

The Block Show with Dr. Teames

Tips and Tricks for Upper Extremity Blocks

Supraclavicular – the “Spinal of the arm” (Hand up to mid humerus)

Probe Positioning Tips:

- “Kick stand” the probe by sliding the posterior aspect of the probe posteriorly off the clavicle. (See demonstration in the video)
- Keep probe pointed longitudinally down into the supraclavicular fossa (parallel with the spine)

Local Infiltration Location: 1/3 in the “corner pocket” first (ulnar nerve) at about 7 o’clock position to the subclavian artery, 1/3 at the 9 o’clock position, and if needed the other 1/3 at the 11/12 o’clock position

Standard Volume:

- 15-30 mL of Ropivacaine 0.5% or 0.5% Bupivacaine +/- Decadron 4mg preservative free
- Can use more dilute local such as 0.2-0.3% Ropivacaine/Bupivacaine but will not be as dense or last as long. Will cause less motor blockade.

Short Acting Surgical Block: 20-30 mL of 2% Mepivacaine (Lasts about 2-3 hours), could use 2% Lidocaine as well

Longer Acting Surgical Block: 10-15 mL of 2% Mepivacaine plus 10-15 mL 0.5% Ropivacaine (Lasts 18-24 hours)

Watch out for:

- Be aware that the suprascapular nerve could be in the way as you drive your needle to the “corner pocket.” It generally lives at the lateral apex of the nerve divisions
- Phrenic nerve involvement can occur 50% of the time
- You will miss the T2 intercostal brachial nerve with this block. (Need to do separately)

Superior Trunk – (Newer block technique for shoulder surgeries)

Probe Positioning Tips:

- Slide the probe up the neck slowly from the supraclavicular block. Spy the nerve divisions as they start to form the trunks of the brachial plexus
- Probe will be angled in towards the neck rather than straight up and down

Local Infiltration Location: Place local anesthetic around the superior trunk

Standard Volume:

- 15-20 mL of Ropivacaine 0.5% or 0.5% Bupivacaine +/- Decadron 4mg preservative free
- Can use more dilute local such as 0.2-0.3% Ropivacaine/Bupivacaine but will not be as dense or last as long. Will cause less motor blockade.

Short Acting Surgical Block: 15-20 mL of 2% Mepivacaine (Lasts about 2-3 hours), could use 2% Lidocaine as well

Longer Acting Surgical Block: 10 mL of 2% Mepivacaine plus 10 mL 0.5% Ropivacaine (Lasts 18-24 hours)

Watch out for:

- This block primarily blocks the superior trunk and will miss a lot of the other nerves of the brachial plexus i.e. radial, median, and ulnar nerves.
- This block should be done for shoulder surgeries only
- Phrenic nerve involvement can occur somewhere between 50% and 100% of the time
- You will miss the T2 intercostal brachial nerve with this block. (Need to do separately)
- It is very challenging to get under that neural fascia with this block and so this can affect the duration of the block if your local isn’t under the fascia

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Tips and Tricks for Upper Extremity Blocks

Interscalene – (Shoulder surgery, clavicle ORIF and upper humerus)

Probe Positioning Tips:

- Always start a “Home base” which is the supraclavicular block and slide your probe up the neck spying the nerves as they form the roots of the brachial plexus
- Probe will be angled in towards the neck rather than straight up and down. It is in an almost sagittal position to the neck perpendicular to the axis of the spine

Local Infiltration Location:

- 70-80% of the time there is a nice hyperechoic fascia between C5 and C6. Place your needle right in-between C5 and C6 going into that fascia.
- Can deposit all your local anesthetic in that one spot. There is no need to move your needle around to get other roots.

Standard Volume:

- 15-20 mL of Ropivacaine 0.5% or 0.5% Bupivacaine +/- Decadron 4mg preservative free
- Can use more dilute local such as 0.2-0.3% Ropivacaine/Bupivacaine but will not be as dense or last as long. Will cause less motor blockade.
- Liposomal Bupivacaine: Mix 10 mL of LB plus either 10 mL of 0.25% or 0.5% Bupivacaine for total volume of 20 mL

Short Acting Surgical Block: 15-20 mL of 2% Mepivacaine (Lasts about 2-3 hours), could use 2% Lidocaine as well

Longer Acting Surgical Block: 10 mL of 2% Mepivacaine plus 10 mL 0.5% Ropivacaine (Lasts 18-24 hours)

Watch out for:

- Be aware that the dorsal scapular nerve lives in the middle scalene muscle and can be hit inadvertently with your needle on your way into the nerves
- Phrenic nerve involvement will occur 100% of the time, therefore, NEVER do a bilateral interscalene block. This is called malpractice!
- You will miss the T2 intercostal brachial nerve with this block. (Need to do separately)
- You should NEVER see blood vessels while performing this block. If you do go back to home base (supraclavicular block) and rescan up the neck until you see the “stop light”
- This block primary blocks the C5 and C6 nerve roots and will miss a lot of the other nerves of the brachial plexus i.e. radial, median, and ulnar nerves, thus it is only used for Shoulder and Clavicle fracture/surgeries.

Superficial Cervical Plexus – (Adjuvant block for clavicle surgeries)

Probe Positioning Tips: Can be blocks while performing an interscalene block. Same probe position as interscalene block

Local Infiltration Location: Look for the Sternocleidomastoid (SCM) muscle overlying the brachial plexus, deposit local under the posterior lip of the SCM between the SCM and the middle scalene muscle

Standard Volume: 3-5 mL of 0.5% Ropivacaine or Bupivacaine

Watch out for:

- While performing on an awake patient this block can be a little uncomfortable even though you aren't seeing the nerves they are there and will stretch slightly while infiltrating = pain
- No need to use high volume as these are cutaneous nerves and only need small volumes to effectively anesthetize them