

Ultrasound-guided Vascular Access ACEP 2018

Highland General Hospital
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Ultrasound-guided Central Venous Cannulation

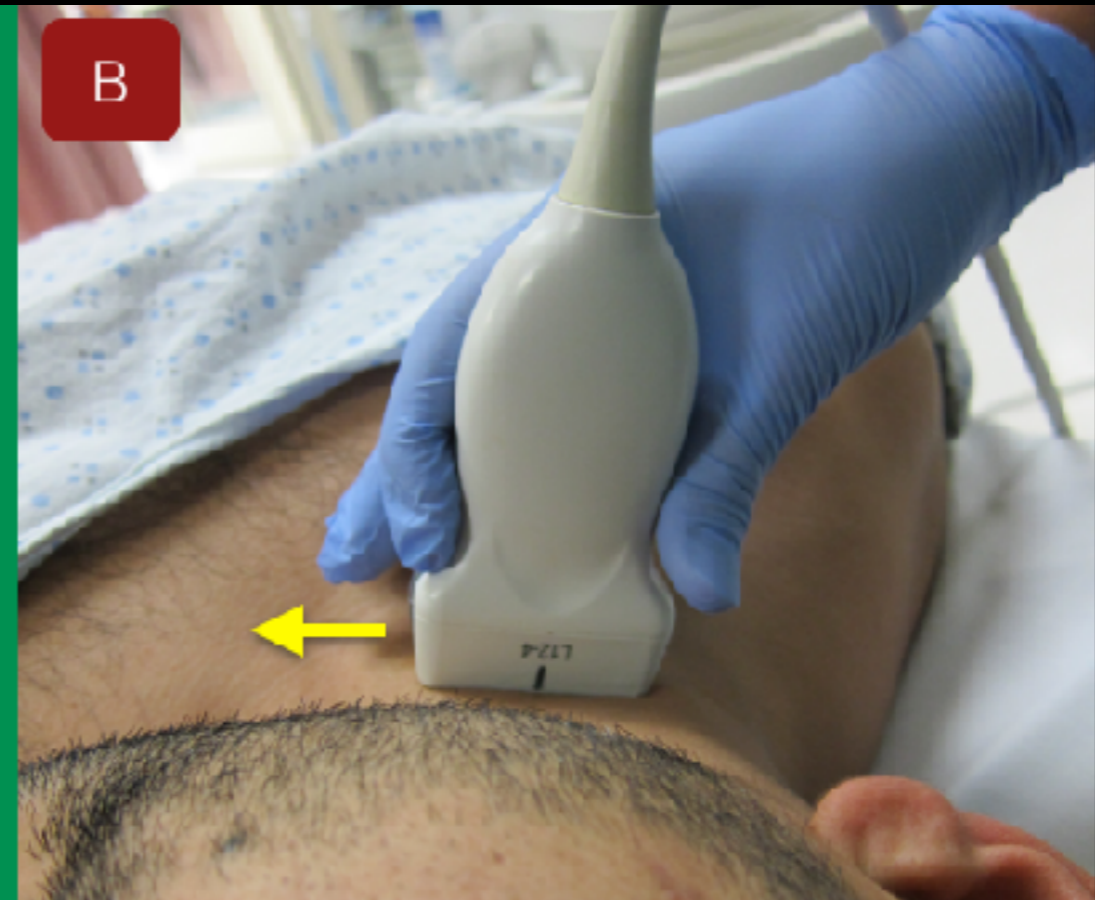


Ultrasound-guided Internal Jugular Vein Cannulation

Out-of-Plane Technique

STEP 1

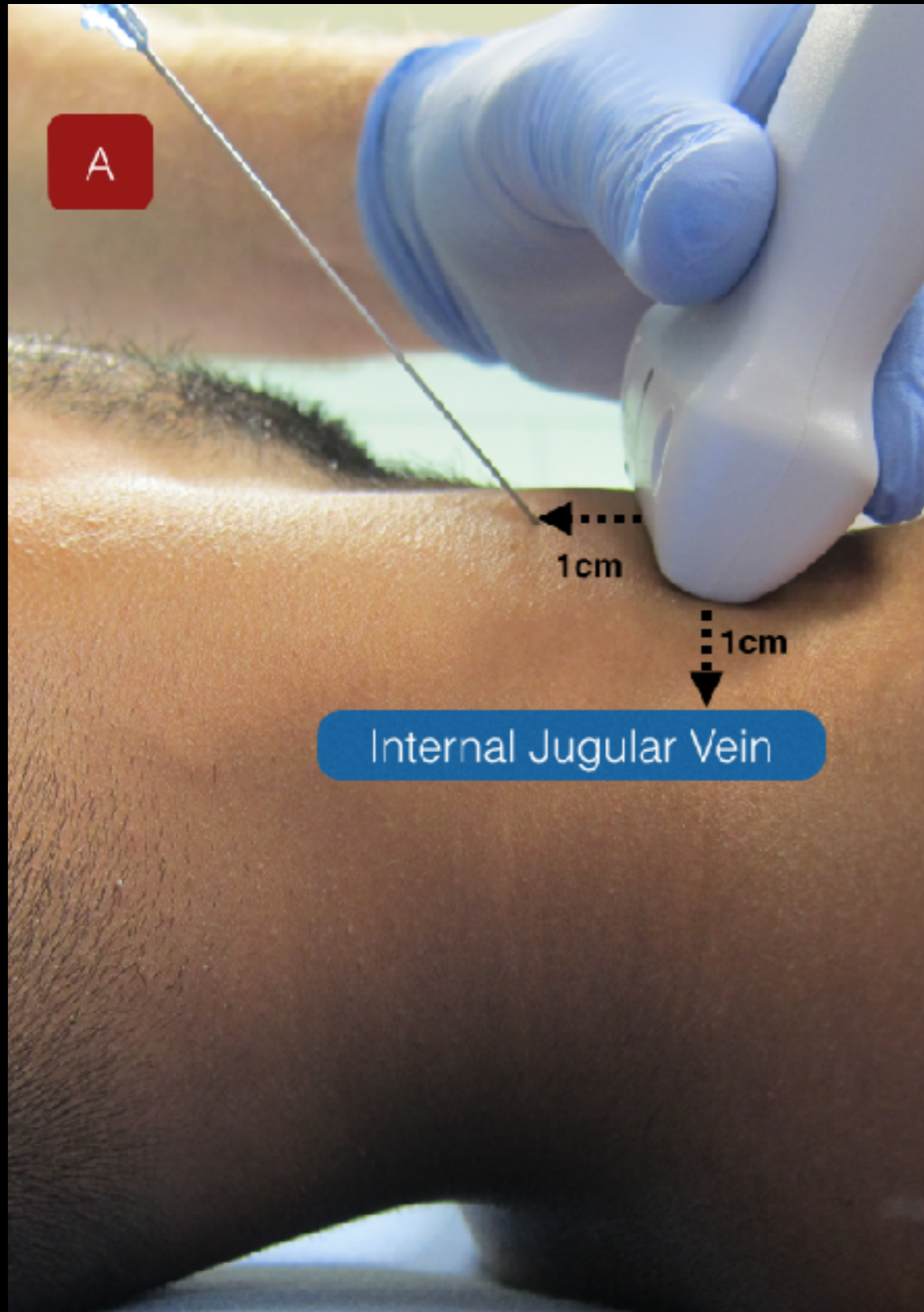
Find Intern Jugular Vein (IJV) and Carotid Artery (CA)



STEP 2

A) Steep needle angle

B) Confirm your wire before dilation



In-Plane Technique

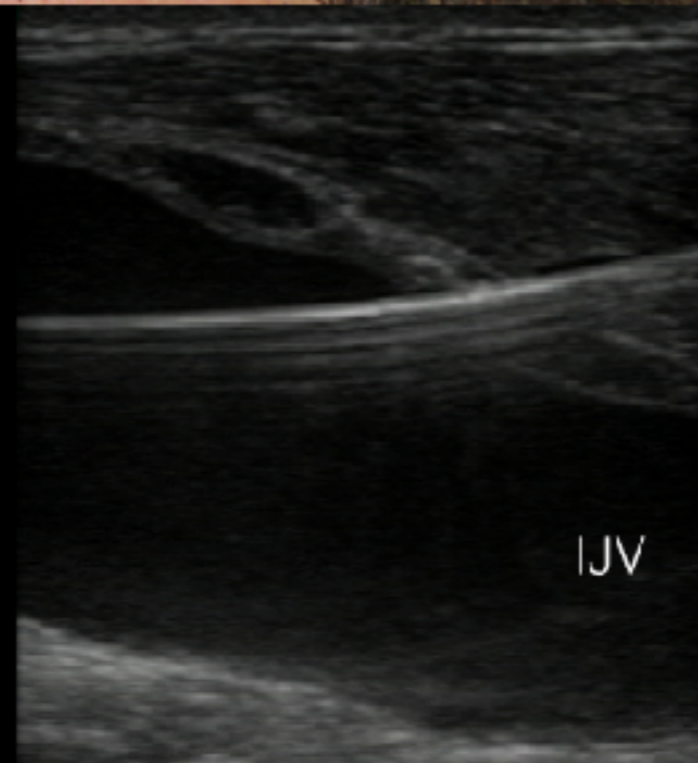
STEP 1

Hand stabilization
+
Follow the needle



Caudal

Cephalad



IJV

Oblique View Technique

STEP 1

Find IJ and Carotid - then Rotate

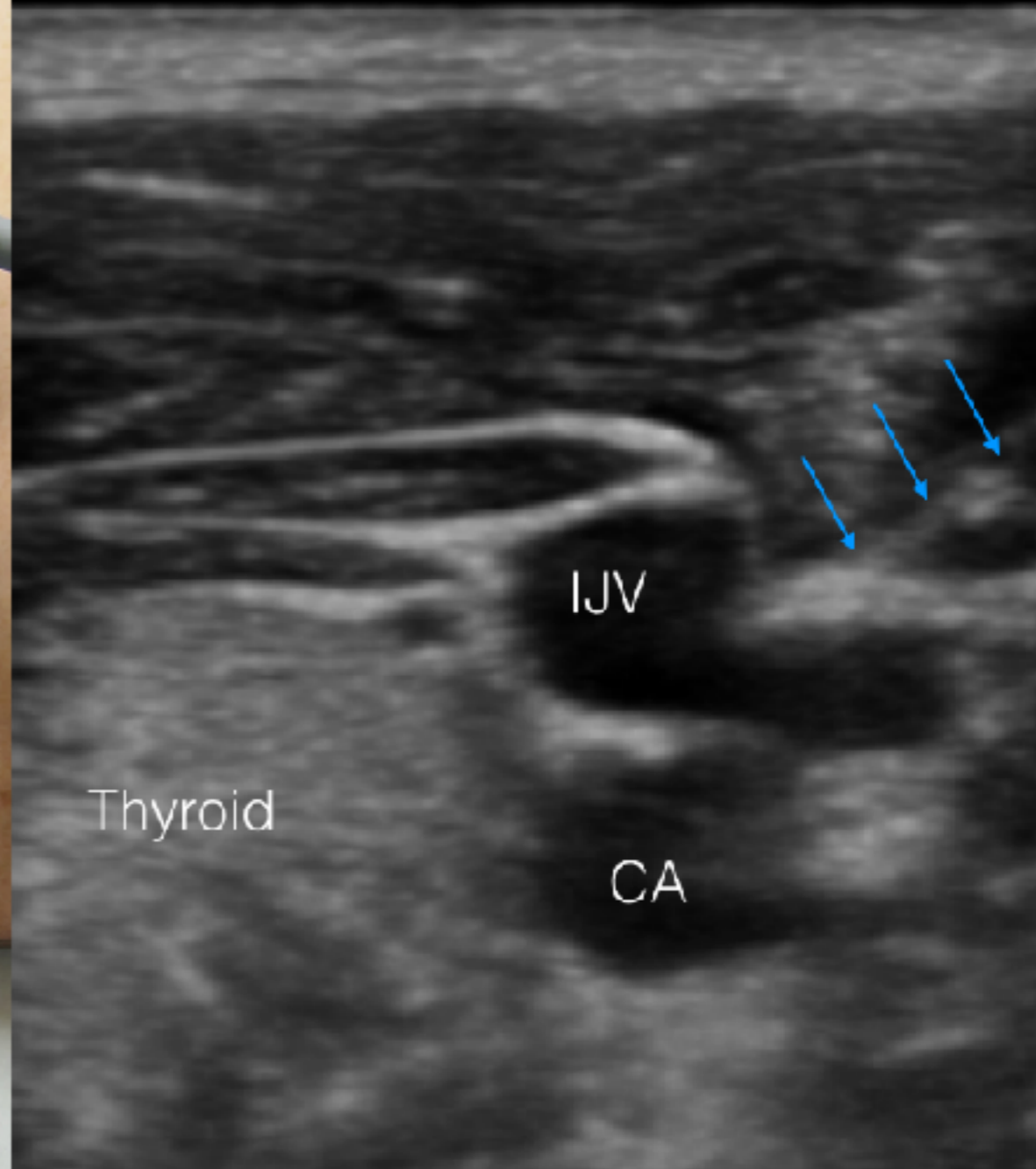


Rotate



STEP 2

Follow the Needle In-plane

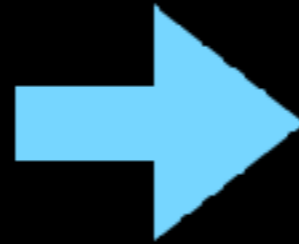
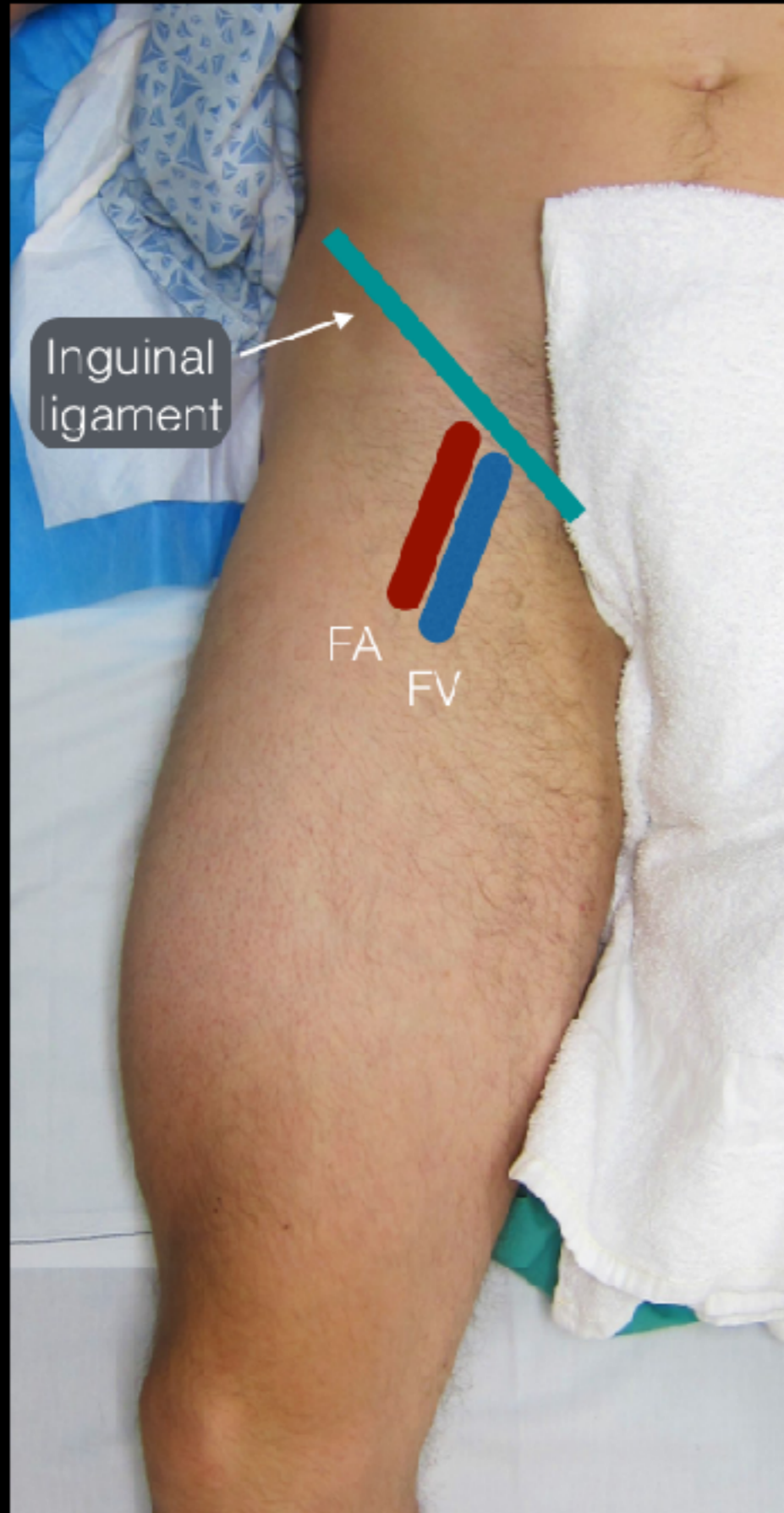


Ultrasound-guided Femoral Vein Cannulation



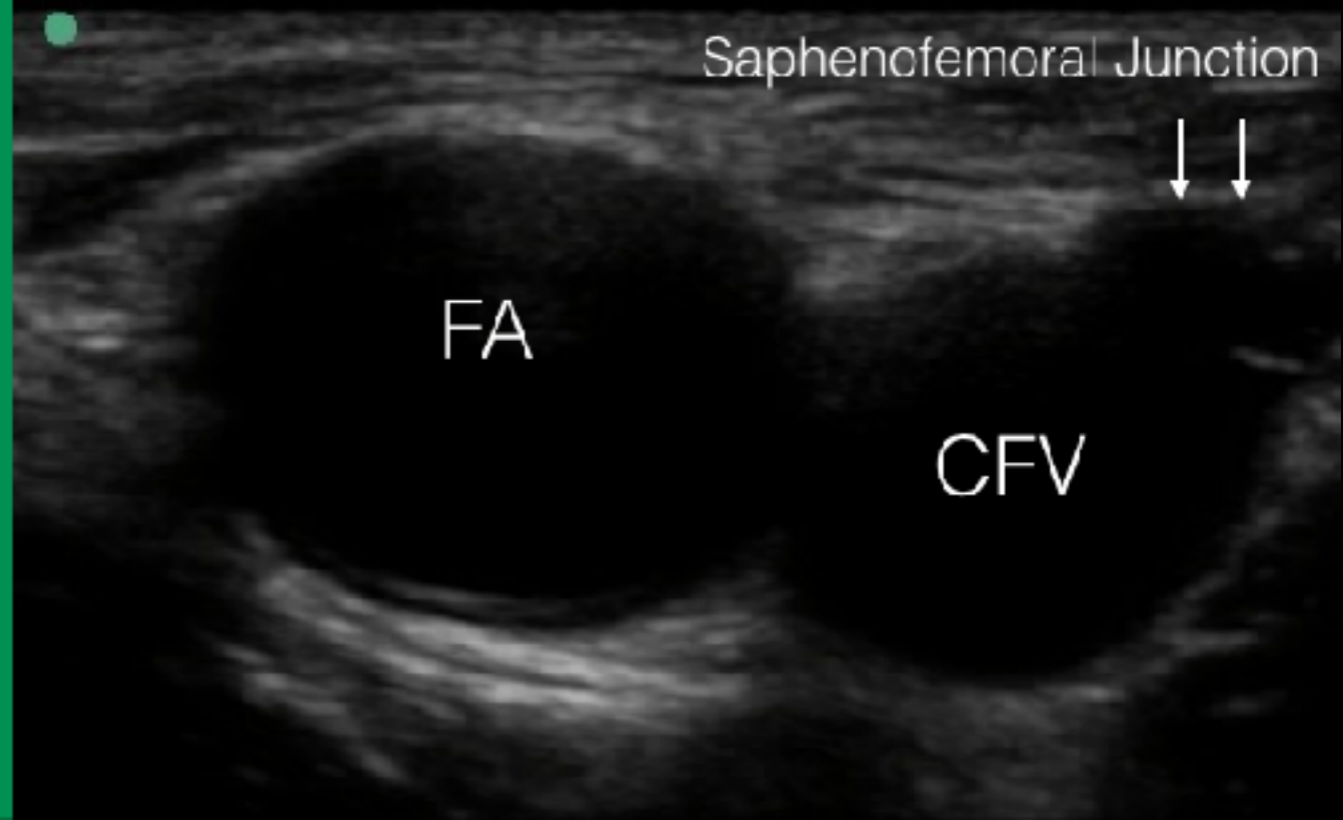
STEP 1

Anatomy/Probe Placement



STEP 2

Middle of the Probe with Steep Angle

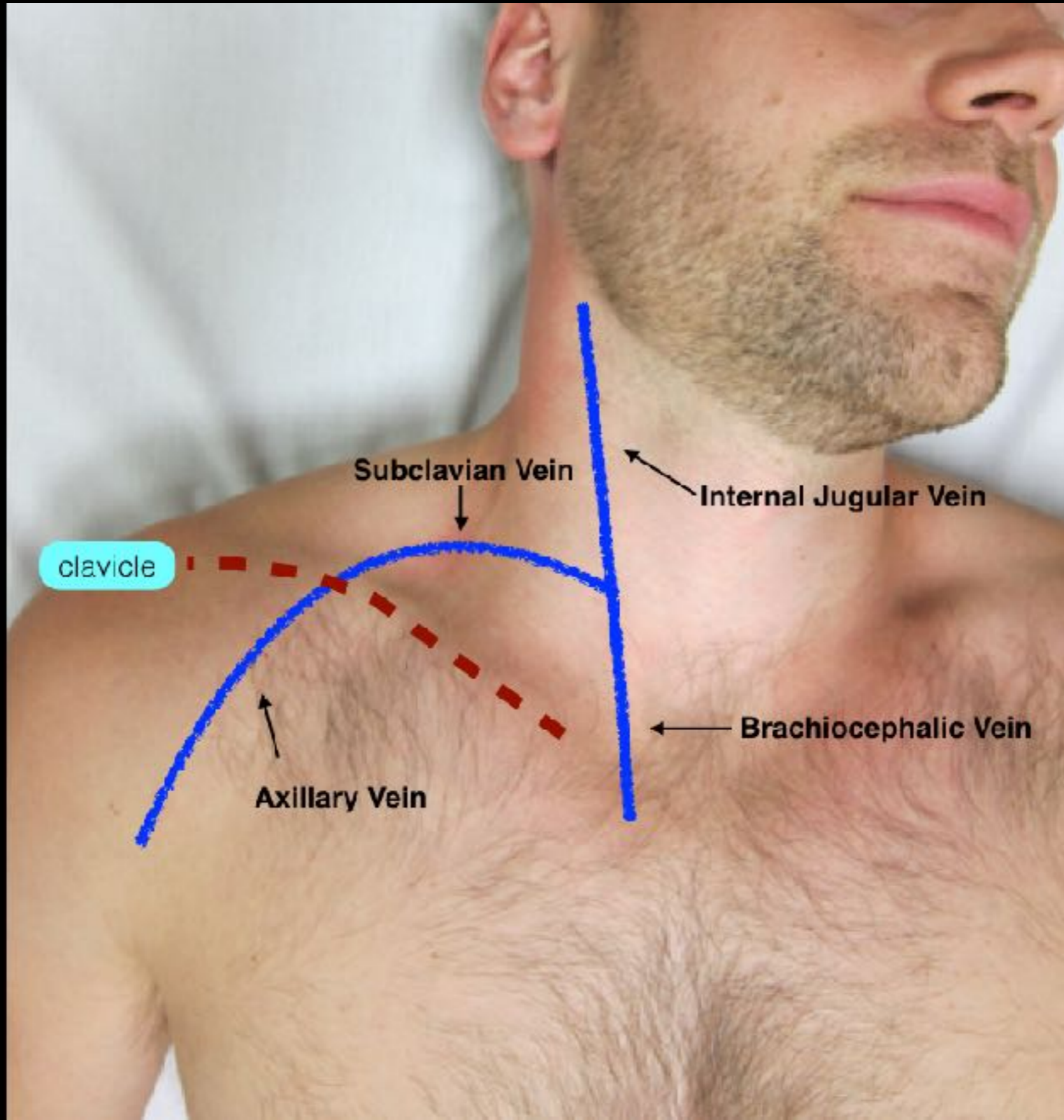


Ultrasound-guided Axillary Vein Cannulation



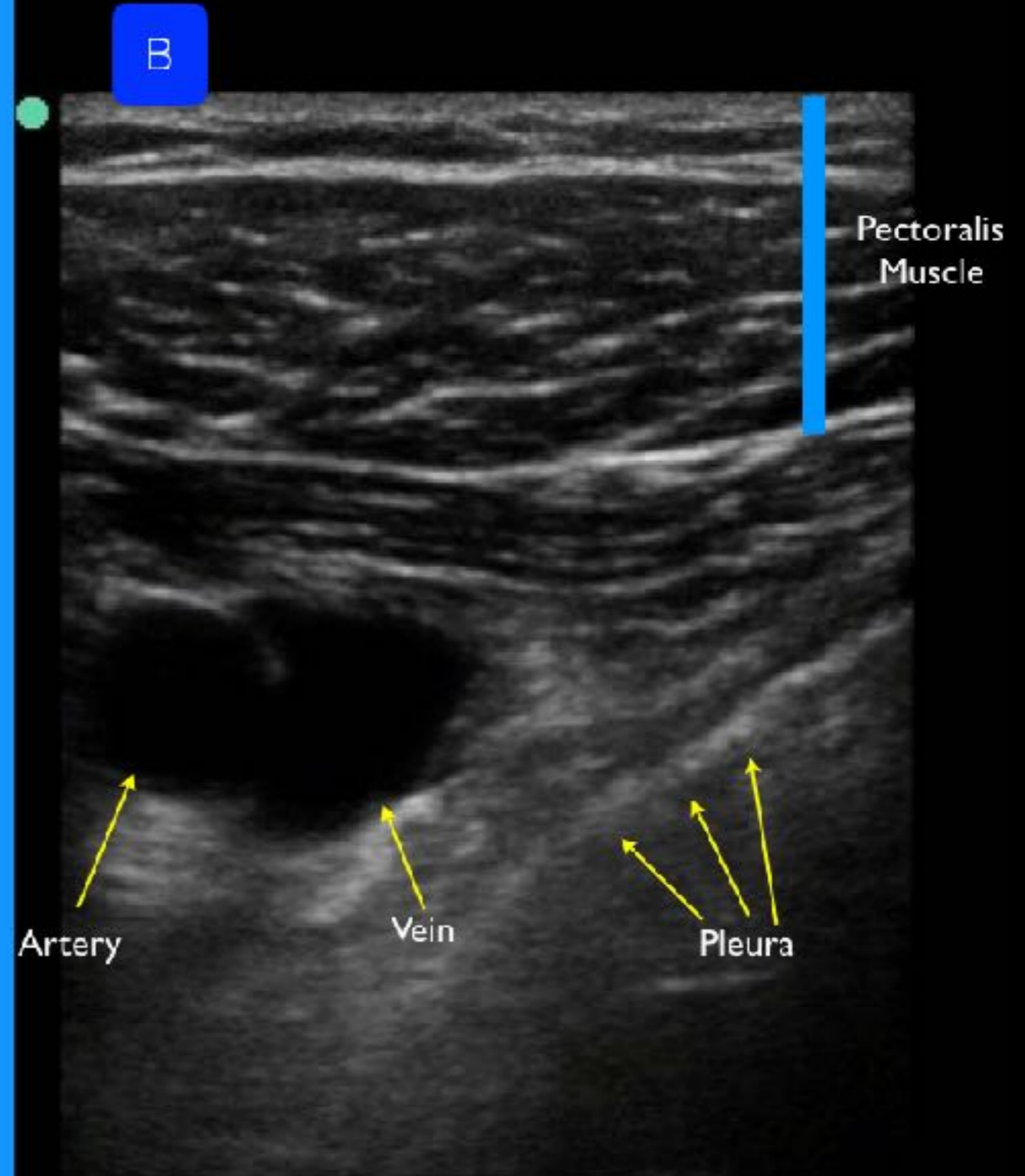
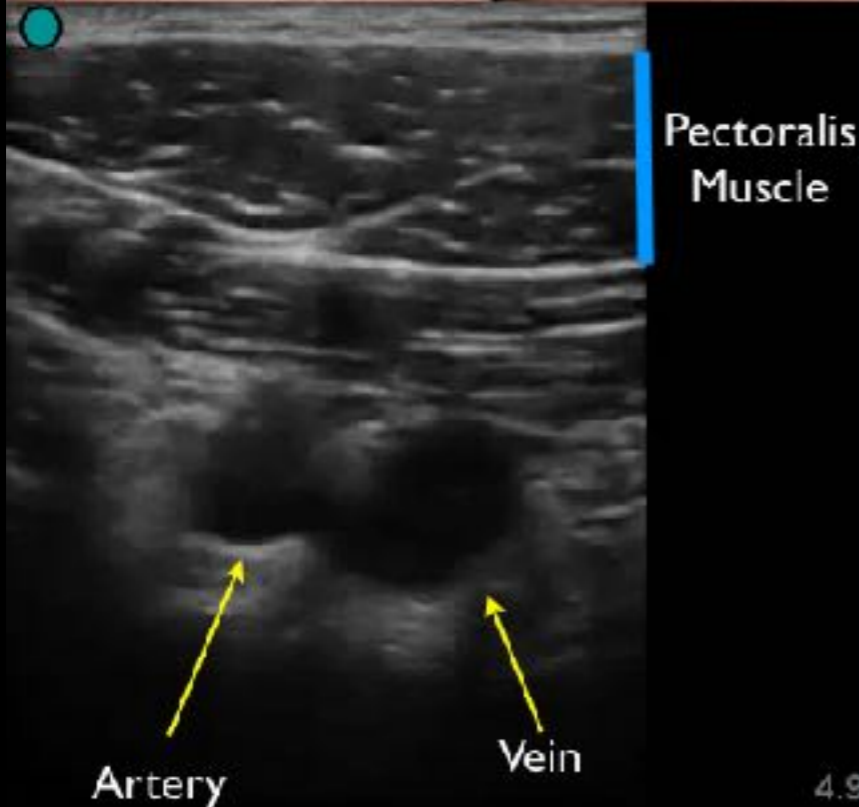
STEP 1

Anatomy



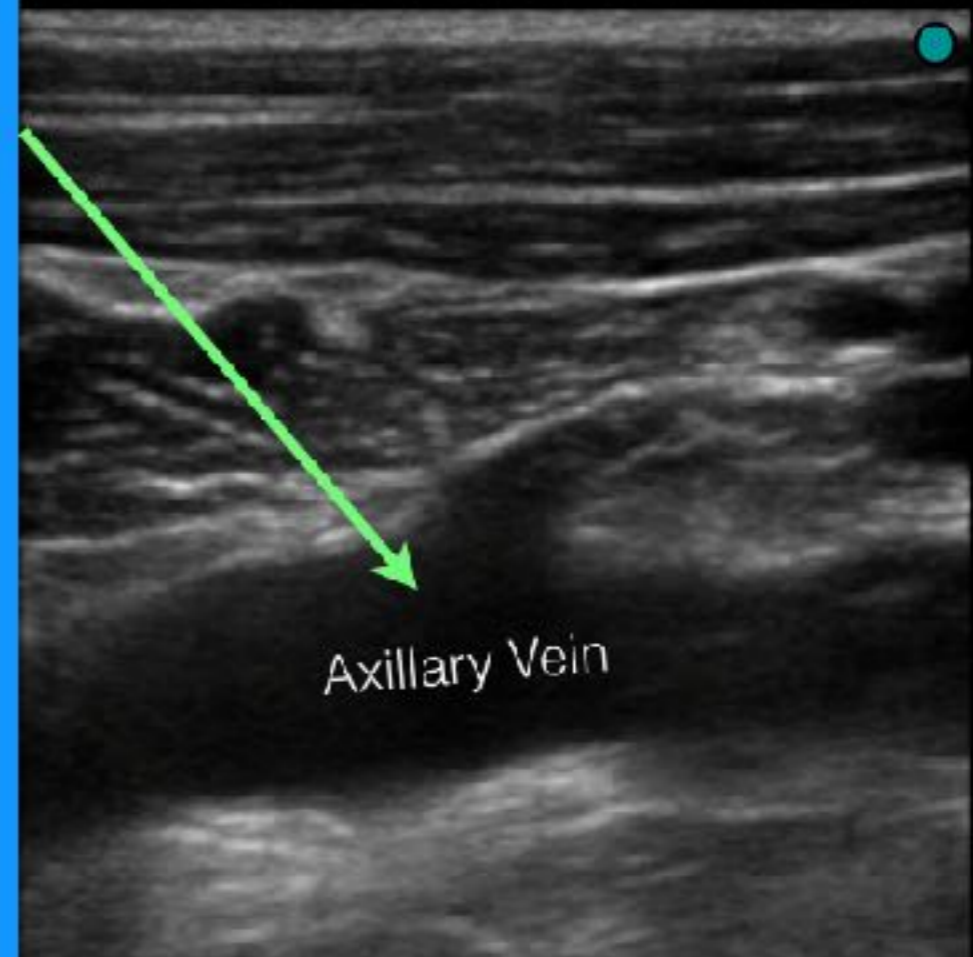
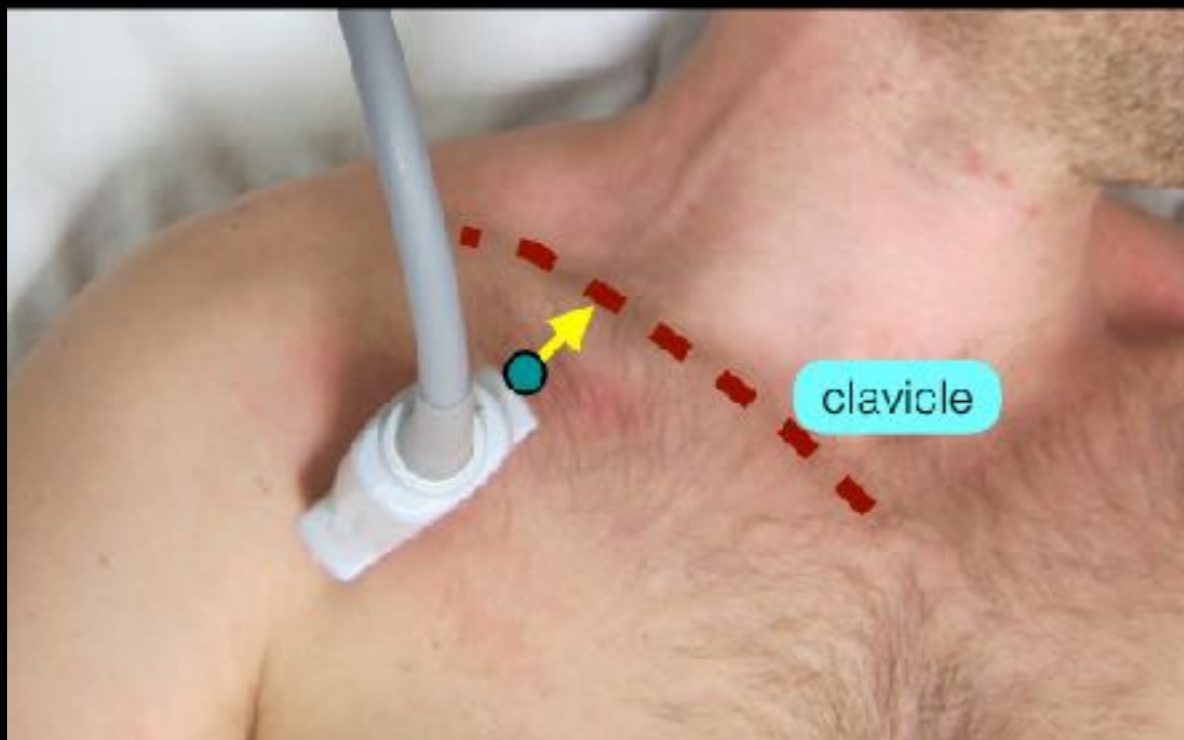
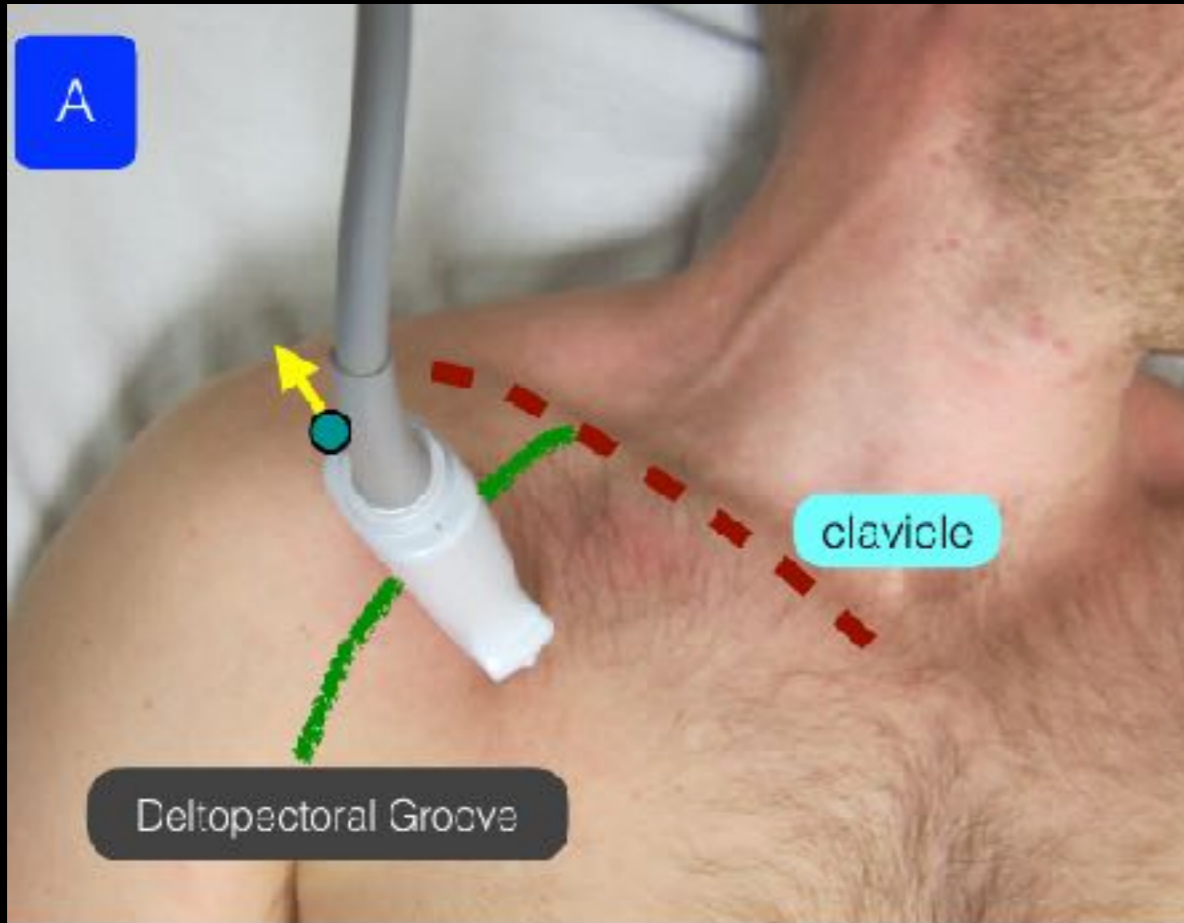
STEP 2

Deltopectoral groove find vein and artery



STEP 3

- A) Rotate probe cephalad
- B) In-plane needle technique

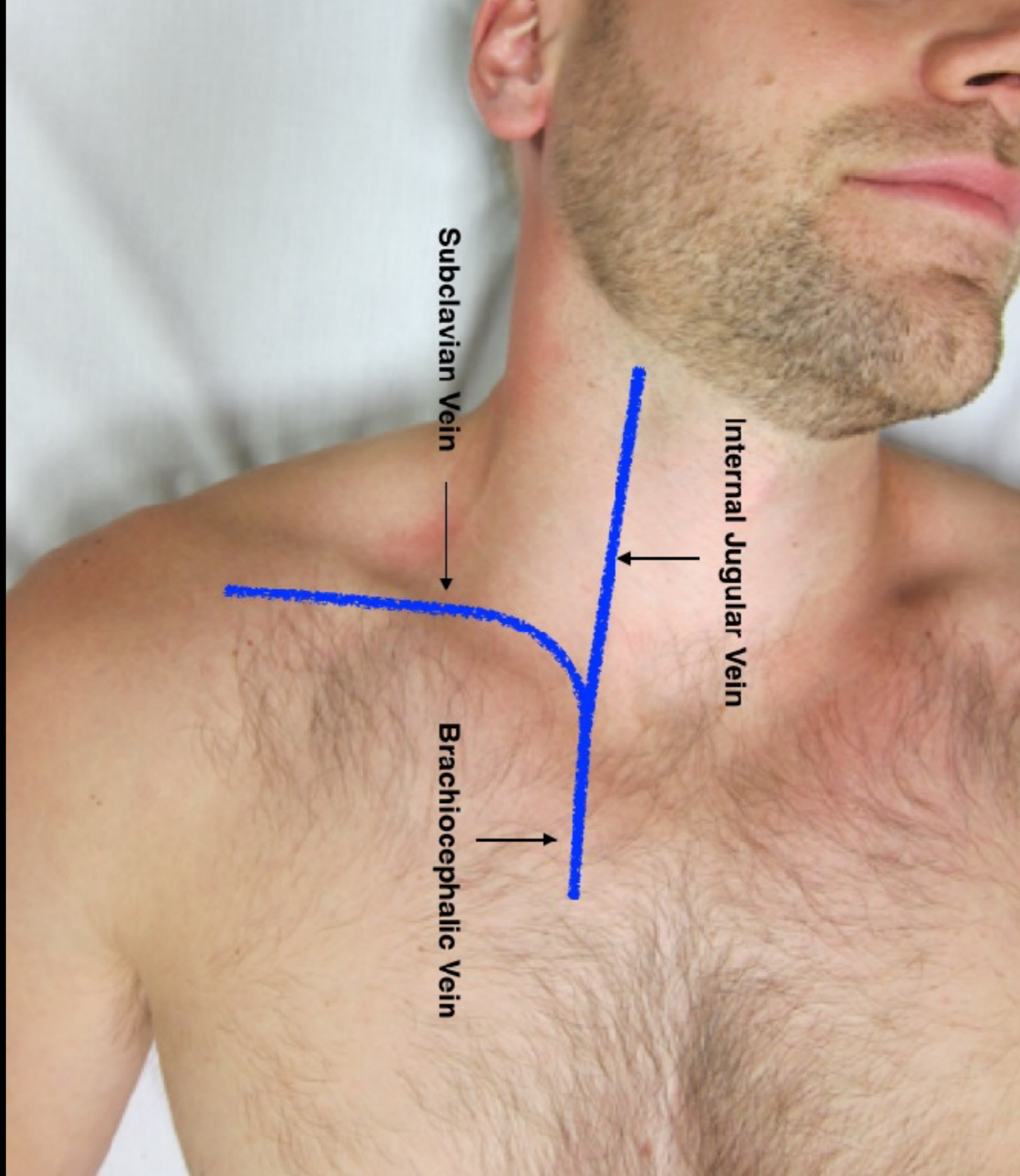


Ultrasound-guided Supraclavicular Subclavian Vein Cannulation



STEP 1

Anatomy



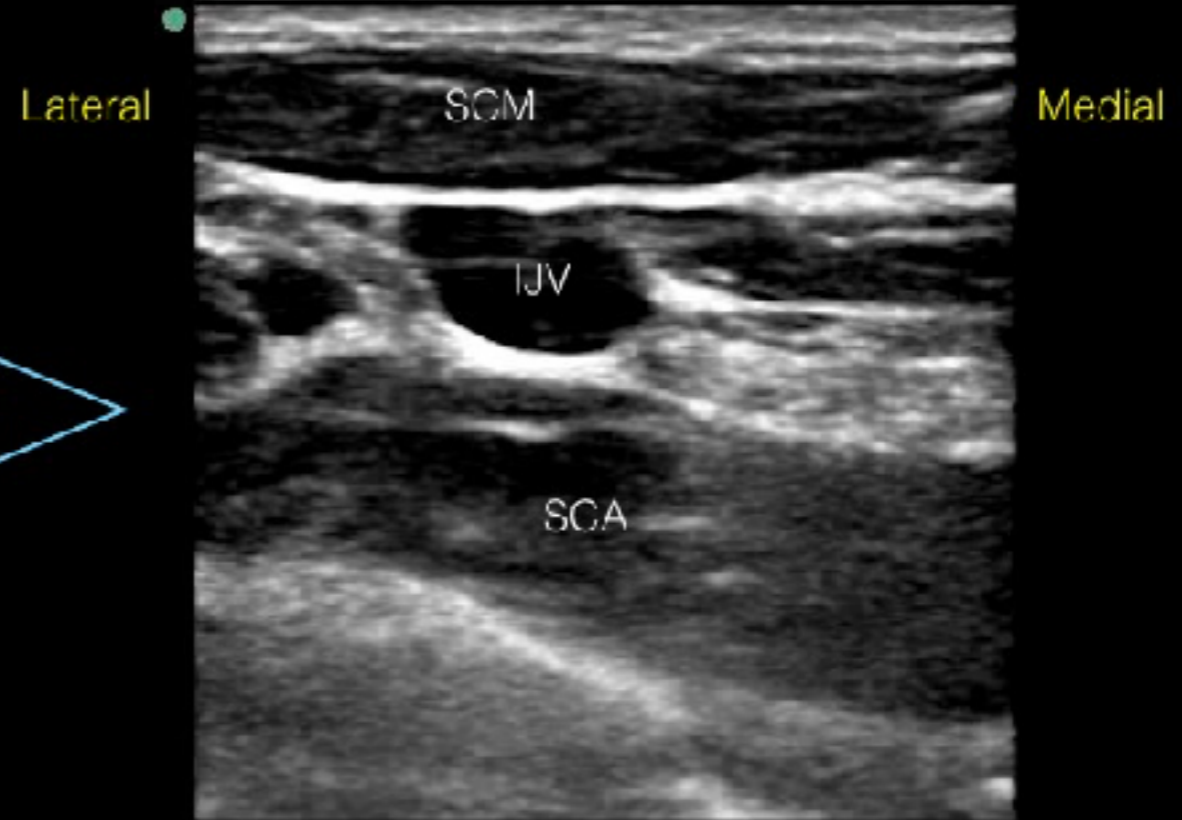
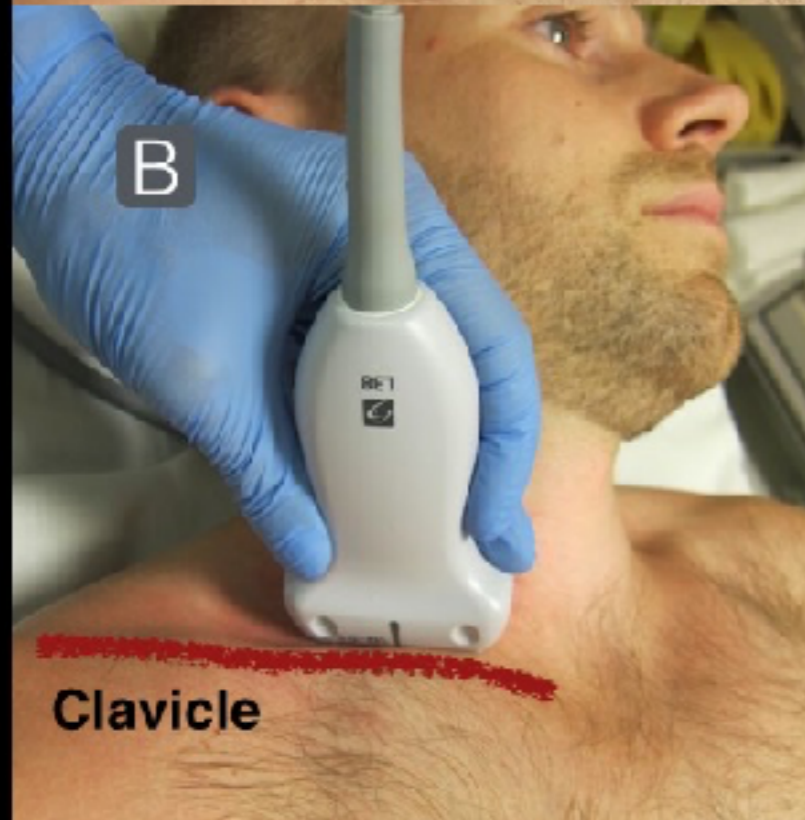
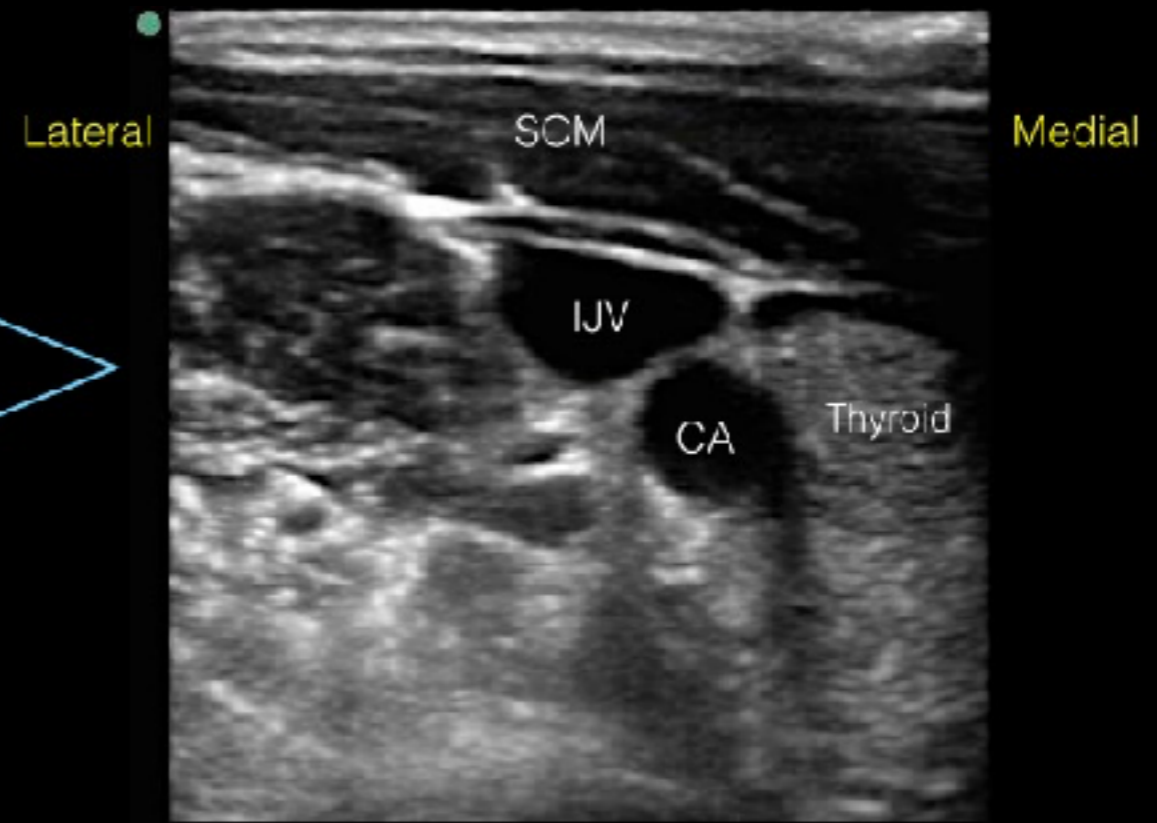
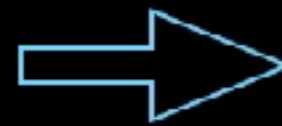
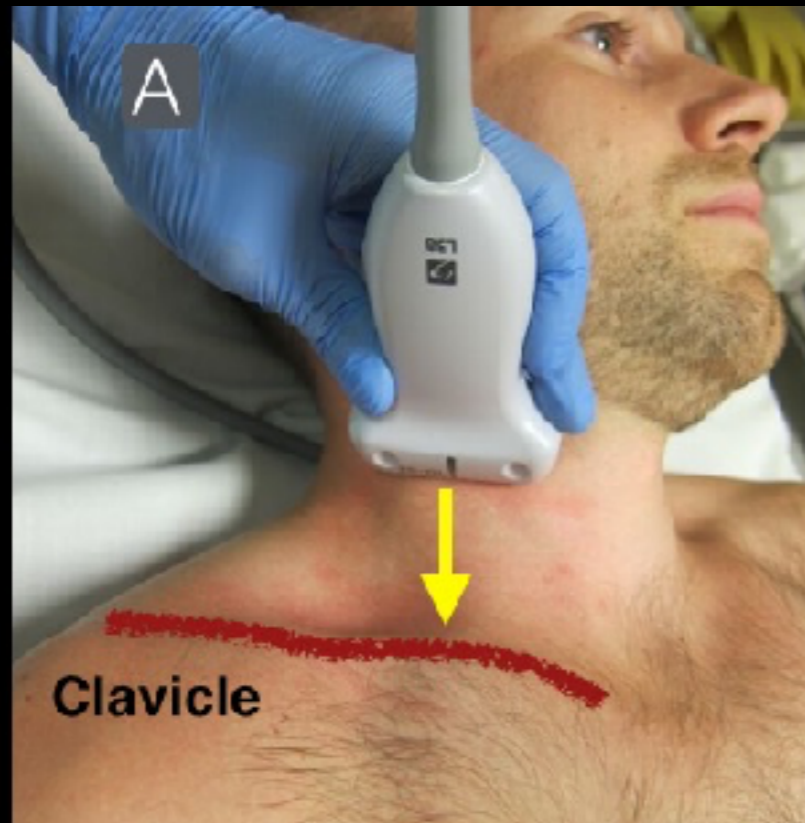
STEP 2

Patient and system positioning



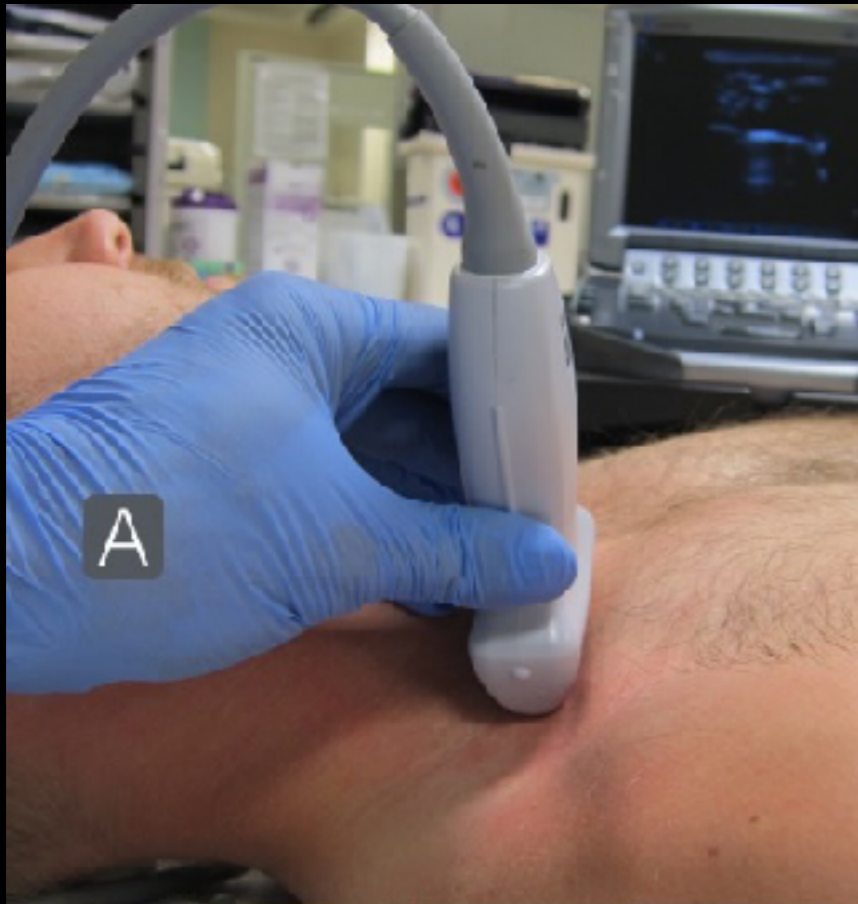
STEP 3

Slide down the neck to the clavicle

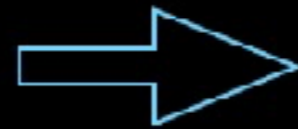


STEP 4

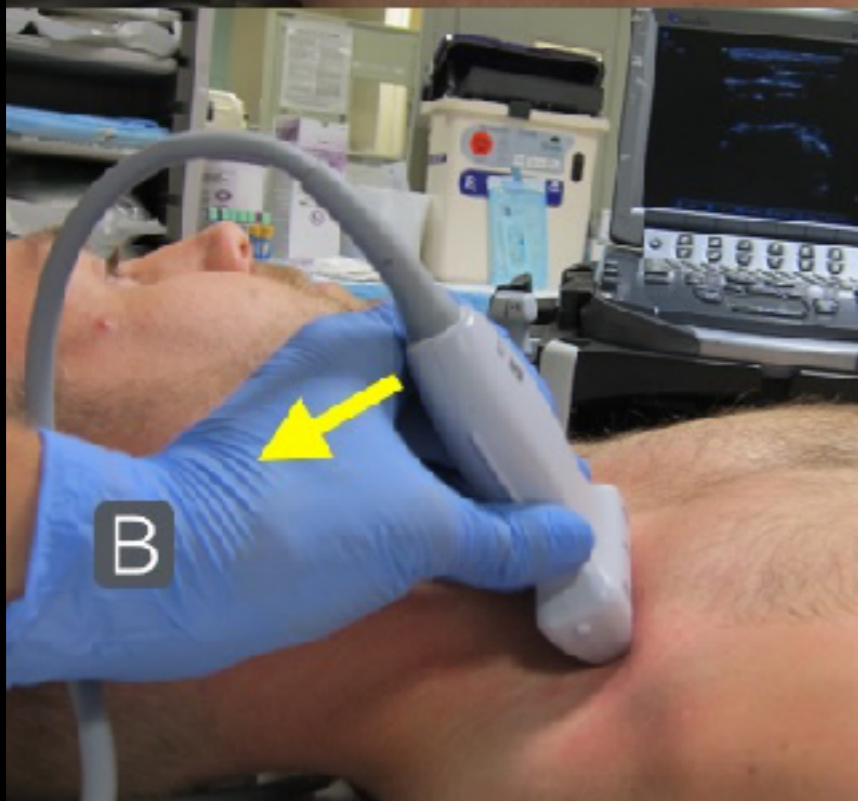
Tilt the probe to see the SCV



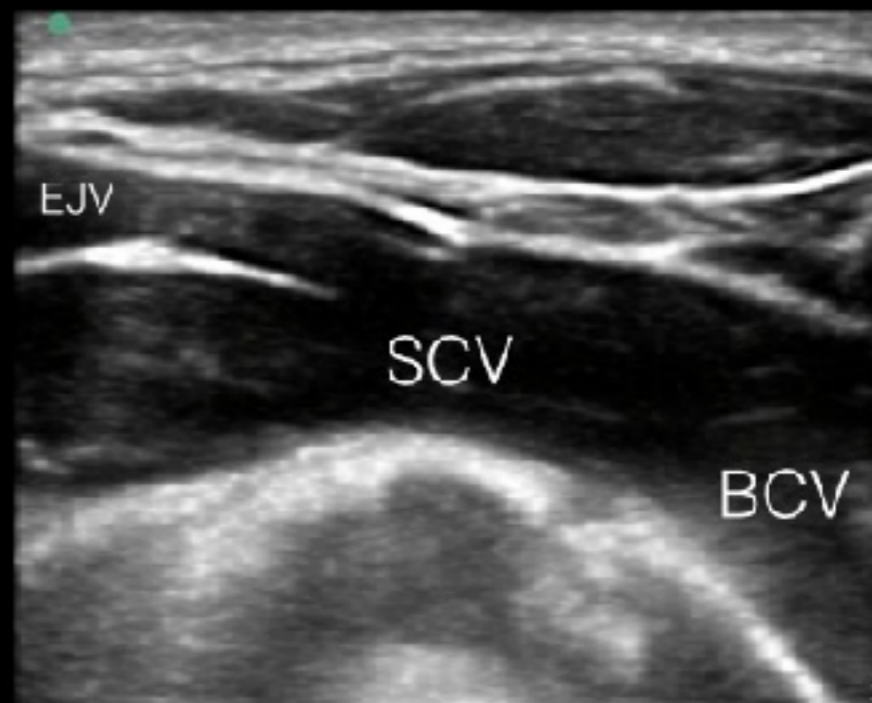
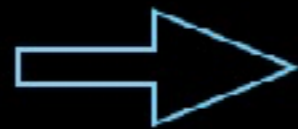
Lateral



Medial



Lateral



Medial

STEP 5

In-plane needle technique

