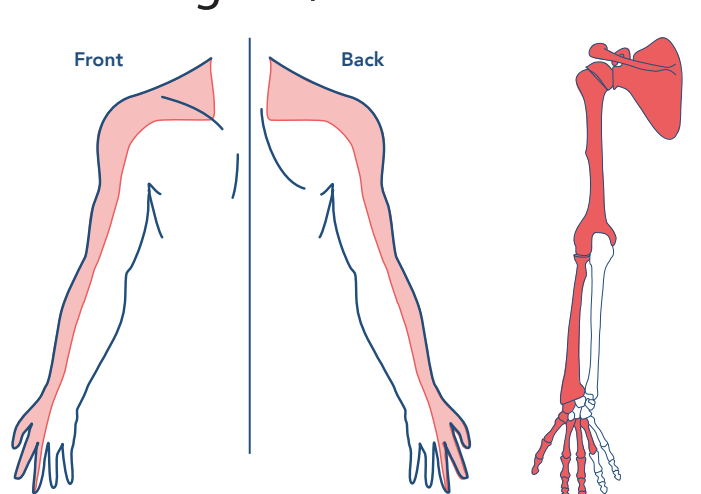
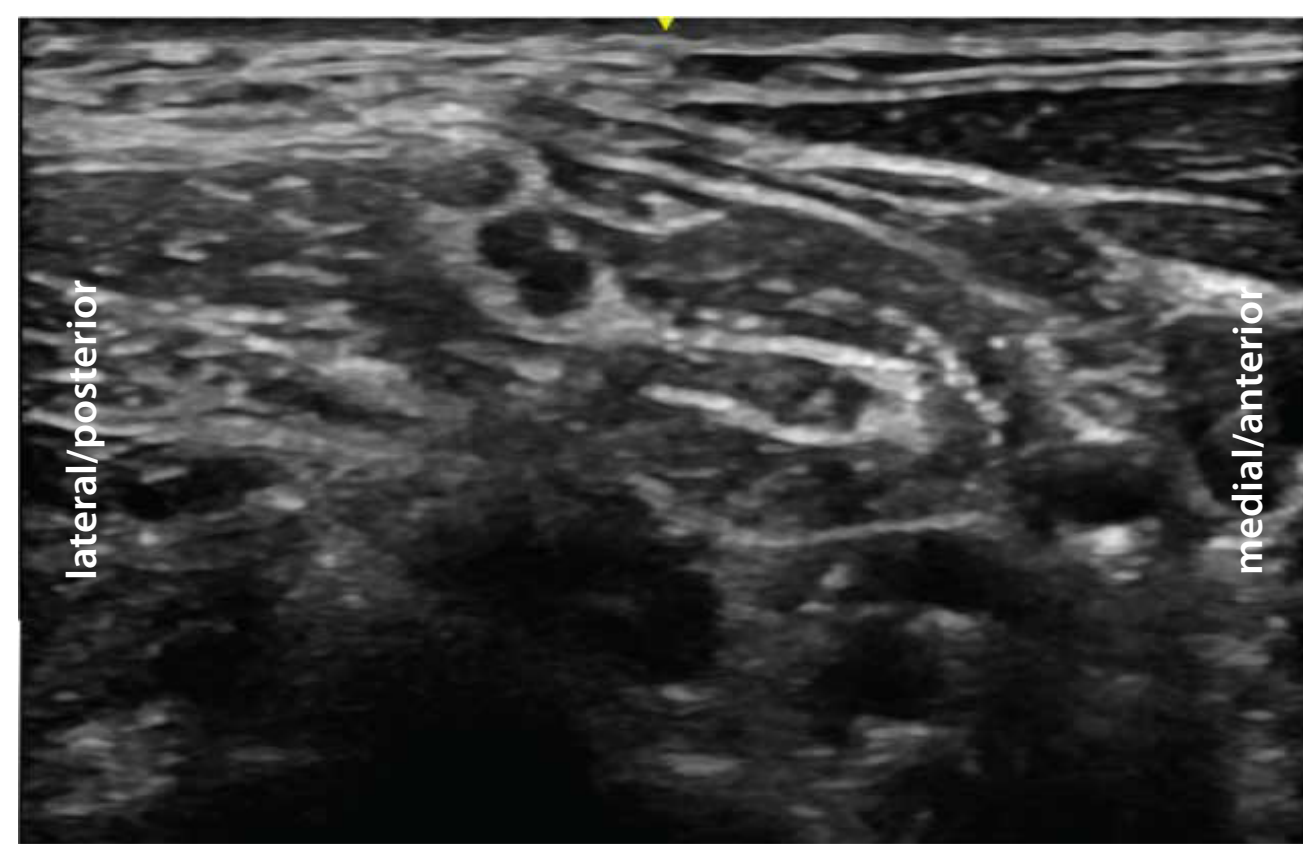
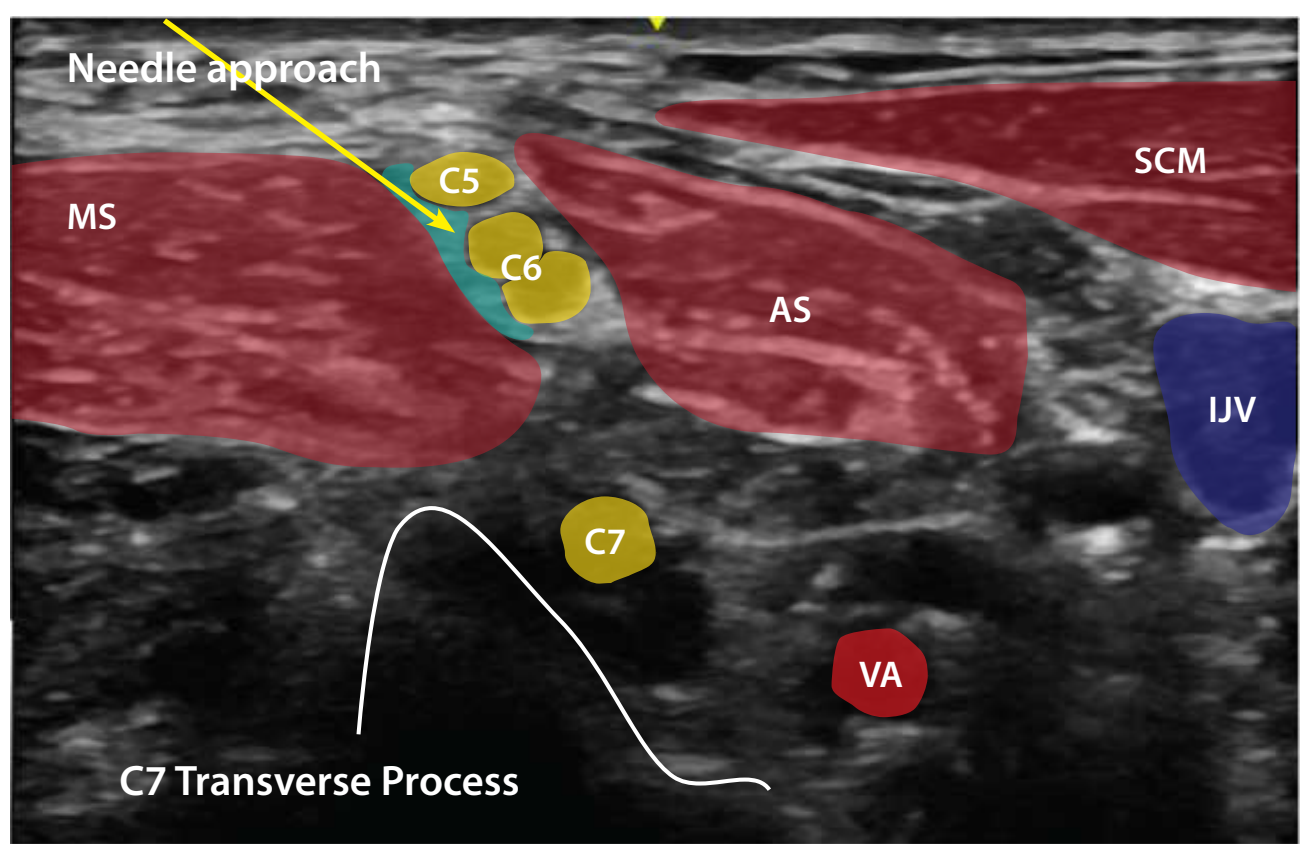
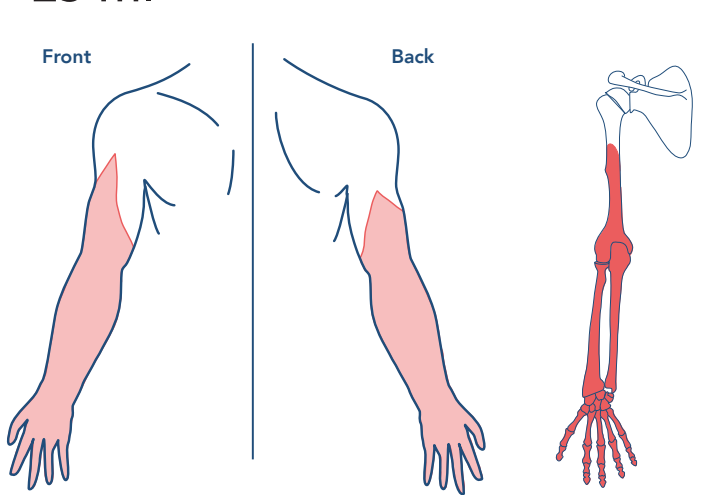
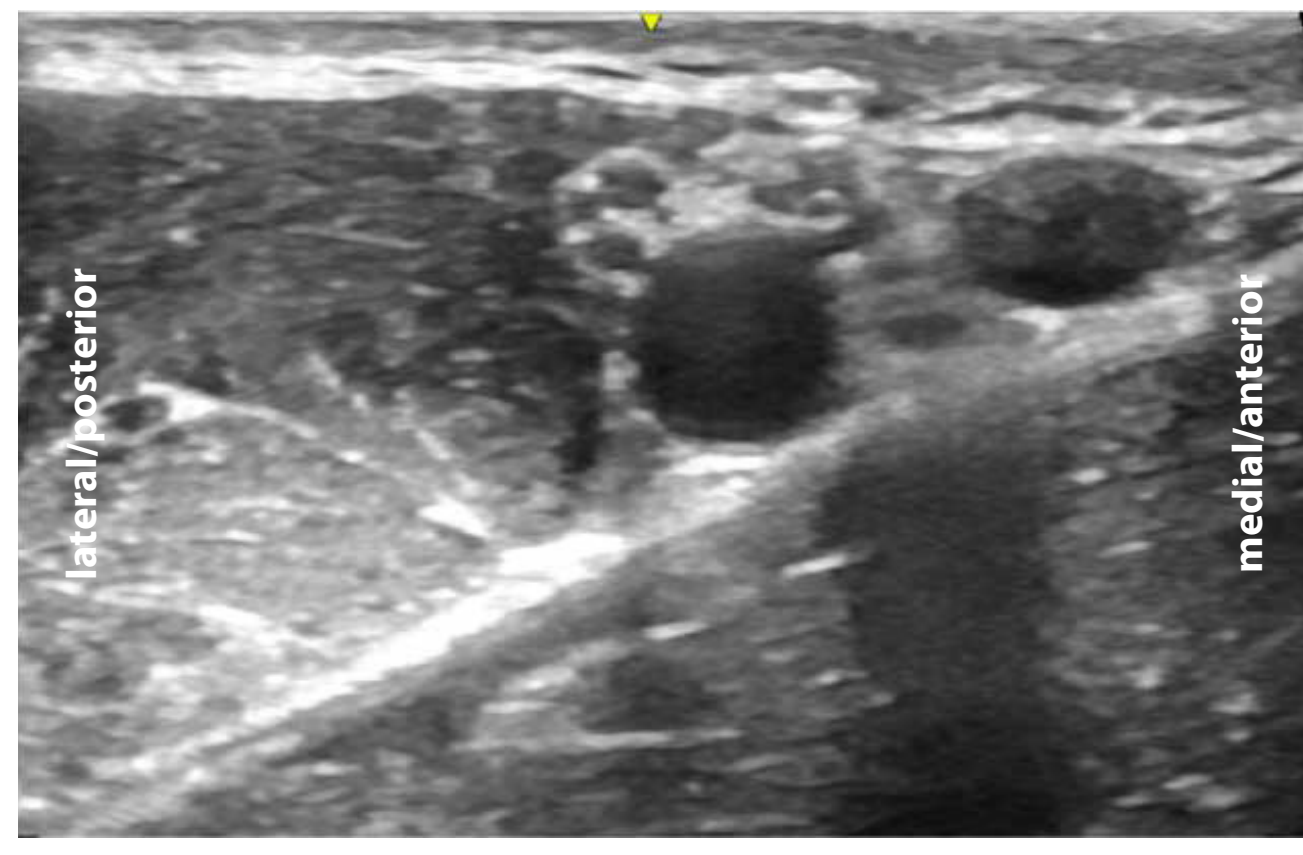
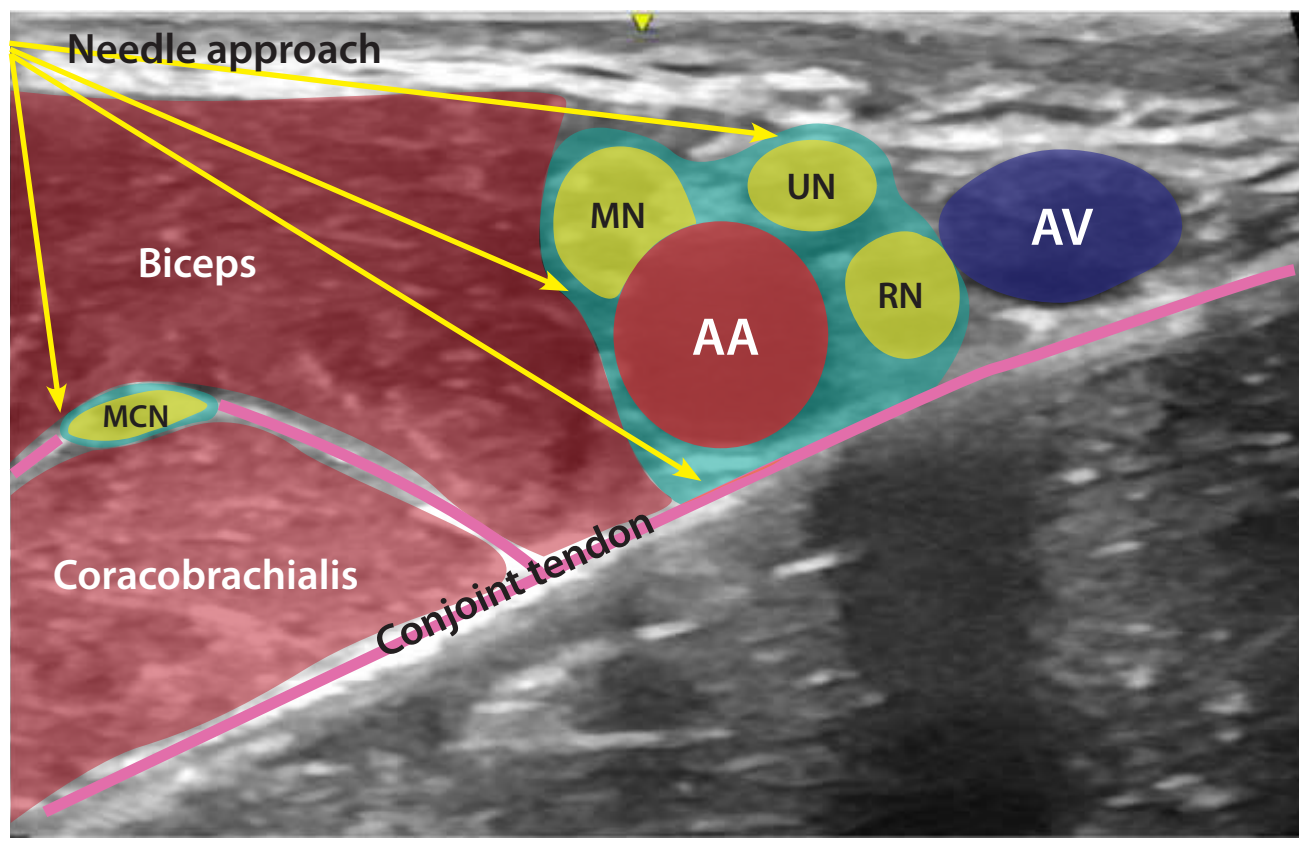
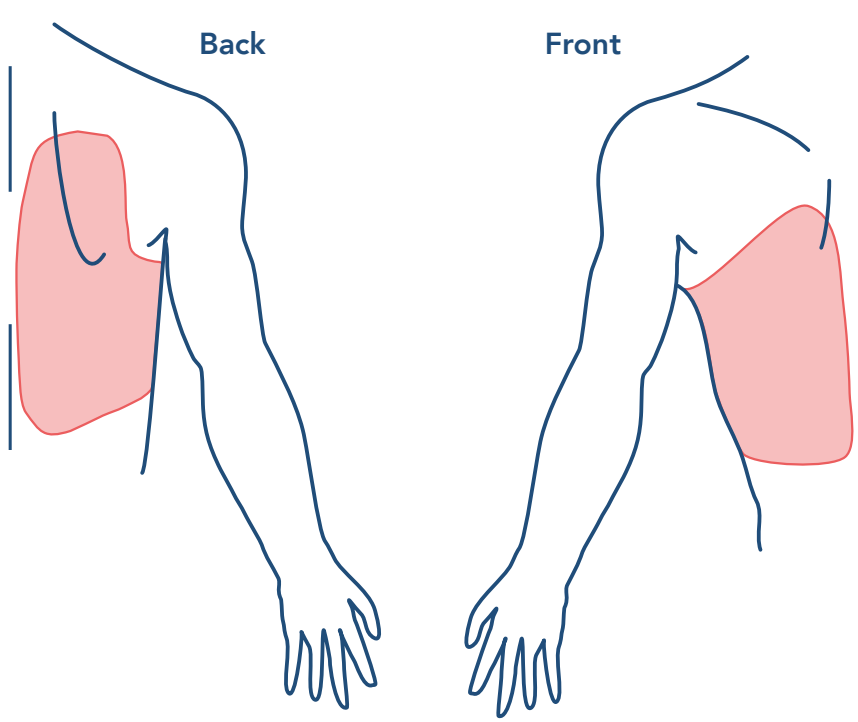
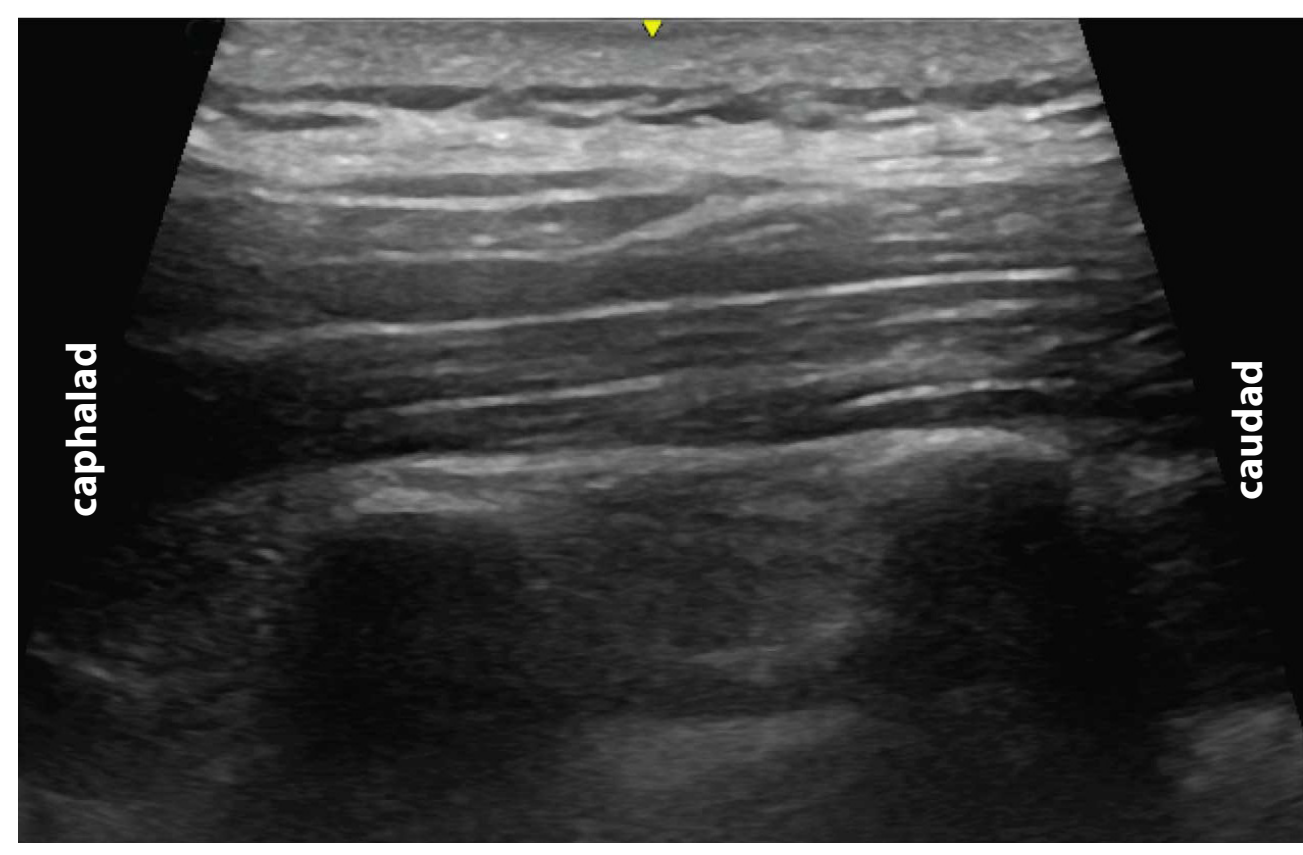
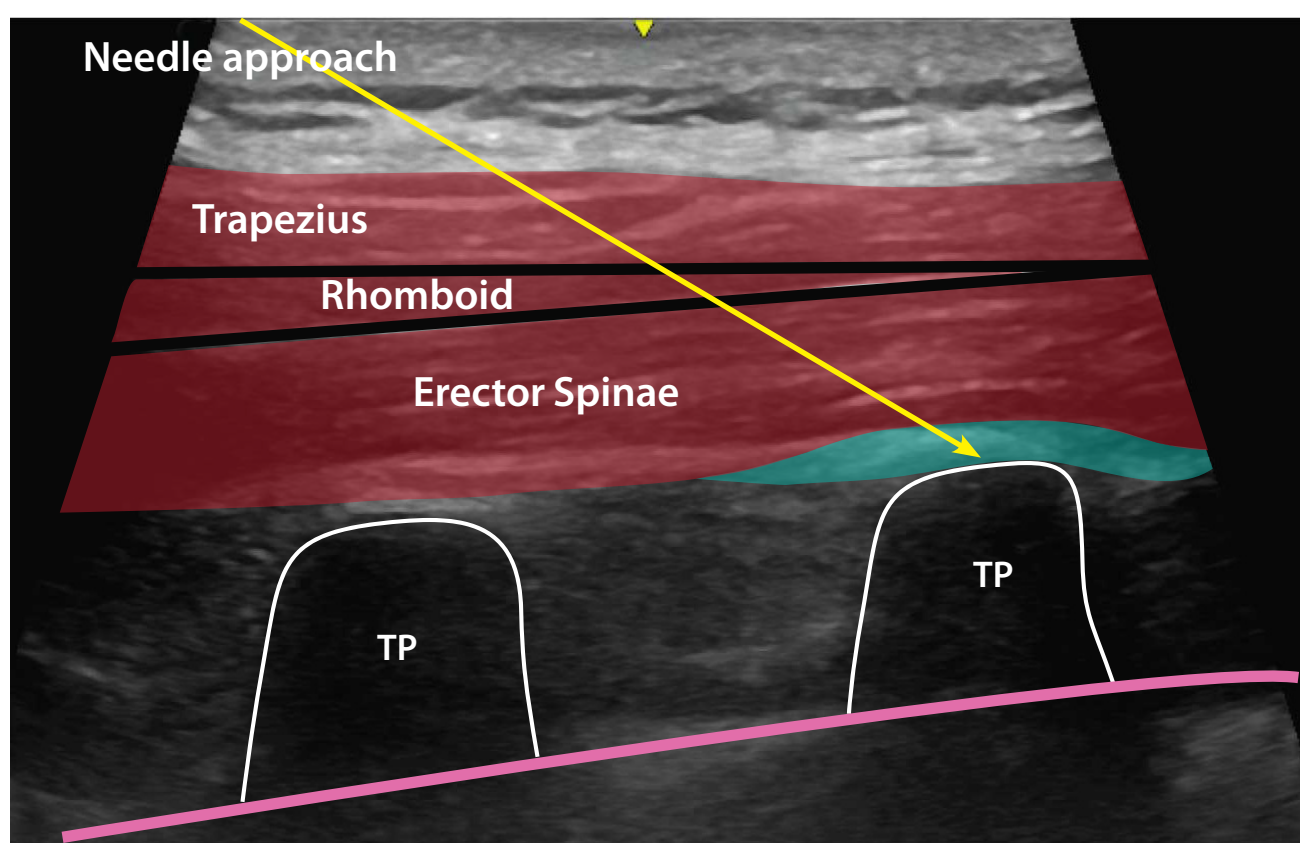
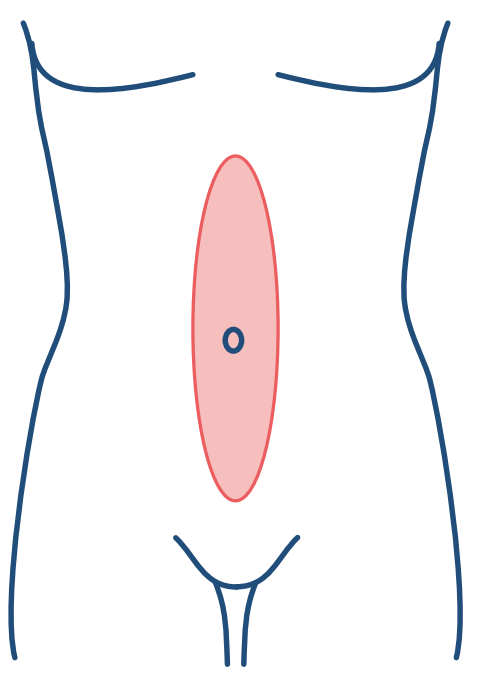
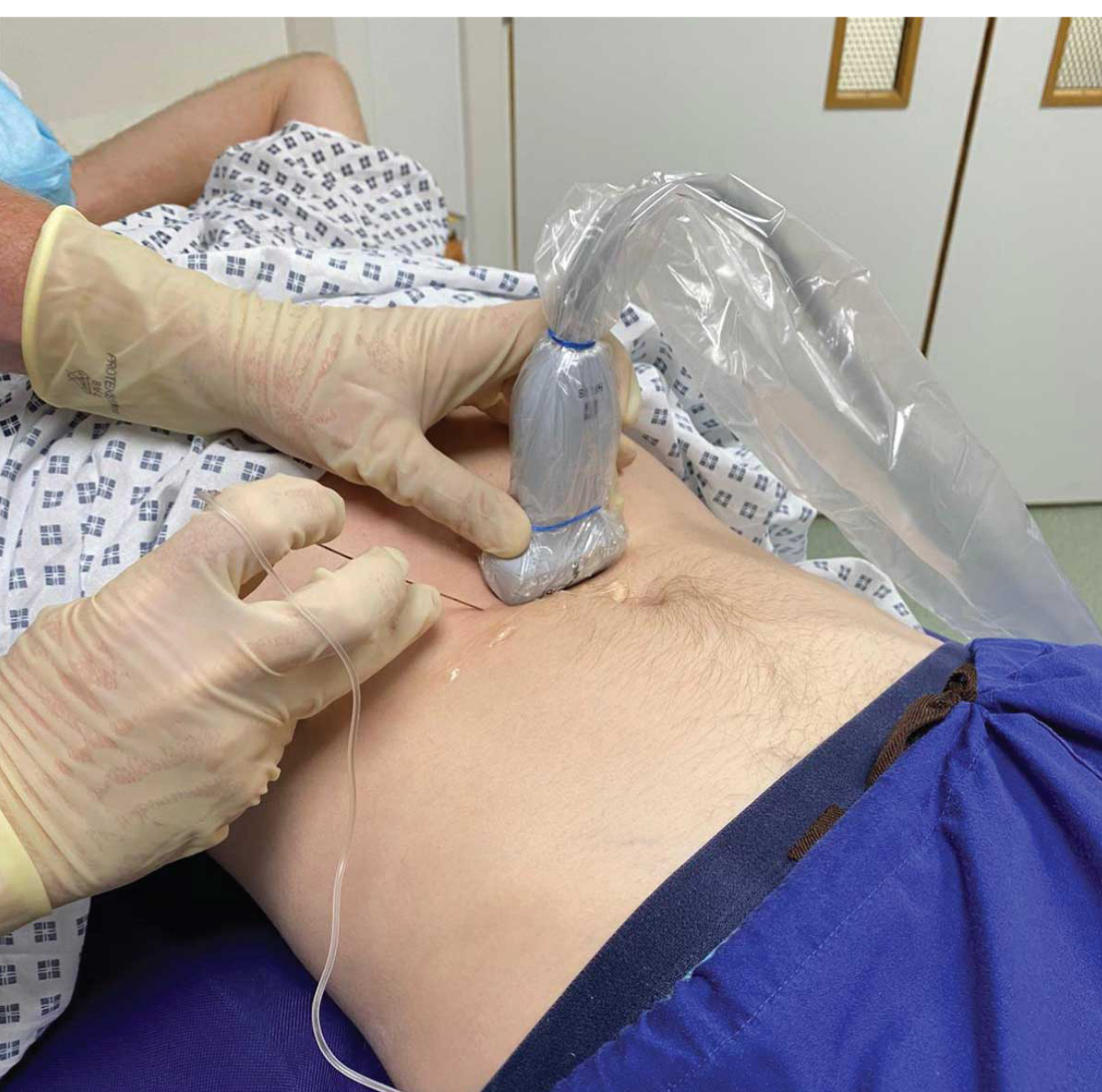
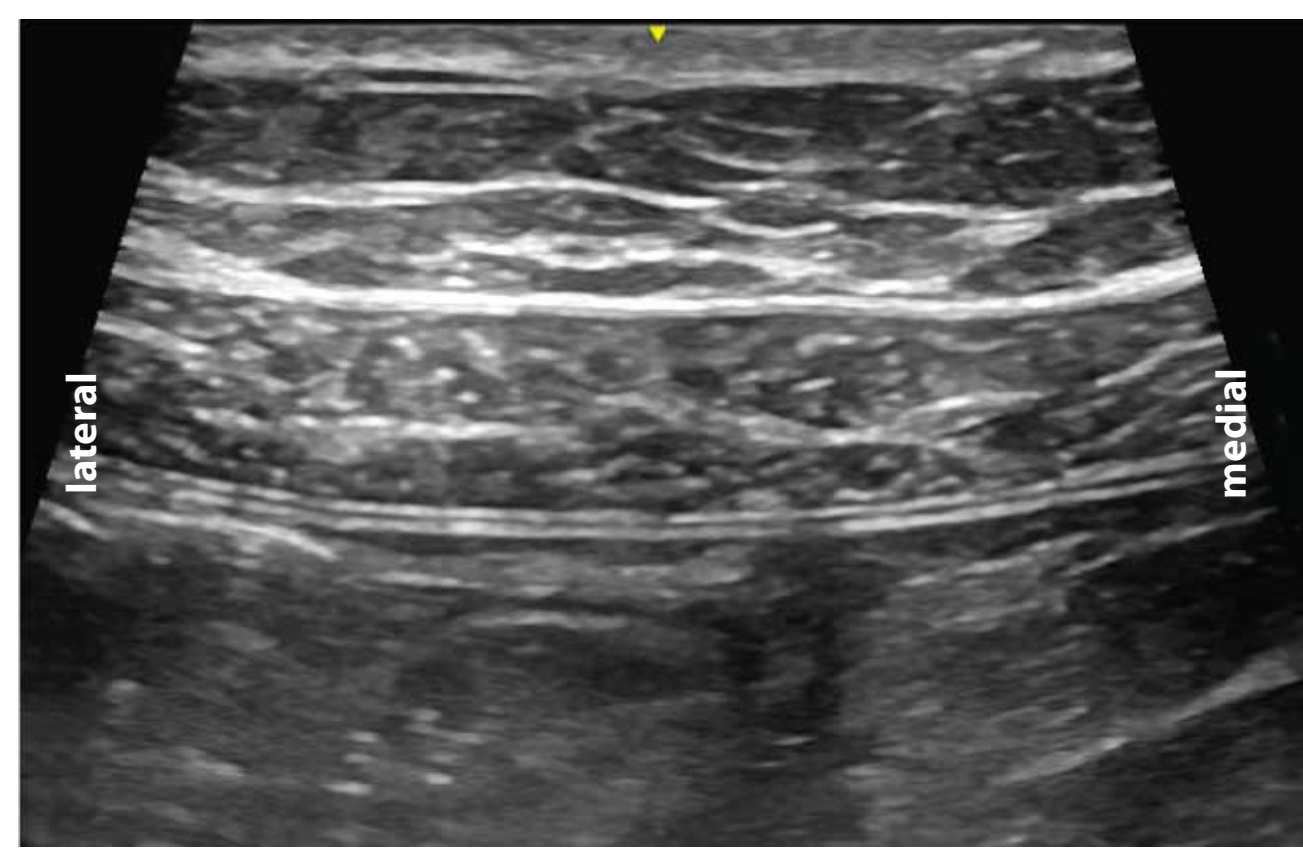
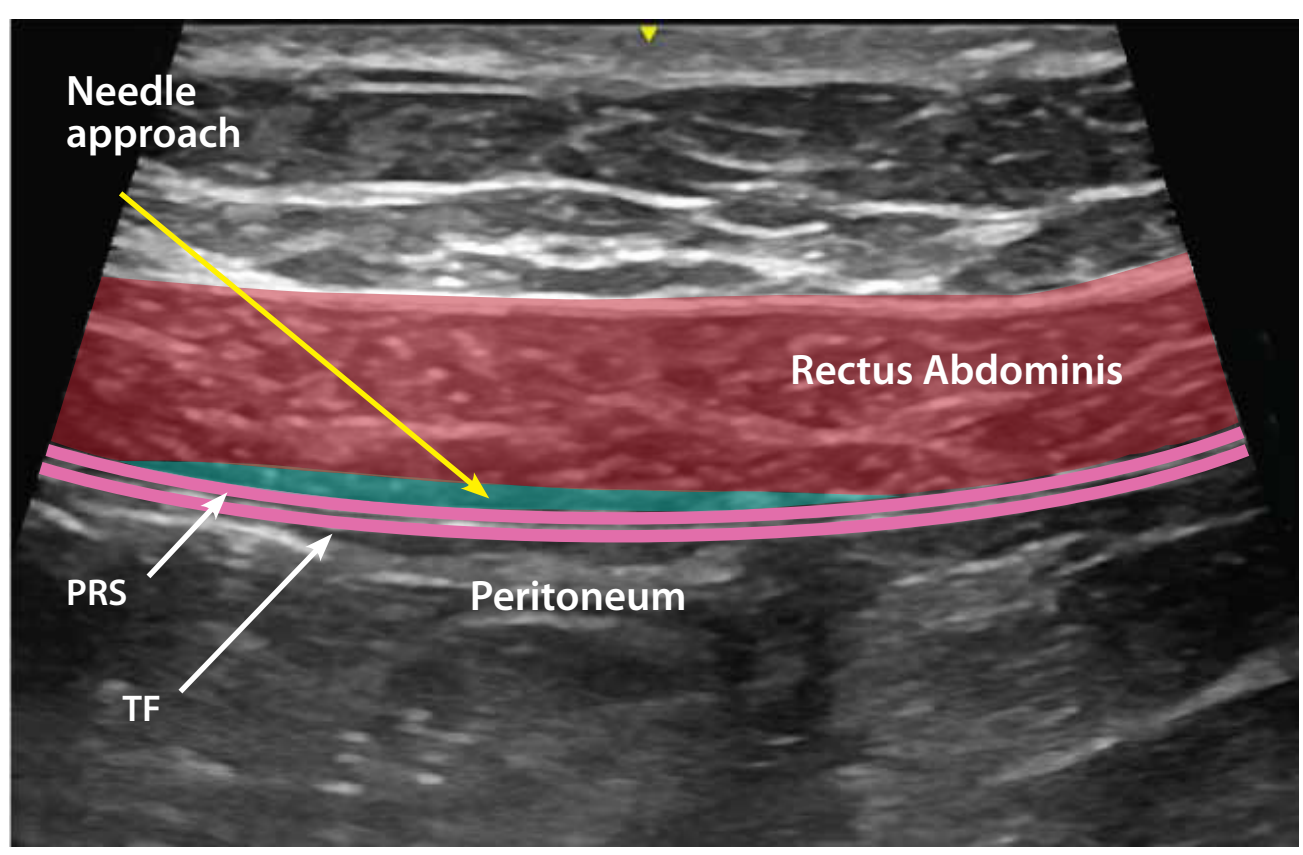


UPPER LIMB & TRUNK PLAN A BLOCKS

	PROBE POSITION	ULTRASOUND IMAGE	ULTRASOUND ANATOMY
INTERSCALENE BRACHIAL PLEXUS BLOCK Indications: Shoulder procedures Positioning: Supine, head turned to contralateral side Depth: 1 – 4 cm Needle: 22G, 25 – 50 mm Volume: 10 ml for analgesia / 15 – 20 ml for anaesthesia  Abbreviations MS = Middle Scalene Muscle AS = Anterior Scalene Muscle SCM = Sternocleidomastoid Muscle VA = Vertebral Artery IJV = Internal Jugular Vein LA = Local Anaesthetic	cephalad 	 Probe position: Level of the cricoid cartilage over external jugular vein. Needle approach: In-plane, posterior to anterior or out-of-plane. Best view: C5, C6 and C7 between the AS and MS. Technique: Needle insertion towards the C6 nerve root avoiding the dorsal scapular and long thoracic nerve with in the MS.	 Spread of LA: Spread around C5 and C6 nerve roots. Tips: Scan proximally from supraclavicular fossa. Use colour doppler to identify the vertebral artery. Avoid injecting near to C7 nerve root due to the risk of puncturing the nearby vertebral artery. ● = Local Anaesthetic Spread
AXILLARY BRACHIAL PLEXUS BLOCK Indications: Procedures below shoulder Positioning: Supine, arm abducted and / or elbow flexed Depth: 1 – 4 cm Needle: 22G, 50 – 100 mm Volume: 15 – 25 ml  Abbreviations AA = Axillary Artery AV = Axillary Vein MN = Median Nerve UN = Ulnar Nerve RN = Radial Nerve MCN = Musculocutaneous Nerve	cephalad  caudad	 Probe position: Transversely across the axilla at junction of biceps and pectoralis muscles. Needle approach: In-plane. Best view: Axillary artery at the level of the conjoint tendon with the three nerves surrounding. MCN between biceps and coracobrachialis. Trace the nerves in the upper arm to confirm identity of the nerves. Technique: Start with the radial nerve, deep to the artery. Then surround the median and ulnar nerves. May need a separate injection for MCN.	 Spread of LA: Aim for 5 mls of LA around each nerve. Tips: There is a large amount of anatomical variation. Always scan within the upper arm to locate the nerves. Use small amounts of LA to hydrodissect the nerves and vessels. ● = Local Anaesthetic Spread
ERECTOR SPINAE PLANE BLOCK Indications: Chest wall procedures and rib fractures Positioning: Sitting, lateral decubitus or prone Depth: 4 – 10 cm Needle: 22G 50 – 100 mm or 18G Tuohy Volume: 20 – 30 ml, do not exceed max. dose of LA  *This is the dermatomal spread we hope to cover Abbreviations TP = Transverse Process	cephalad  caudad	 Probe position: Sagittal plane about 3 cm lateral to the midline. Needle approach: In-plane, cephalad to caudad or caudad to cephalad. Best view: Identify the transverse process in the middle of the intended dermatomal spread. Two transverse processes with the muscle layers in view. Technique: Needle insertion towards the TP at the desired level. Inject below erector spinae muscle.	 Spread of LA: Inject a small amount of LA to confirm needle in correct fascial plane. LA should spread below the erector spinae muscle, caudad to cranial. Tips: Aim for the transverse process and use it as a back stop to avoid over inserting your needle. This is a fascial plane block which requires high volumes for spread. Be cautious to not exceed maximum dose of LA. Consider using dilute solution of LA. ● = Local Anaesthetic Spread
RECTUS SHEATH BLOCK Indications: Midline abdominal procedures Positioning: Supine Depth: 3 – 6 cm Needle: 22G 50 – 100 mm Volume: 10 – 20 ml each side, do not exceed max. dose of LA  *This is the dermatomal spread we hope to cover Abbreviations PRS = Posterior Rectus Sheath TF = Transversalis Fascia	cephalad 	 Probe position: Above the level of the umbilicus, lateral and in a transverse position Needle approach: In-plane, lateral to medial Best view: Identify linea alba in the midline and scan laterally to rectus. View the fascial plane deep to the rectus muscle. Technique: Insert the needle through the rectus muscle aiming towards the fascial plane between the rectus muscle and PRS.	 Spread of LA: LA spread between the rectus muscle and PRS. The muscle will peel away from the PRS. Tips: Innervation of the midline is from both sides, therefore bilateral blocks are required for midline procedures. The epigastric vessels can lie deep to or in the rectus muscle, use colour doppler to help identify the vessels. ● = Local Anaesthetic Spread