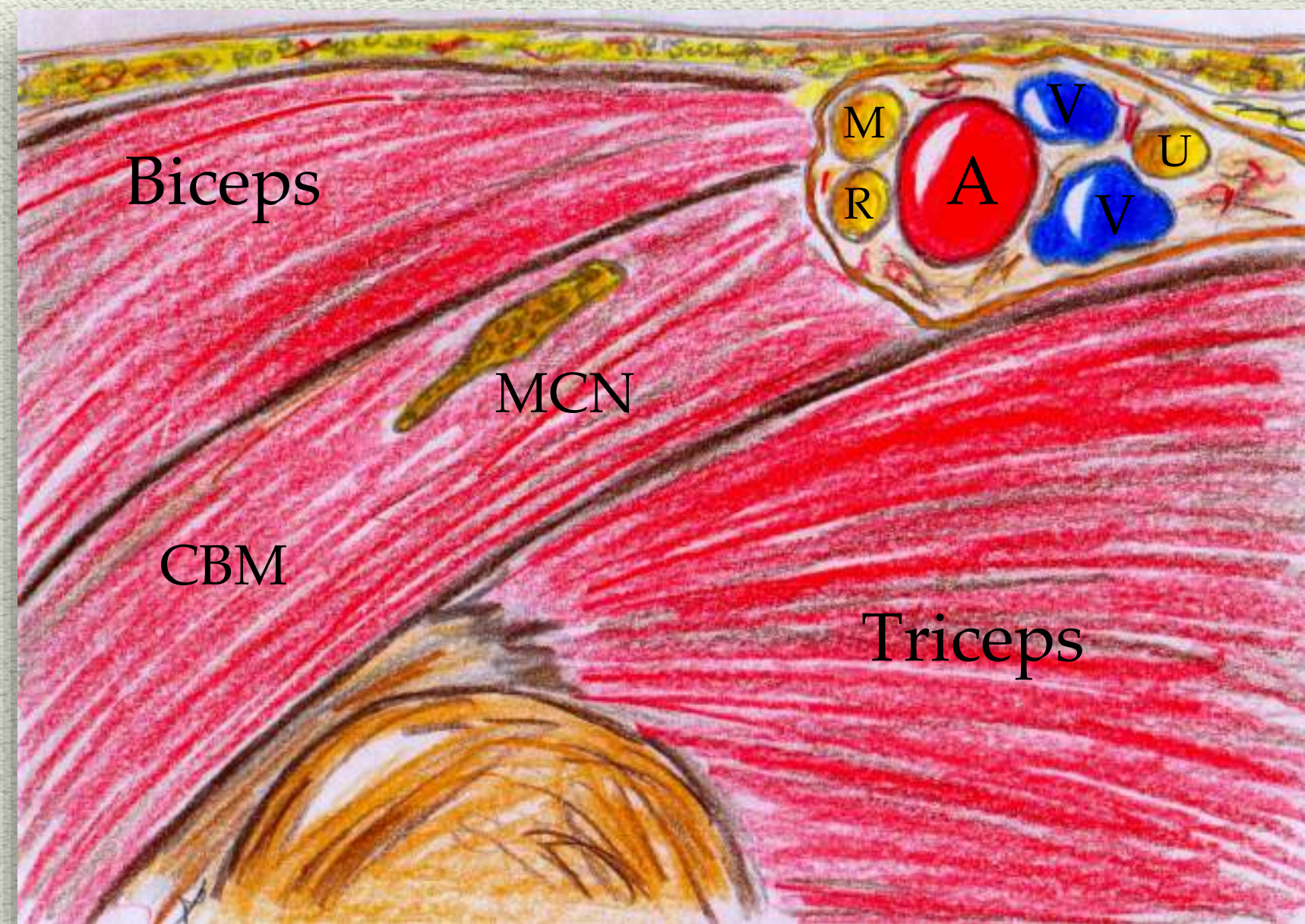


AXILLARY



J. Brown 2019

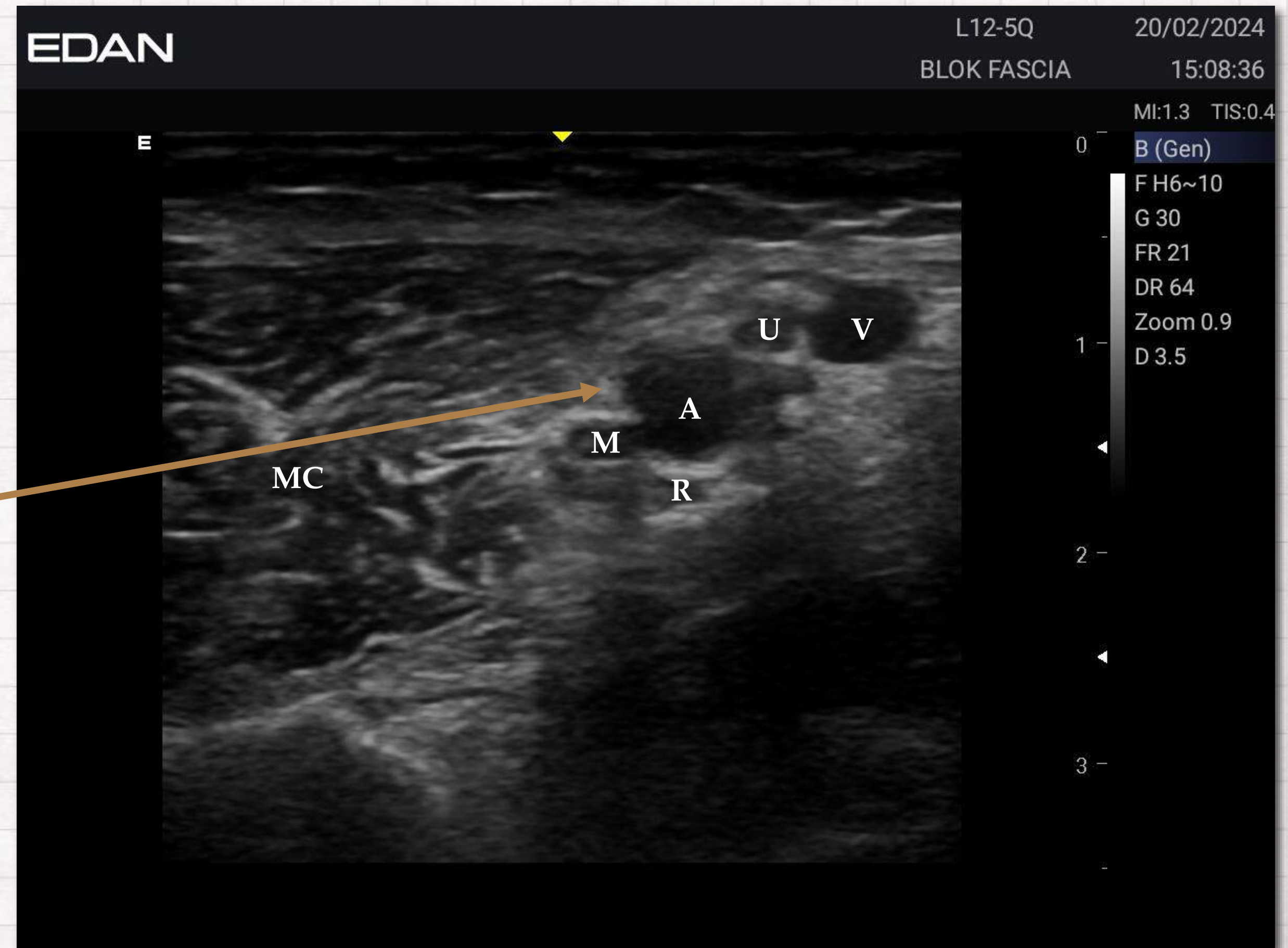
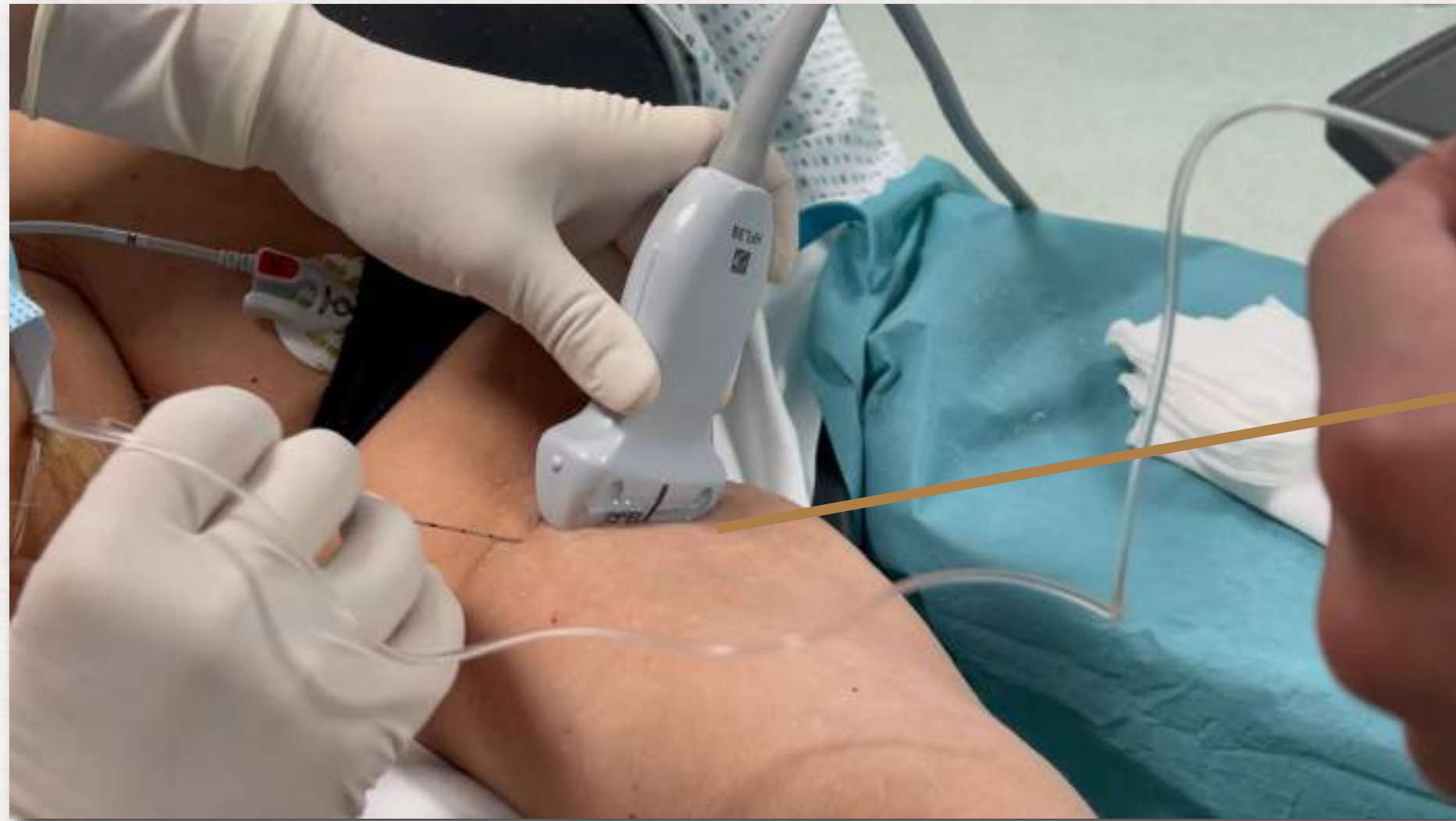
AXILLARY BRACHIAL PLEXUS



AXILLARY BRACHIAL PLEXUS BLOCK

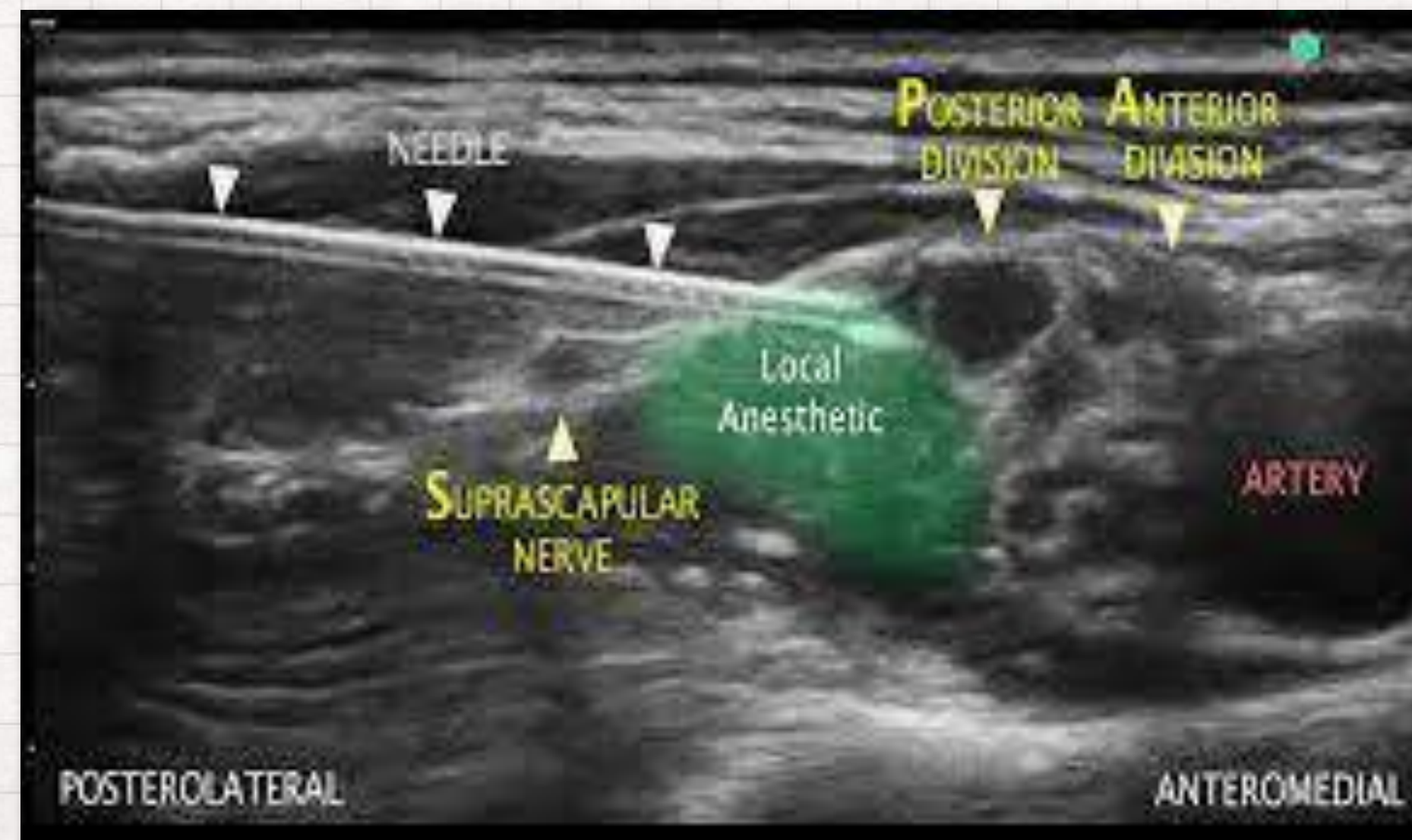
INJECTION AT THE BRANCHES OF THE BRACHIAL PLEXUS BLOCK IN THE AXILLARY REGION

WEAK CONSENSUS



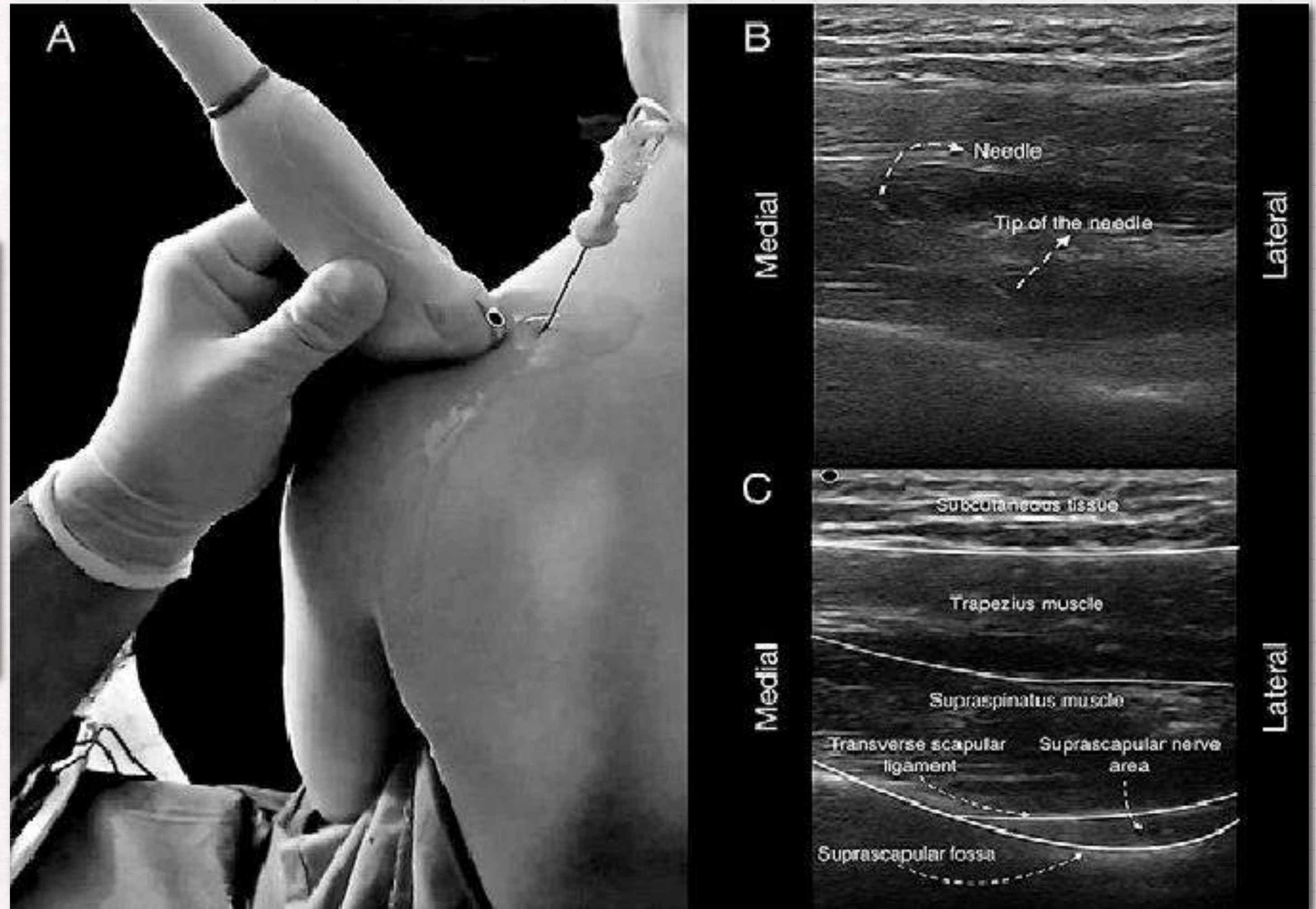
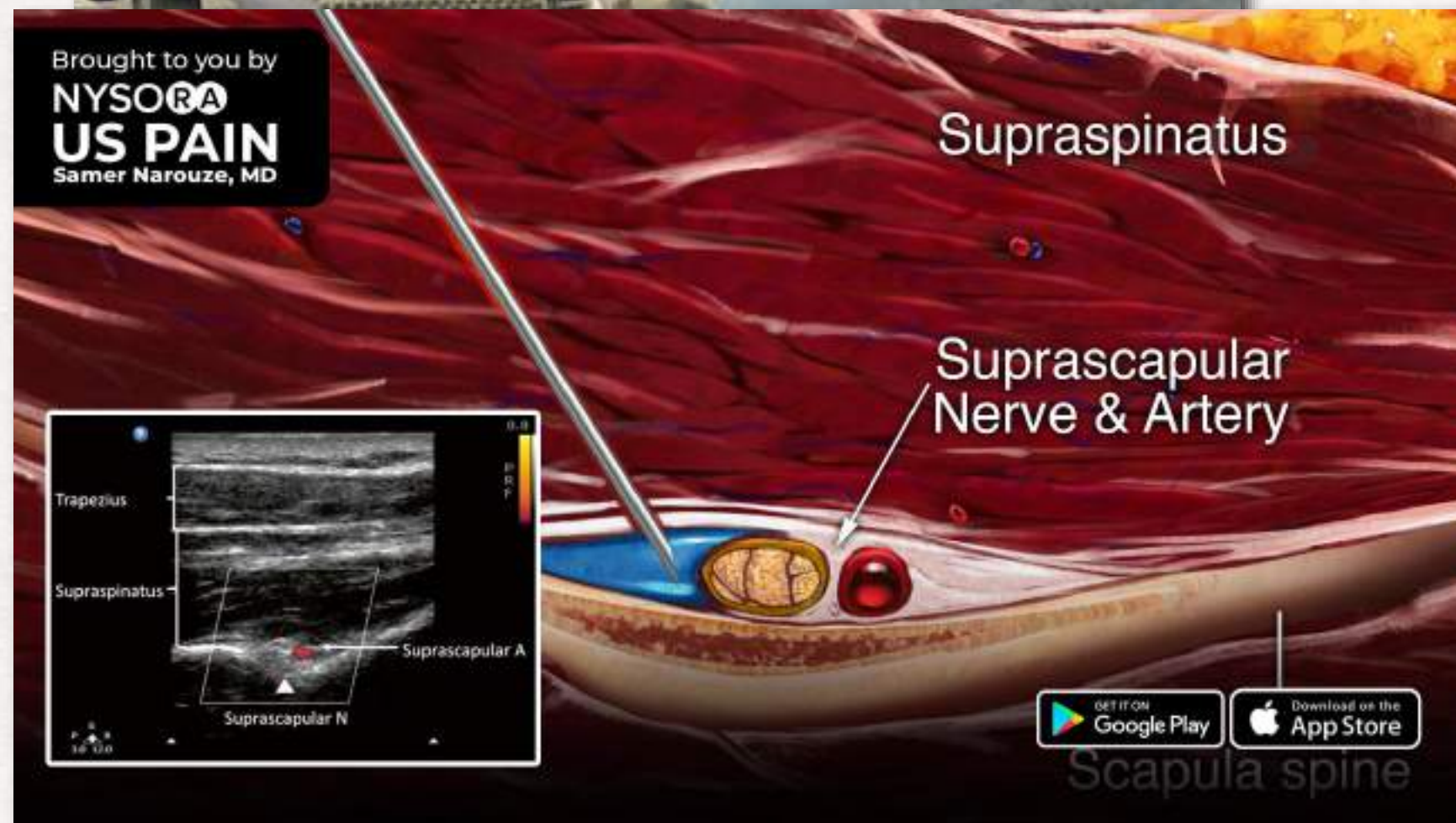
SUPRASCAPULAR NERVE BLOCK (ANTERIOR APPROACH)

INJECTION OF SUPRASCAPULAR NERVE COMING OFF SUPERIOR TRUNK AND TRAVELLING TO POSTERIOR NECK UNDER THE POSTERIOR BELLY OF OMOHYOID MUSCLE



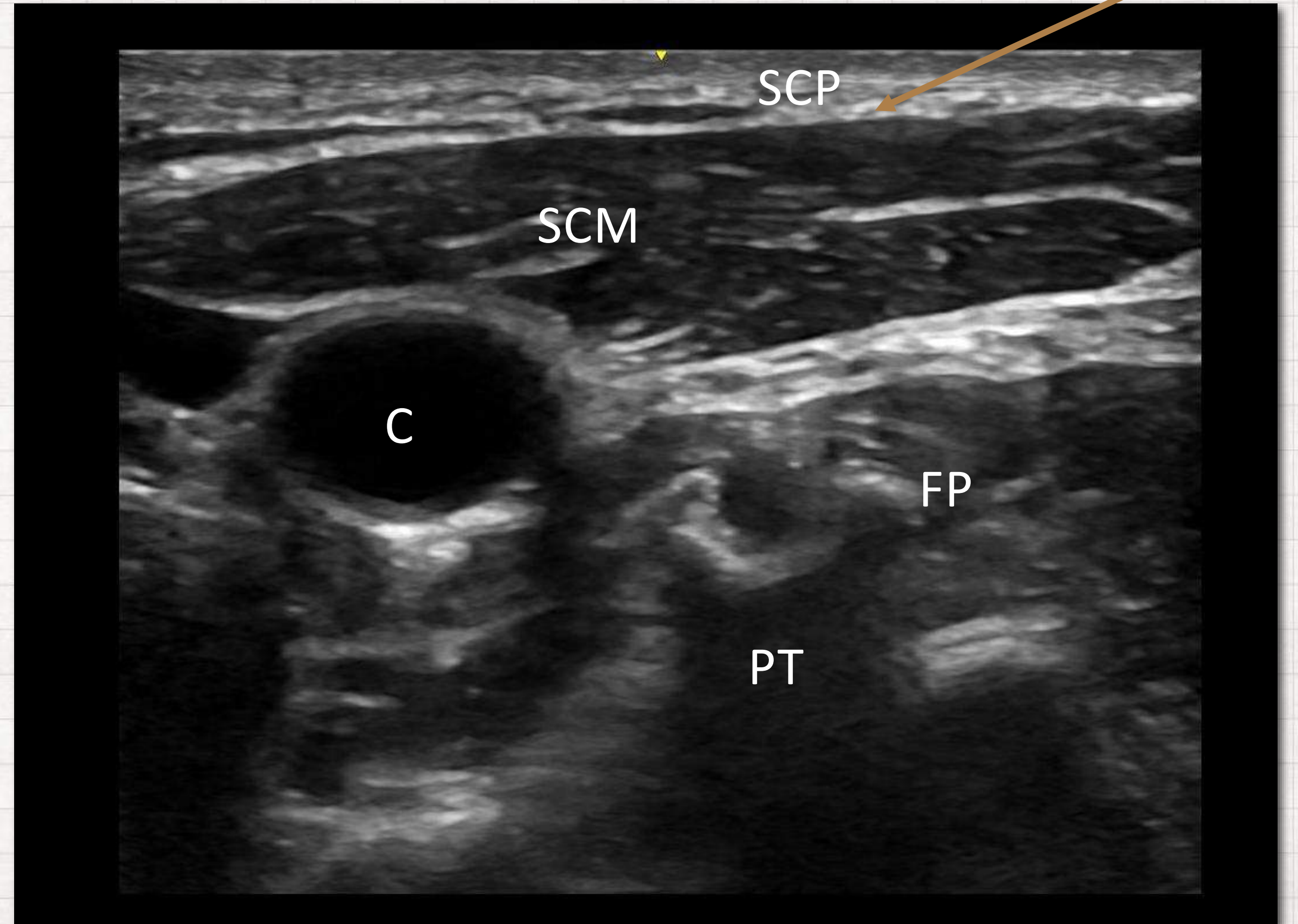
SUPRASCAPULAR NERVE BLOCK (POSTERIOR APPROACH)

INJECTION OF SUPRASCAPULAR NERVE IN THE SUPRASCAPULAR NOTCH OR SUPRASCAPULAR FOSSA



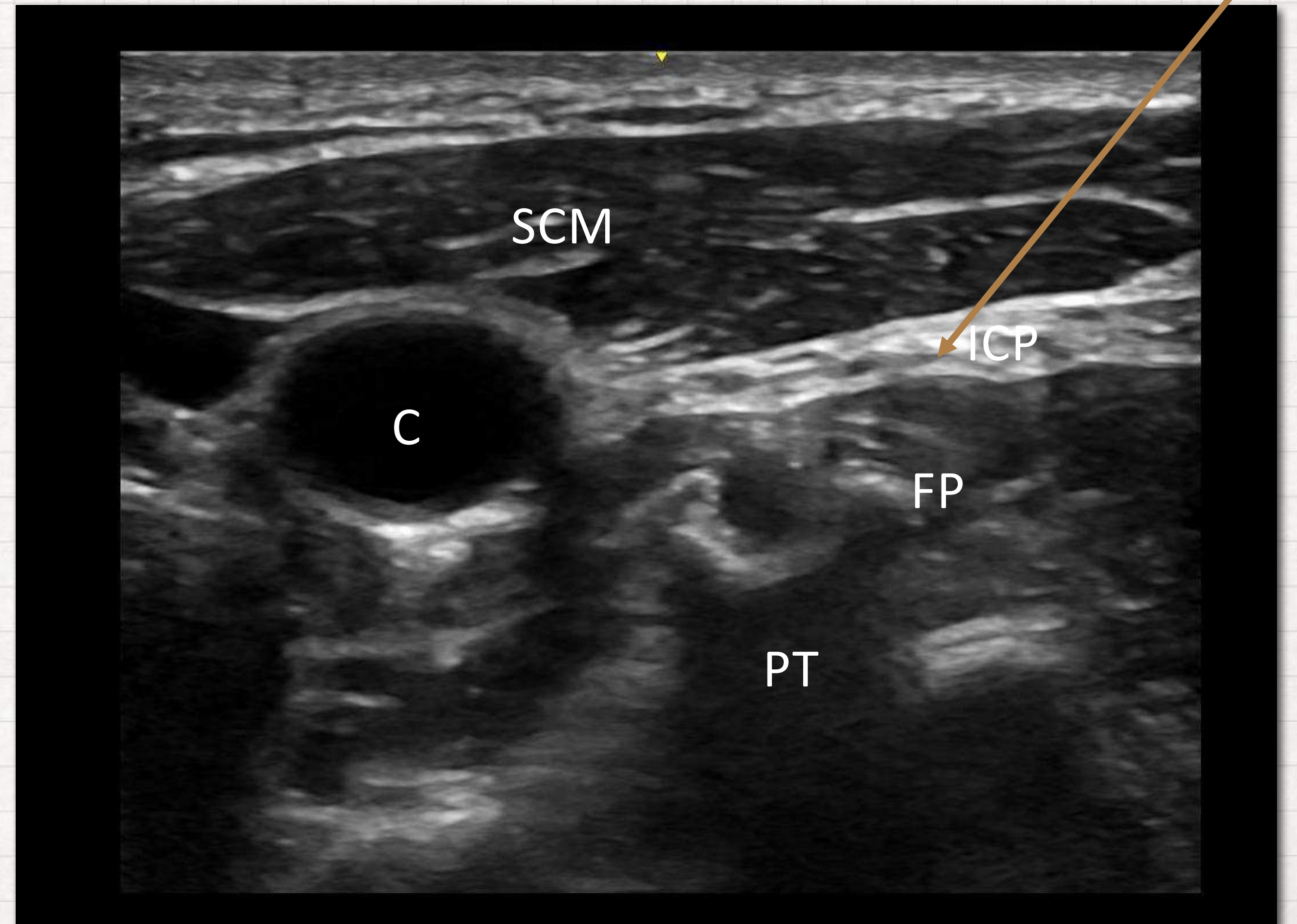
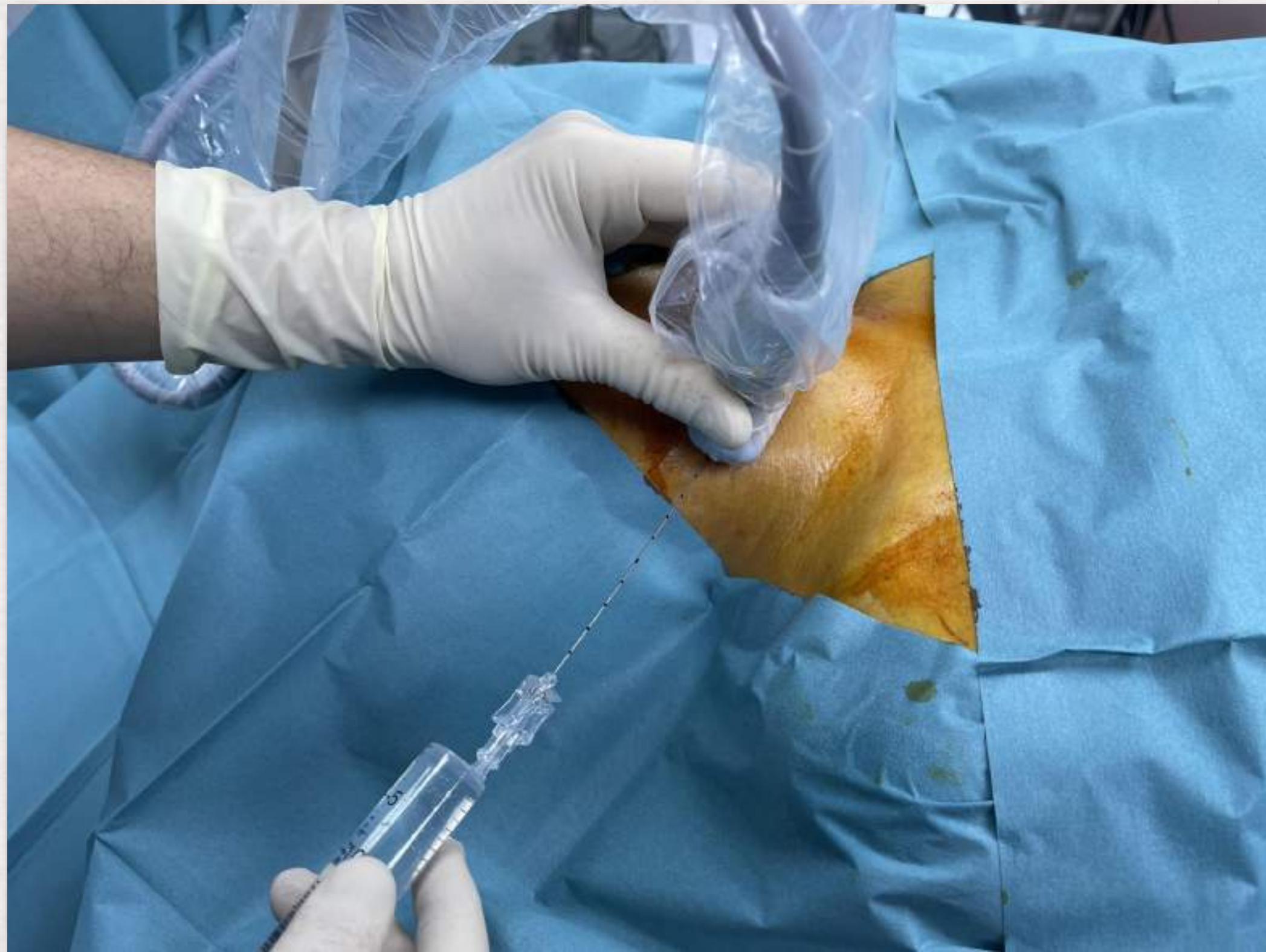
SUPERFICIAL CERVICAL PLEXUS BLOCK

Injection superficial to the investing fascia at the midpoint of the posterior border of sternocleidomastoid muscle



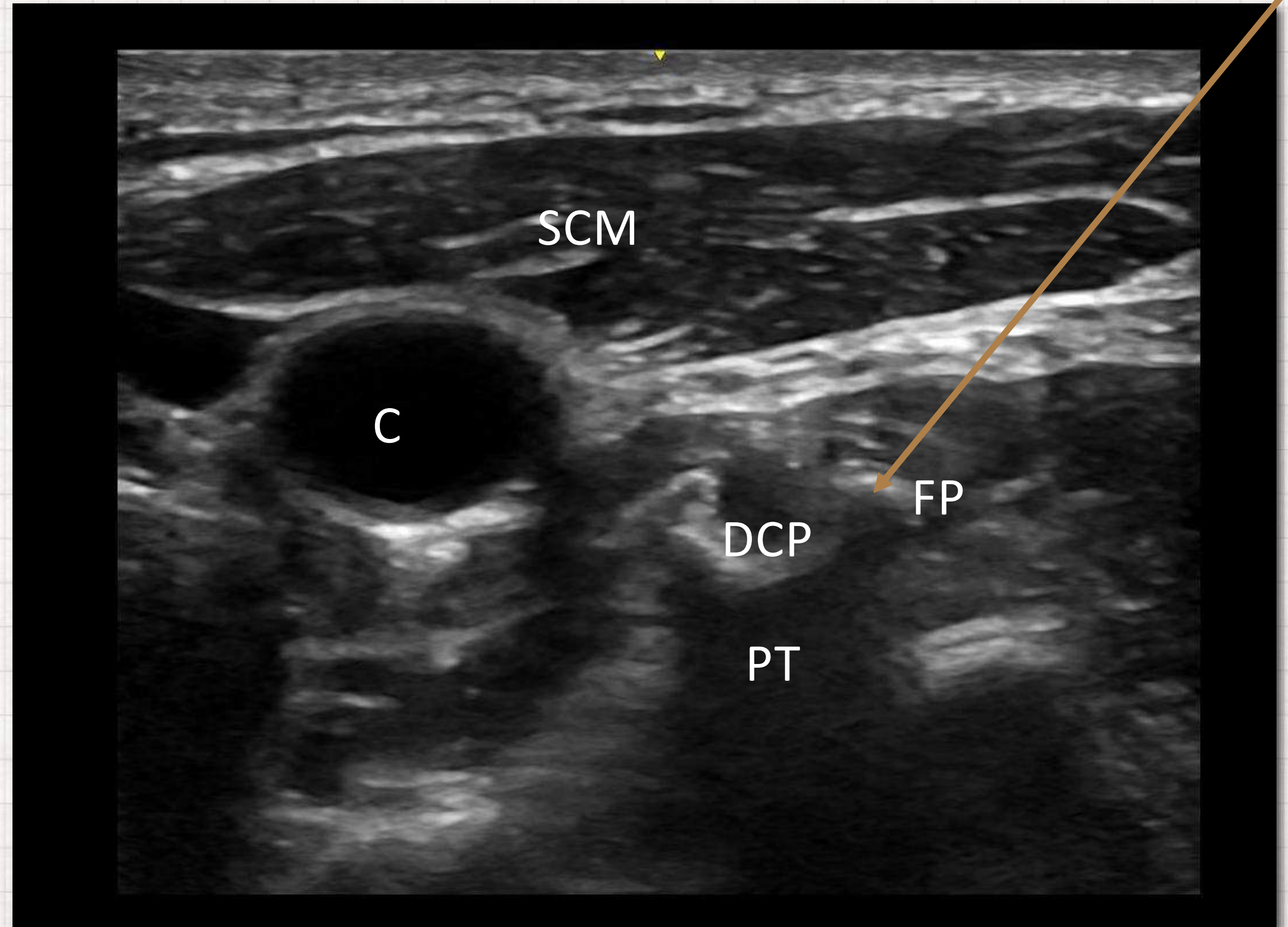
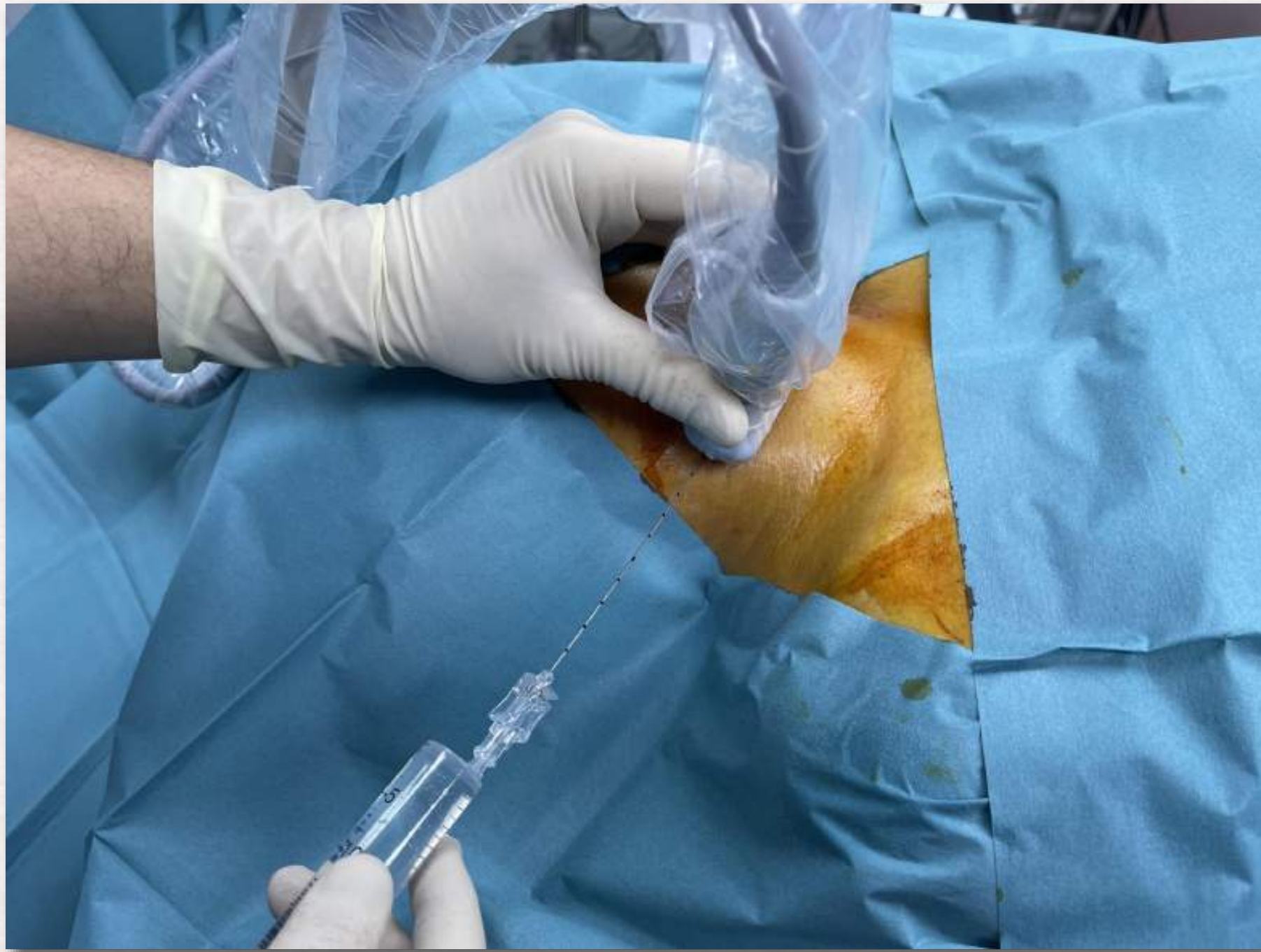
INTERMEDIATE CERVICAL PLEXUS BLOCK

Injection deep to the investing fascia and superficial to the prevertebral fascia at the midpoint of the posterior border of sternocleidomastoid muscle



DEEP CERVICAL PLEXUS BLOCK

INJECTION AT ONE OF MORE OF THE NERVE ROOTS OF C2,3,4 DEEP TO THE PREVERTEBRAL FASCIA



$$2 + 2 = 4$$

GRAZIE