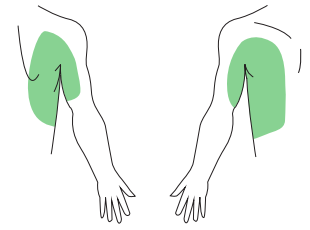


ICU PLAN A BLOCKS **Superficial Serratus Anterior Plane**

INDICATIONS: Antero-lateral rib fractures, intercostal drain analgesia

TARGET: Tissue plane between serratus anterior (SA) and latissimus dorsi (LD) muscles to anaesthetise intercostal nerves from T2 to T9. The disrupted tissue planes in rib fractures appear to facilitate the spread of injectate through the muscle planes to the intercostal nerves.

LOCAL: 30-40ml



EQUIPMENT

- ICU-appropriate PPE
- High-frequency (10 to 15 MHz) linear array transducer
- Probe cover and gel
- Chlorhexidine 0.5%
- Local anaesthesia for skin
- If single shot: 50 mm NRFit block needle
- If continuous technique: epidural catheter kit e.g. 50mm NR fit 18-19G Touhy

ICU PROCEDURE CHECKLIST

A: Airway secure and safe **B:** Ventilation and oxygenation adjusted **C:** Cardiovascular stability, vasopressors if increased sedation **D:** Sedation and analgesia, skin infiltration for block **E:** Everyone on board. Unit quiet. No other priorities. Adequate personnel. Free of emergency call duties.

Patient focus:

- Recheck and mark the side of the block
- Check coagulation profile, platelet count and drug chart (anticoagulation)
- Consider weight-based maximum local anaesthetic dose, dose reduction in organ failure, low protein states, especially for continuous infusion, large or repeated boluses
- Valid consent or incapacity documentation. NOK informed?

PRE-PROCEDURE

- Complete ICU procedure checklist
- Patient supine or semi-recumbent
- Block side arm abducted and supported
- Position the US machine on the side opposite to the clinician
- Ensure appropriate monitoring

PREP

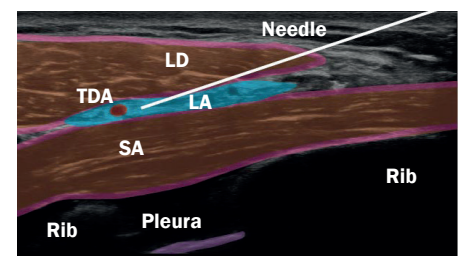
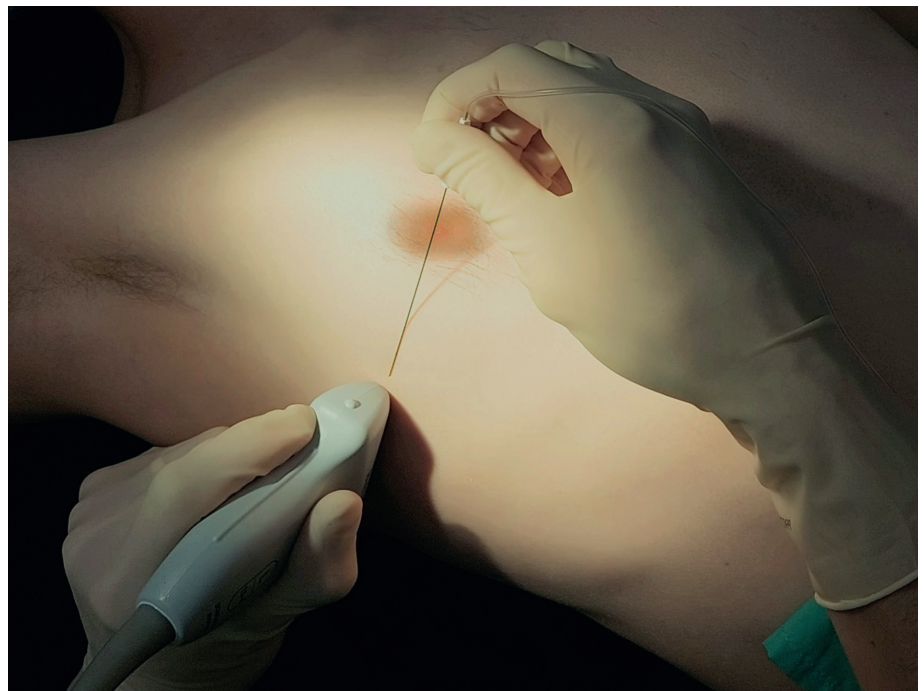
- US transducer in a transverse plane, mid-axillary line at the level of the nipple or sub-mammary fold
- Identify LD, SA, ribs and pleura
- Carefully identify the thoracodorsal artery (TDA). Doppler can be used to identify arterial flow
- Ensure asepsis (if catheter use gown, drape and probe sleeve)

STOP

- Confirm skin mark and consent before you block

BLOCK

- Apply local anaesthesia to skin
- Insert needle in-plane in an anterior to posterior direction
- Place the tip of the needle between LD and SA
- Confirm negative aspiration and inject to observe separation of these muscles
- If inserting a catheter, use a full aseptic technique, allow 4 cm of space, and secure to the skin



REFERENCES

Ashken et al (2022) Recommendations for anatomical structures to identify on ultrasound for the performance of intermediate and advanced blocks in ultrasound guided regional anaesthesia. <http://dx.doi.org/10.1136/rapm-2022-103738>
Haslam et al (2021) Prep, stop, block': refreshing 'stop before you block' with new national guidance. <https://www.ra-uk.org/index.php/prep-stop-block>



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