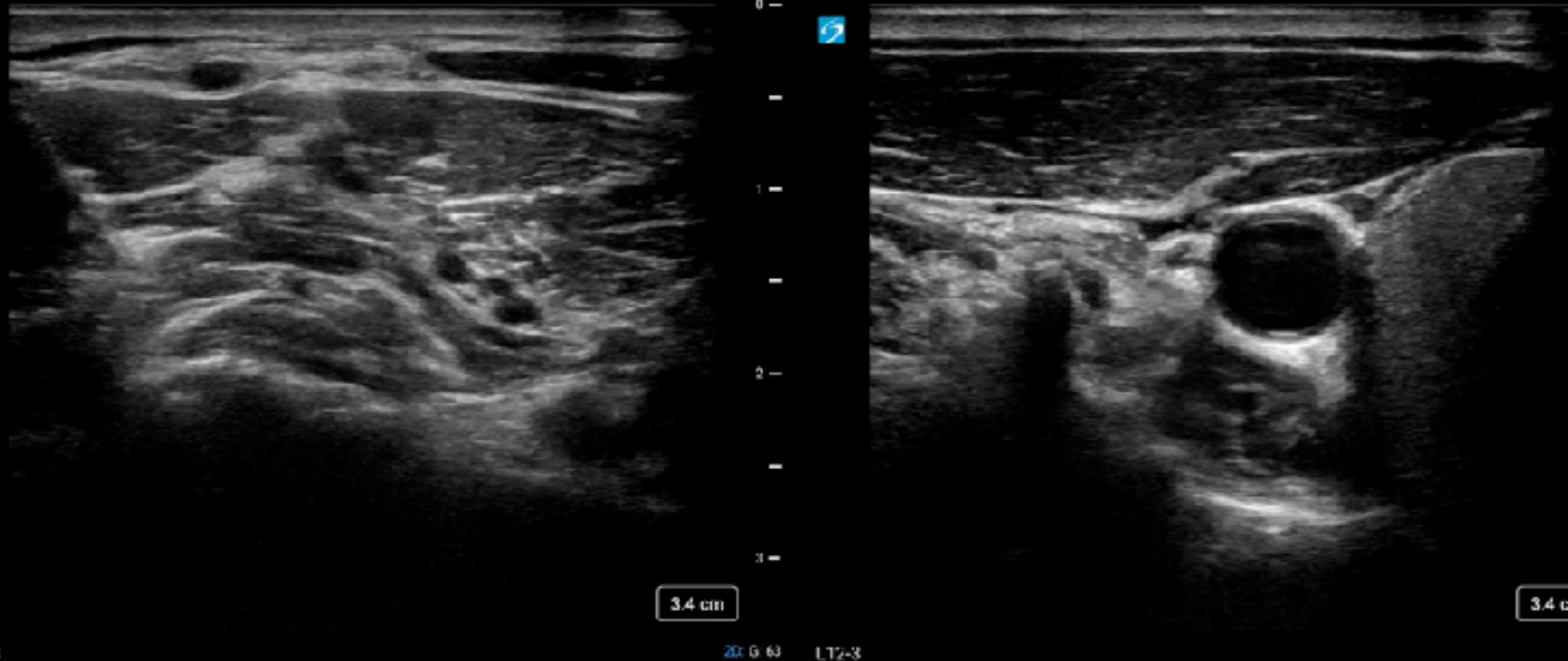




UE NERVE BLOCKS IN ED

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NYSORA NERVE BLOCK MANUAL

First Edition

Prof. Dr. Admir Hadzic

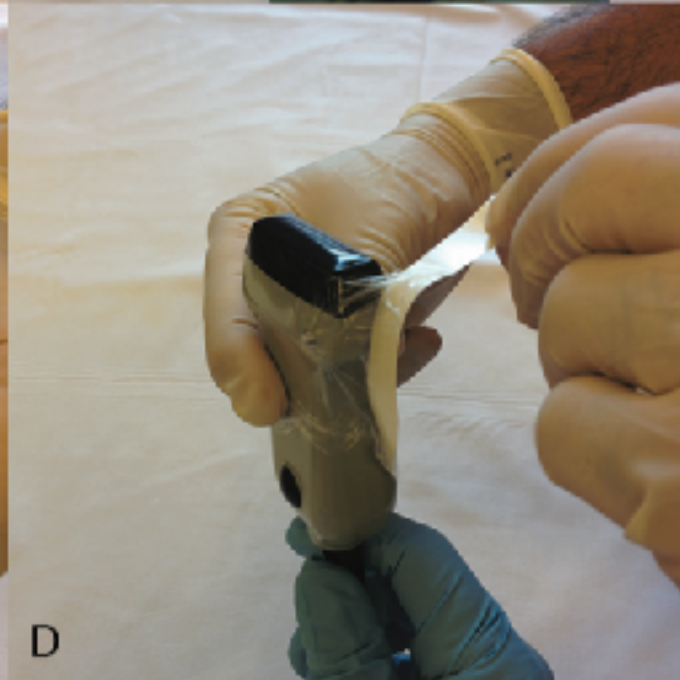
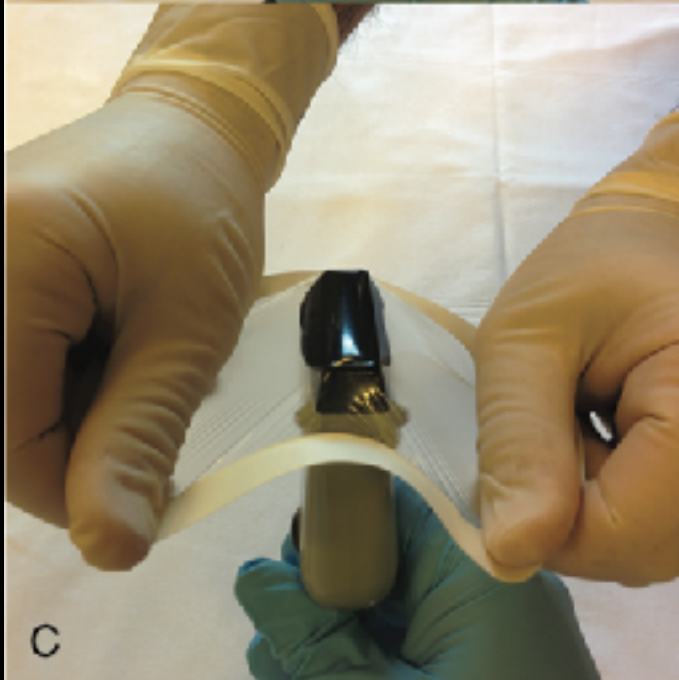
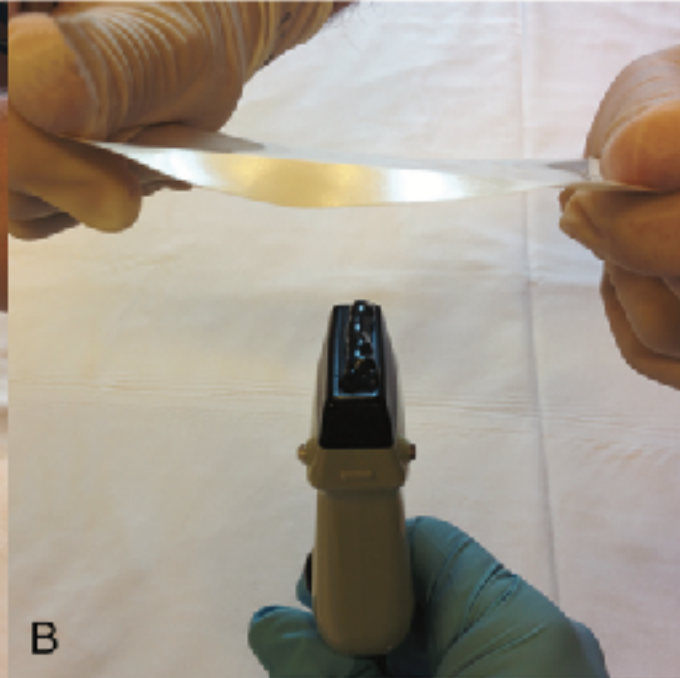
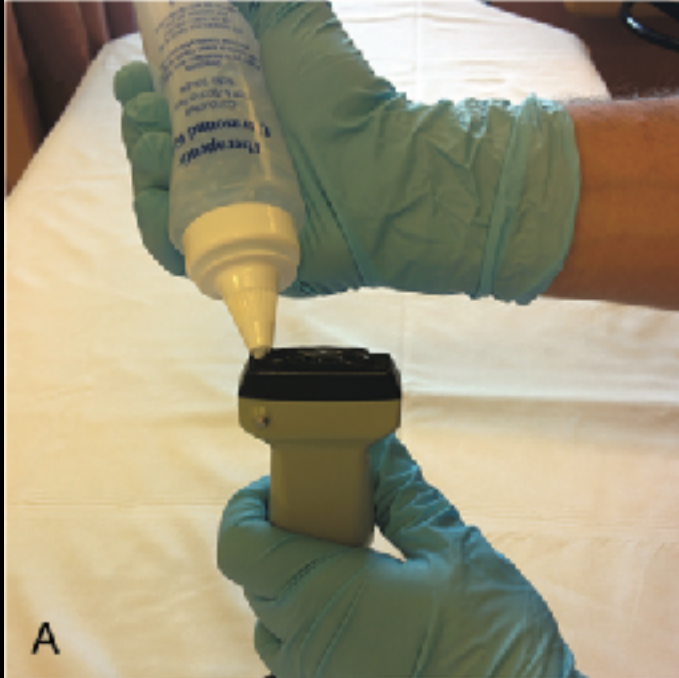
熟悉解剖

臨床情境

穩定運針

辨識血管

利弊分析



NIPRO

単位使用皮下注射用針

ニプロ カテラン針 GA

無菌状態を維持
ガンマ線照射済 使用1回限り

100本入

本製品は使用中、漏れ防止に留意してください。
また、長時間の直射日光や熱にさらさないでください。
本製品は、品質、性能、安全に責任を負います。

ニプロ カテラン針 GA 21G x 70mm | 30A

NIPRO

単位使用皮下注射用針

ニプロ カテラン針 GA

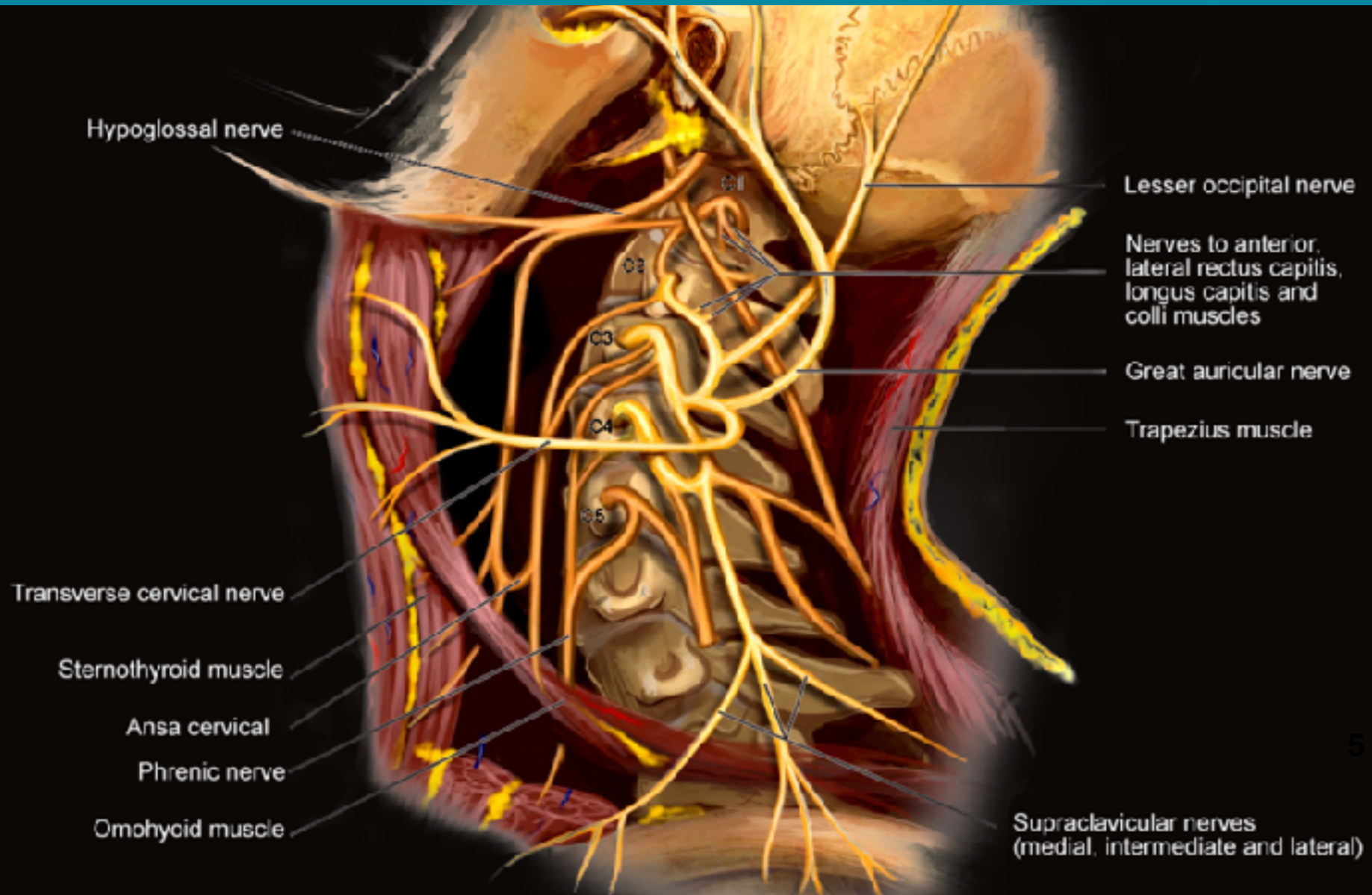
無菌状態を維持
ガンマ線照射済 使用1回限り

100本入

1. 使用中、漏れ防止に留意してください。
2. 長時間の直射日光や熱にさらさないでください。
3. 本製品は、品質、性能、安全に責任を負います。



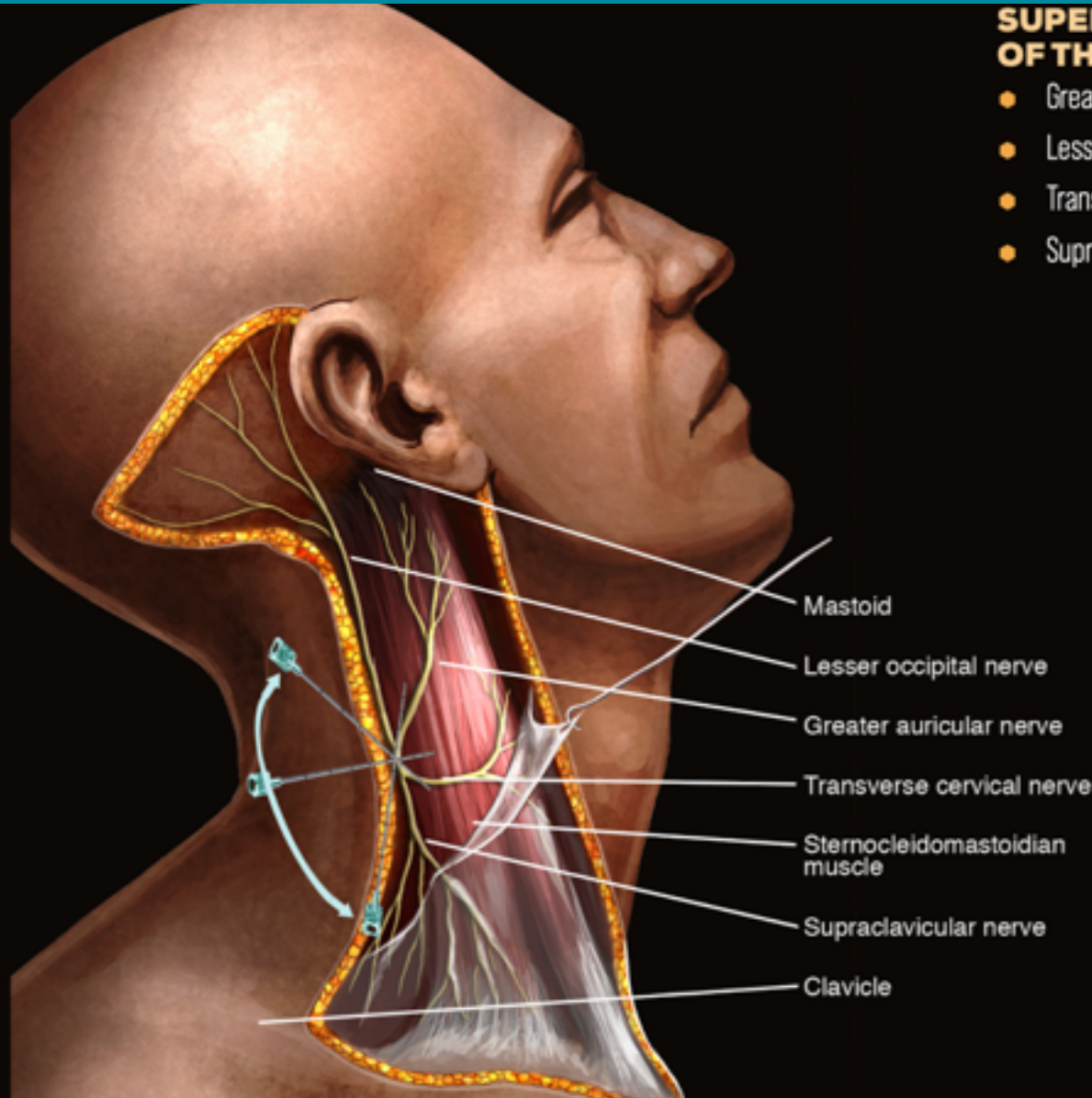
Cervical plexus (C1-C4)



Superficial cervical plexus

SUPERFICIAL BRANCHES OF THE CERVICAL PLEXUS:

- Greater auricular nerve.
- Lesser occipital nerve.
- Transverse cervical nerve.
- Supraclavicular nerves.



**SCM
Erb's point
(EJV)**

Superficial cervical plexus block

► BLOCK DISTRIBUTION

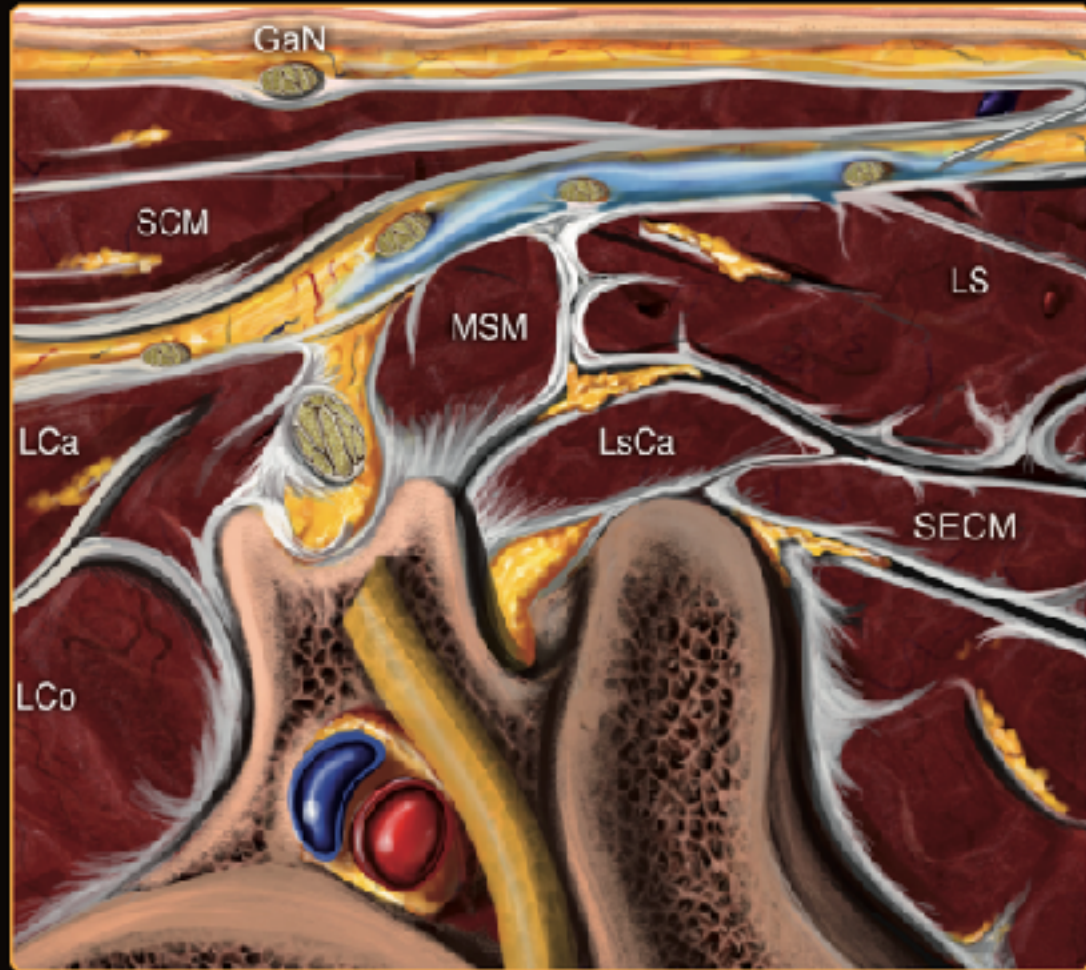
A cervical plexus block provides sensory anesthesia of the anterolateral neck, retro-auricular areas, and the skin overlying and immediately inferior to the clavicle.

SCM
C5 level
5-8 ml

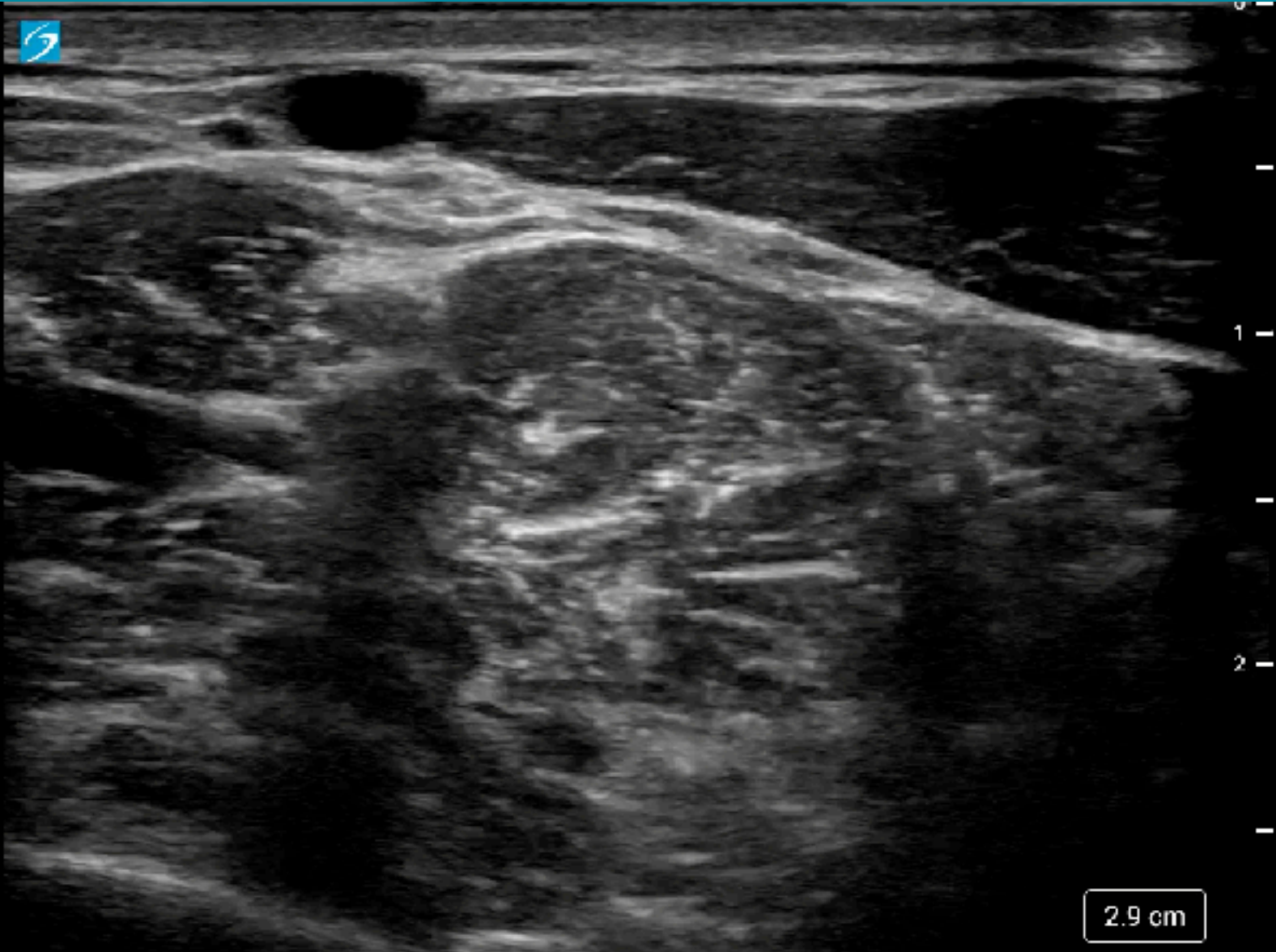


Fig-3. Sensory distribution of a cervical plexus block.

Superficial cervical plexus block



SCP - Erb's point



SCP



SCP

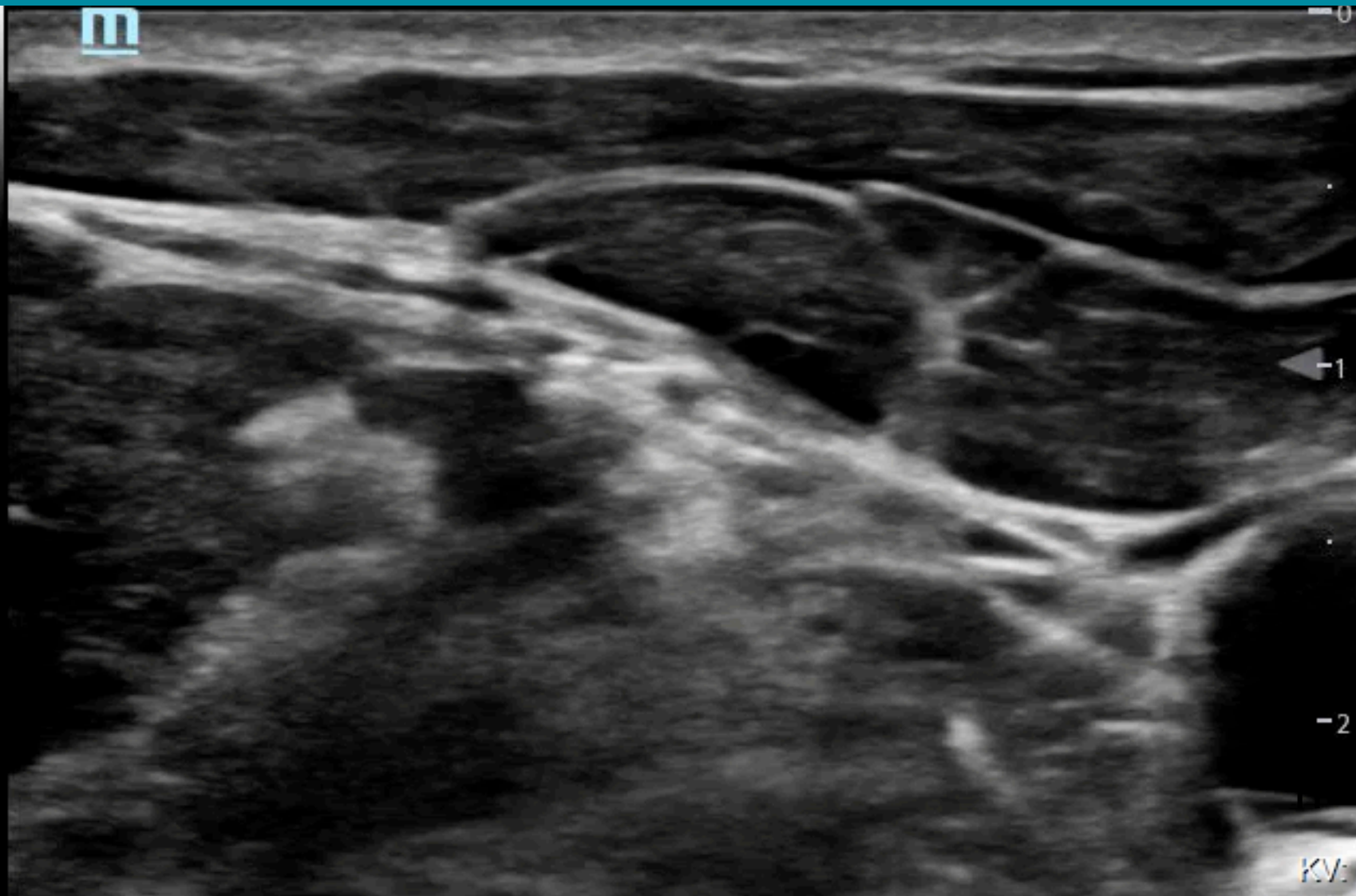
10.0-12.0

DR 115

FR 45

D 2.5

G 60



iNeedle

iTouch

thk: mm

DFOV:

0

-1

-2

KV:
msec
ALG:

SCP-GAN & SCN



SCM
C5 level
5-8 ml

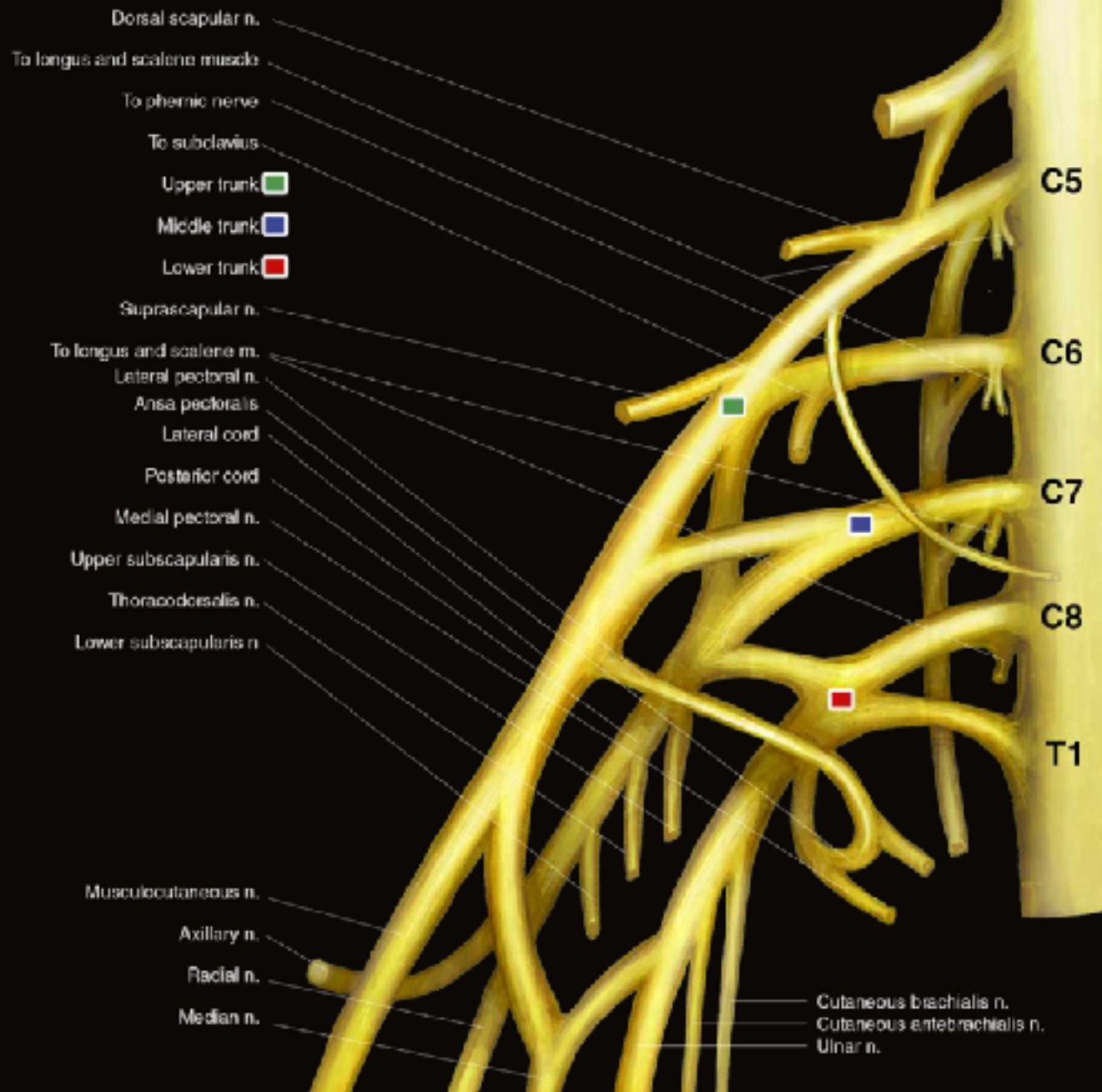
Supraclavicular nerve



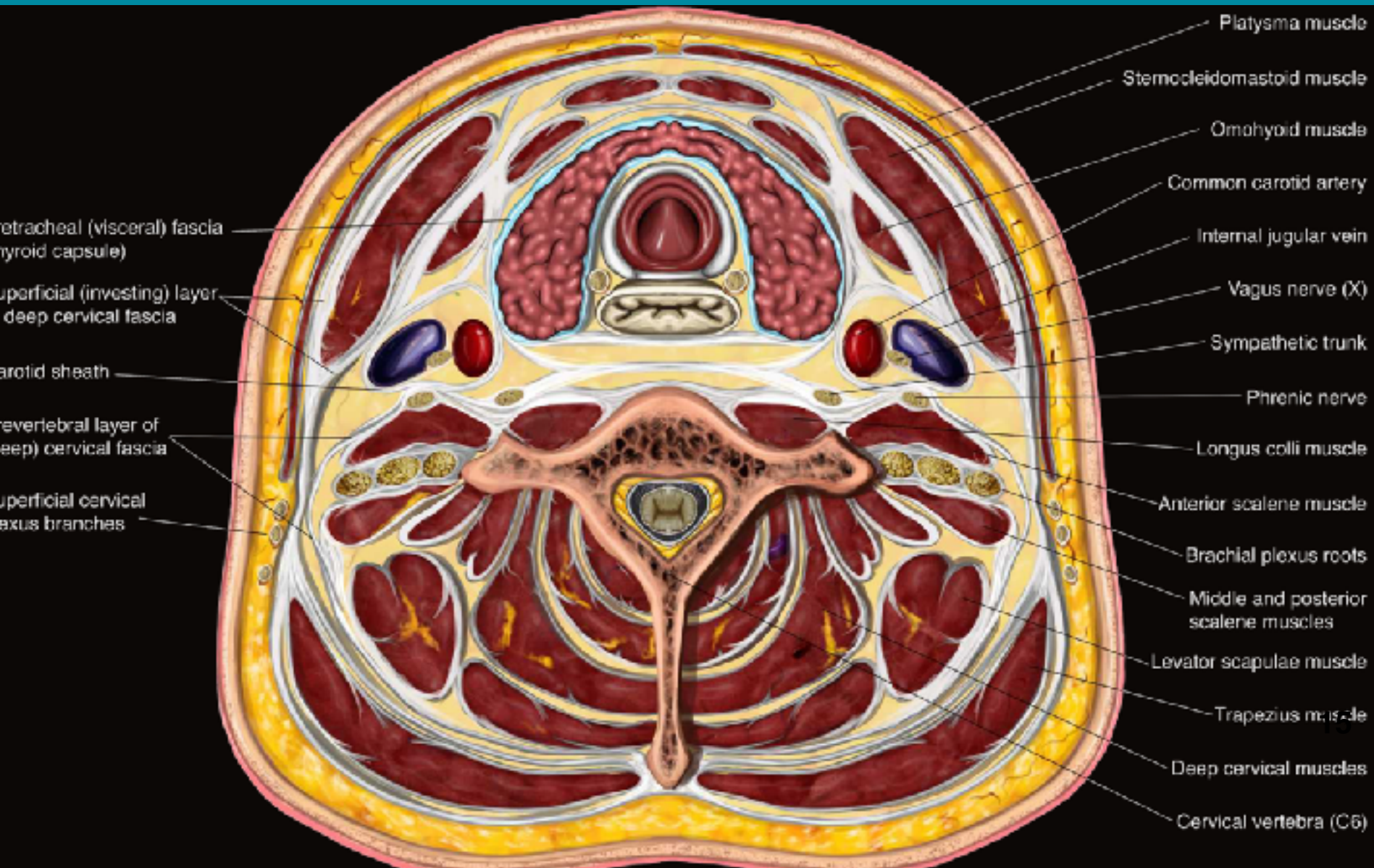
Brachial Plexus

C5-T1

Roots- 5
Trunks - 3
Divisions -6
Cords -3
Branches

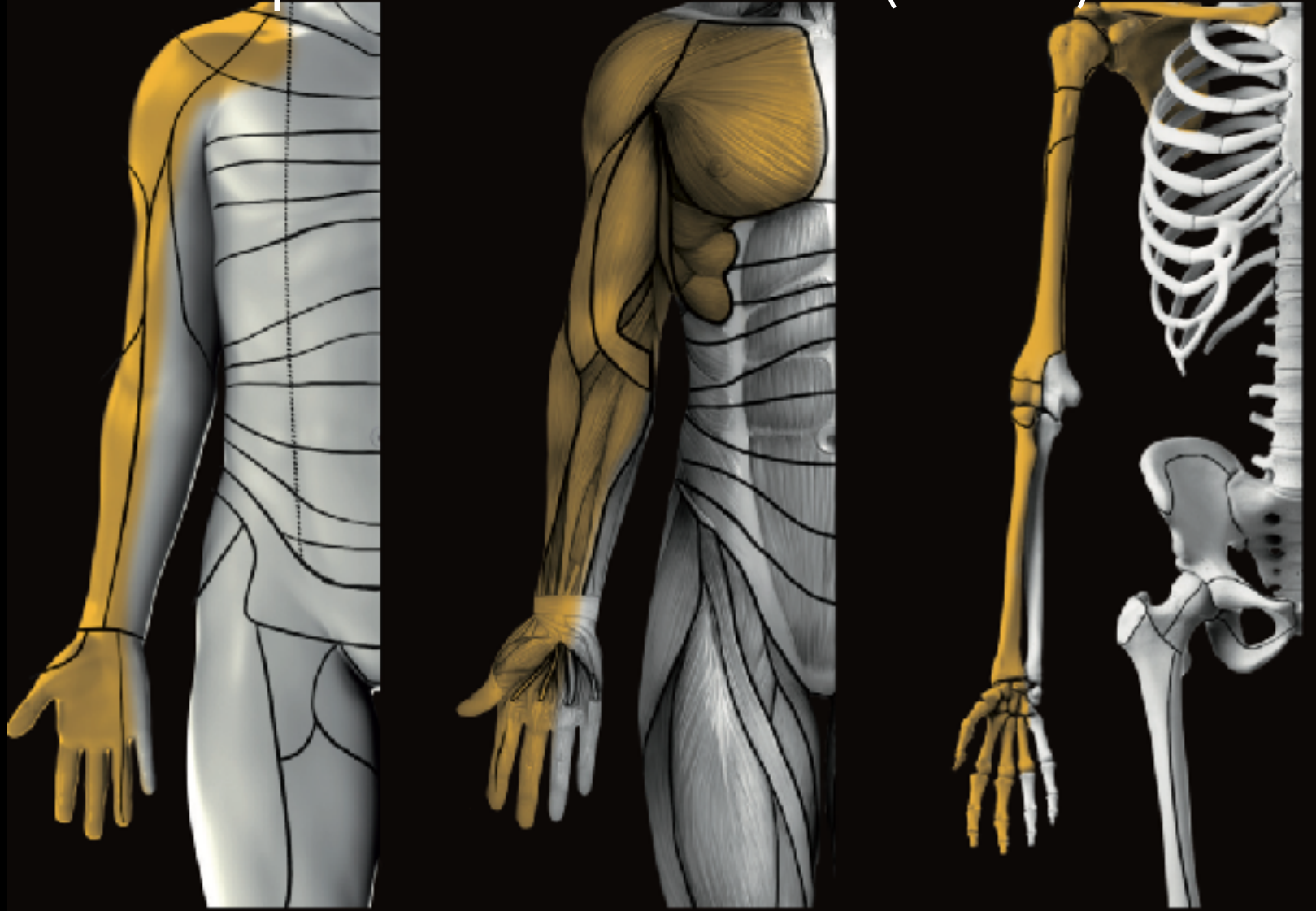


Brachial plexus

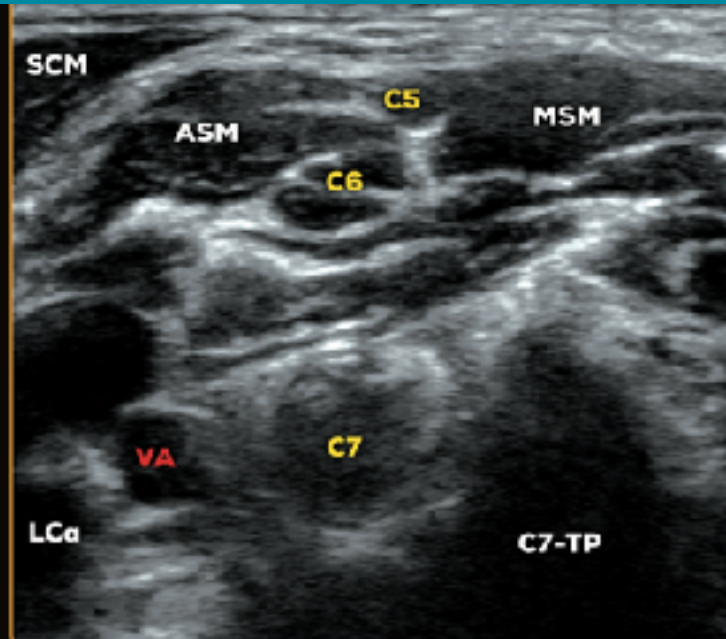
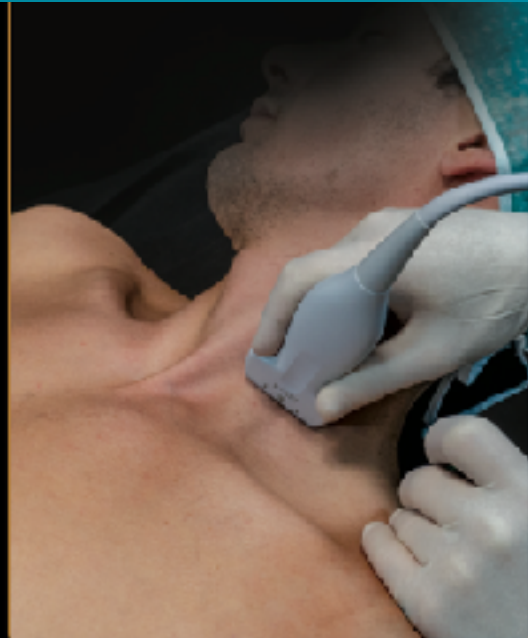


Brachial plexus block - interscalene

Spared inferior trunk (C8-T1)



Brachial plexus block - interscalene



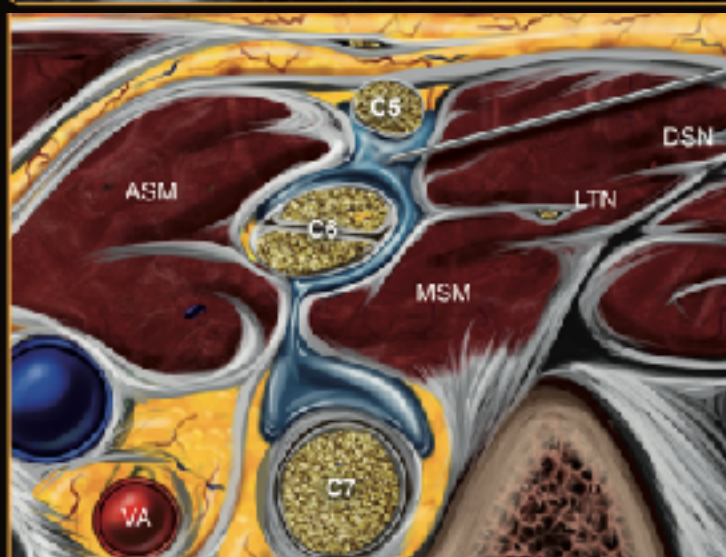
SCM

C6

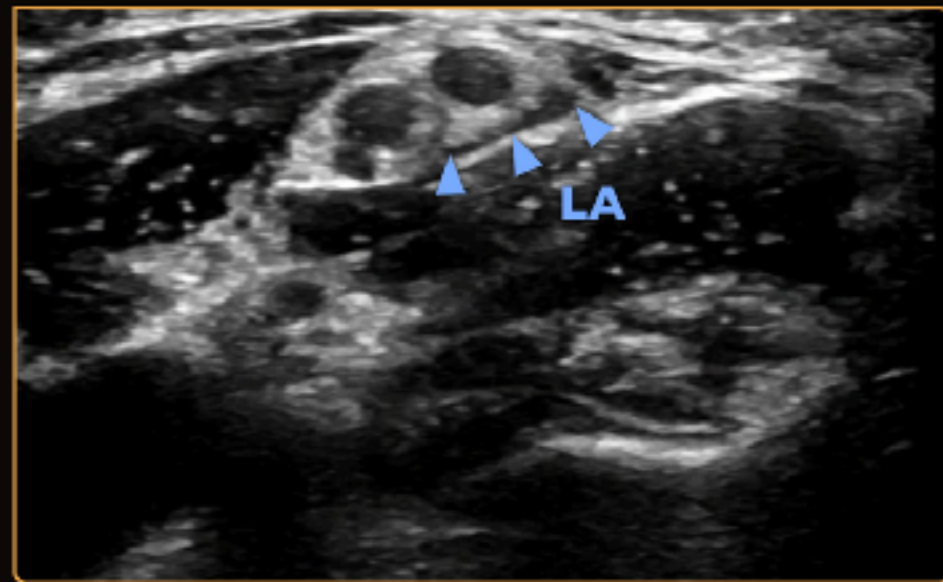
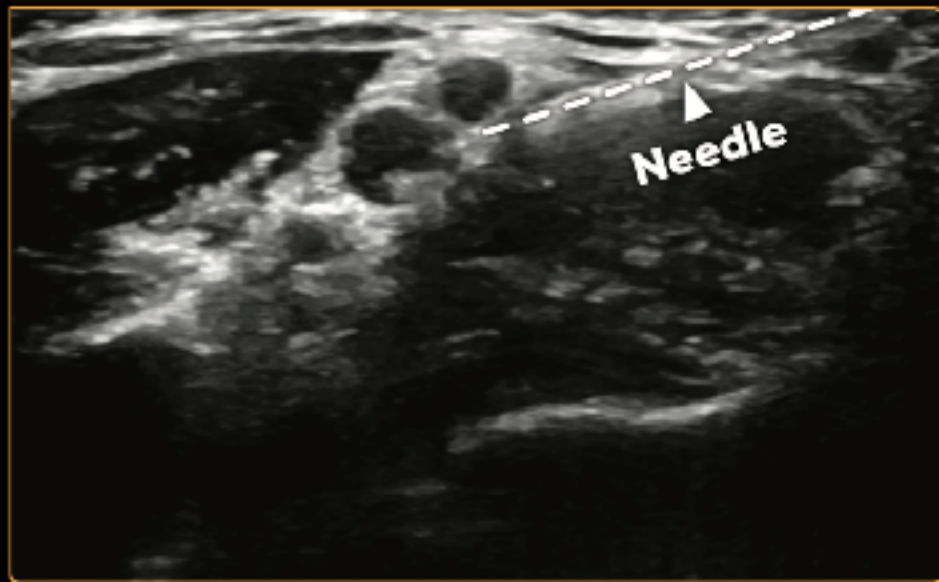
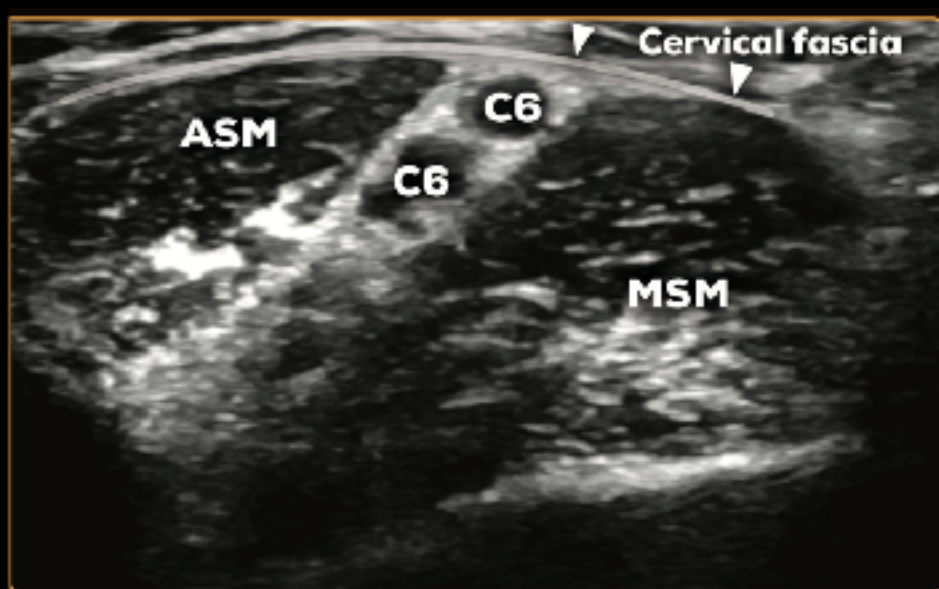
CCA / IJV

ASM / **MSM**

10-15 ml



Brachial plexus block - interscalene

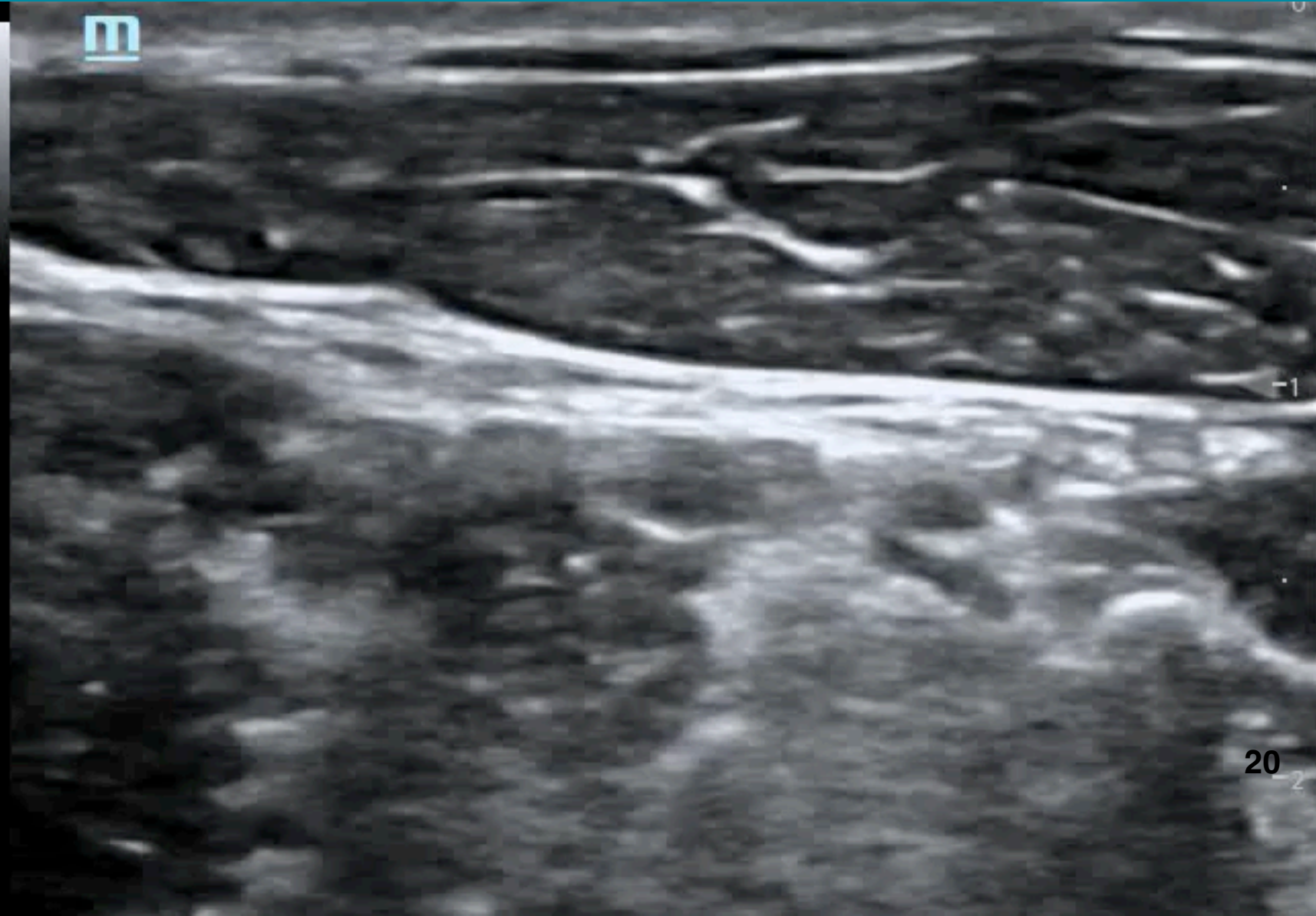


Brachial plexus block - interscalene



Phrenic nerve (anterior to ASM)

B
F5.4~11.5
DR 105
FR 41
D 2.5
G 41



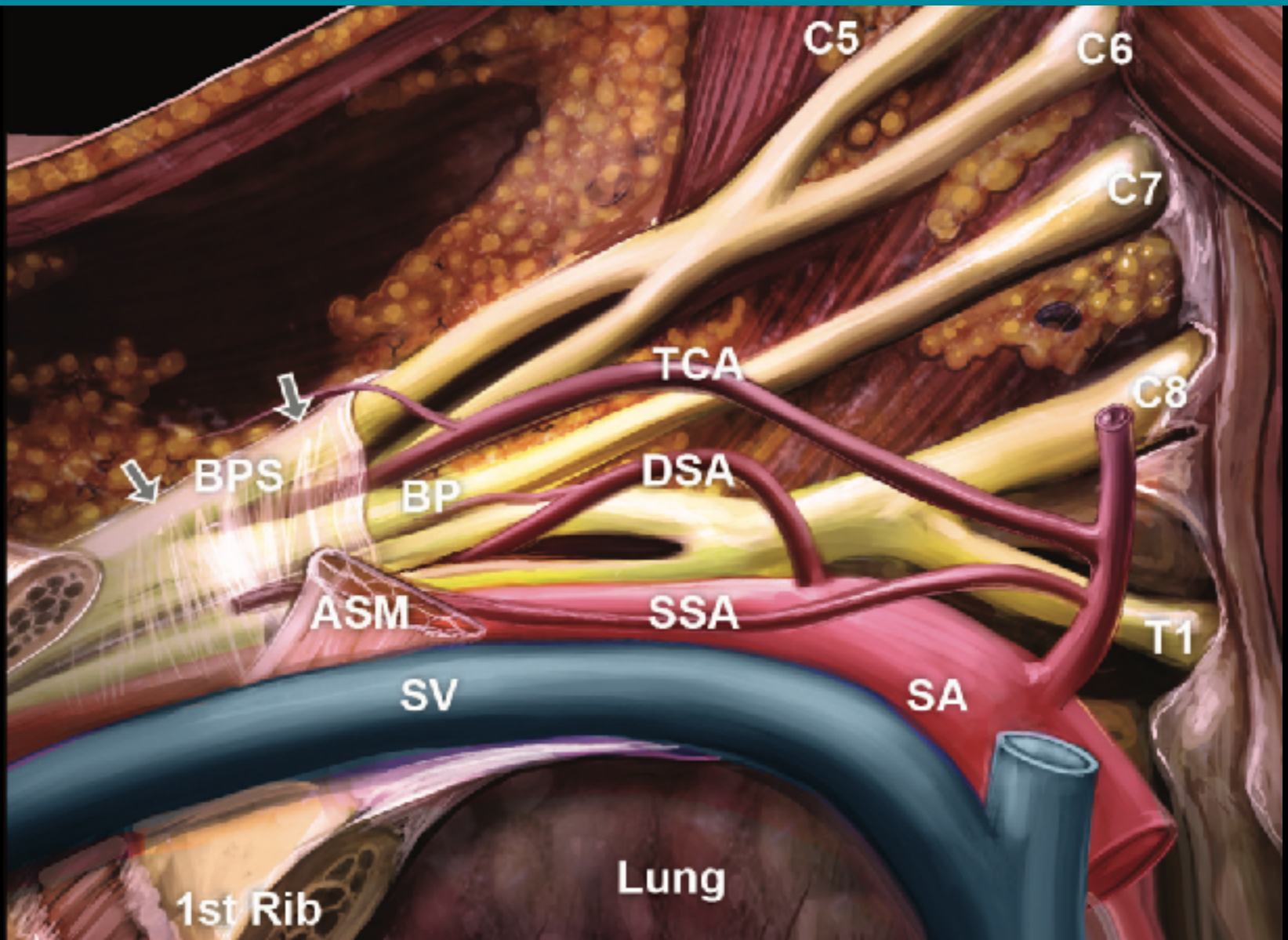
-1

20

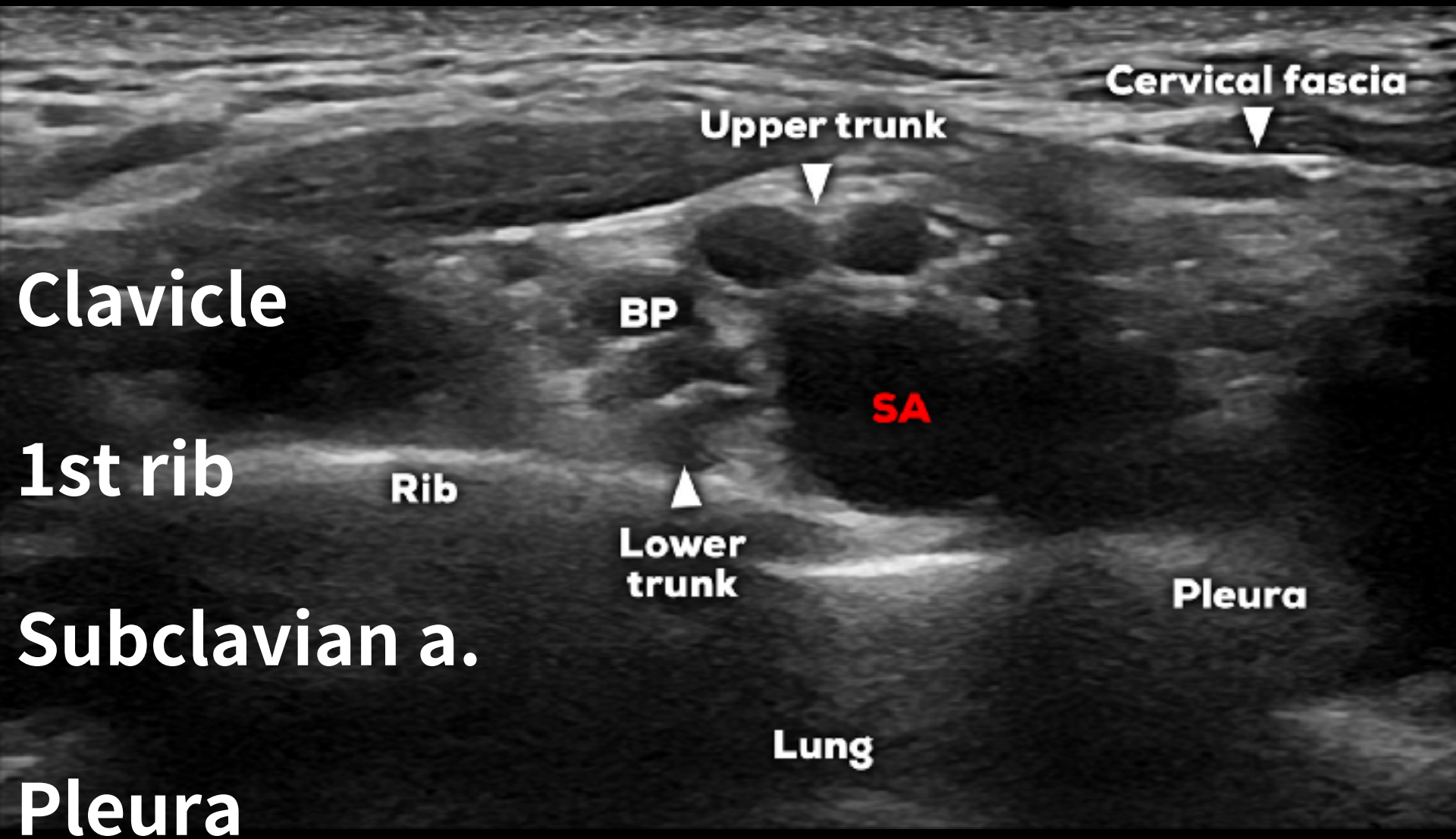
iNeedle

iTouch

Brachial plexus block - supraclavicular

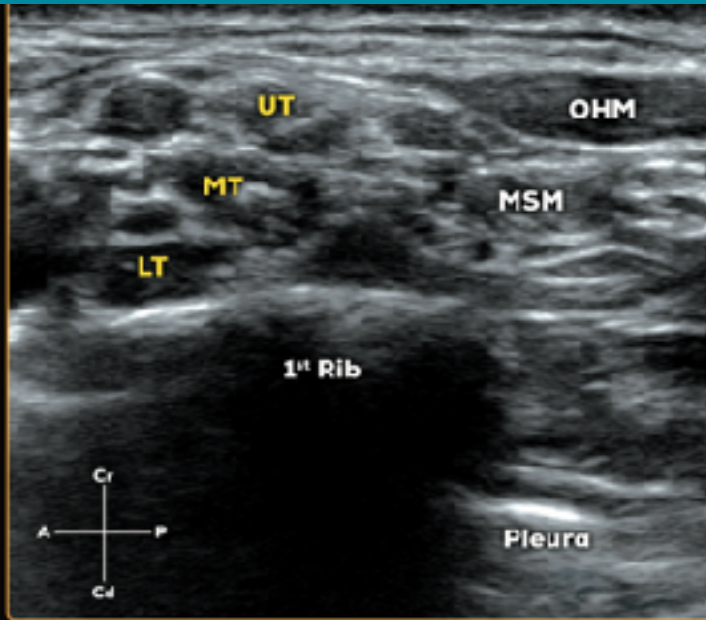


Brachial plexus block - supraclavicular



Brachial plexus block - supraclavicular



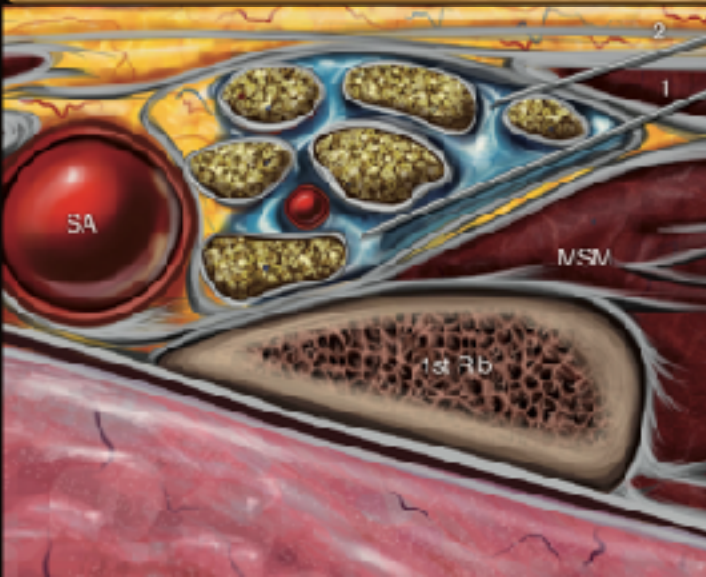


1st rib

Subclavian a.

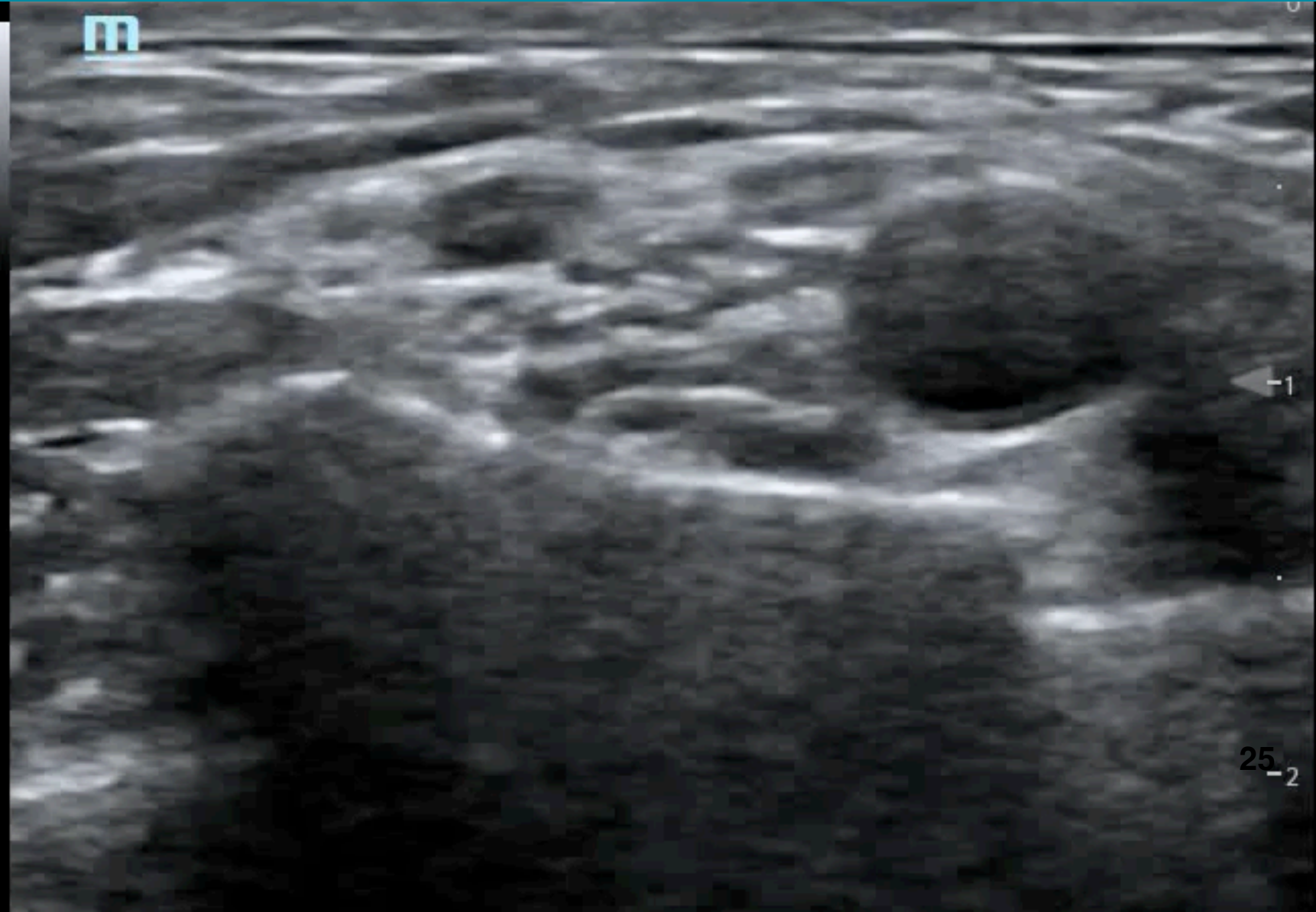
Pleura

20 ml



Brachial plexus block - supraclavicular

B
F5.4~11.5
DR 105
FR 41
D 2.5
G 41



-1

25-2

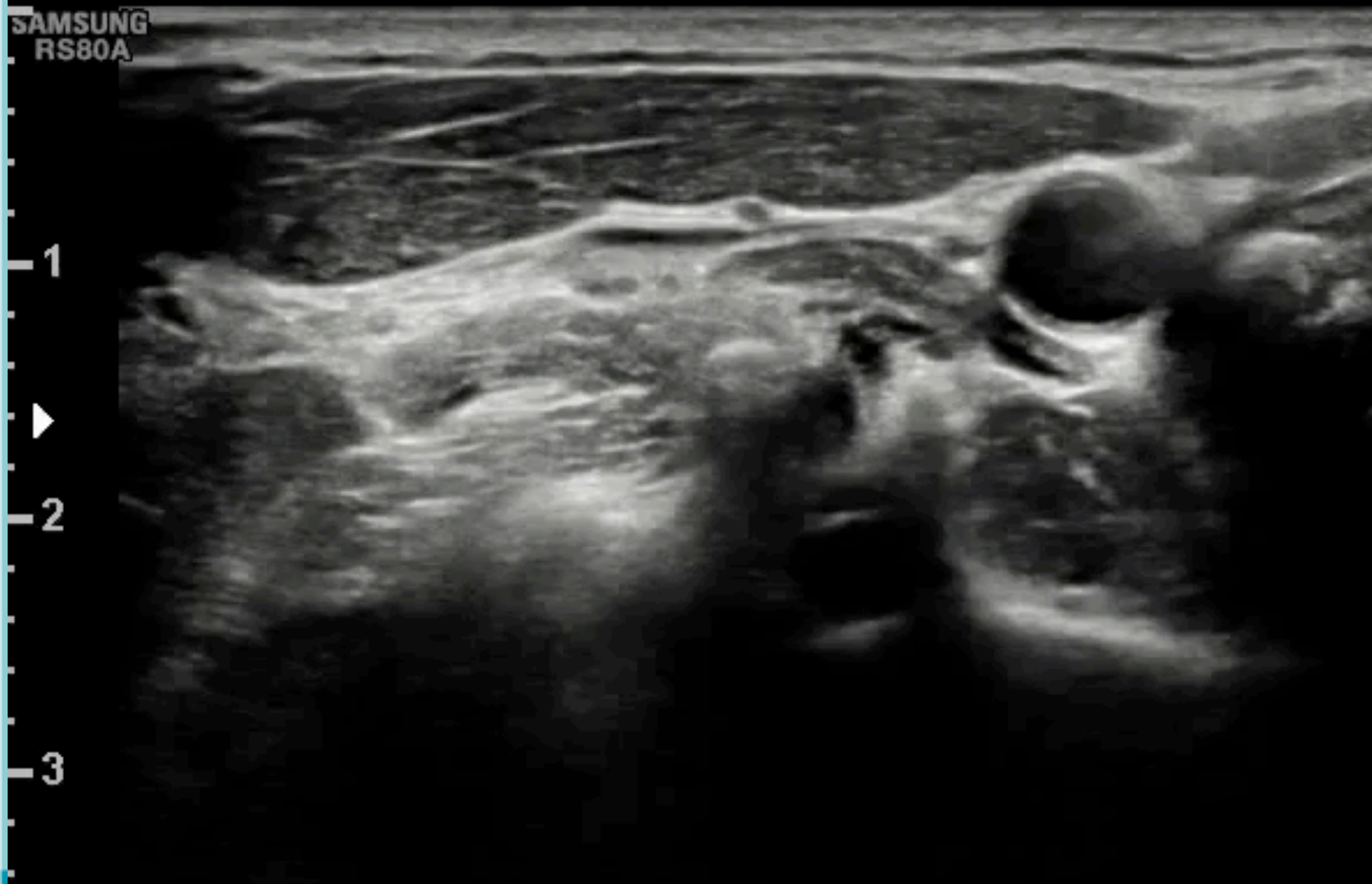
iNeedle

iTouch

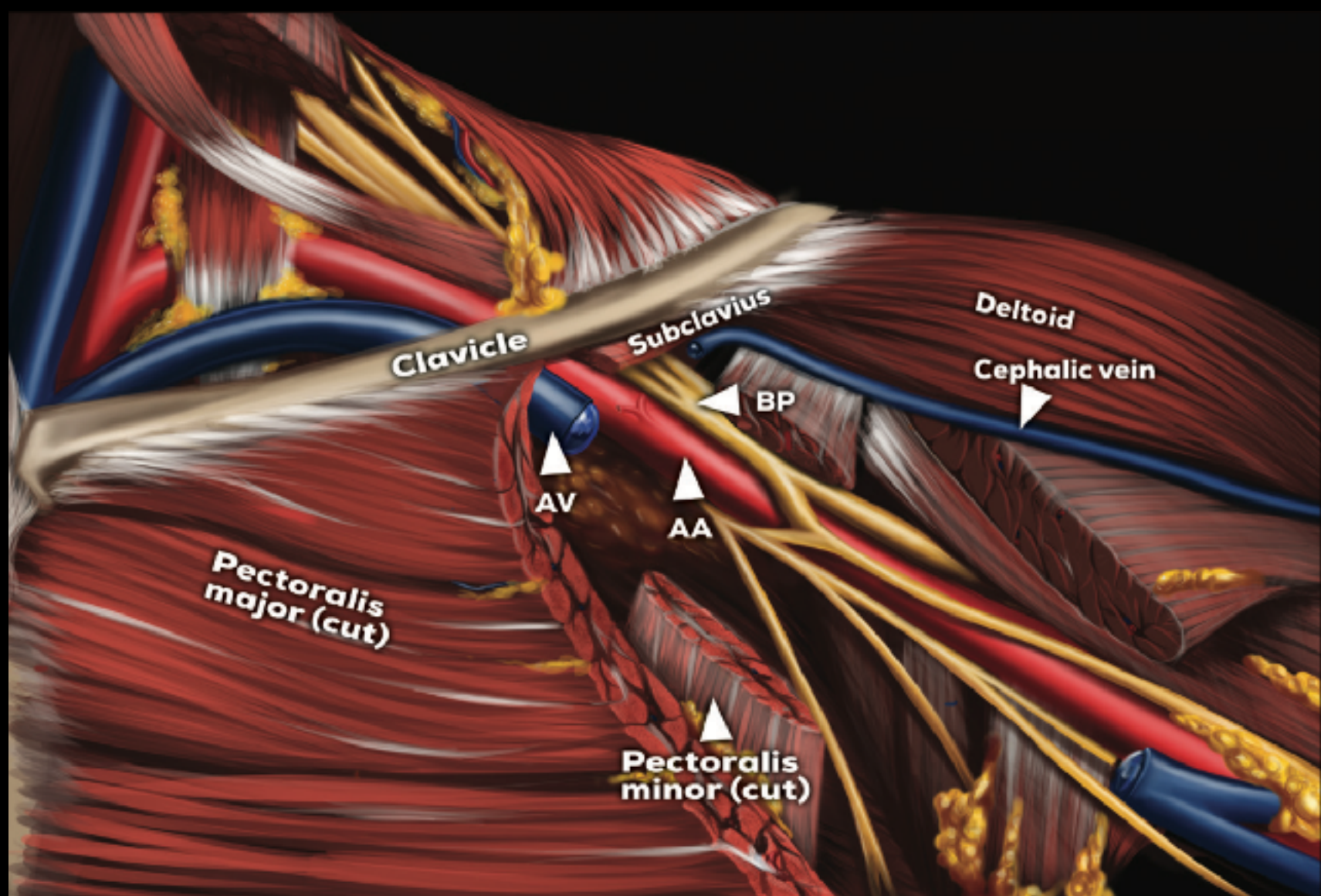
L3-12A / SmallParts / FPS40 / MI0.96 / TIs0.1 / 01-09-2016 10:34:06 AM
2D G53/DR58/FA4/P90/2.7/Frq Pen./3.5cm



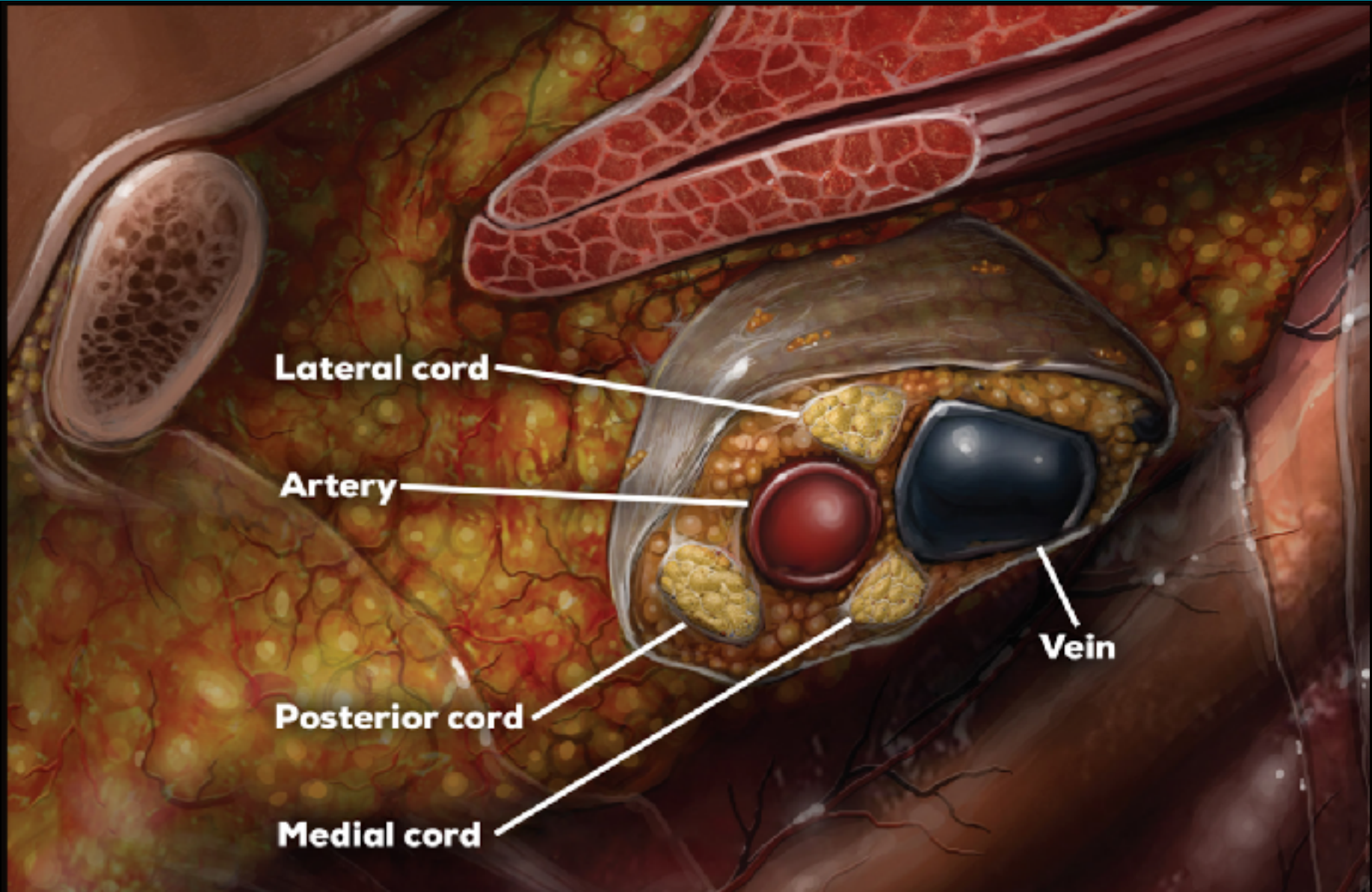
SAMSUNG
RS80A



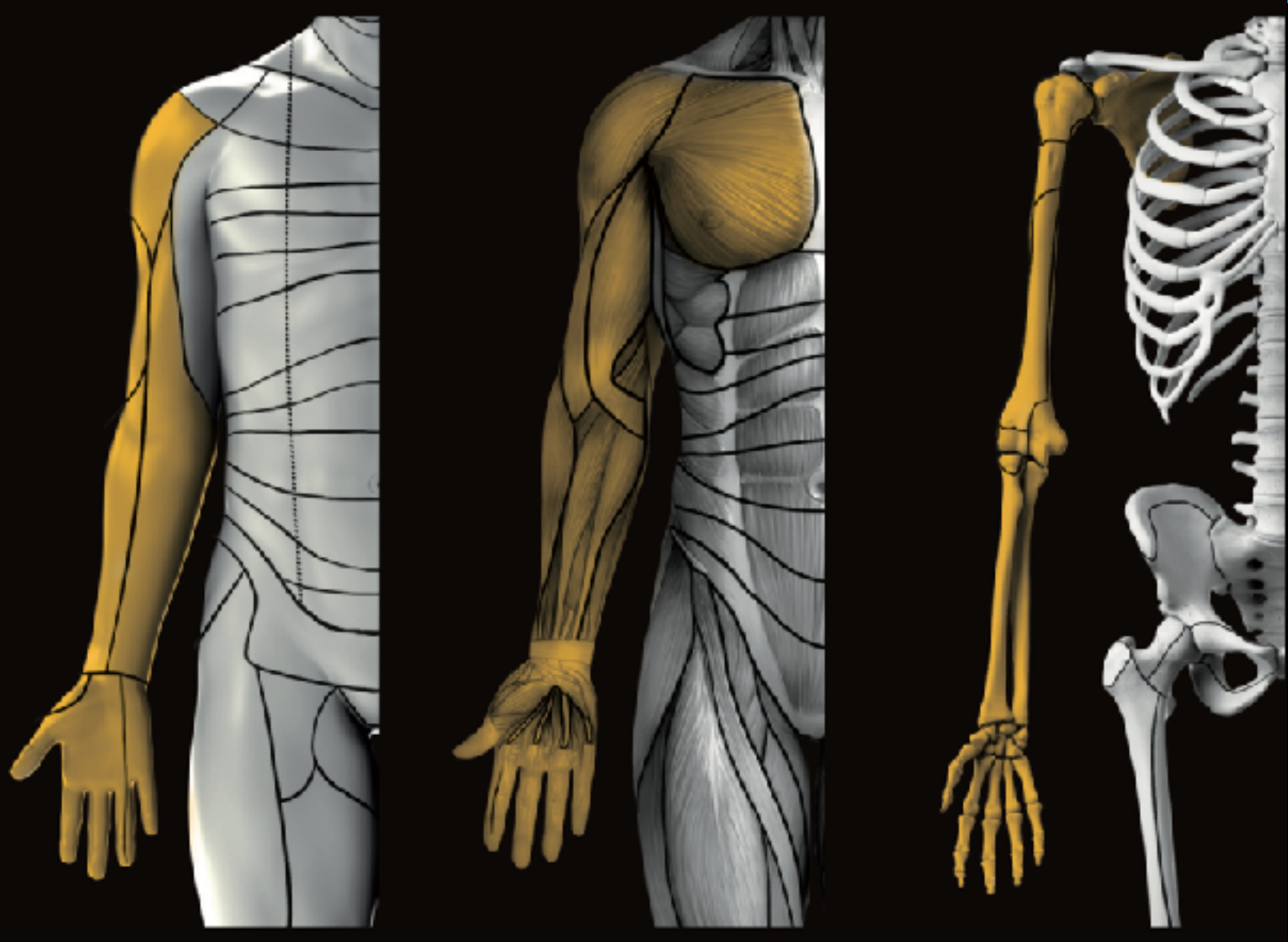
Brachial plexus block - infraclavicular



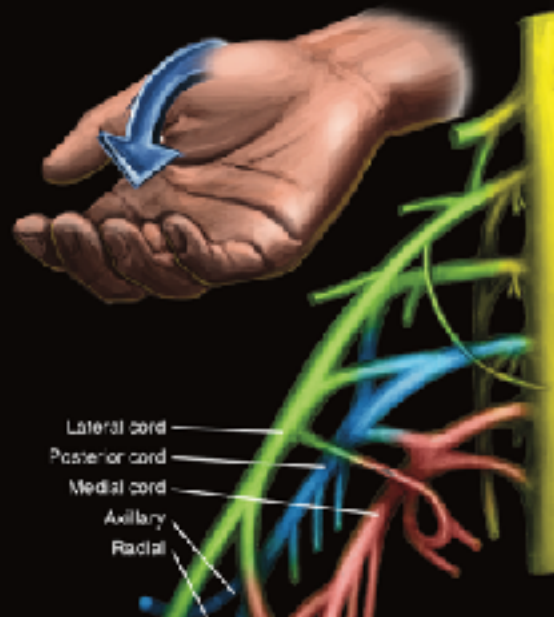
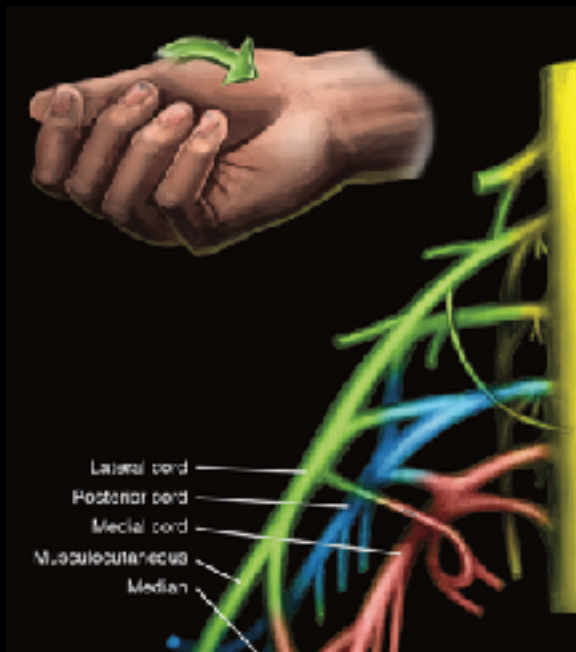
Brachial plexus block - infraclavicular



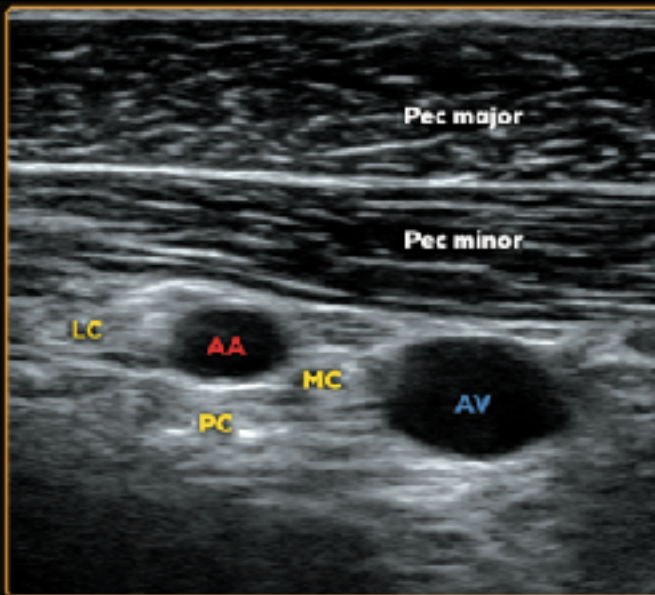
Brachial plexus block - infraclavicular



Brachial plexus block - infraclavicular



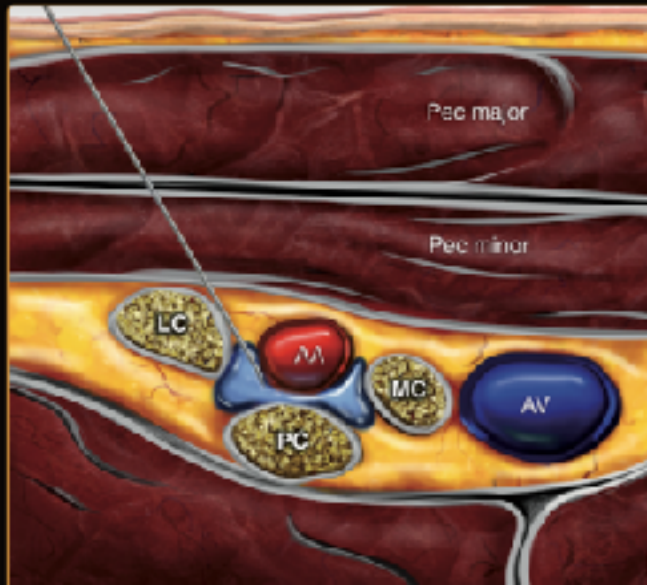
Brachial plexus block - infraclavicular



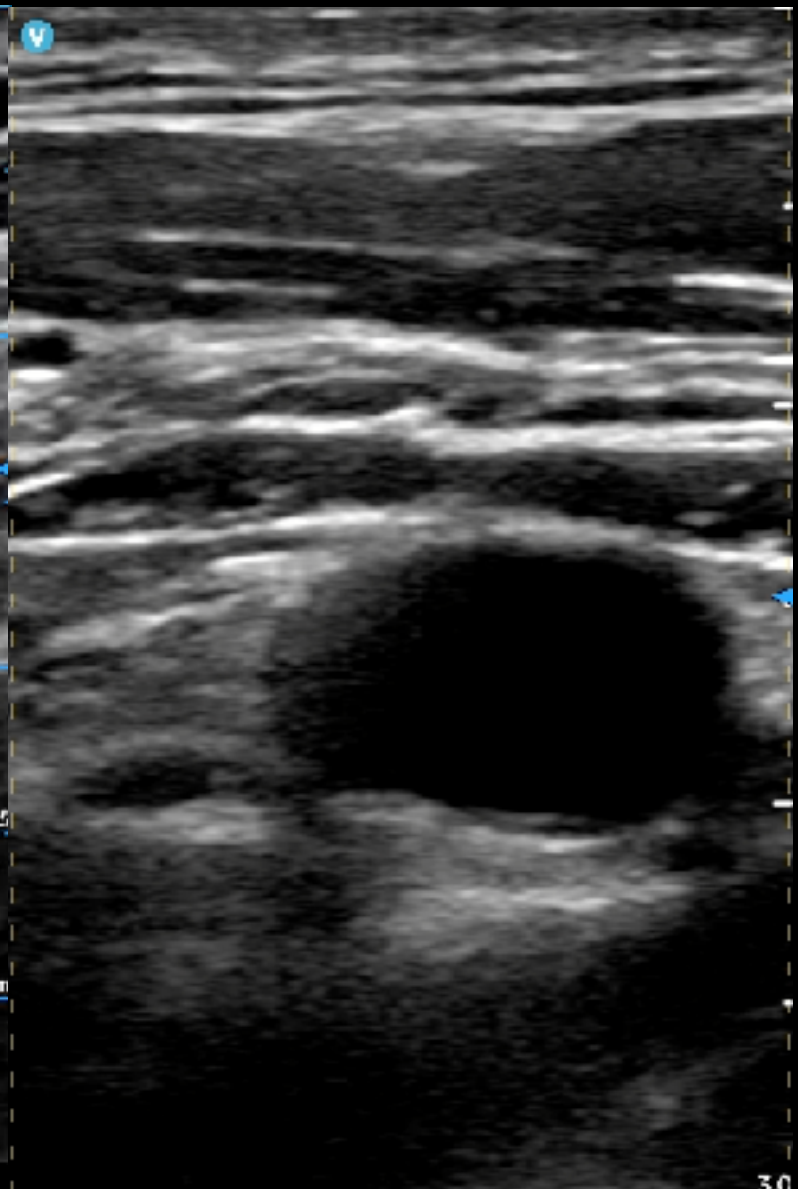
Clavicle

Axillary a.

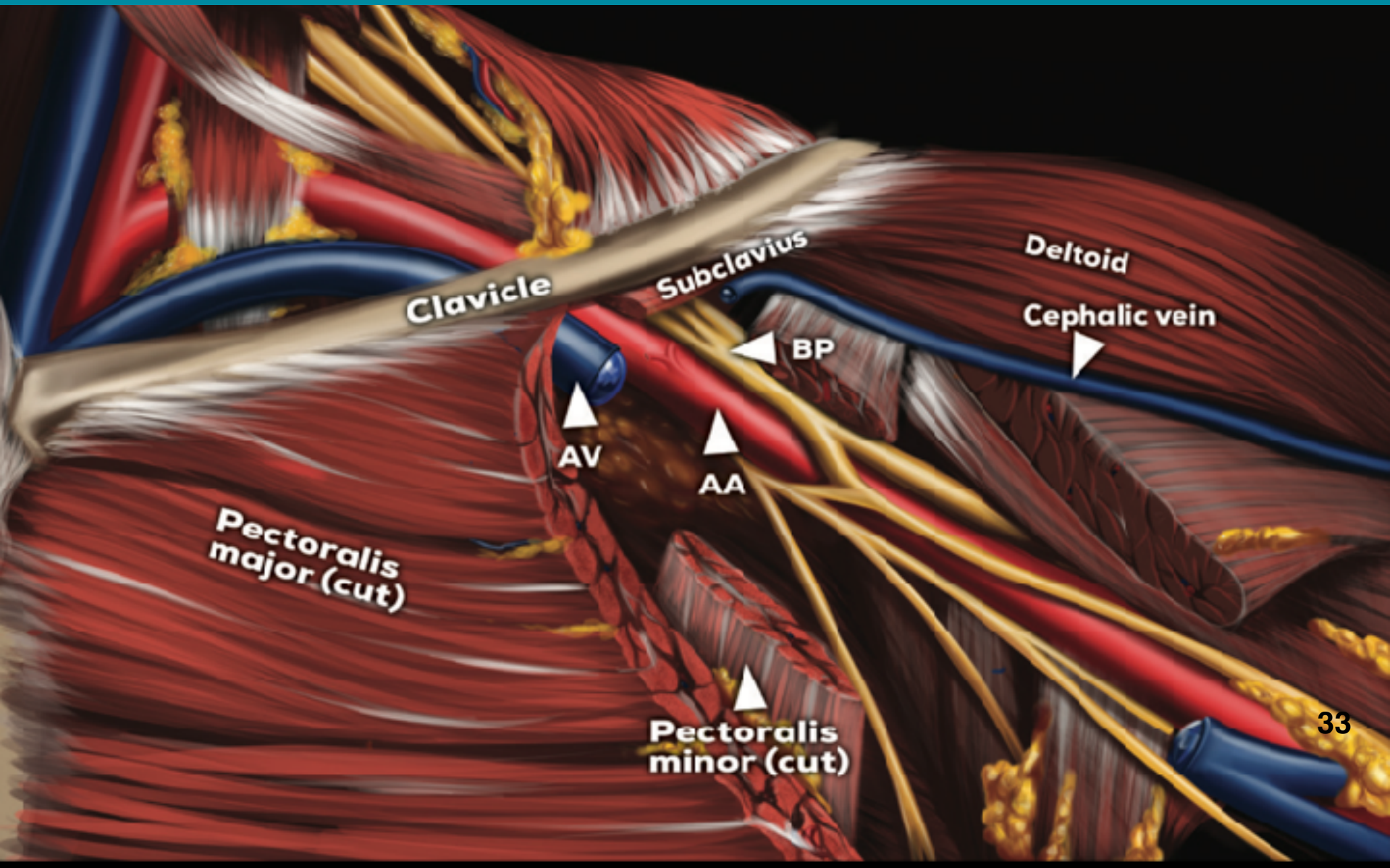
20 ml



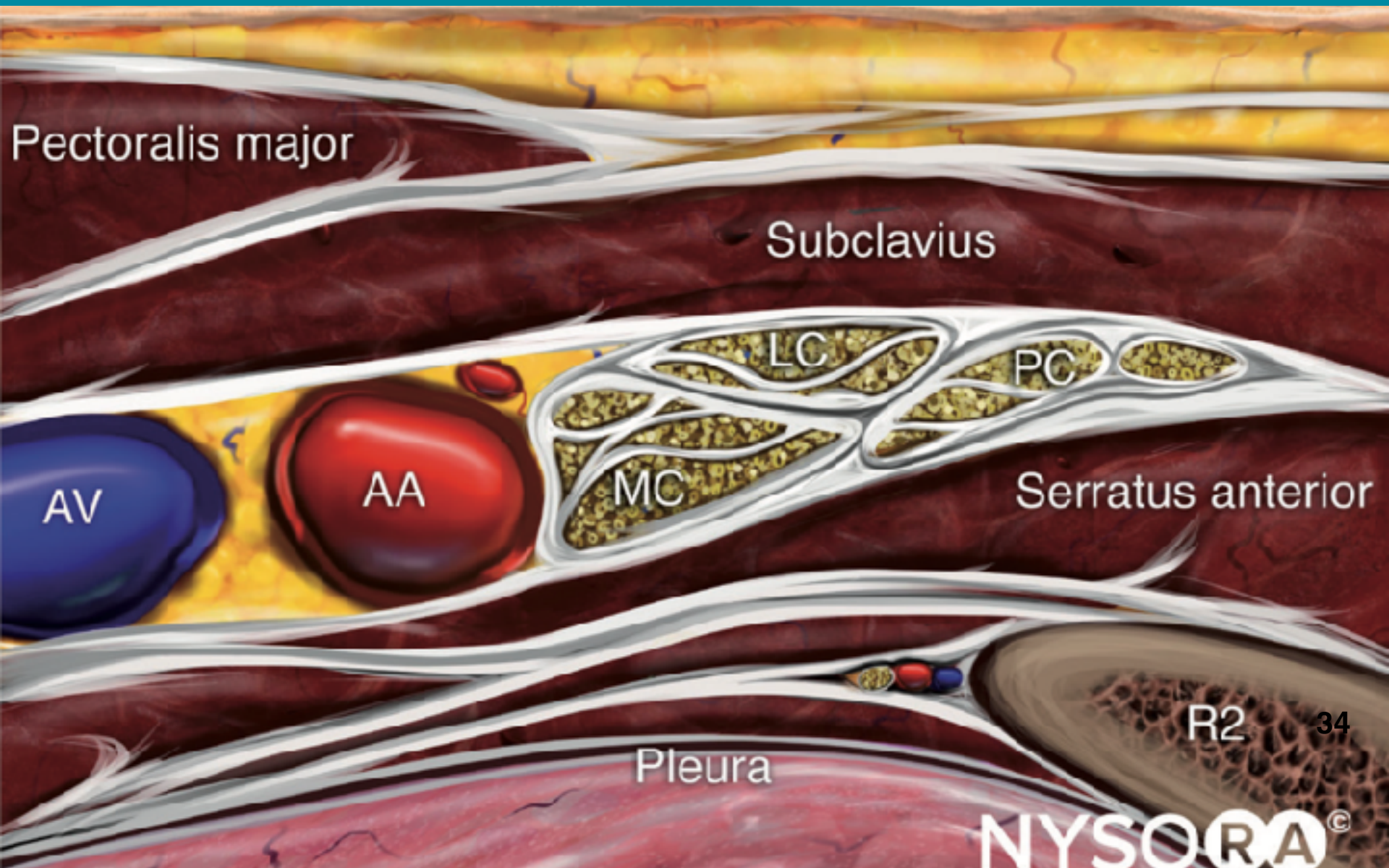
Brachial plexus block - infraclavicular



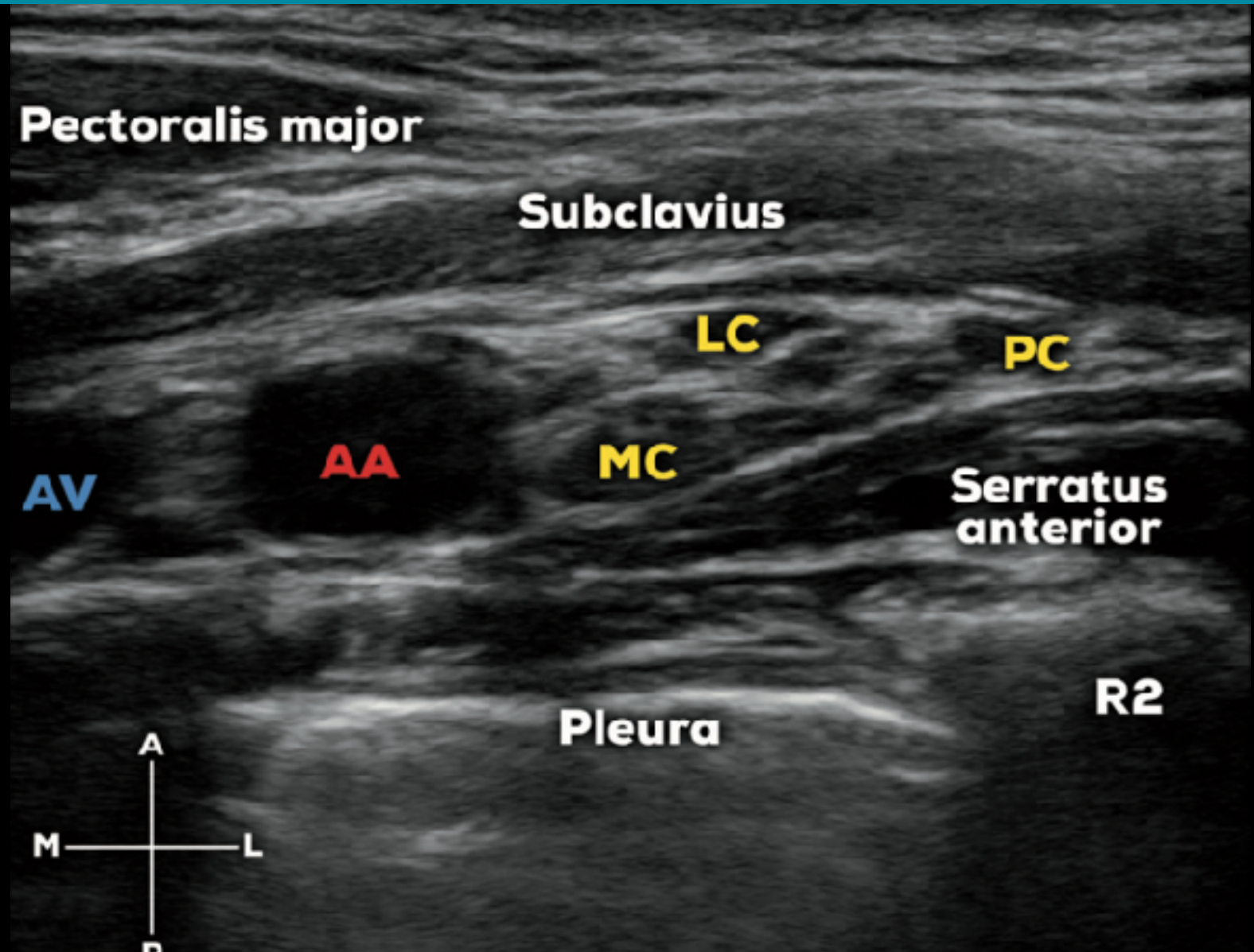
Brachial plexus block - costoclavicular



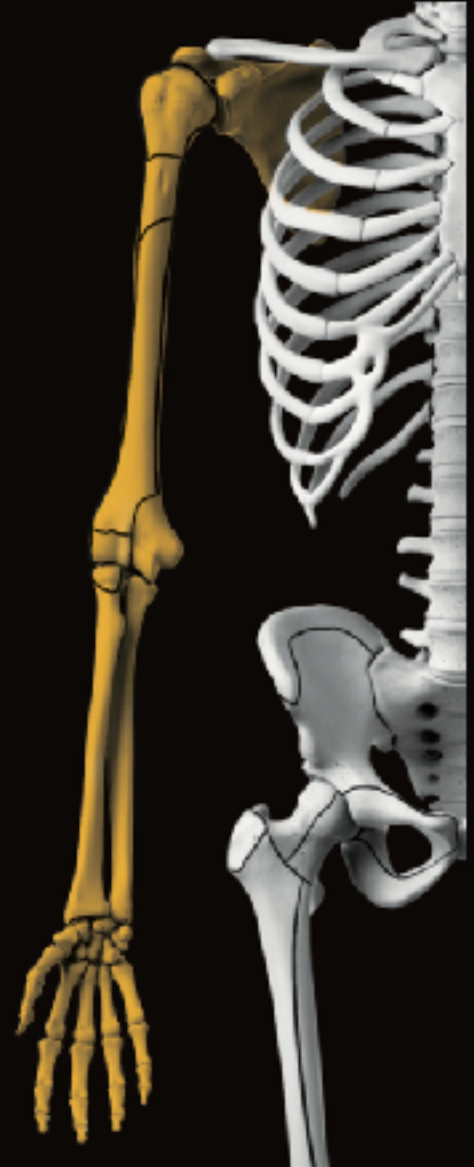
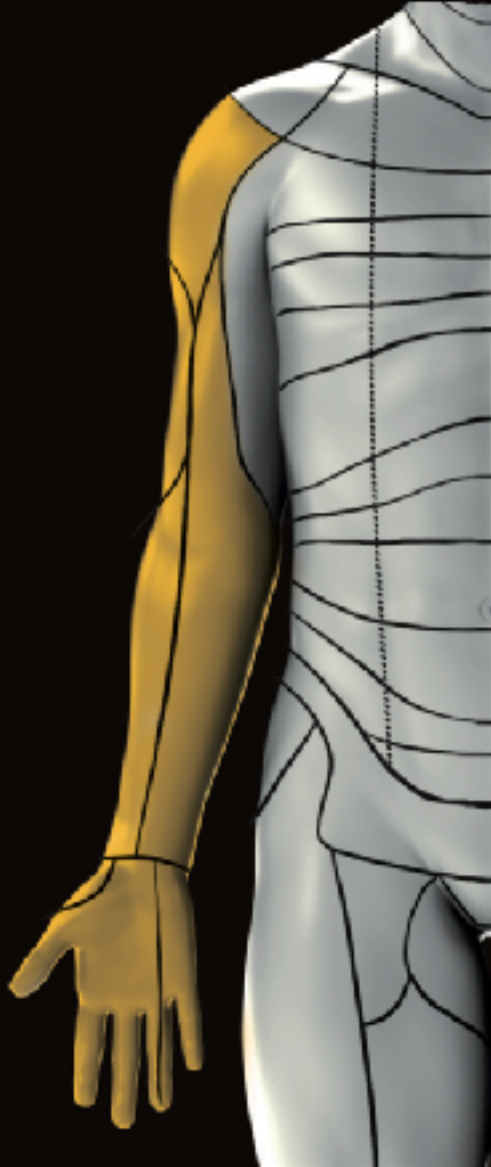
Brachial plexus block - costoclavicular



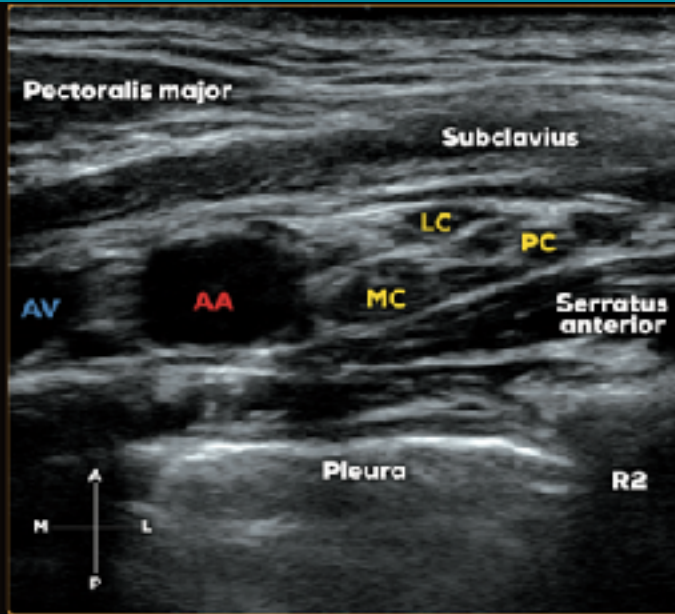
Brachial plexus block - costoclavicular



Brachial plexus block - costoclavicular



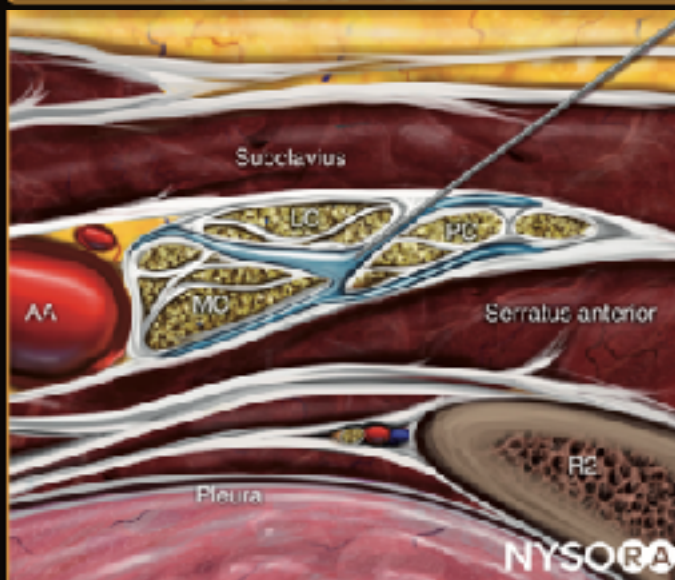
Brachial plexus block - costoclavicular



Clavicle

Axillary a.

20 ml



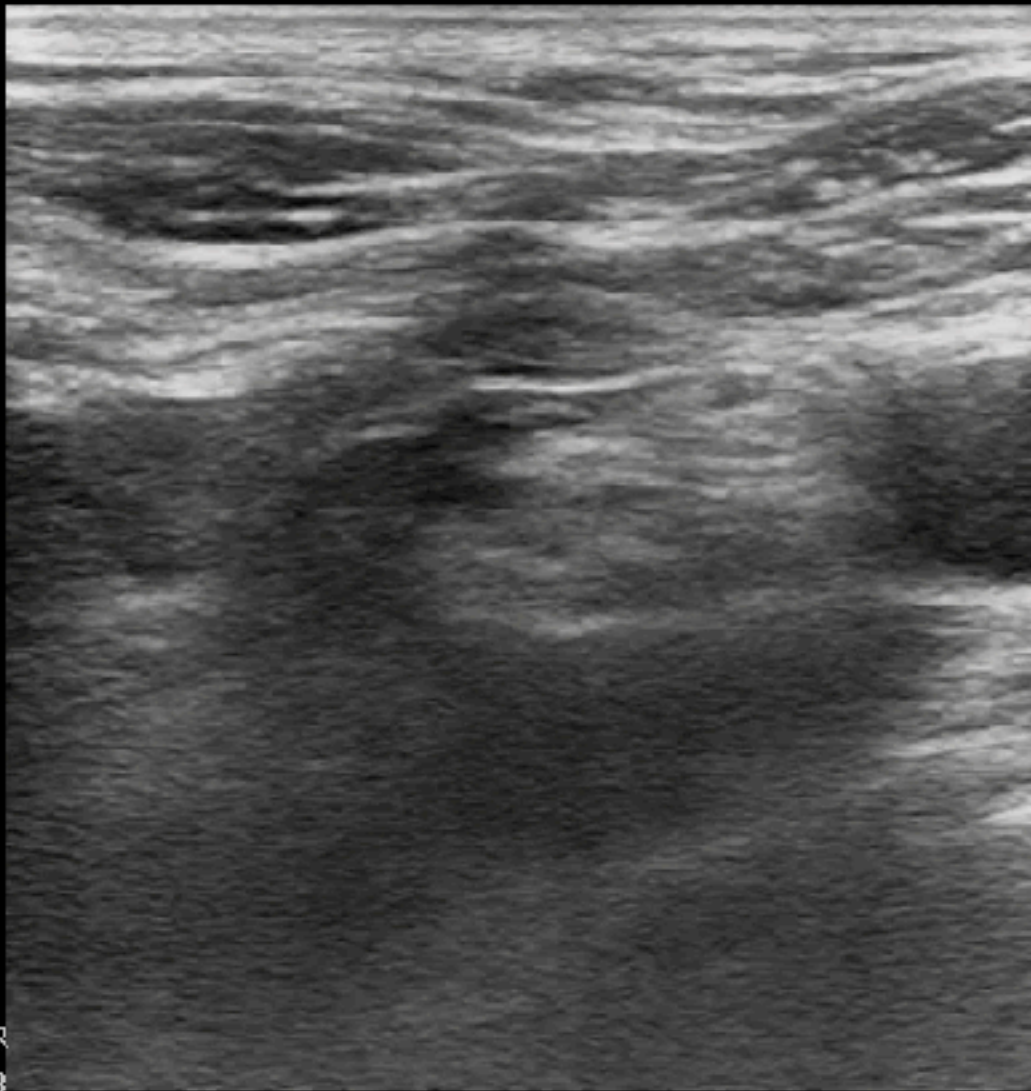
Brachial plexus block - costoclavicular

Arterial
L12-3
37 Hz
4.0cm

2D
HGen
Gn 76
C. 41
3/3/2

2cm

P R
1.1 8.8



2
f

1.0cm

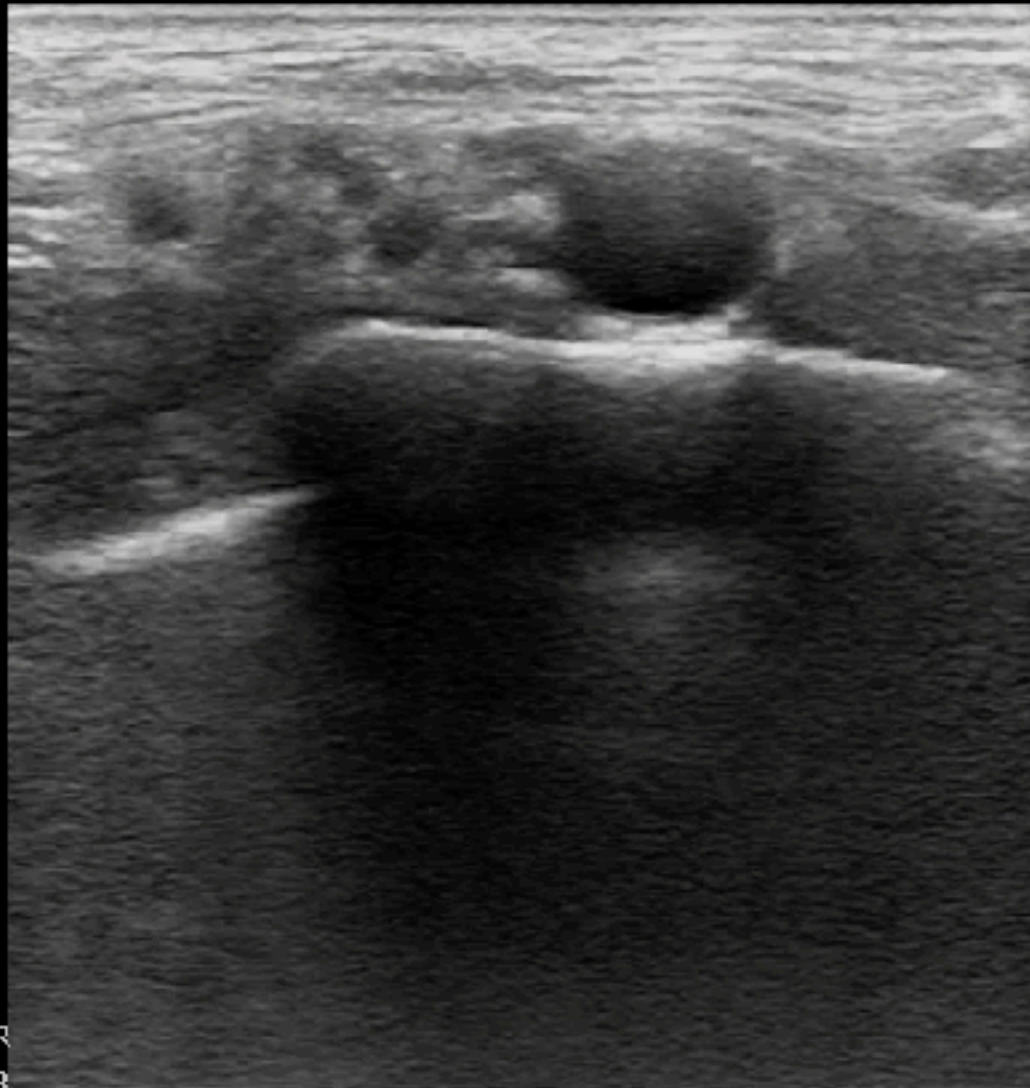
Brachial plexus block - Supraclavicular

Arterial
L12-3
37 Hz
4.0cm

2D
HGen
Gn 76
C. 41
3/3/2

2cm

P R
1.1 8.8



1.0cm

Brachial plexus block - supra to costo

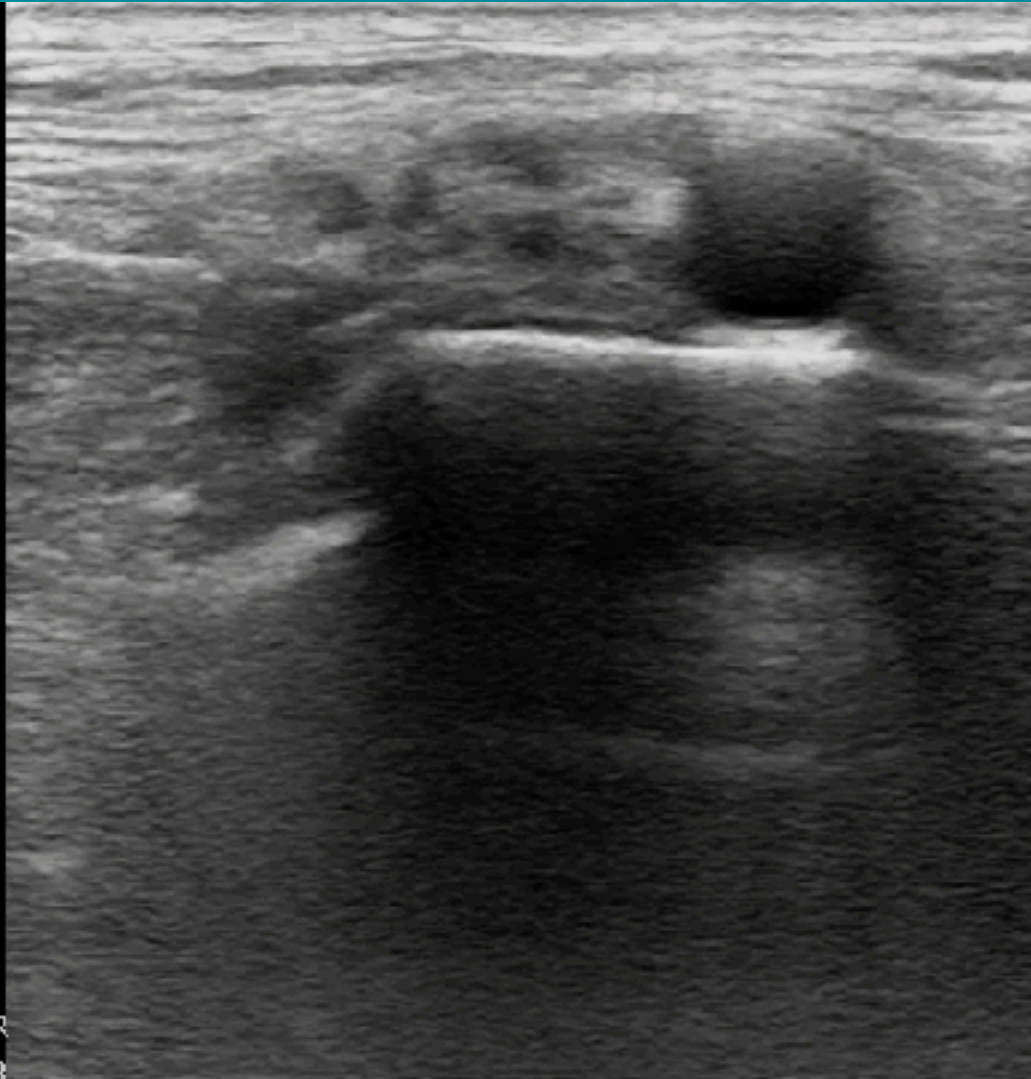
Arterial
L12-3
37 Hz
4.0cm

2D
HGen
Gn 76
C. 41
3/3/2

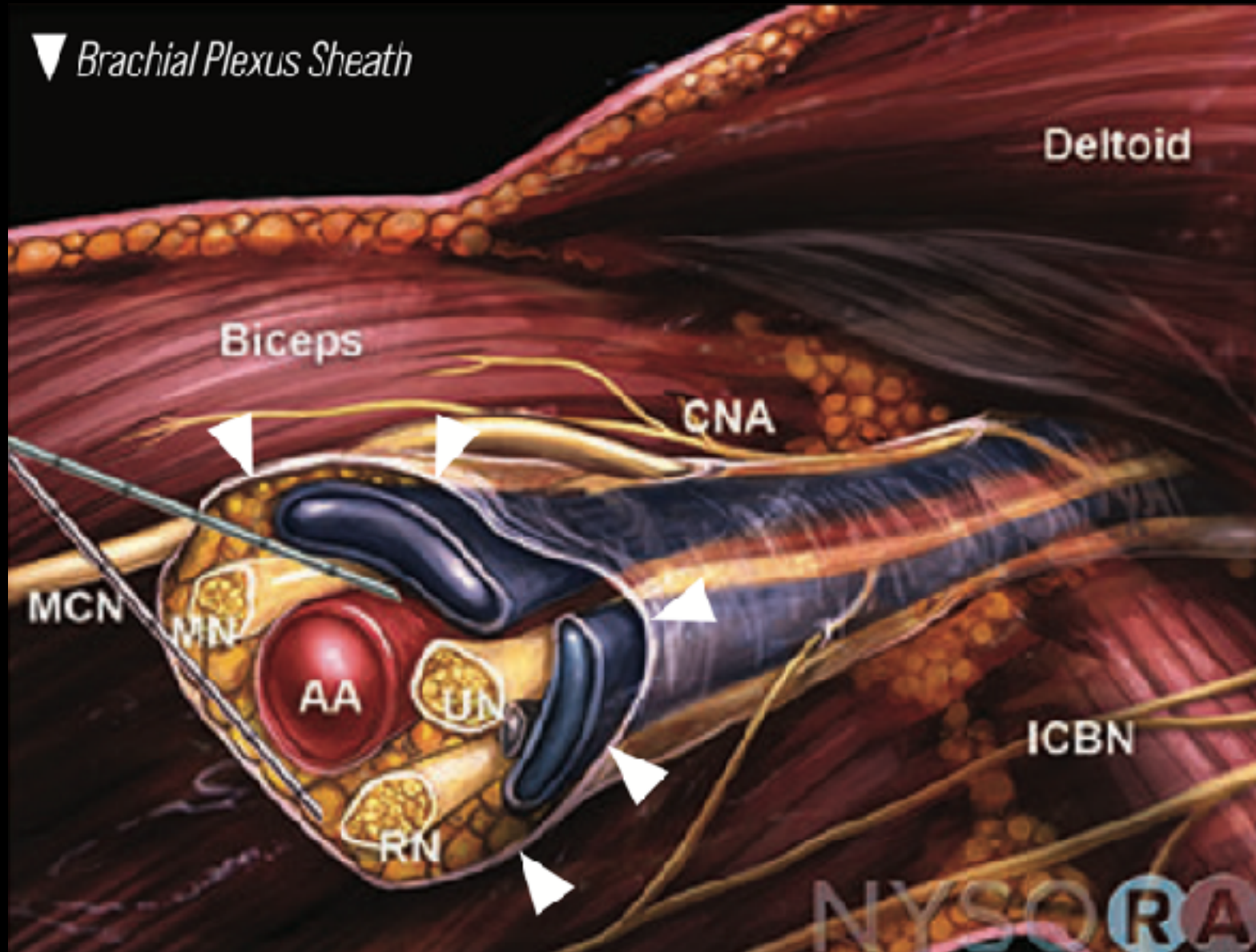
2cm

P R
1.1 8.8

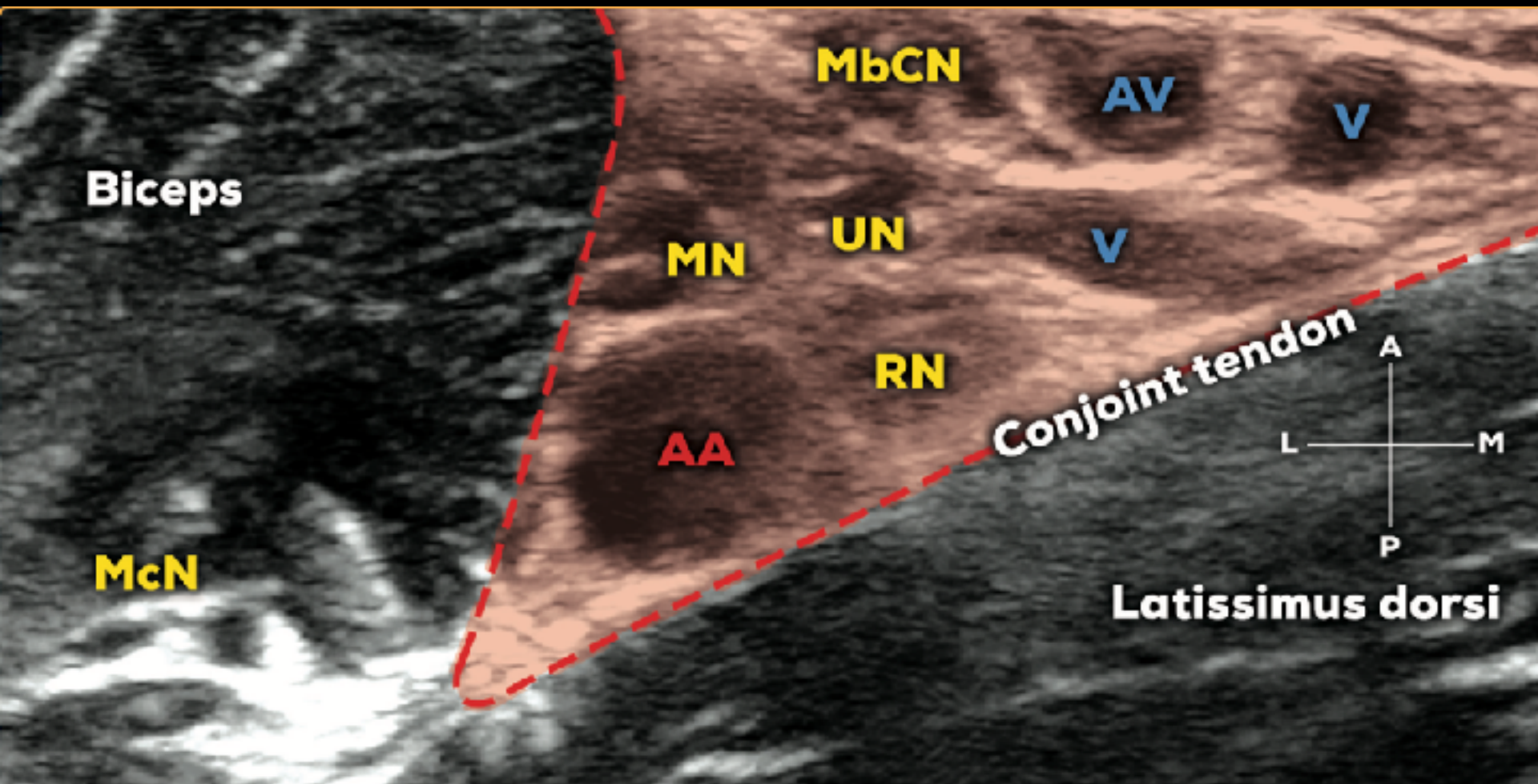
1.0cm



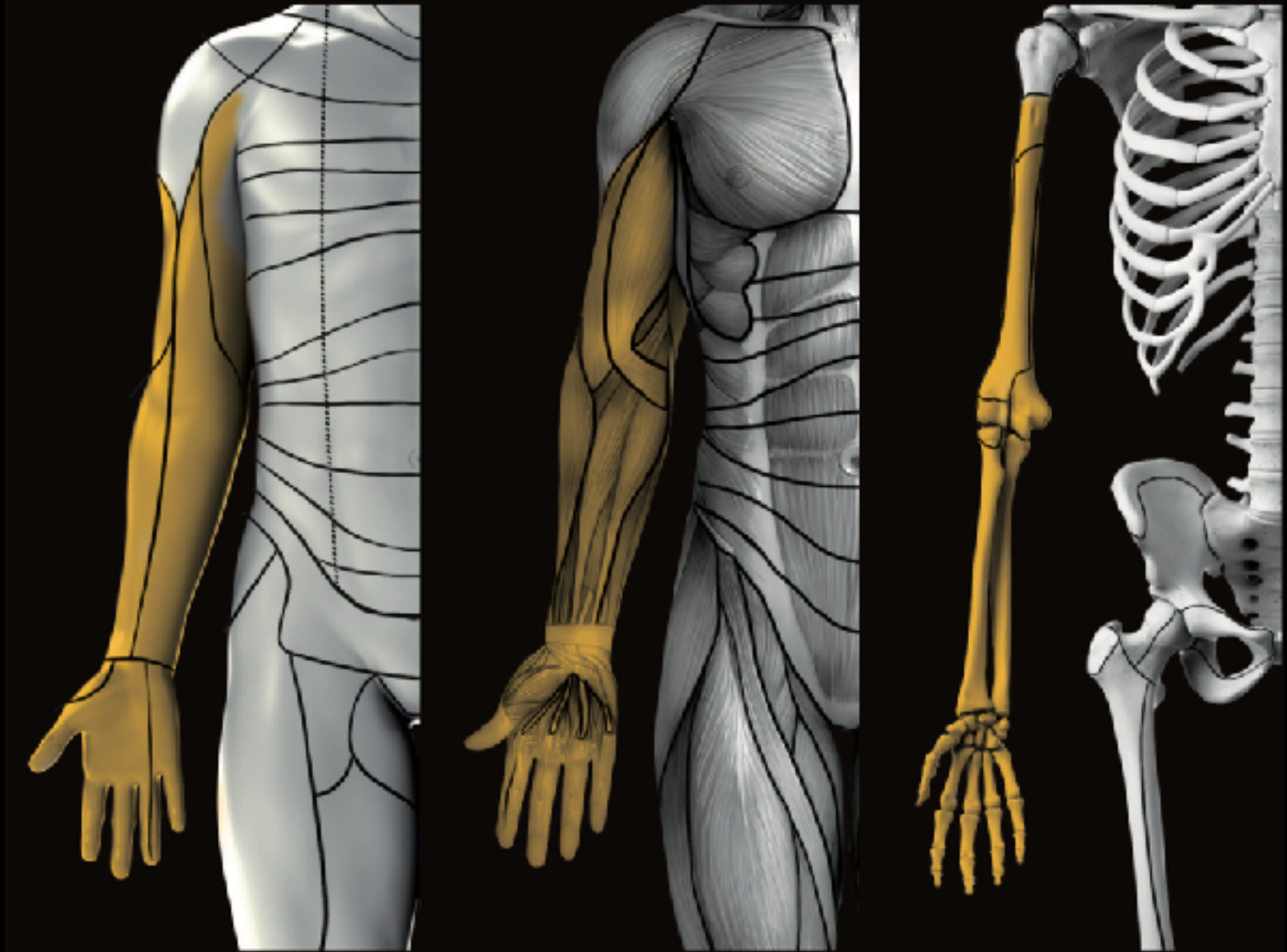
Brachial plexus block - axillary



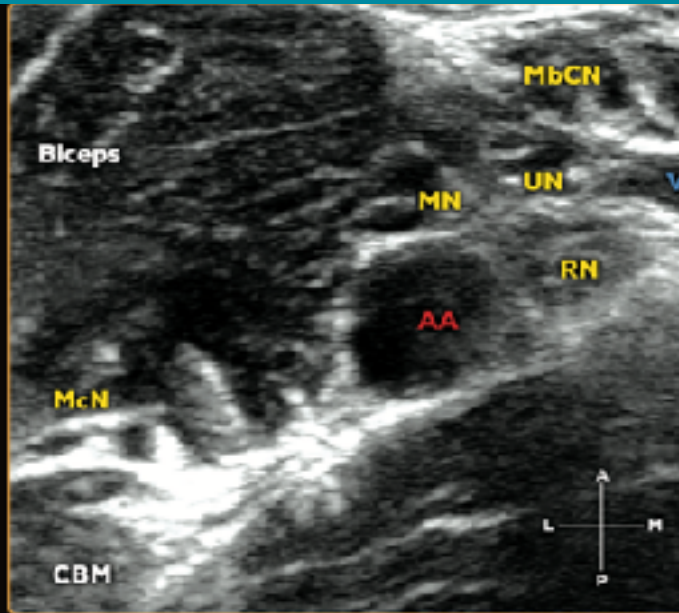
Brachial plexus block - axillary



Brachial plexus block - axillary



Brachial plexus block - axillary



Axillary a.

**Conjoint
tendon**



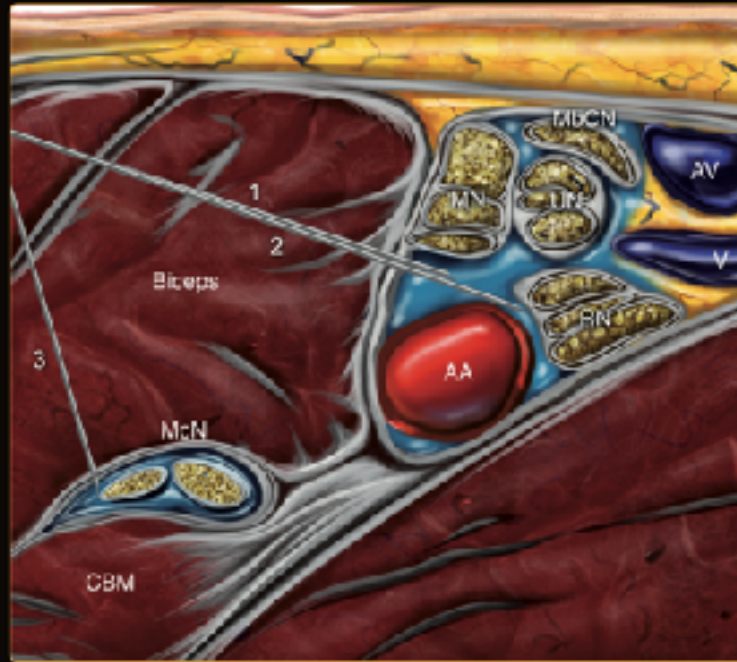
**Biceps/
Coracobrachialis**

20 ml (8/8/4)

Brachial plexus block - axillary



擺位不易



多部位給藥

Brachial plexus block - axillary

Superficial

L12-3

50 Hz

2.5cm

2D

Res

Gn 76

C. 56

3/2/1

Biceps

AA

McN

CBM

Conjoint tendon

P R
3.0 12.0

2.5cm

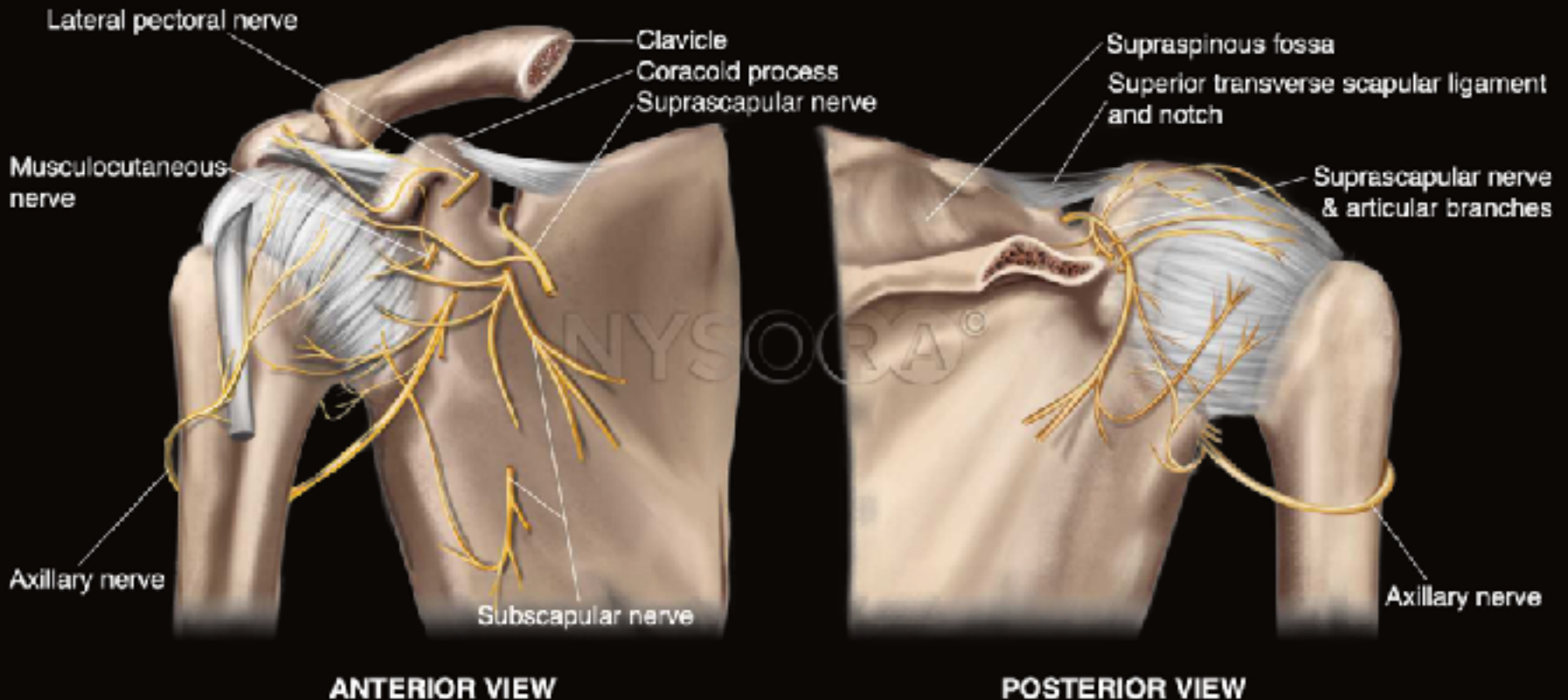
Shoulder block

Phrenic nerve sparing

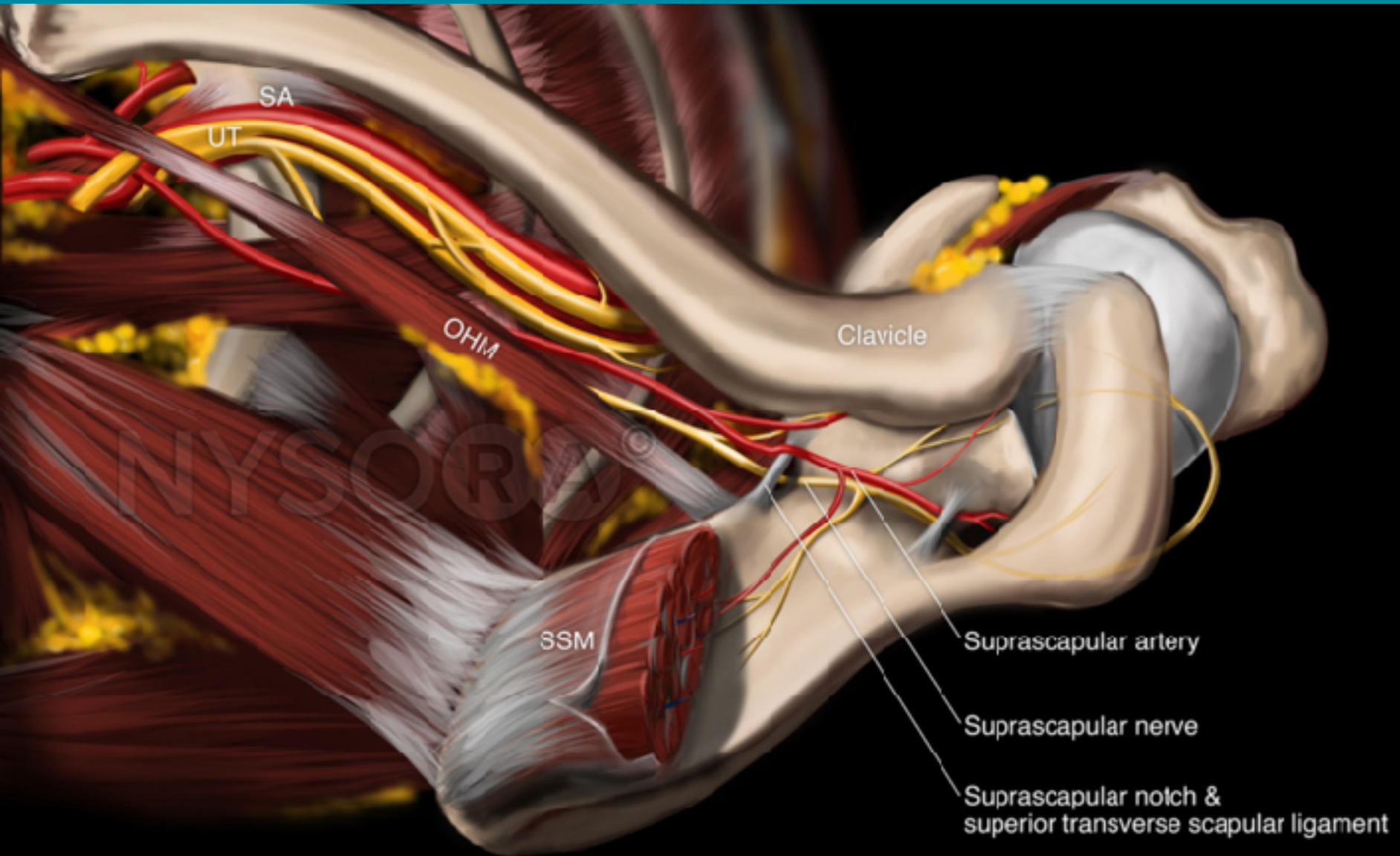


Shoulder block

Suprascapular N / Axillary N

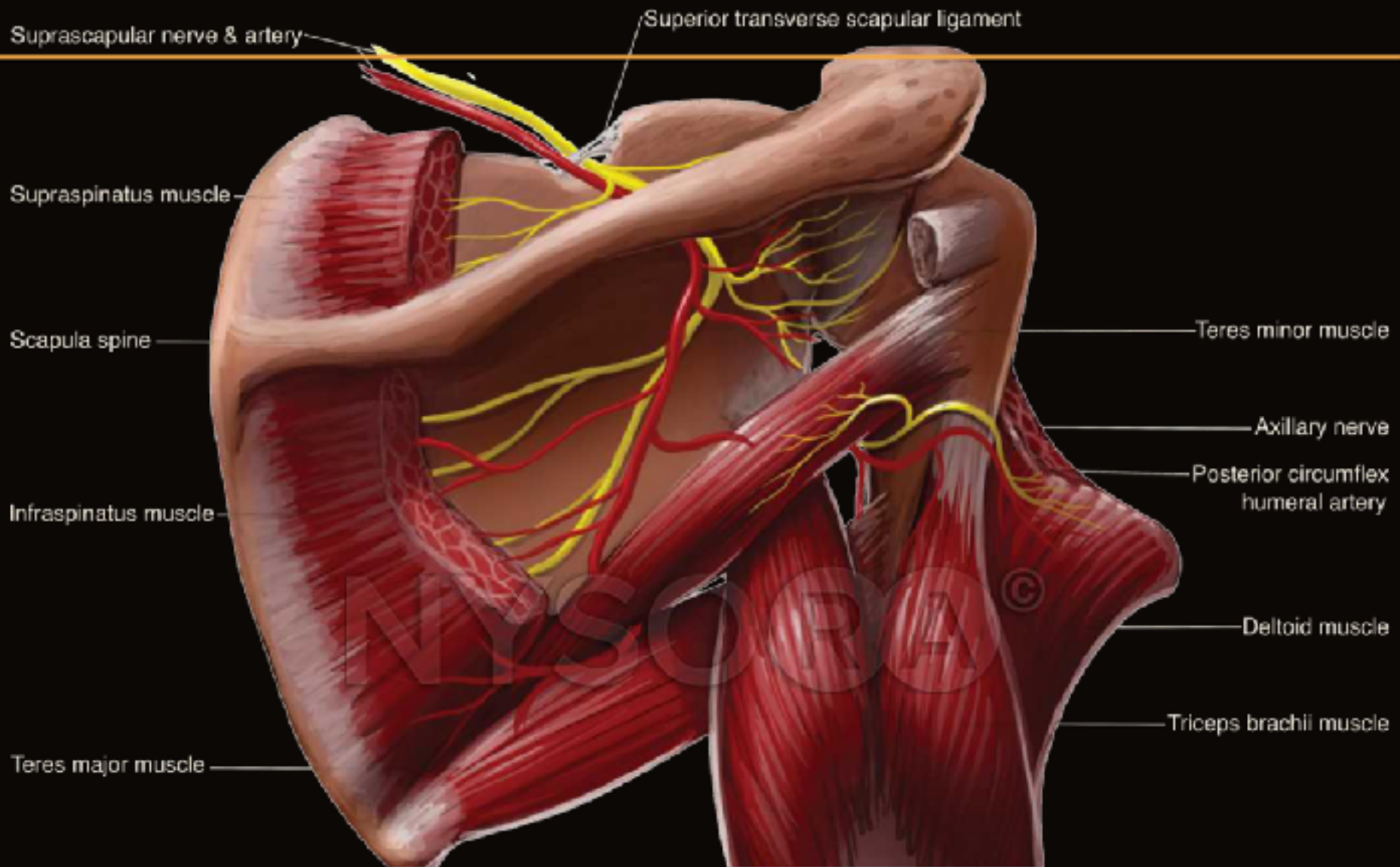


Suprascapular nerve

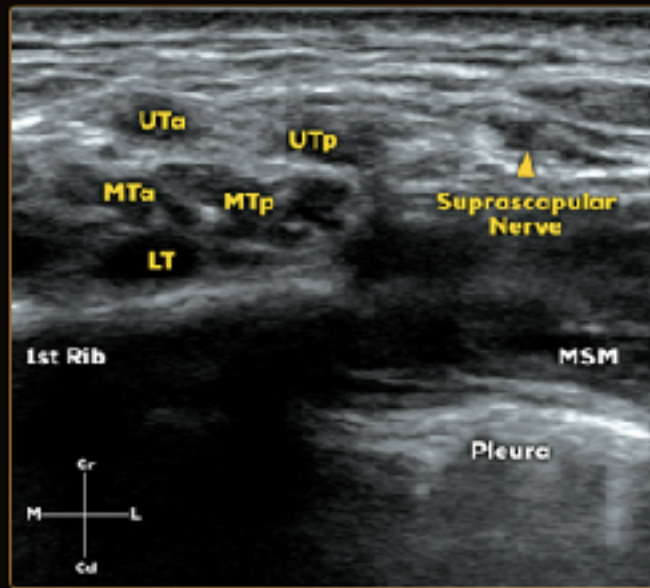


Suprascapular nerve (C5-6)

Axillary nerve (C5-6)



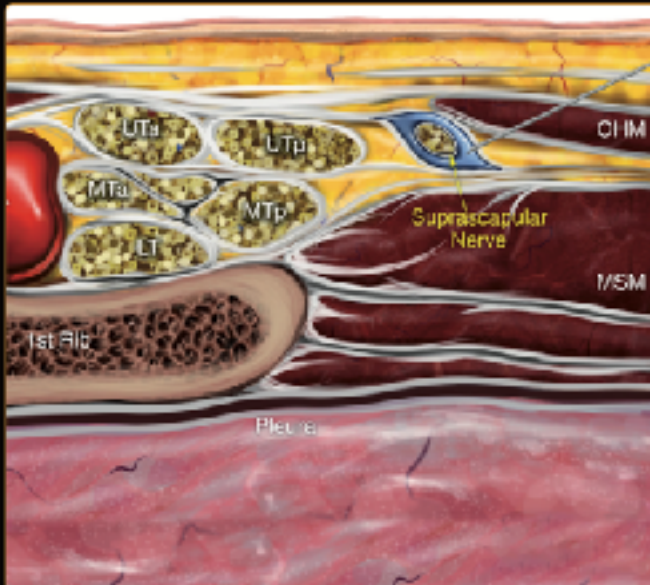
SSN (C5-6) - anterior approach



**BP-
supraclavicular**

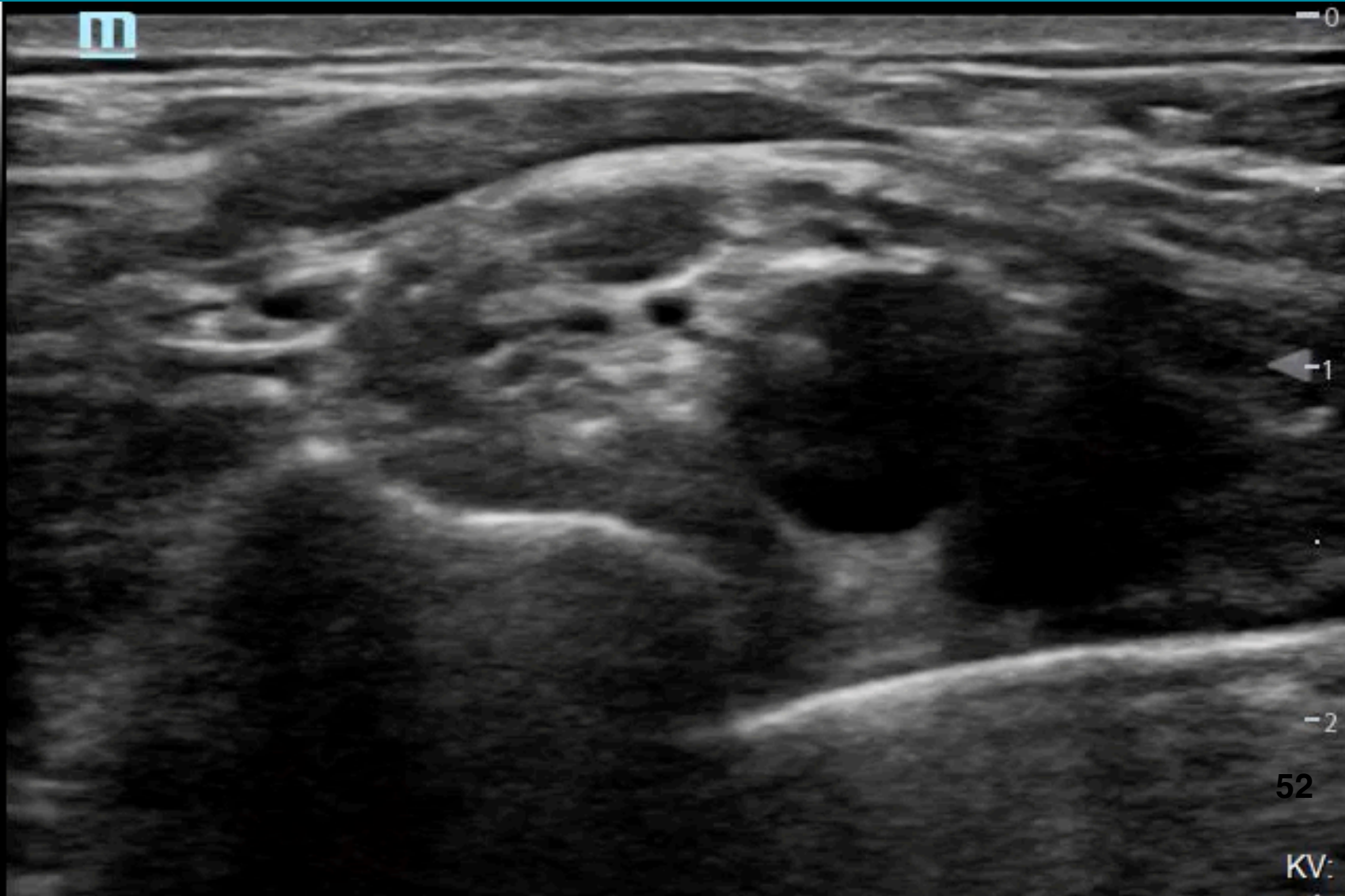
Omohyoid m.

5-10 ml



SSN (C5-6) - anterior approach

F 6.6~13.0
DR 115
FR 45
D 2.5
G 60



iNeedle

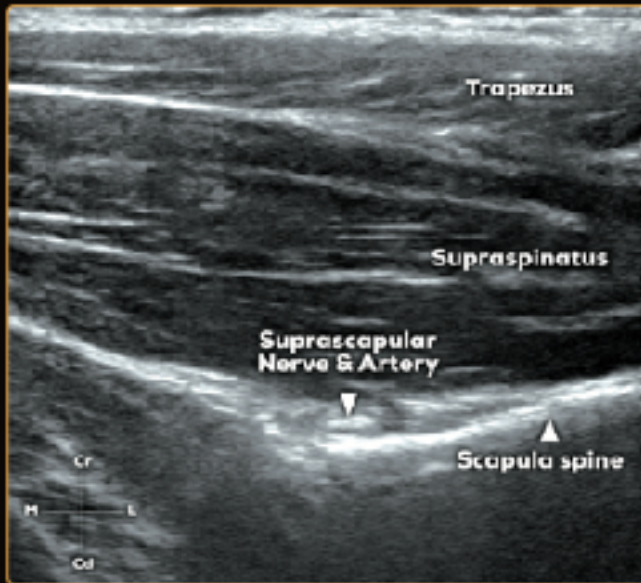
iTouch

thk: mm

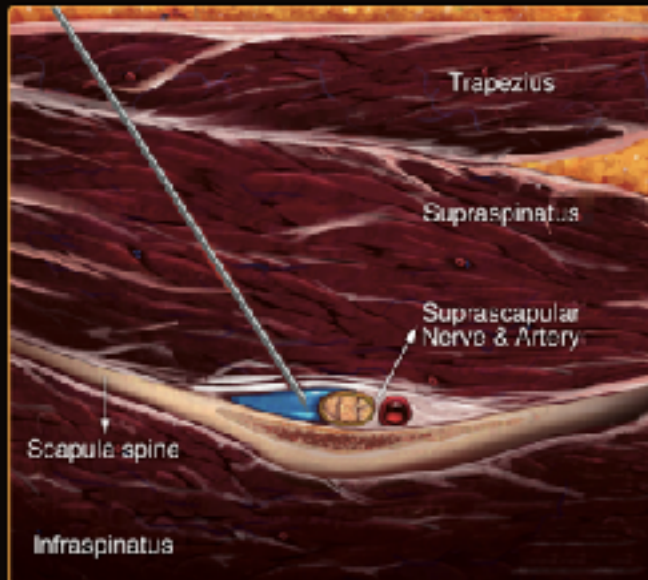
DFOV:

KV:
mséc
ALG:

SSN (C5-6) - posterior approach



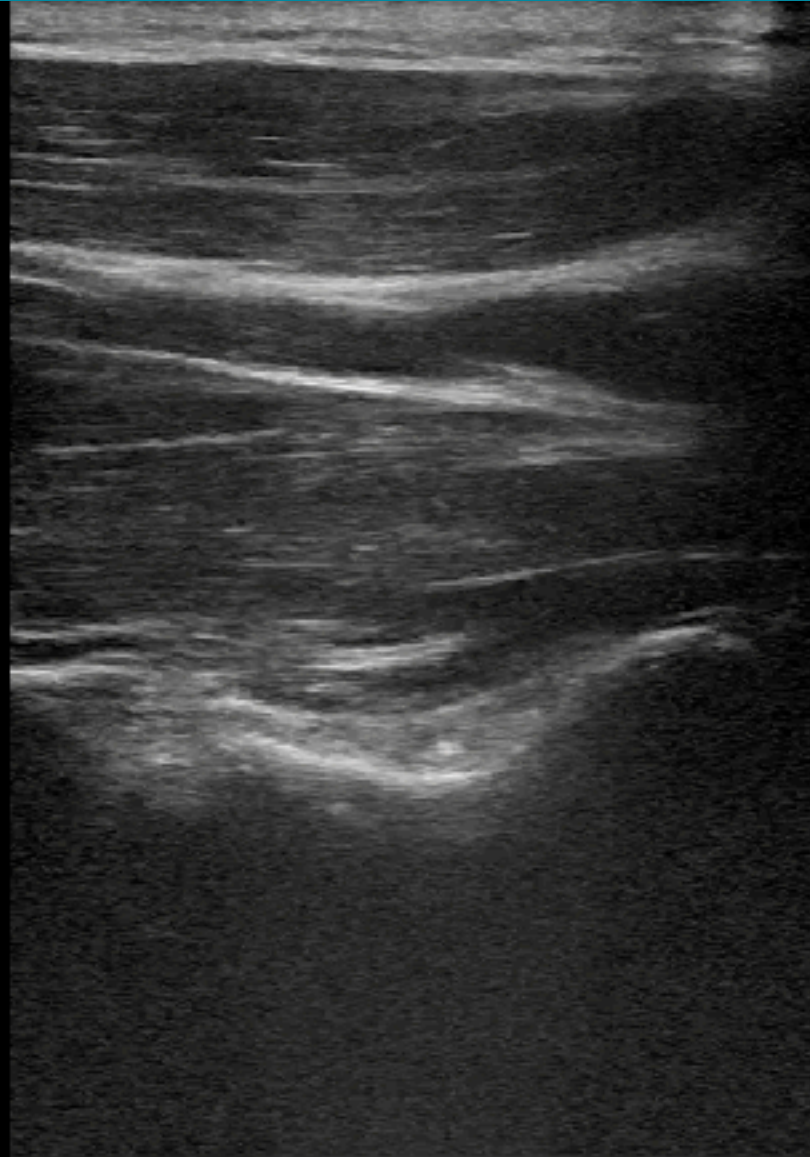
Suprascapular notch



Supraspinatous m.

5-10 ml

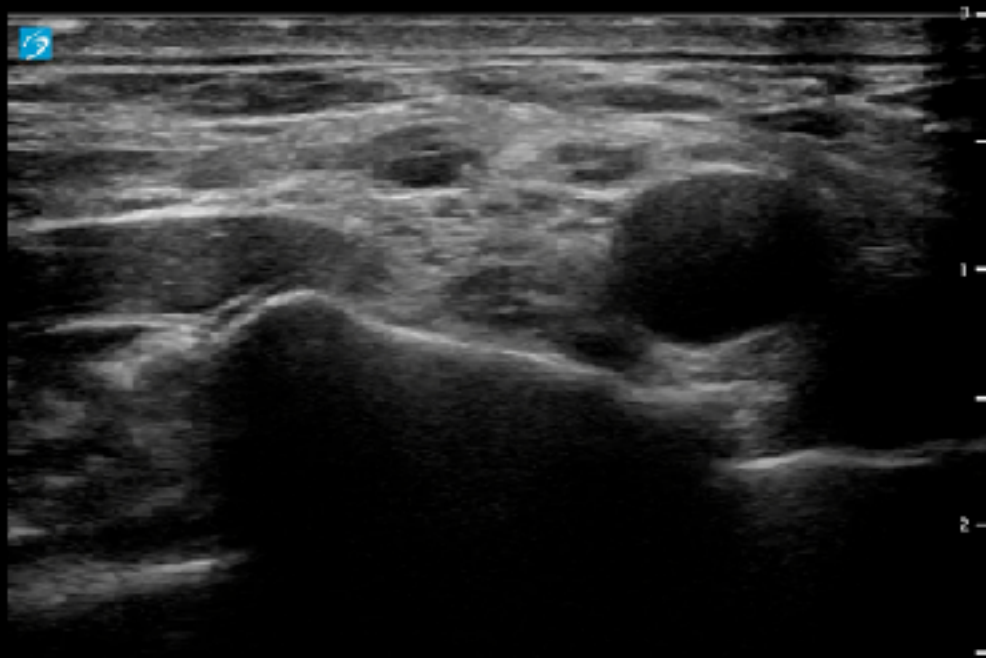
SSN (C5-6) - posterior approach



—
1 —
—
2 —
—
3 —
—
4 —
—
5 —
—

5.5 cm

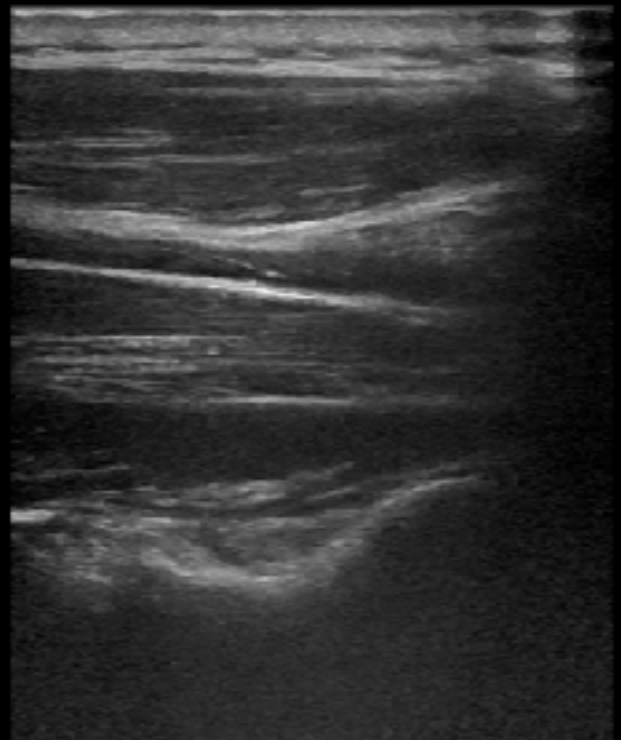
SSN (C5-6)



L12-S
Nerve
ML 1.5 TS: 0.1

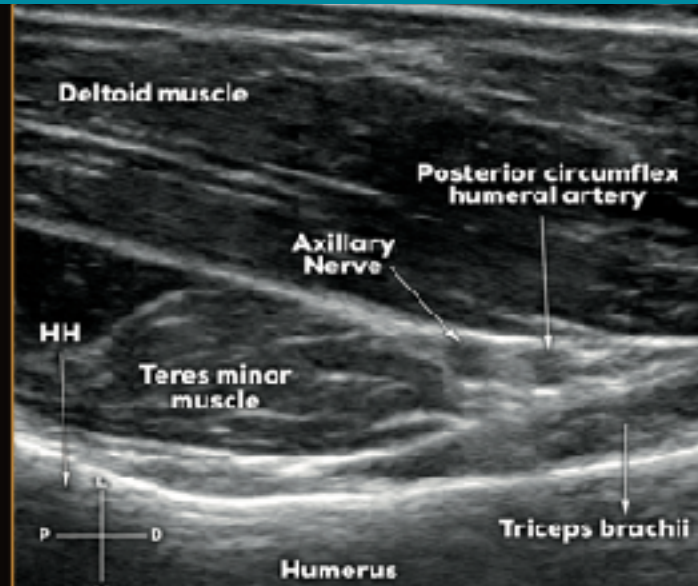
2.9 cm

SD: C: 60
Res CF: 0
MB
T=1

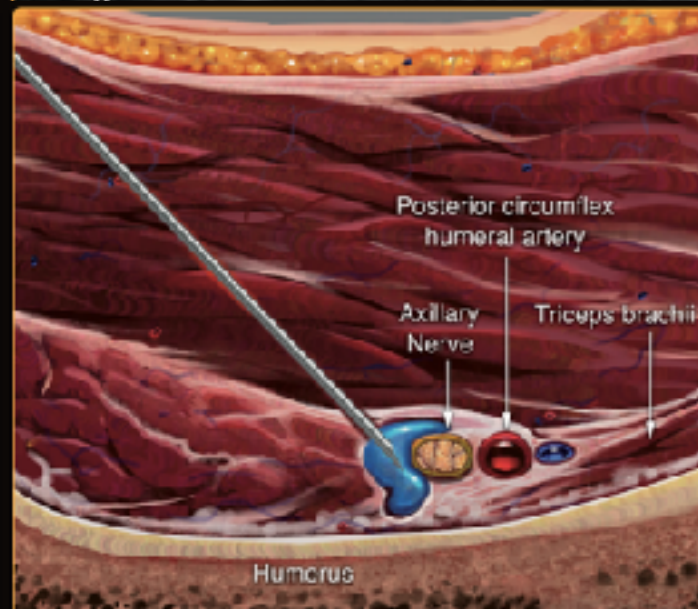
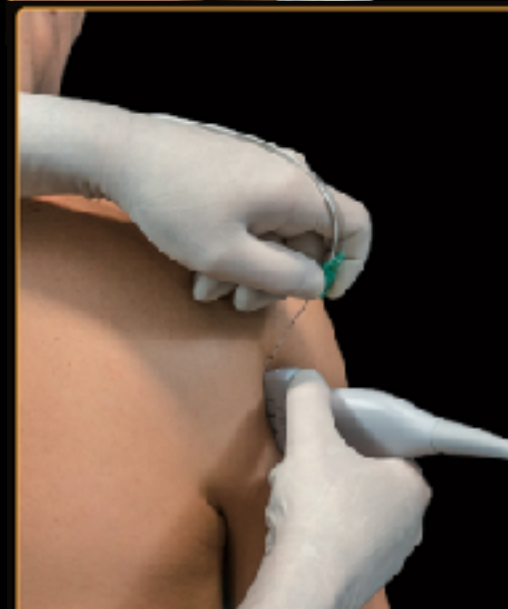


L12-S
Nerve
ML 1.5 TS: 0.2

Axillary nerve



**Posterior
circumflex
humeral artery
(PCHA)**

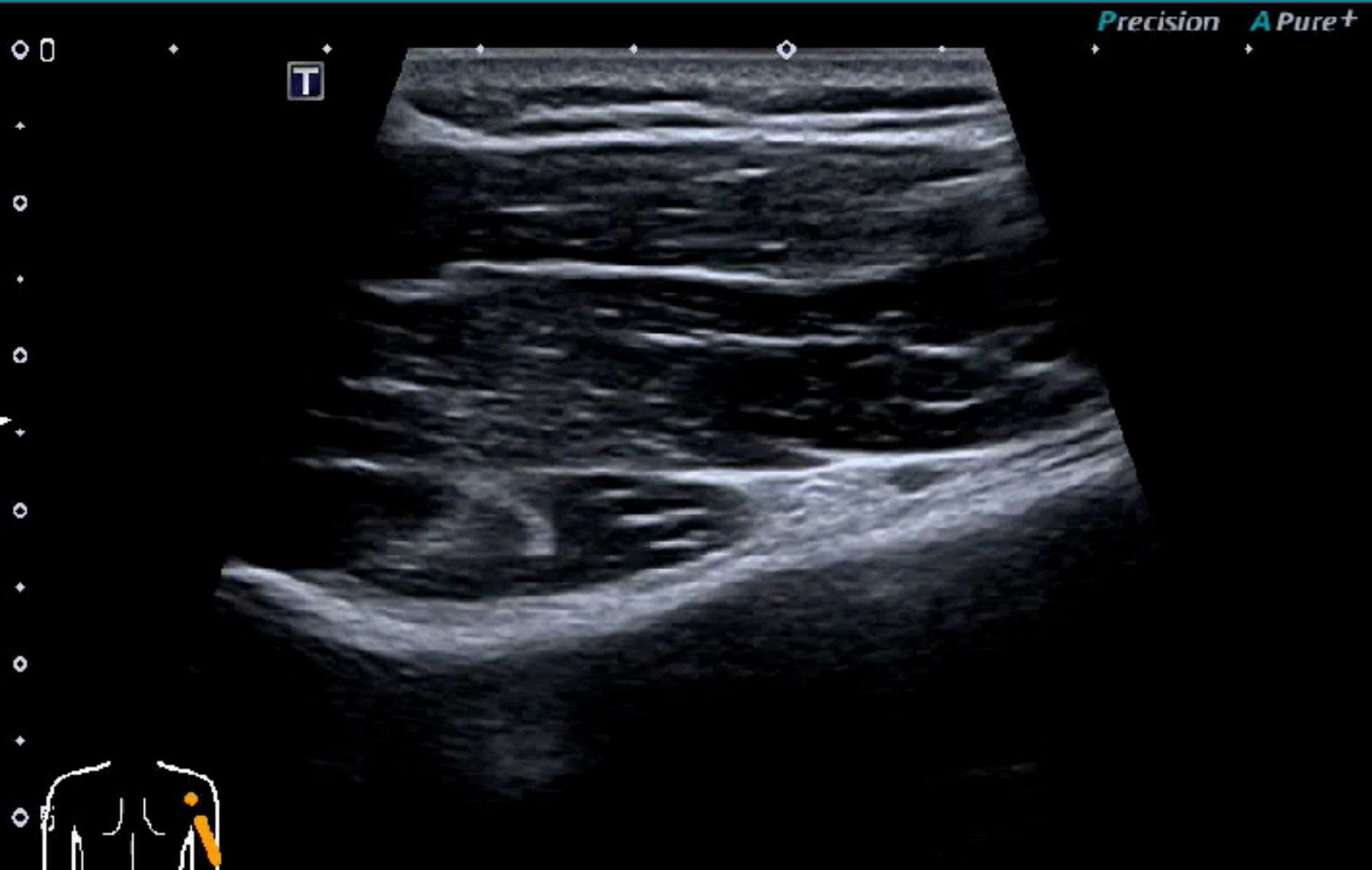


Humerus

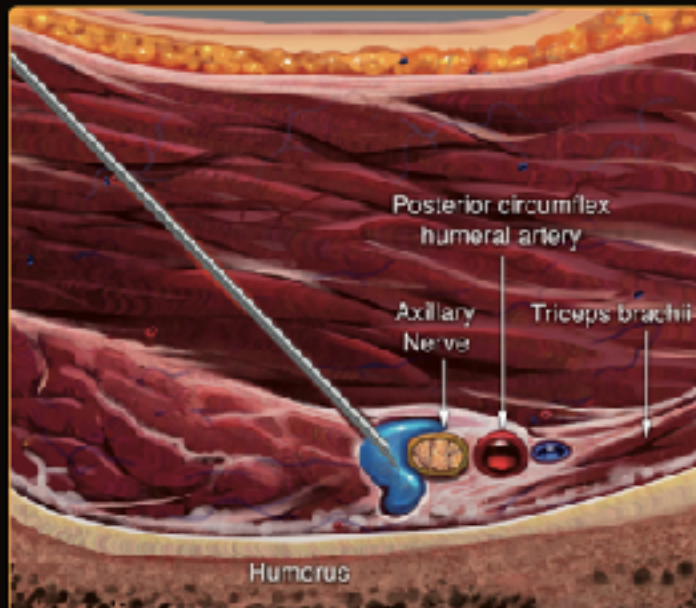
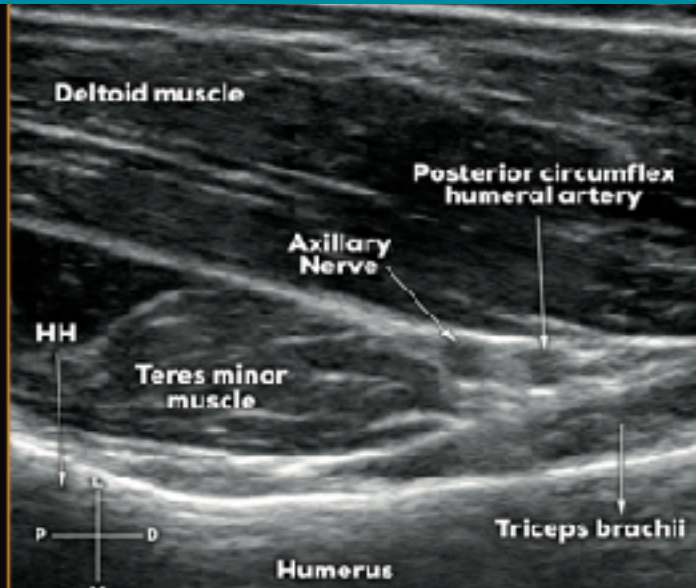
Muscles

5-10 ml

Axillary nerve



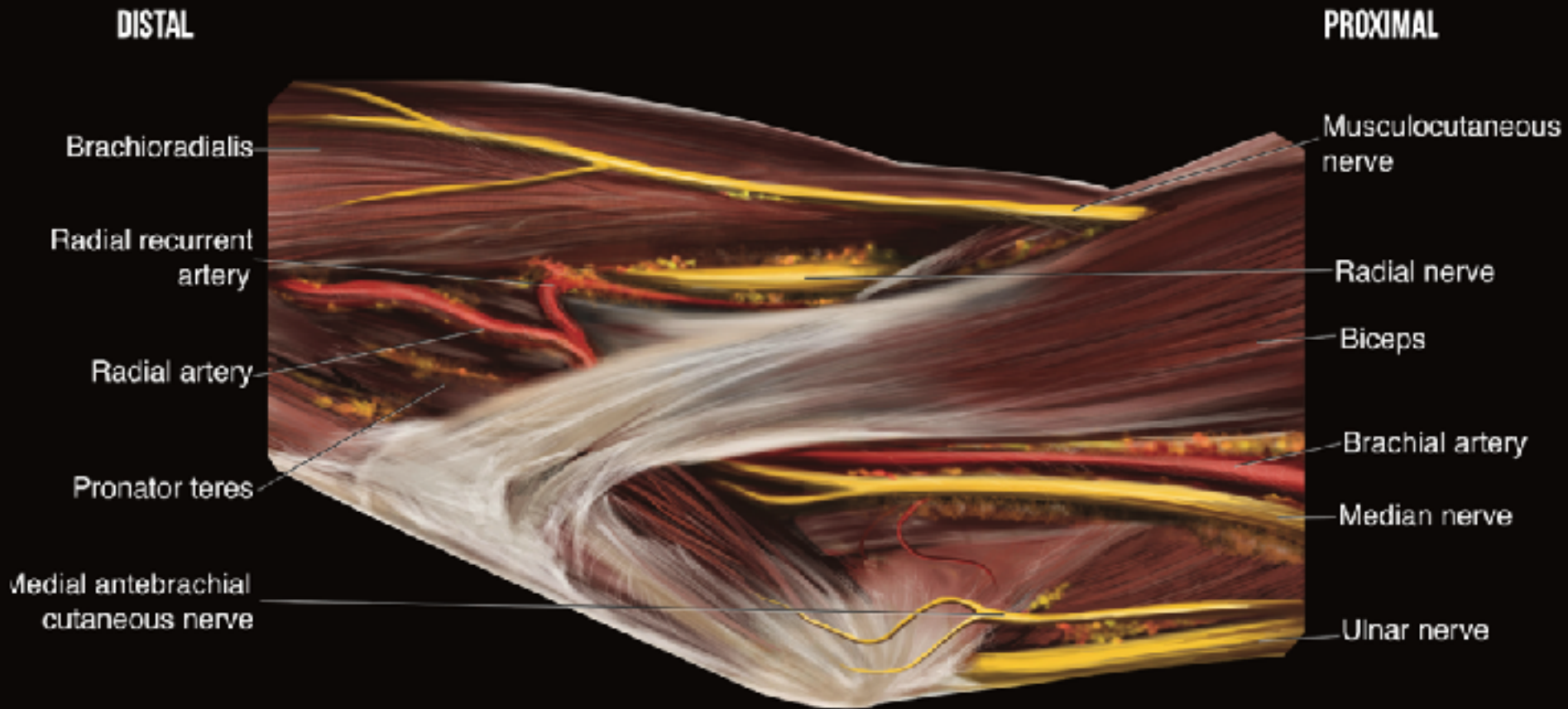
Axillary nerve



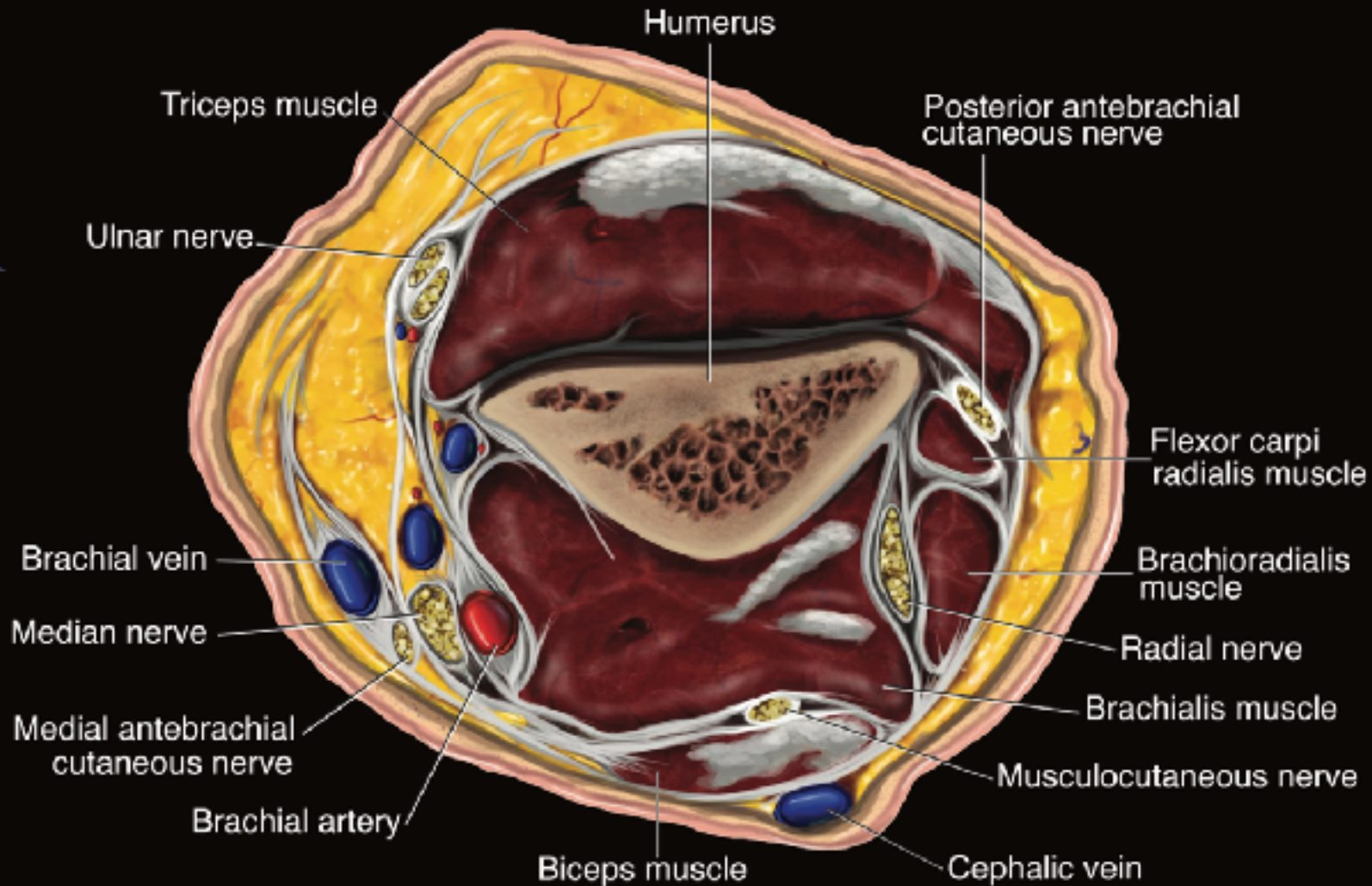
Shoulder block



Block above elbow

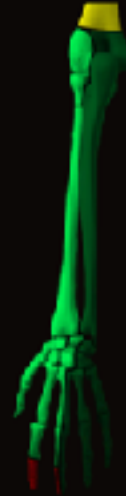


Block above elbow



Block above elbow

DORSAL VIEW



-  Musculocutaneous nerve
-  Medial antebrachial cutaneous nerve
-  Radial nerve
-  Median nerve
-  Ulnar nerve

ANTERIOR VIEW

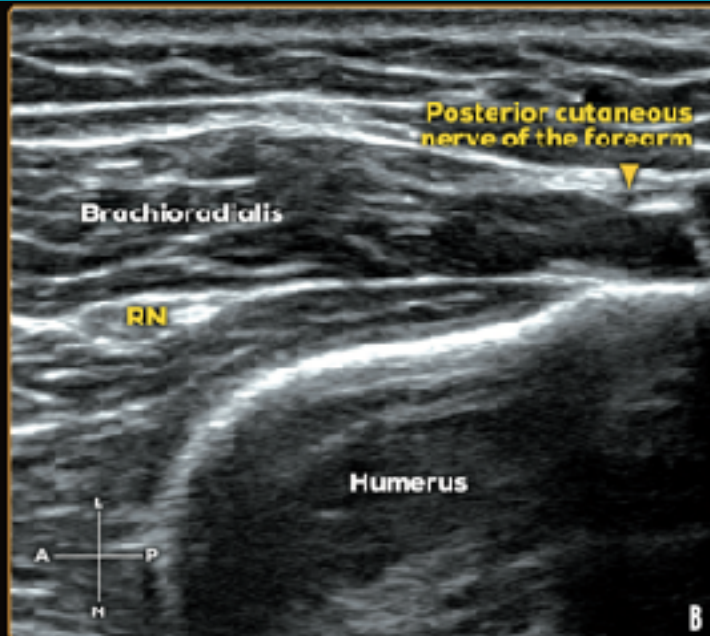


A

B

C

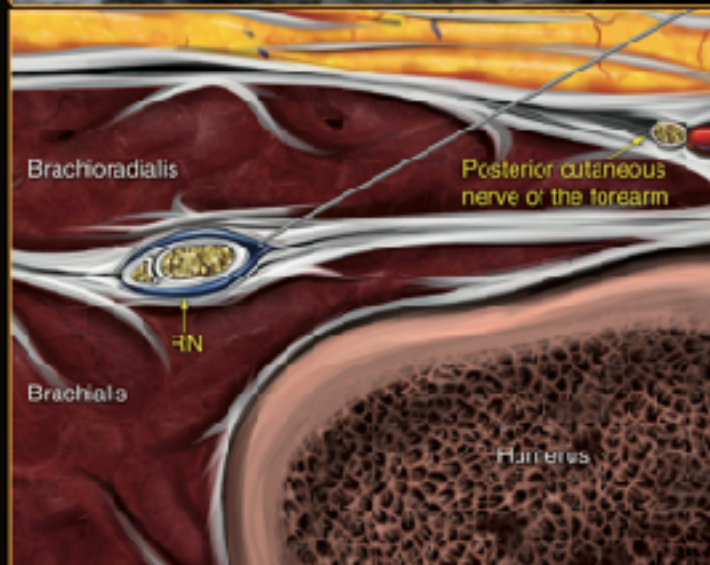
RN above elbow



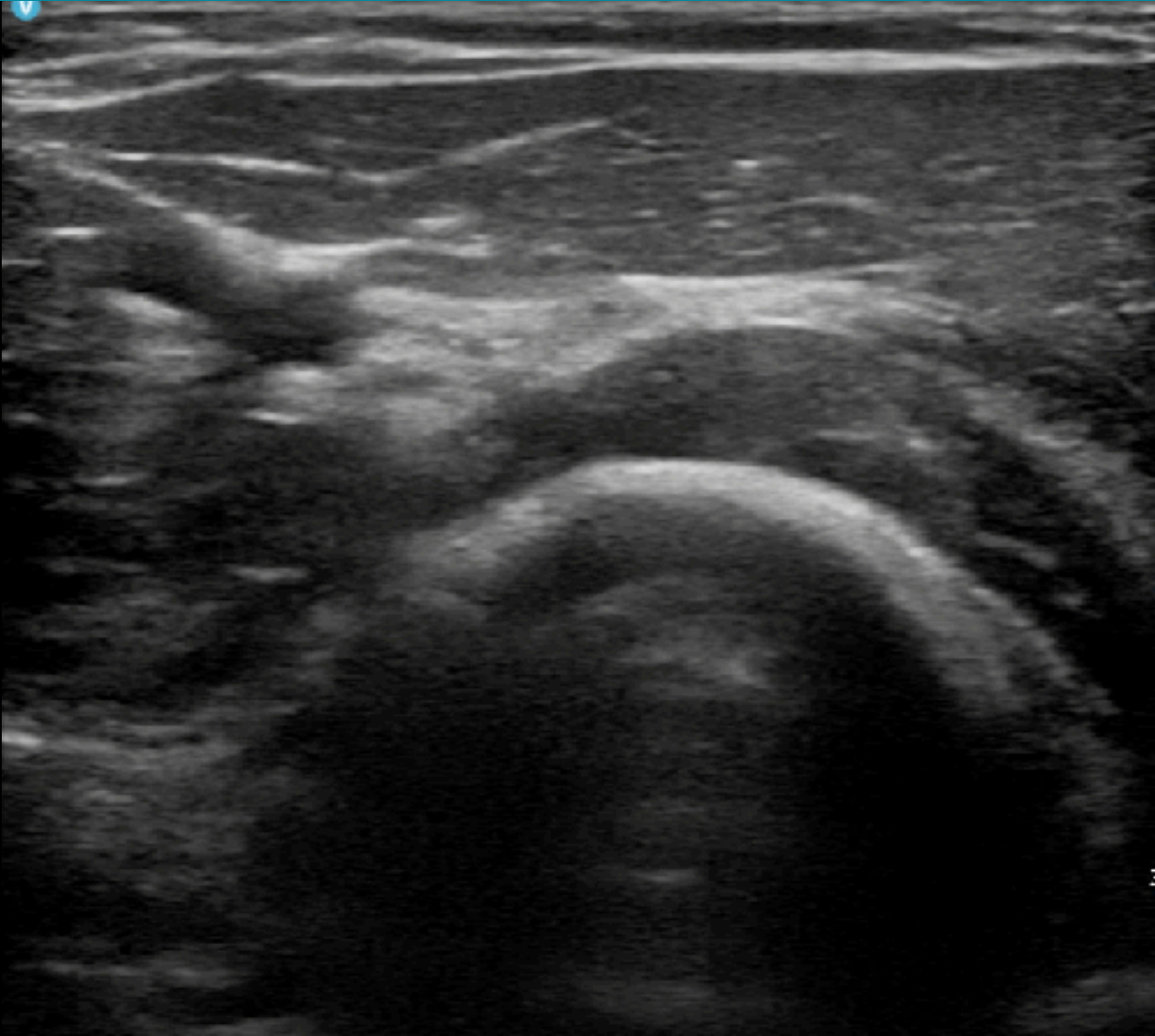
**Lateral
epicondyle**

3-5 cm proximal

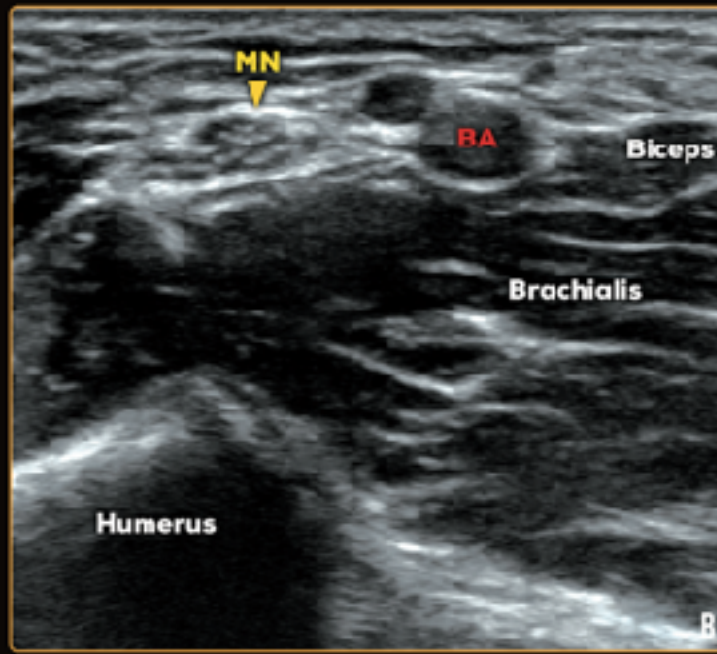
5 ml



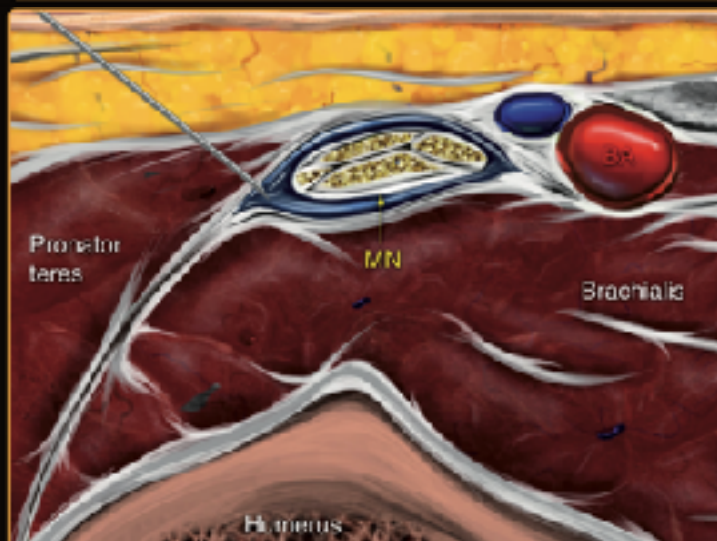
RN above elbow



MN above elbow



Brachial artery



5 ml

MN above elbow

Superficial

L12-3

31 Hz

3.0cm

2D

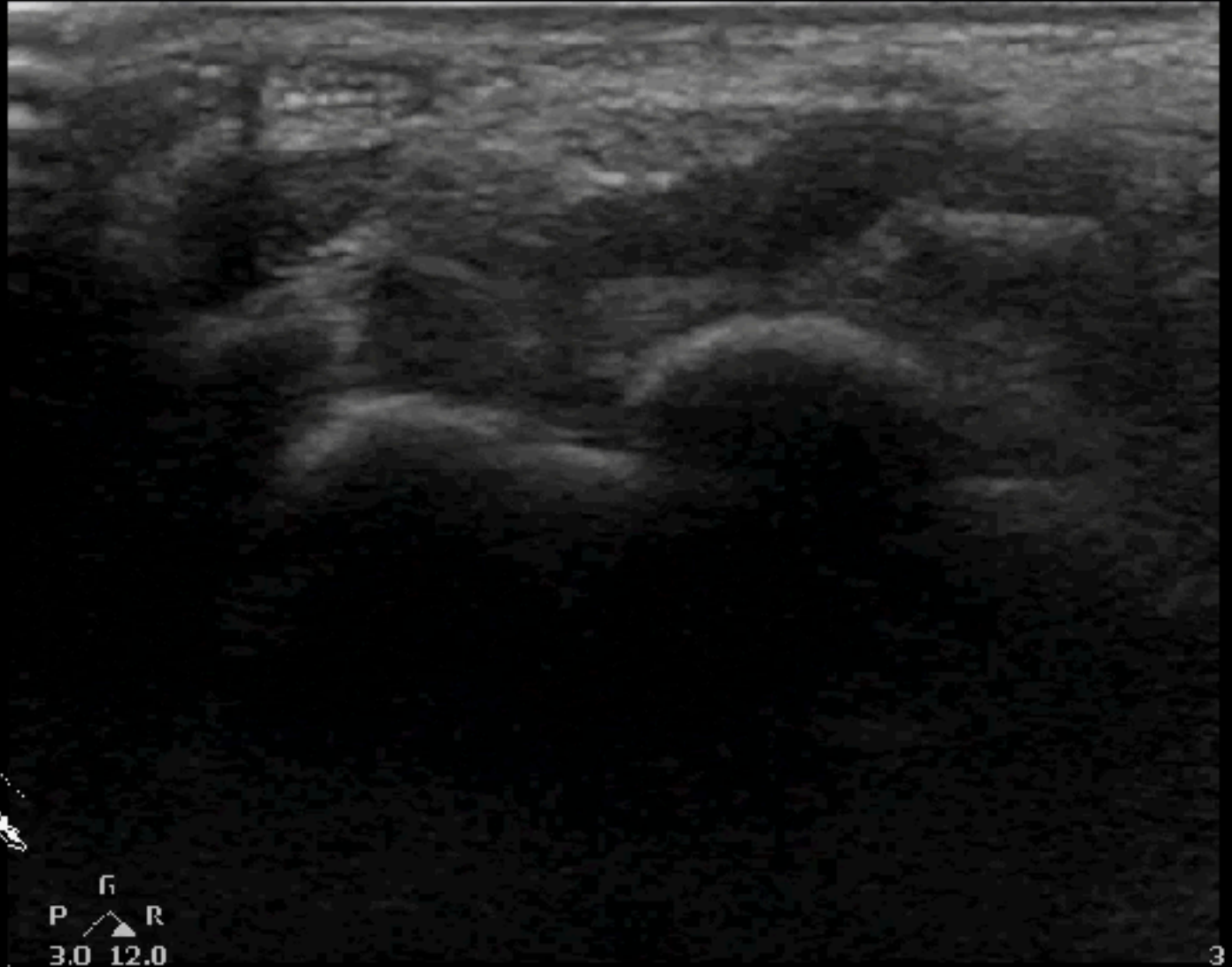
Res

Gn 91

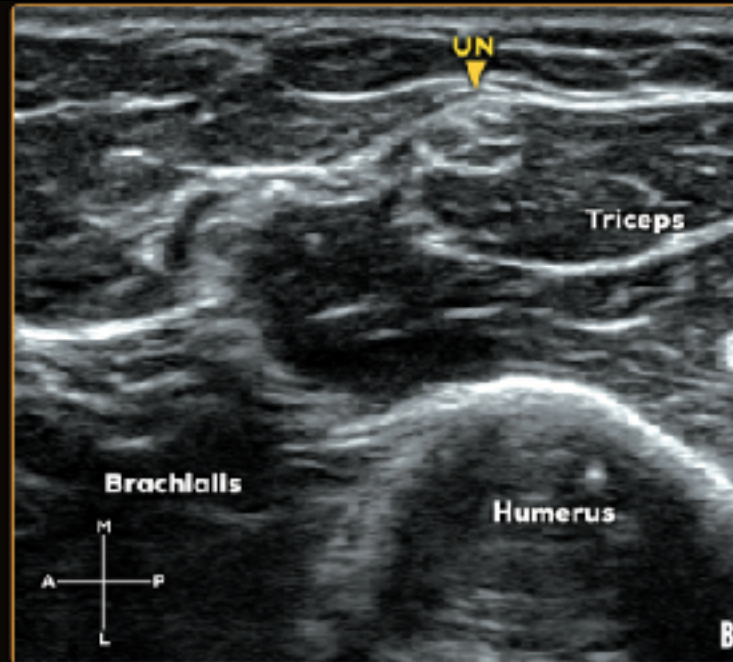
C. 57

4/3/2

P



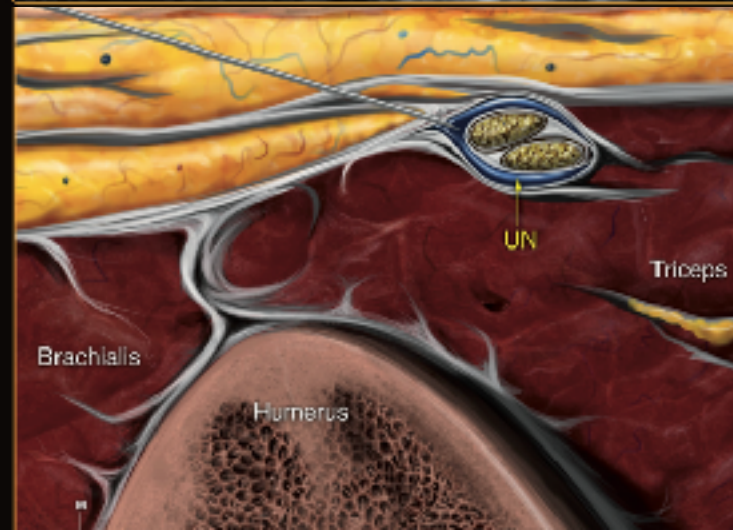
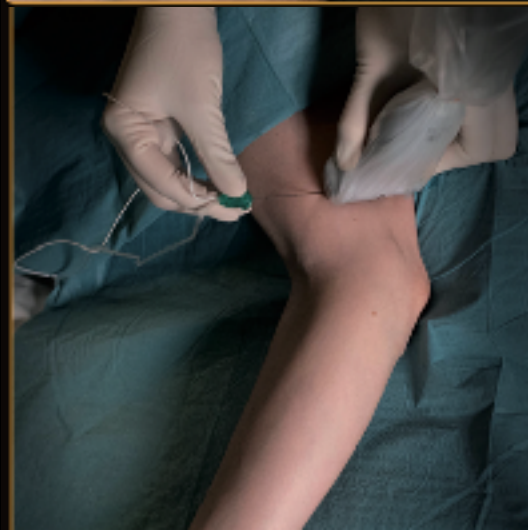
UN above elbow



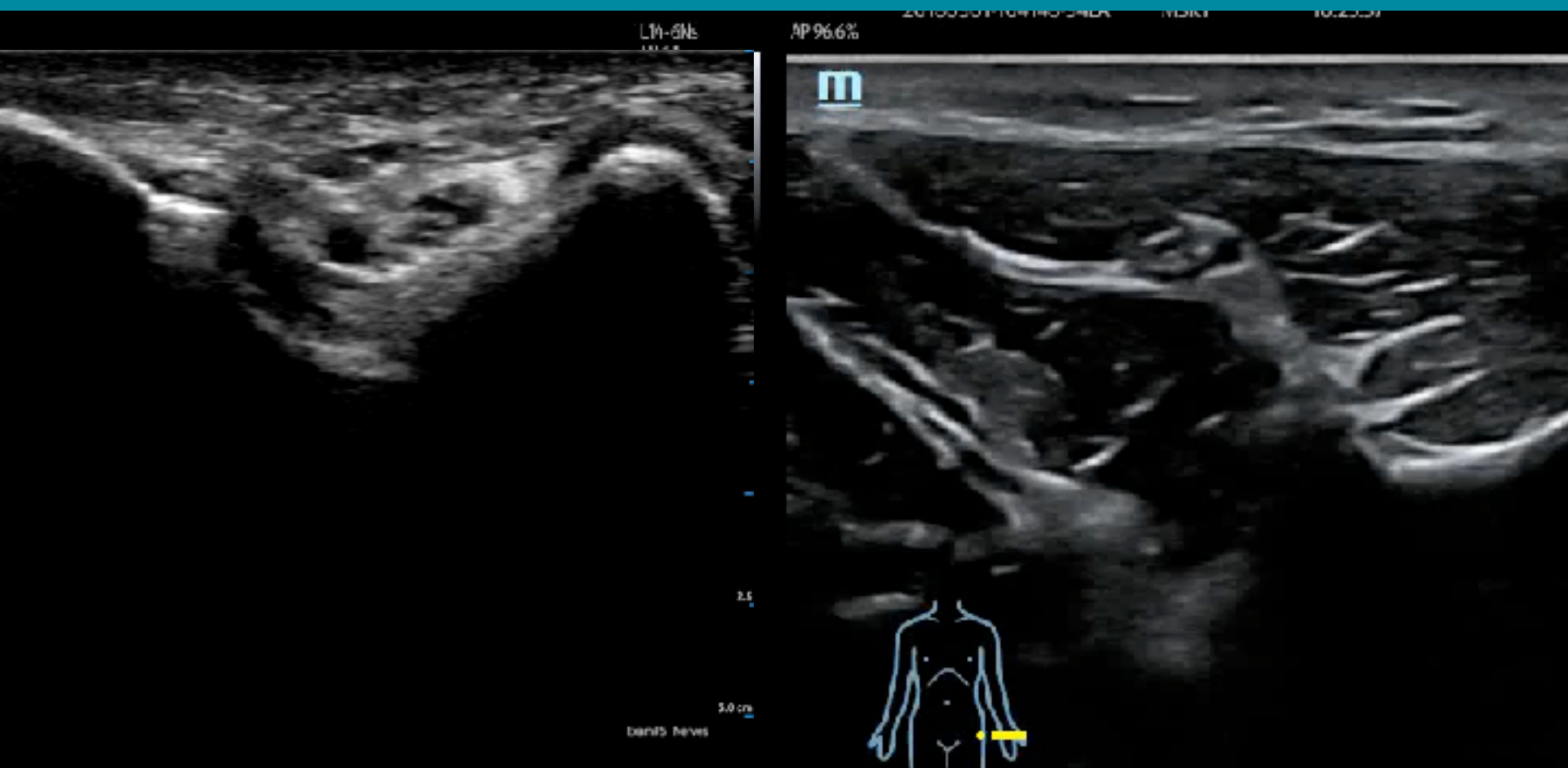
**Medial
epicondyle**

Cubital tunnel

5 ml

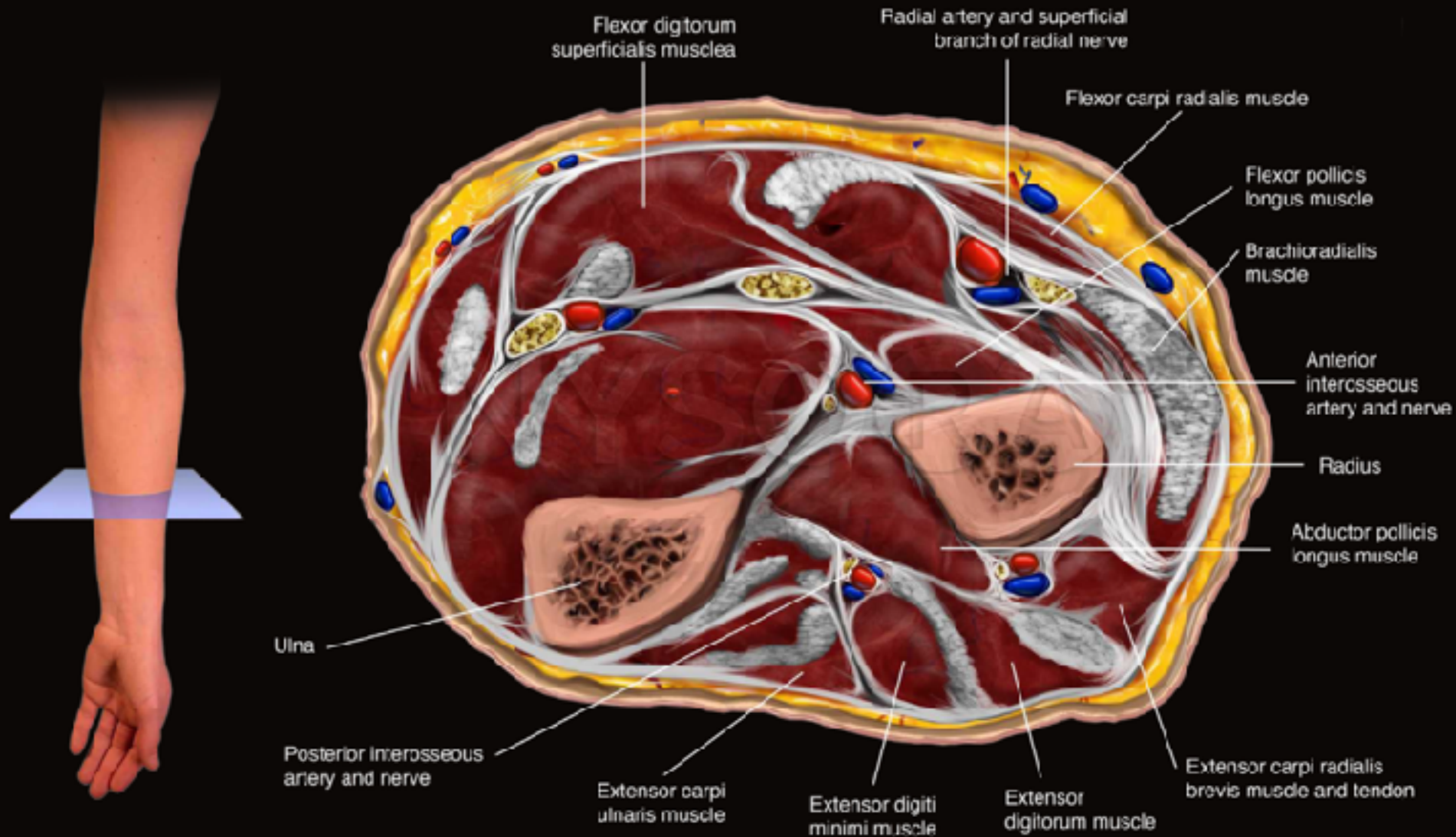


UN above elbow

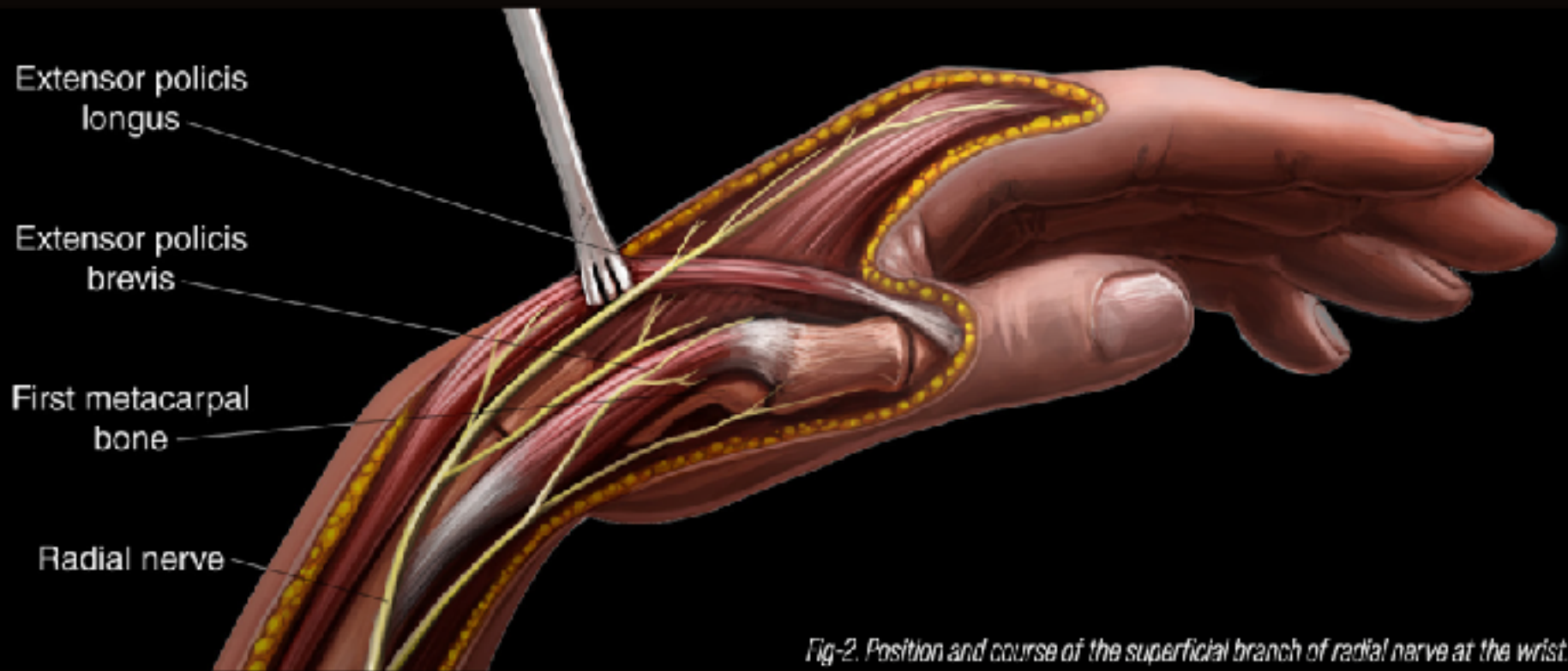


Wrist block

RN to radial side of radial artery / UN to ulnar side of ulnar artery



Wrist block



Wrist block

POSTERIOR



ANTERIOR



 Musculocutaneous nerve

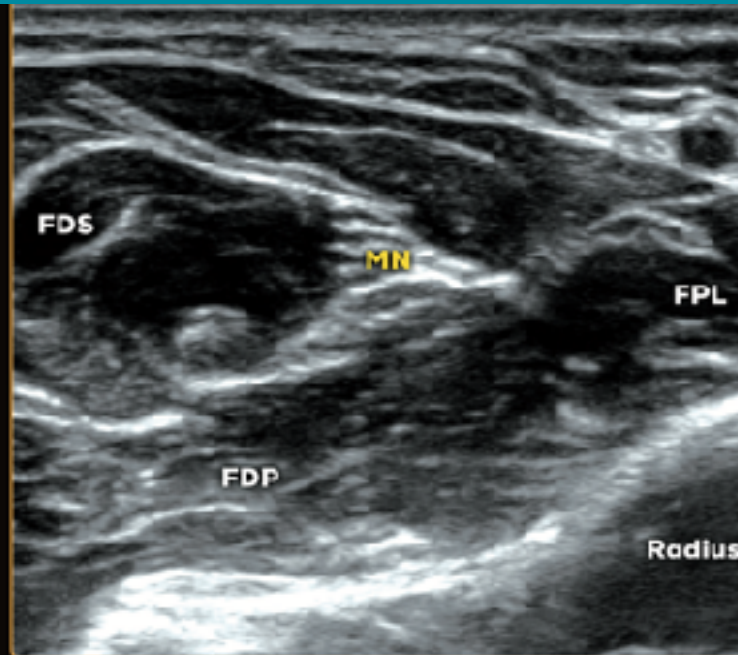
 Medial antebrachial cutaneous nerve

 Radial nerve

 Ulnar nerve

 Median nerve

Median nerve block



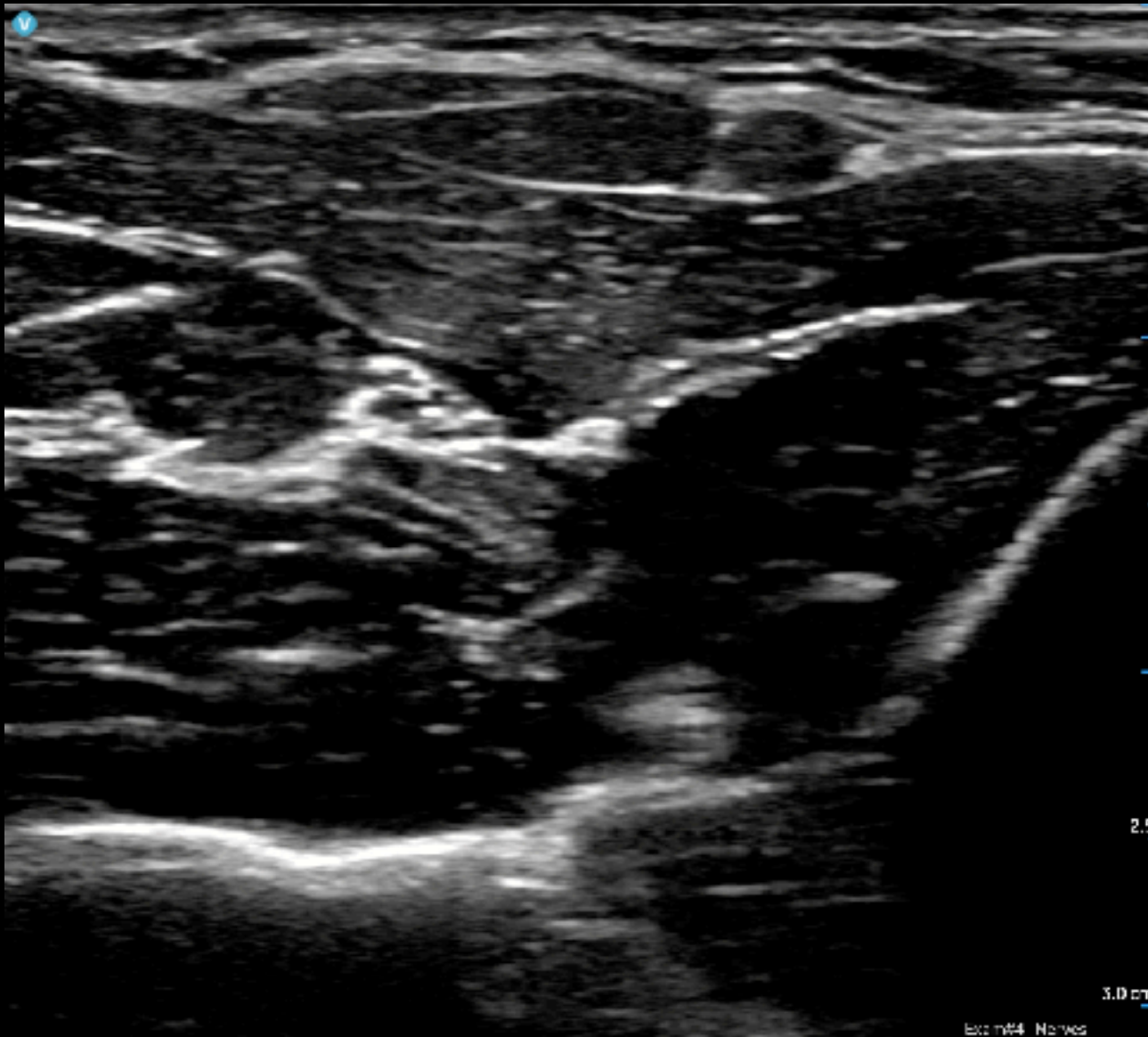
Mid-portion

FDS / FDP

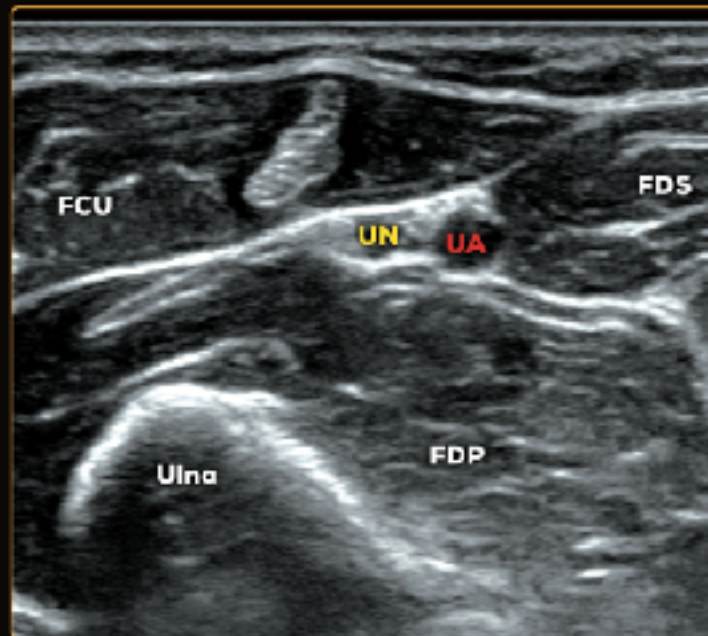


5 ml

Median nerve block

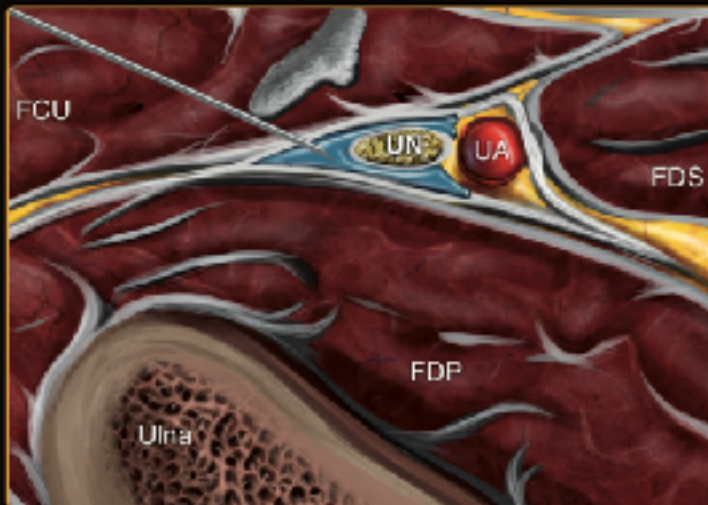


Ulnar nerve block



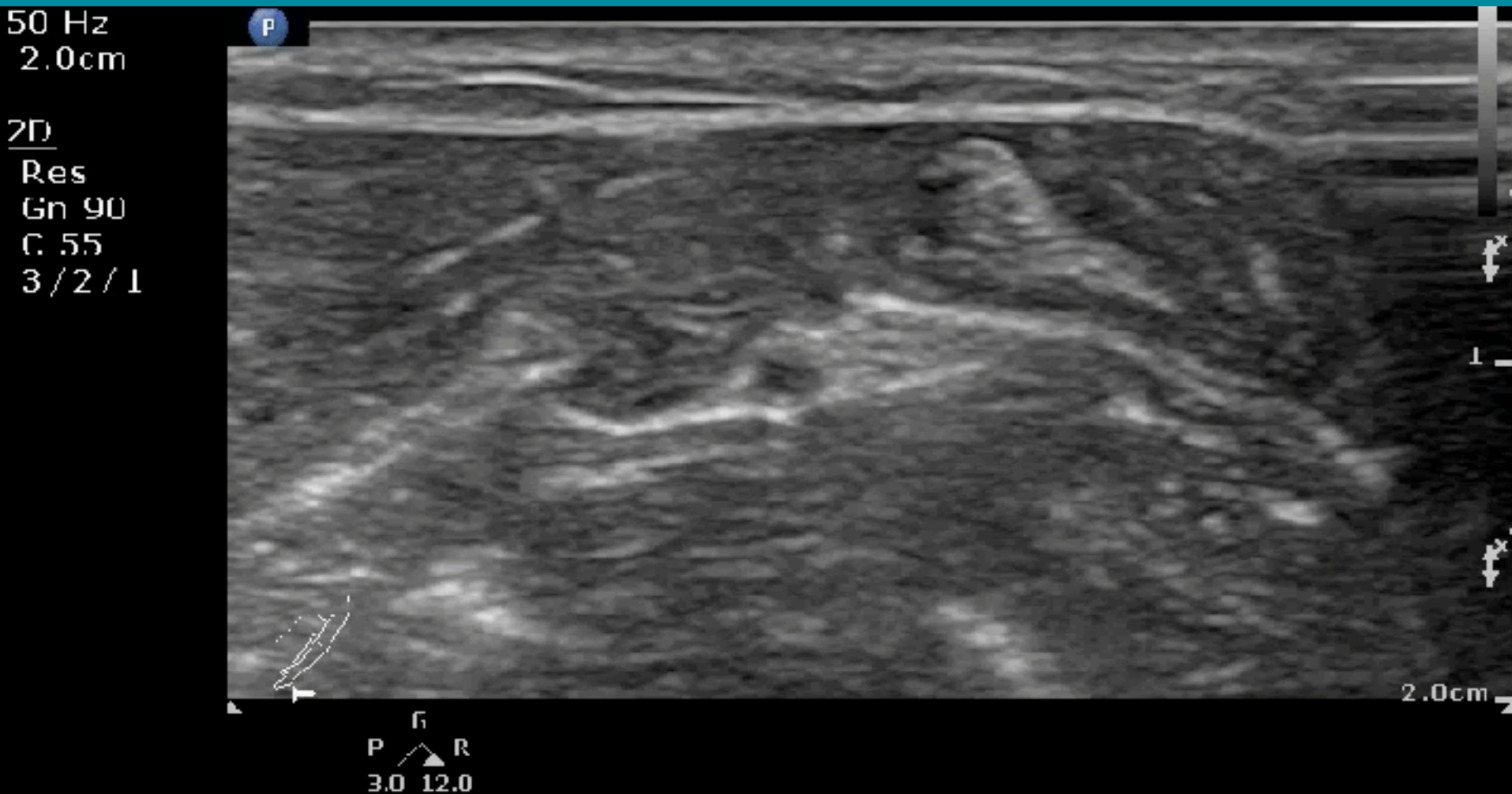
Ulnar artery

Ulnar side

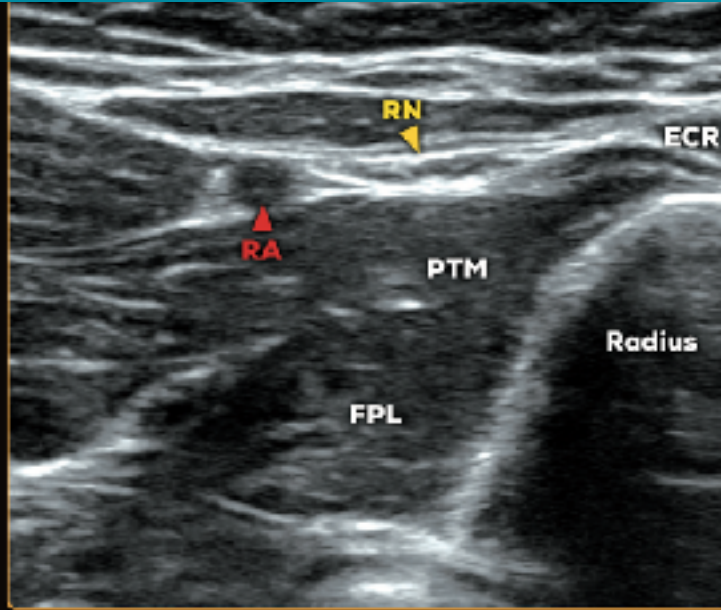


5 ml

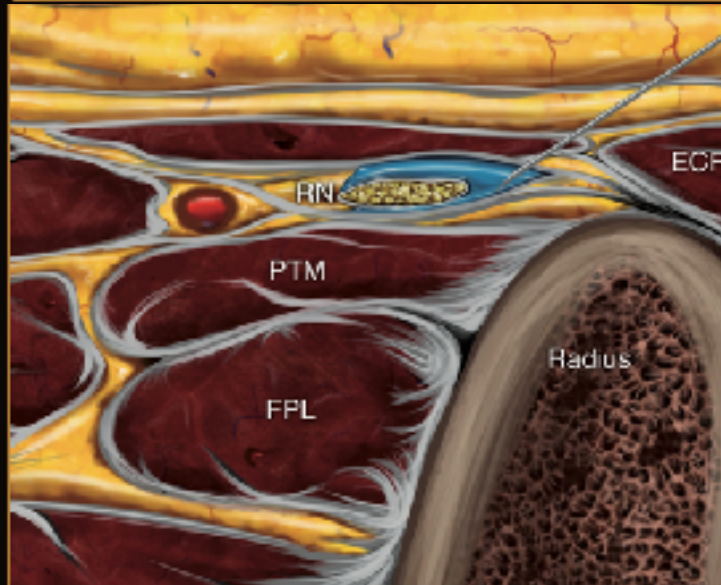
Ulnar nerve block



Superficial brach of RN block



Radial artery



Radial side

5 ml

Superficial brach of RN block

Superficial

L12-3

46 Hz

3.0cm

2D

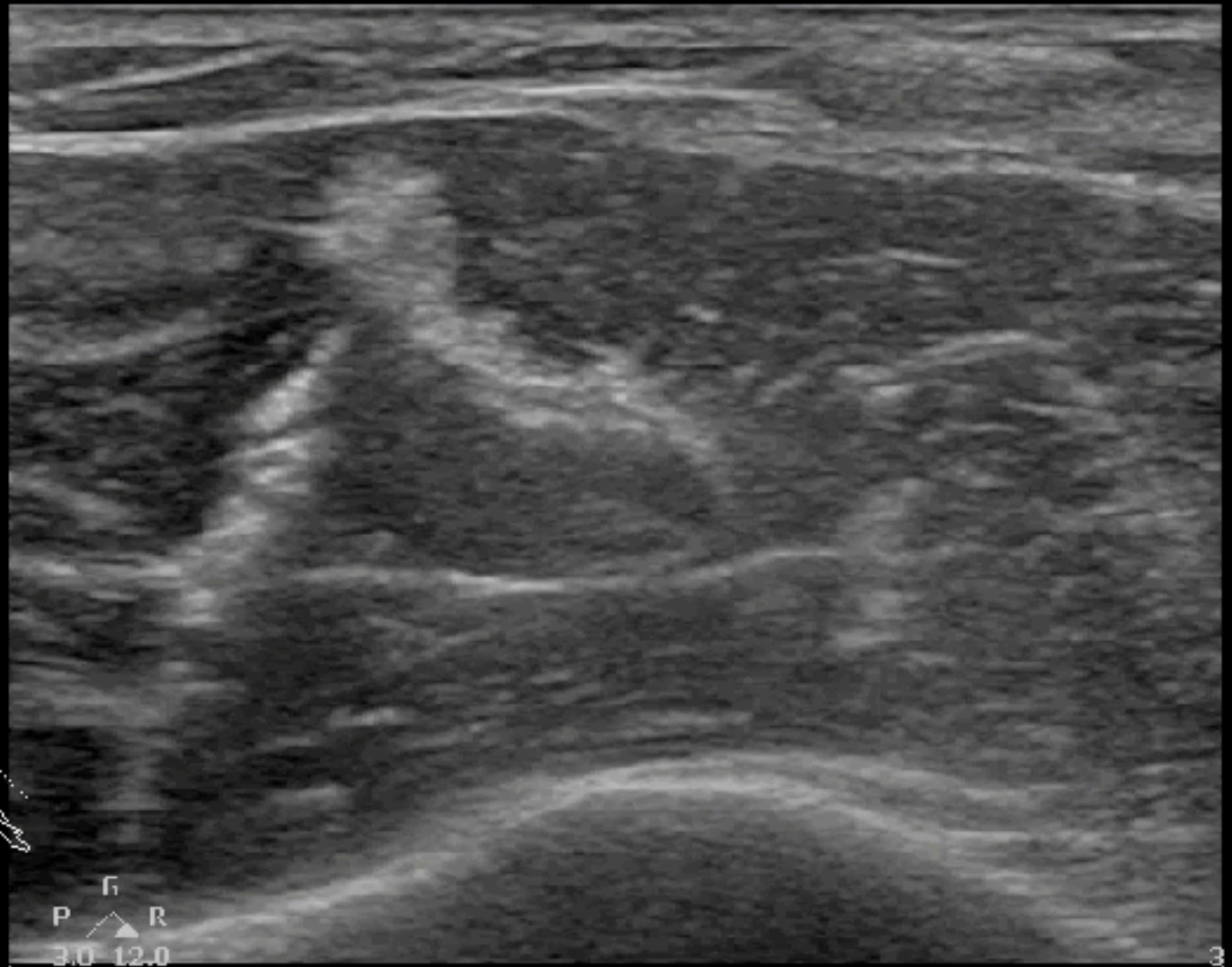
Res

Gn 84

C. 55

3/2/1

P



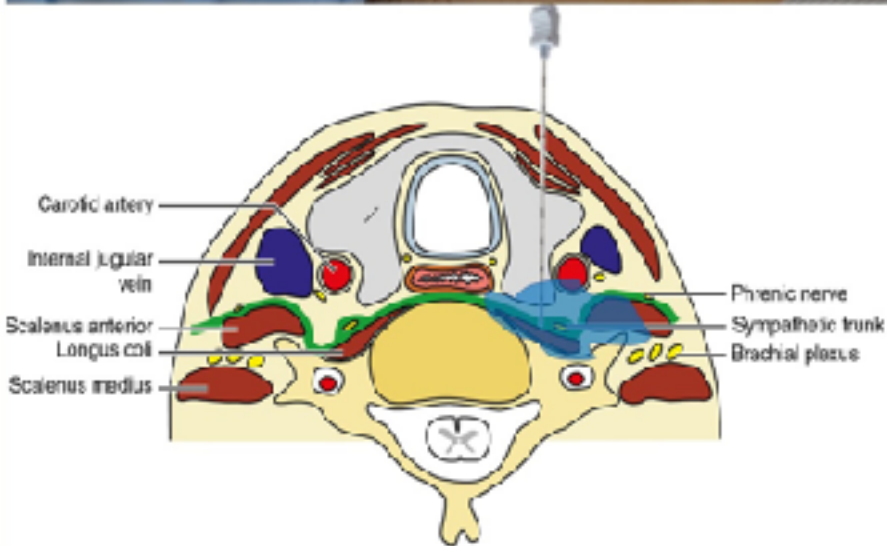
P R
3.0 12.0

3.0cm

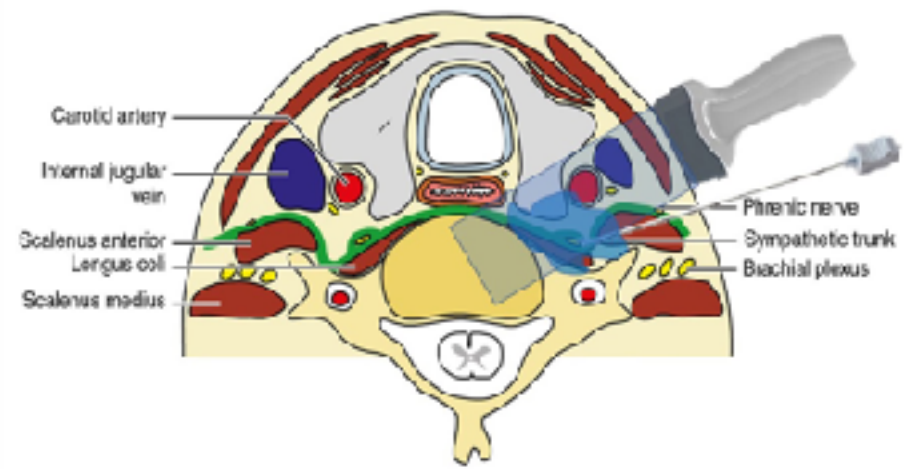
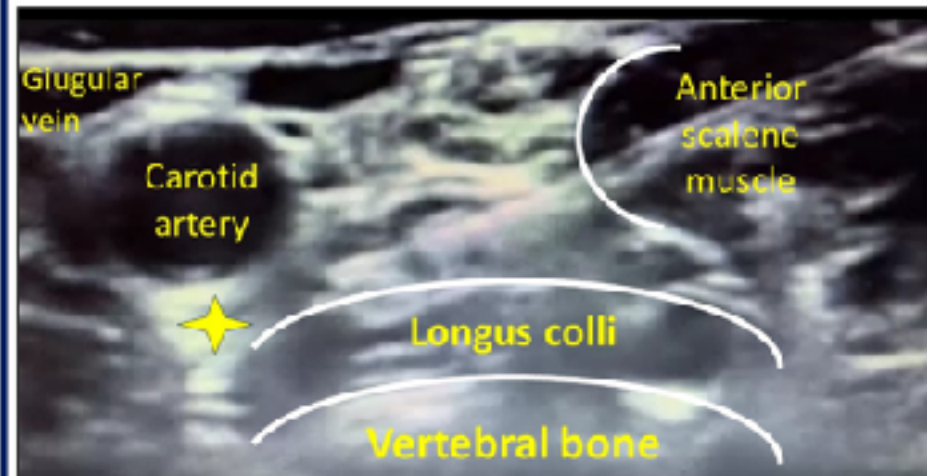
Stellate ganglion block

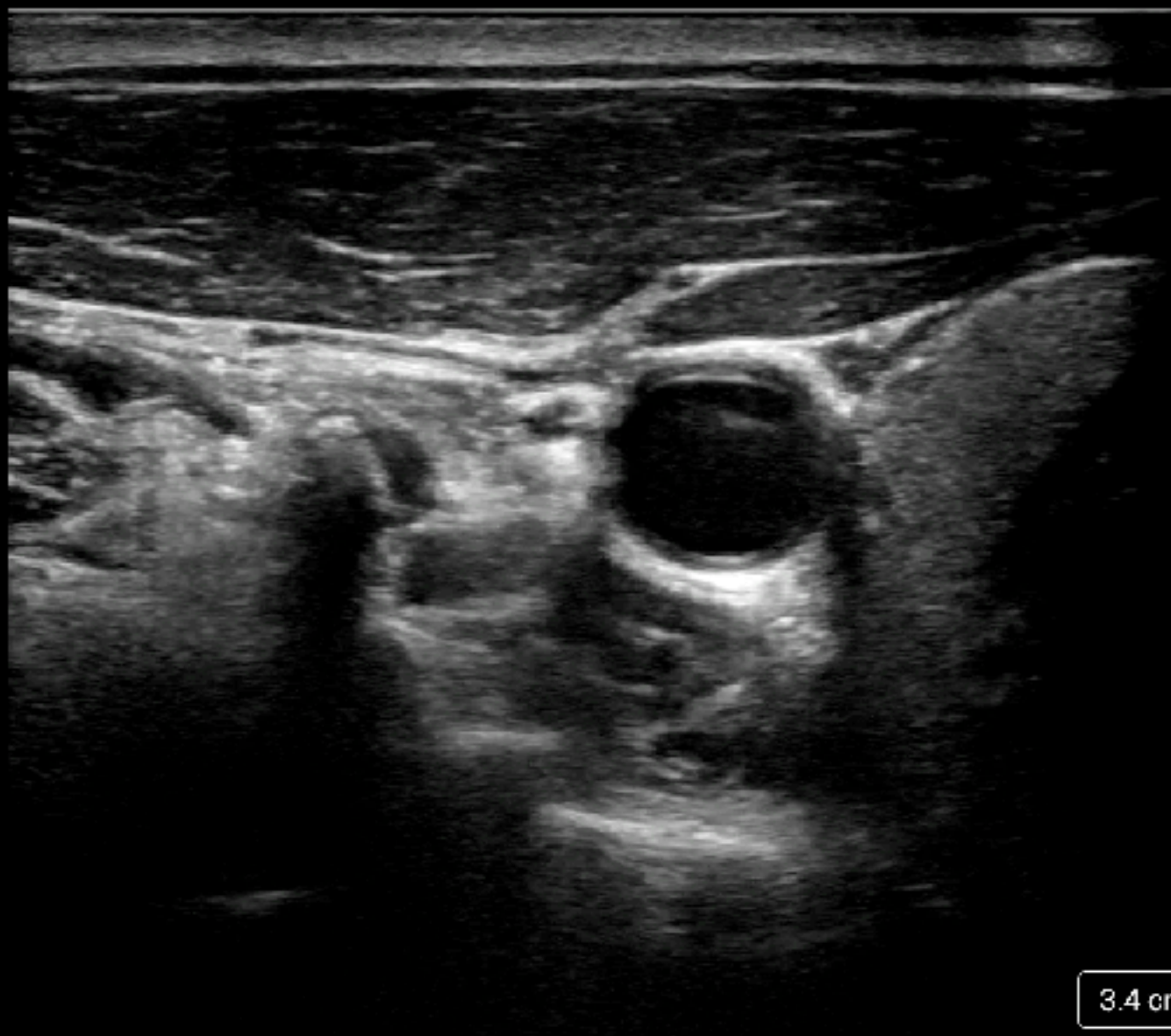


Anterior paratracheal anatomical approach



Lateral ultrasound-guided approach





0 —

1 —

2 —

3 —

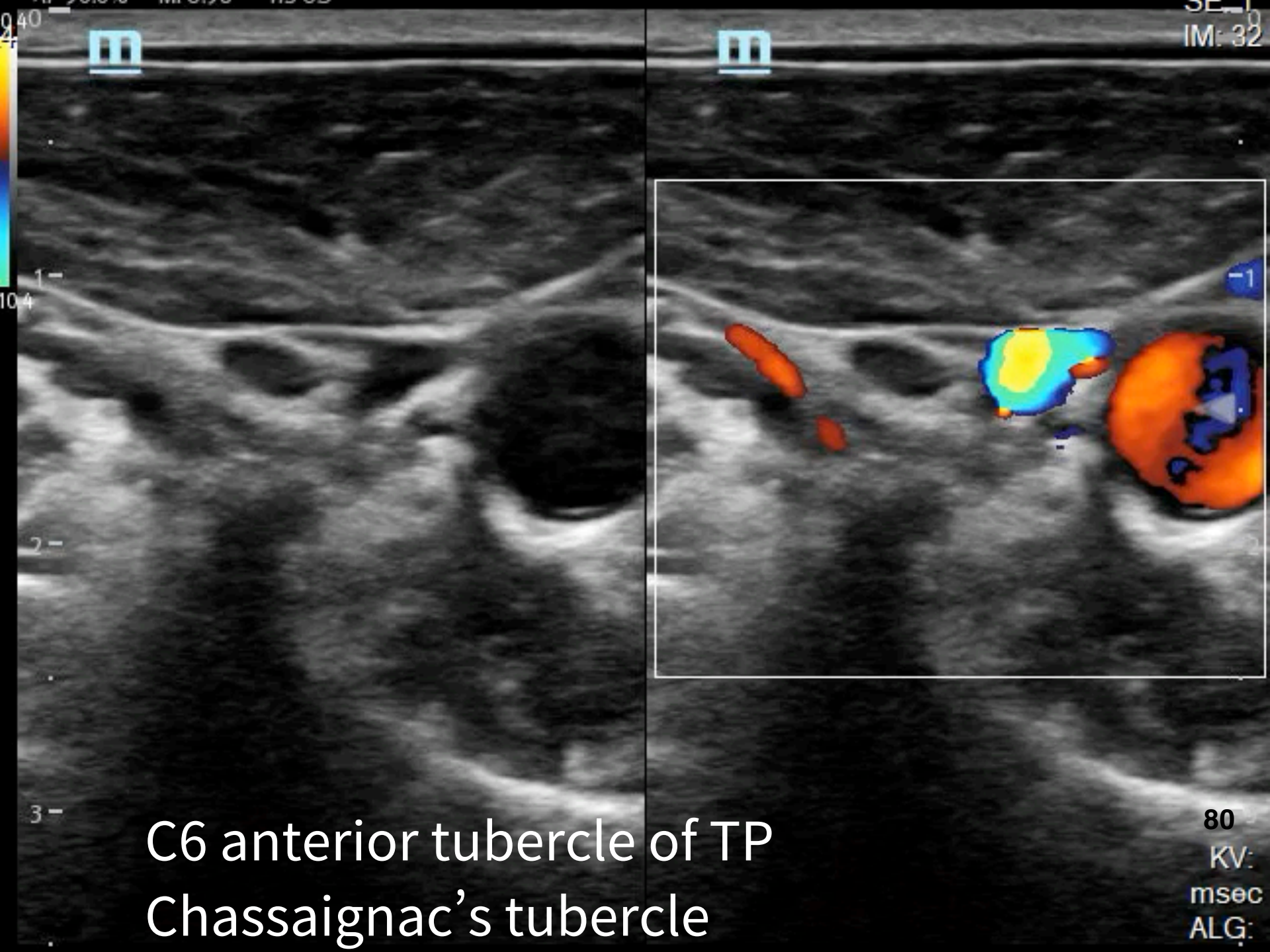
3.4 cm

L12-3

Nerve

MI: 1.5 TIS: 0.1

2D: G: 63
Res DR: 0
MB
THI



C6 anterior tubercle of TP
Chassaignac's tubercle

80
KV:
msec
ALG:

US-GUIDED STELLATE GANGLION BLOCK



INDICATIONS:

- Refractory Ventricular Arrhythmia
- Ventricular Electrical Storm
- ↳ ≥ 3 episodes of sustained VT, VF, or ICD shocks in 24 hours

THE BASICS:

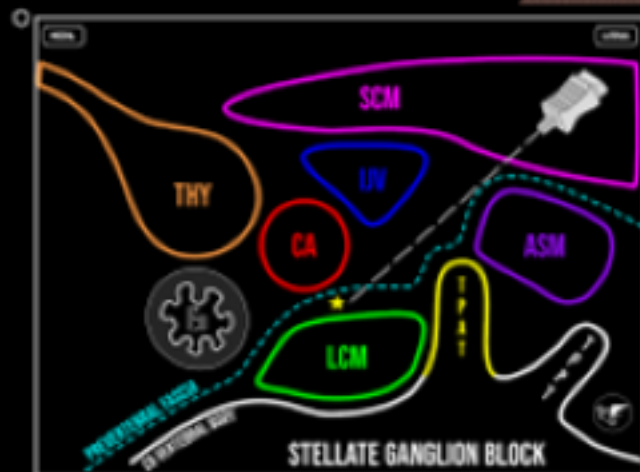
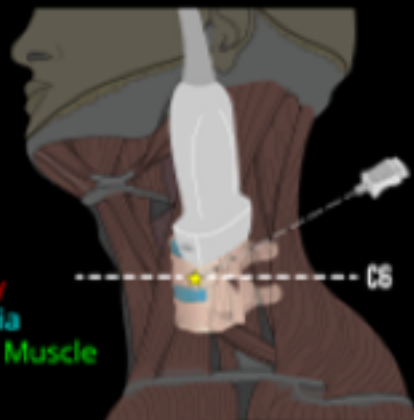
- Patient Position $\rightarrow$ Slight Neck Extension & Contralateral Rotation
- Left SGB $\ggg$ Right SGB
- 22 to 25G Needle
- ~ 10 mL of Local Anesthetic

TECHNIQUE:

1. Place Probe $\rightarrow$ Perpendicular to Tracheal Axis at Level of Cricoid Cartilage ($\sim$ C6 Level)
2. Slide *Inferiorly* until Superior Aspect of Thyroid Gland is seen
3. Slide *Laterally* to visualize C6 TP Anterior Tubercle (TPAT)
4. Identify Key Landmarks: **C6 TPAT**, **LCM**, **CA**
5. Insert Needle $\rightarrow$ In-Plane, Lateral to Medial
- ↳ $\star$ Goal = Tip under the **Prevertebral Fascia** overlying the **LCM**

Stellate Ganglion location:

- **Medial to C6 TPAT**
- **Posterior to Carotid Artery**
- **Deep to Prevertebral Fascia**
- **Superficial to Longus Colli Muscle**



CLICK OR SCAN
FOR MORE



UE BLOCKS

SGB	BP-costoclavicular	MN - above elbow
SCP	BP-axillary block	UN - above elbow
BP-interscalene	Suprascapular N	RN - superficial
BP-supraclavicular	Axillary N	MN - forearm
BP-infraclavicular	RN - above elbow	UN - forearm