

# PAEDIATRIC PLAN A BLOCKS **Rectus Sheath**

**INDICATIONS:** Analgesia for midline surgical procedures, pyloromyotomy & PEG insertion

**TARGET:** Plane between rectus abdominis (RA) & posterior layer of rectus sheath (RSp)

**LOCAL:** 0.25% Levobupivacaine (max 2.5 mg/kg)  
0.1-0.3ml/kg (per side)

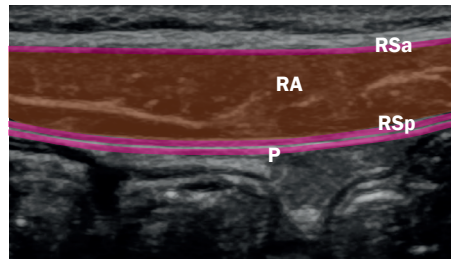
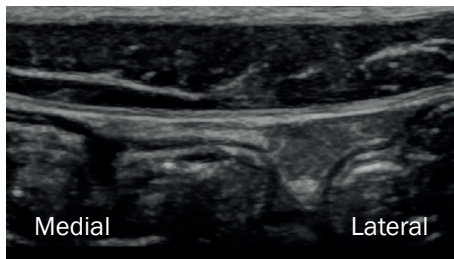
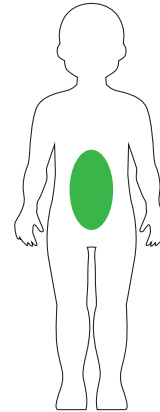
Dilution to larger volume may be required for larger incision and in <1y

## KIT

- PPE (droplet precautions)
- Gloves
- Linear US probe + cover
- Sterile gel
- 0.5% chlorhexidine
- 50mm 22G NR fit block needle
- Syringes for LA
- Gown, drape, and nerve catheter kit if required

## PRE-PROCEDURE

- Assistant, monitoring (ECG, SpO<sub>2</sub>, BP) & IV access
- Usually under general anaesthesia in a paediatric patient
- Operator to block side, patient supine, US machine on contralateral side
- If bilateral (which often is), start at ipsilateral side
- Aseptic skin prep (allow to dry)



## EXAMPLE TIMINGS

- Surgical block usually achieved in 20min
- Analgesia for 12+h post block
- Catheter technique intermittent bolus (preferred) or infusion regimens both accepted (catheter duration up to 3 days, or longer with close monitoring)

## SCANNING

- US probe transverse (sagittal for catheter), midway between level of umbilicus & xiphisternum (avascular transpyloric plane)
- Can also scan/perform in sagittal plane
- Identify linea alba in midline & RA laterally, with RSp & peritoneum (P) deep to muscle, & anterior layer of rectus sheath (RSa) superficial

## CAUTION

- Risk injury to peritoneum
- Risk epigastric vessel injury, particularly at/below level of umbilicus
- Fascial planes can be tough in neonates, a shallow trajectory is safer

## STOP BEFORE YOU BLOCK

(Follow Prep, Stop, Block)

- N.B. Full asepsis if catheter insertion
- Needle in plane (lateral to medial block, superior to inferior if catheter) through single skin puncture each side
- RA will peel off RSp with LA injection
- Inject lateral to deepest part of muscle and superficial to RSp
- Low-pressure injection (<15cm H<sub>2</sub>O), stop if LA spread not seen
- Aspirate every 5 ml & every needle reposition
- +/- catheter insertion - leave 4-5 cm in space & secure
- Bilateral blocks are often required: midline abdominal innervation



## REFERENCES

Aldridge et al (2023) RA-UK Plan A Paeds Blocks Poster - Upper Limb & Trunk and Lower Limb  
Bowness et al (2021) International consensus on anatomical structures to identify on ultrasound for the performance of basic blocks in ultrasound-guided regional anaesthesia  
<http://dx.doi.org/10.1136/rapm-2021-103004>  
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>

## Authors

Nick Record, Su Ying Ong, Karen Pearson, Annabel Pearson, James Bowness, Alasdair Taylor.

## Contact

✉ [suying.ong2@nhslothian.scot.nhs.uk](mailto:suying.ong2@nhslothian.scot.nhs.uk) [suying87](https://www.linkedin.com/company/suying87) & [bowness\\_james](https://www.linkedin.com/company/bowness_james)



Endorsed by the European Society of Regional Anaesthesia & Pain Therapy