

PLAN A BLOCKS Adductor Canal (Distal Femoral Triangle)

INDICATIONS: Medial Knee/leg analgesia (motor sparing, often used with sciatic nerve block)

TARGET: Saphenous nerve (SaN)

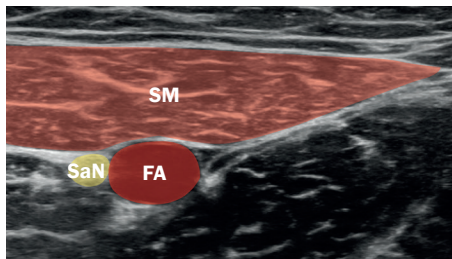
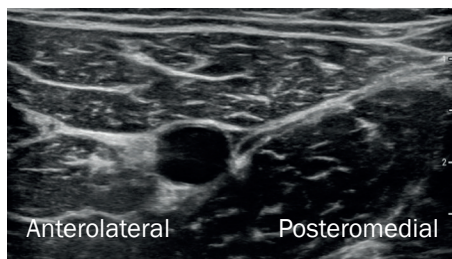
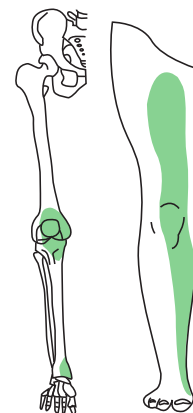
LOCAL: 10 ml plus local for skin

KIT

- PPE (droplet precautions)
- Sterile gloves
- Linear US probe + cover
- Sterile gel
- 0.5% chlorhexidine
- LA for skin (+ syringe/needle)
- 80 mm 22G NR fit block needle
- 10 ml syringe for LA

PRE-PROCEDURE

- Assistant, monitoring (ECG, SpO₂, BP) & IV access
- Operator on side of block, patient supine, leg slightly abducted & externally rotated
- US machine on contralateral side
- Aseptic skin prep (allow to dry)



SCANNING

- US probe transverse on anteromedial mid-thigh
- Identify femoral artery (FA), overlying sartorius muscle (SM) & underlying vastus medialis
- Ideally perform at point medial border of SM aligns with medial border of adductor longus
- SaN on lateral side of FA

STOP BEFORE YOU BLOCK

(Follow Prep, Stop, Block)

- Apply pressure with probe to compress femoral vein (deep to FA) before insertion of needle
- LA to skin
- Block needle in plane (lateral to medial) through single skin puncture
- Withdraw & reposition needle if paraesthesia
- Low-pressure injection (<15 cmH₂O) in perivascular location, deep to SM, around SaN (stop if LA spread not seen)
- Aspirate every 5 ml & every needle reposition

EXAMPLE TIMINGS

0.5% levobupivacaine (toxic dose 2 mg/Kg)

- Block achieved in 15 min
- Analgesia 12+ hr post block

POST-PROCEDURE

- Monitor for minimum 30 min (as per AoA Standards of Monitoring)
- Test block after 10 min (sensation)
- Document procedure, extent of block & post-block care

TESTING THE BLOCK

NERVE	SENSORY	MOTOR
SaN	Medial leg & foot (from knee to 1st MTPJ)	N/A

REFERENCES

Barron et al (2020) RA-UK Plan A Blocks Poster – 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>

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PLAN A BLOCKS **Axillary Level Brachial Plexus**

INDICATIONS: Elbow, forearm, wrist and hand surgical anaesthesia and analgesia

TARGET: Musculocutaneous (McN), radial (RN), median (MN) & ulnar (UN) nerves
(+ medial cutaneous nerves of arm/forearm (MCNA/F) & intercostobrachial (ICBN))

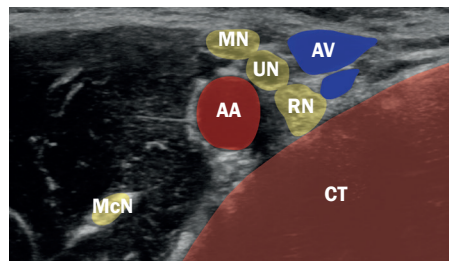
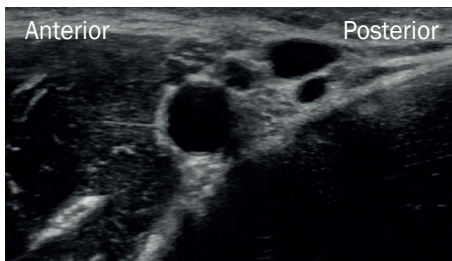
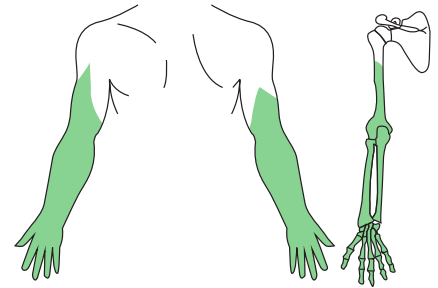
LOCAL: ≤25 ml plus local for skin

KIT

- PPE (droplet precautions)
- Sterile gloves
- Linear US probe + cover
- Sterile gel
- 0.5% chlorhexidine
- LA for skin (+ syringe/needle)
- 80 mm 22G NR fit block needle
- 2 x 20 ml syringes

PRE-PROCEDURE

- Assistant, monitoring (ECG, SpO₂, BP) & IV access
- Operator at head of bed, patient semi-recumbent with shoulder abducted & externally rotated, elbow flexed
- US machine on block side
- Aseptic skin prep (allow to dry)



SCANNING

- US probe transverse across proximal medial arm (junction of biceps and pec major)
- Identify axillary artery (AA) and vein(s) (AV) over conjoint tendon (CT)
- Identify nerves (McN, RN, MN, UN)(McN is variable - often between coracobrachialis and biceps, moving laterally further distally)

STOP BEFORE YOU BLOCK

(Follow Prep, Stop, Block)

- Apply pressure with probe to compress AV before insertion of needle
- LA to skin
- Block needle in plane through single skin puncture
- Withdraw & reposition needle if paraesthesia
- Low-pressure injection (<15 cmH₂O), stop if LA spread not seen. Aspirate every 5 ml & every needle reposition
- McN 3 ml, RN 7 ml deep to AA, 5 ml each to MN & UN over/around AA (will cover MCNA/F)
- ICBN 5 ml s/cut injection under US probe

POST-PROCEDURE

- Monitor for minimum 30 min (as per AoA Standards of Monitoring)
- Test block after 15 min (sensation & motor)
- Document procedure, extent of block & post-block care

TESTING THE BLOCK

NERVE	SENSORY	MOTOR
McN	Lateral forearm	Elbow flexion
RN	1st dorsal webspace	Elbow, wrist & finger extension
MN	Thenar eminence	Thumb abduction
UN	Ulnar/medial border of hand	Finger abduction
MCNA/F	Medial arm/forearm	N/A
ISBN	Medial arm (tourniquet)	N/A
	Site of surgery	

EXAMPLE TIMINGS

0.5% levobupivacaine
(toxic dose 2 mg/Kg)

- Surgical block achieved in 20 min
- Surgical Anaesthesia for 6 hr
- Analgesia 12+ hr post block



REFERENCES

Barron et al (2020) RA-UK Plan A Blocks Poster – Upper Limb & Trunk
Bowness et al (2021) International consensus on anatomical structures to identify on ultrasound for the performance of basic blocks in ultrasound-guided regional anaesthesia
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PLAN A BLOCKS Erector Spinae Plane

INDICATIONS: Chest wall/trunk analgesia (unilateral)

*N.B. Often a

TARGET: Tissue plane between transverse process (TP) & erector spinae muscle (ESM)

catheter technique

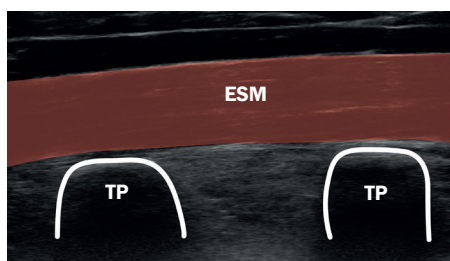
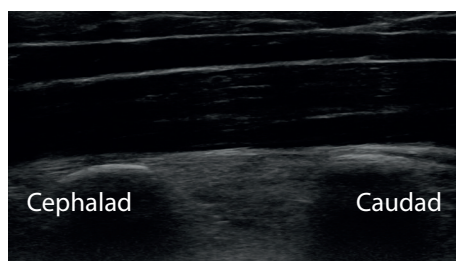
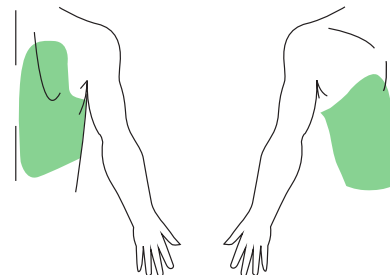
LOCAL: ≤30 ml plus local for skin

KIT

- PPE (droplet precautions)
- Sterile gloves
- Linear US probe + cover
- Sterile gel
- 0.5% chlorhexidine
- LA for skin (+ syringe/needle)
- 80 mm 22G NR fit block needle
- Catheter technique: 18G Tuohy plus gown/mask/drape/sterile tray

PRE-PROCEDURE

- Assistant, monitoring (ECG, SpO₂, BP) & IV access
- Operator standing behind patient, patient sitting on edge of bed (can also be lateral)
- US machine in front of patient, on side of block
- Aseptic skin prep (allow to dry)



SCANNING

- US probe sagittal, midway between vertebral spinous processes and medial border of scapula (in middle of intended dermatomal spread)
- Identify rib (superficial and rounded), pleura and ESM
- Surface landmarks: T3/spine of scapula & T7/inferior angle of scapula
- Scan medially, across junction of TP and rib and onto TP (slightly deeper, flatter, and only superficial border seen clearly with angular end to acoustic shadow at either side. Pleura no longer visible)

STOP BEFORE YOU BLOCK

(Follow Prep, Stop, Block)

- N.B Full asepsis if catheter inserted
- LA to skin
- Needle in plane through single skin puncture (superior to inferior) aiming for posterior surface of TP
- Inject into plane between TP & ESM ensure white line of ESM fascia lifts from TP
- Low-pressure injection (<15 cmH₂O), stop if LA spread not seen
- Aspirate every 5 ml & every needle reposition
- +/- thread catheter 5 cm into space and secure

EXAMPLE TIMINGS

0.25% levobupivacaine (toxic dose 2 mg/Kg)

- Onset 20 min
- Analgesia 8+ hr post block
- Catheter technique: intermittent bolus or infusion regimens both accepted (catheter duration 3-5 days)

POST-PROCEDURE

- Monitor for minimum 30 min (as per AoA Standards of Monitoring)
- Test block after 20 min (sensation only)
- Document procedure, sensory blockade & ongoing analgesia plan

CAUTION

- Risk of pleural injury
- High volume block - risk of LA toxicity

REFERENCES

Barron et al (2020) RA-UK Plan A Blocks Poster – Upper Limb & Trunk
Bowness et al (2021) International consensus on anatomical structures to identify on ultrasound for the performance of basic blocks in ultrasound-guided regional anaesthesia
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PLAN A BLOCKS **Femoral Nerve**

INDICATIONS: Hip/femoral/patella fracture, knee/quadriceps injury, skin of anterior thigh/medial leg (analgesia)

TARGET: Femoral nerve (FN) deep to fascia iliaca (FI)

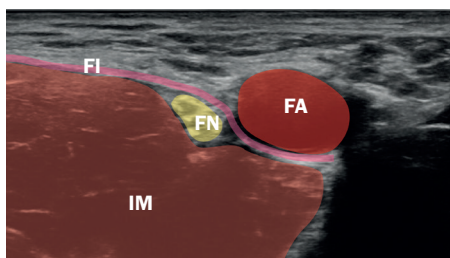
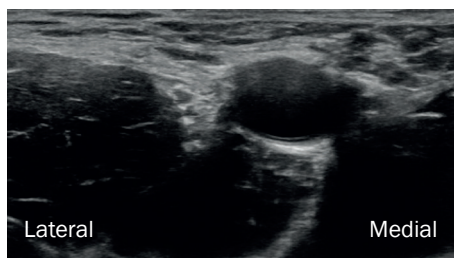
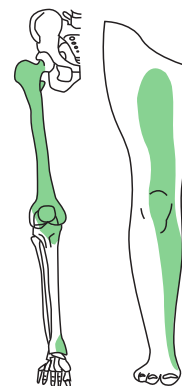
LOCAL: ≤20 ml plus local for skin

KIT

- PPE (droplet precautions)
- Sterile gloves
- Linear US probe + cover
- Sterile gel
- 0.5% chlorhexidine
- LA for skin (+ syringe/needle)
- 80 mm 22G NR fit block needle
- 20 ml syringe for LA

PRE-PROCEDURE

- Assistant, monitoring (ECG, SpO₂, BP) & IV access
- Operator on side of block, patient supine
- US machine on contralateral side
- Aseptic skin prep (allow to dry)



SCANNING

- US probe transverse across upper thigh, just distal to inguinal ligament
- Identify femoral artery (FA), with femoral vein (FV) on medial side, both superficial to fascia iliaca (FI)
- Femoral nerve (FN) lateral to artery, deep to FI & lying on iliacus/iliopsoas (IM)
- Block proximal to division of FA, where FN splits (tilt probe cephalad to optimise view of FN, nerve becomes clearer if hydrodissect deep to FI)

STOP BEFORE YOU BLOCK

(Follow Prep, Stop, Block)

- LA to skin
- Block needle in plane (lateral to medial) through single skin puncture
- Withdraw & reposition needle if paraesthesia
- Low-pressure injection (<15 cmH₂O), stop if LA spread not seen
- Aspirate every 5 ml & every needle reposition

EXAMPLE TIMINGS

0.5% levobupivacaine (toxic dose 2 mg/Kg)

- Block achieved in 20 min
- Analgesia 12+ hr post block

POST-PROCEDURE

- Monitor for minimum 30 min (as per AoA Standards of Monitoring)
- Test block after 15 min (sensation & motor)
- Document procedure, extent of block & care of blocked limb (Including balance & mobility)

TESTING THE BLOCK

NERVE	SENSORY	MOTOR
FN	Anterior and medial thigh	Knee extension
	Medial leg (saphenous nerve)	



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REFERENCES

Barron et al (2020) RA-UK Plan A Blocks Poster – 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
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PLAN A BLOCKS Interscalene Level Brachial Plexus

INDICATIONS: Shoulder surgical anaesthesia & analgesia

TARGET: C5 & C6 nerve roots

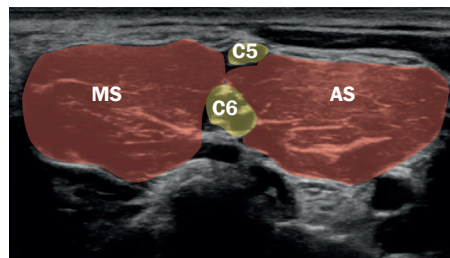
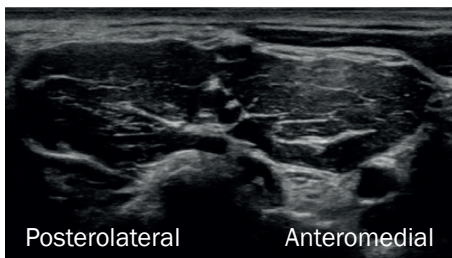
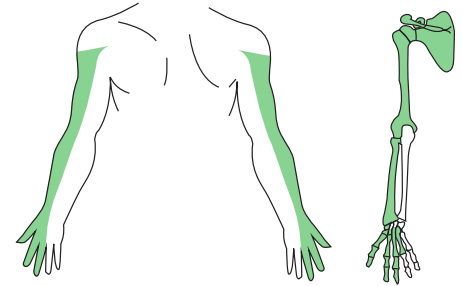
LOCAL: 10 – 15 ml plus local for skin

KIT

- PPE (droplet precautions)
- Sterile gloves
- Linear US probe + cover
- Sterile gel
- 0.5% chlorhexidine
- LA for skin (+ syringe/needle)
- 50 mm 22G NR fit block needle
- 20 ml syringe for LA

PRE-PROCEDURE

- Assistant, monitoring (ECG, SpO₂, BP) & IV access
- Operator at head of bed, patient semi-recumbent with head turned to contralateral side
- US machine on contralateral side
- Aseptic skin prep (allow to dry)



SCANNING

- Place US probe in supraclavicular fossa
- Identify subclavian artery & trunks/divisions of brachial plexus – follow these proximally to find the upper trunk (UT)
- Trace UT proximally to find C5 & C6 between anterior scalene (AS) & middle scalene (MS)
- Tilt probe caudad to optimise view of nerves.

STOP BEFORE YOU BLOCK

(Follow Prep, Stop, Block)

- LA to skin
- Block needle in plane posterior to anterior through single skin puncture (avoid dorsal scapular & long thoracic nerves which may be seen in MS)
- Place needle tip posterolateral to C5 and C6 roots, infiltration will hydrodissect C5 and C6 away from MS
- Withdraw & reposition needle if paraesthesia
- Low-pressure injection (<15 cmH₂O), stop if LA spread not seen
- Aspirate every 5 ml & every needle reposition

EXAMPLE TIMINGS

0.5% levobupivacaine (toxic dose 2 mg/Kg)

- Surgical block achieved in 30 min
- Surgical Anaesthesia for 6 hr
- Analgesia 12+ hr post block

POST-PROCEDURE

- Monitor for minimum 30 min (as per AoA Standards of Monitoring)
- Test block after 15 min (sensation & motor)
- Document procedure, extent of block & post-block care

TESTING THE BLOCK

NERVE	SENSORY	MOTOR
C5	Lateral shoulder/arm	Abduction shoulder Elbow flexion
C6	Lateral (radial) forearm, thumb & index finger	Elbow flexion
Site of surgery		

CAUTION

- Phrenic nerve palsy, Horner's syndrome & recurrent laryngeal nerve palsy
- Risk intra-arterial injection high if inject near C7 (vertebral artery)

REFERENCES

Barron et al (2020) RA-UK Plan A Blocks Poster – Upper Limb & Trunk
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>
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PLAN A BLOCKS **Popliteal Level Sciatic Nerve**

INDICATIONS: Leg, foot & ankle surgical anaesthesia & analgesia

TARGET: Sciatic nerve (ScN) or branches; common peroneal nerve (CPN) & tibial (TN)

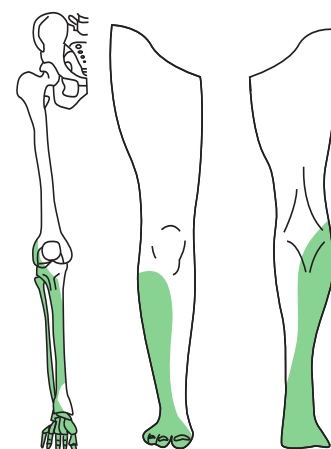
LOCAL: ≤20 ml plus local for skin

KIT

- PPE (droplet precautions)
- Sterile gloves
- Linear US probe + cover
- Sterile gel
- 0.5% chlorhexidine
- LA for skin (+ syringe/needle)
- 80 mm 22G block needle
- 20 ml syringe for LA

PRE-PROCEDURE

- Assistant, monitoring (ECG, SpO₂, BP) & IV access
- USS machine on opposite side to operator
- Aseptic skin prep (allow to dry)
- Patient in lateral position facing US machine, operator behind patient (alternative positions include patient supine with leg elevated, or patient prone)



SCANNING

- US probe transverse across posterior thigh (just proximal to popliteal skin crease)
- Identify popliteal artery & scan proximally to view ScN (superficial to artery & between/deep to hamstring muscles)
- Angle probe distally to optimise view of nerve(s)
- Scan proximally & distally to identify point ScN divides into CPN & TN

STOP BEFORE YOU BLOCK

(Follow Prep, Stop, Block)

- LA to skin
- Block needle in plane (lateral to medial) through single skin puncture, deep to biceps femoris tendon
- Withdraw & reposition needle if paraesthesia
- Deposit ≤20 ml LA within circumneural sheath
- Inject deep to nerve initially, then superficial
- Low-pressure injection (<15 cmH₂O), stop if LA spread not seen
- Aspirate every 5 ml & every needle reposition

EXAMPLE TIMINGS

0.5% levobupivacaine (toxic dose 2 mg/Kg)

- Surgical block achieved in 45 min
- Surgical anaesthesia for 4+ hr
- Analgesia 12+ hr post block

POST-PROCEDURE

- Monitor for minimum 30 min (as per AoA Standards of Monitoring)
- Test block after 10 min (sensation & motor)
- Document procedure, extent of block & post-block care

TESTING THE BLOCK

NERVE	SENSORY	MOTOR
TN	Sole of foot	Plantarflexion foot & great toe
CPN	Dorsum of foot	Eversion of foot
	Site of surgery	



REFERENCES

Barron et al (2020) RA-UK Plan A Blocks Poster – 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
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PLAN A BLOCKS **Rectus Sheath**

INDICATIONS: Analgesia for midline surgical procedures & PEG insertion

*N.B. Often a

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

catheter technique

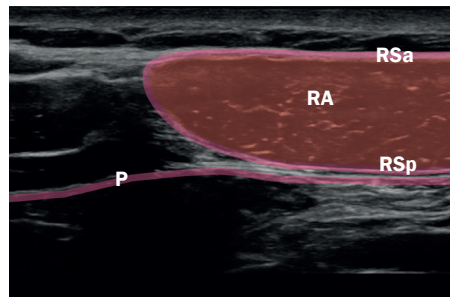
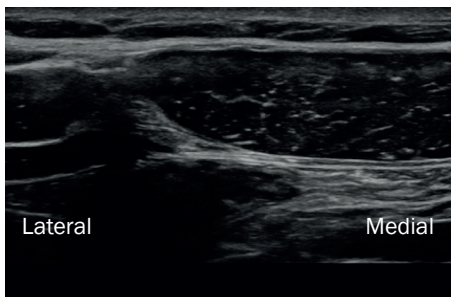
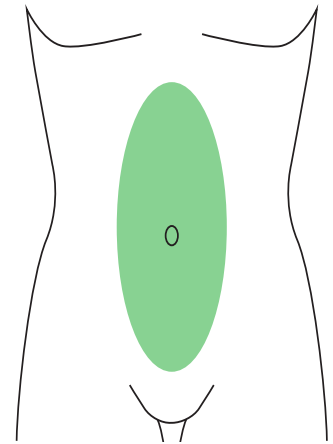
LOCAL: ≤40 ml (20 ml each side) plus local for skin

KIT

- PPE (droplet precautions)
- Sterile gloves
- Linear US probe + cover
- Sterile gel
- 0.5% chlorhexidine
- LA for skin (+ syringe/needle)
- 80 mm 22G NR fit block needle
- 2 x 20 ml syringe for LA
- Catheter technique: 18G Tuohy plus gown/mask/drape/sterile tray

PRE-PROCEDURE

- Assistant, monitoring (ECG, SpO₂, BP) & IV access
- Operator to block side, patient supine
- US machine on contralateral side
- Aseptic skin prep (allow to dry)



SCANNING

- US probe transverse (sagittal for catheter), midway between level of umbilicus & xiphisternum (avascular transpyloric plane)
- (N.B. 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

STOP BEFORE YOU BLOCK

(Follow Prep, Stop, Block)

- N.B. Full asepsis if catheter insertion
- LA to skin
- 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
- Low-pressure injection (<15 cmH₂O), stop if LA spread not seen
- Aspirate every 5 ml & every needle reposition
- +/- catheter insertion - leave 5 cm in space & secure
- Bilateral blocks are often required: midline abdominal innervation is from both sides

EXAMPLE TIMINGS

0.25% levobupivacaine (toxic dose 2 mg/Kg)

- Onset 20 min
- Analgesia 12+ hr post block
- Catheter technique: intermittent bolus or infusion regimens both accepted (catheter duration 3-5 days)

POST-PROCEDURE

- Monitor for minimum 30 min (as per AoA Standards of Monitoring)
- Document procedure and sensory blockade
- Test block after 20 min (sensation)

CAUTION

- Risk injury to peritoneum
- Risk epigastric vessel injury, particularly at/below level of umbilicus



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REFERENCES

Barron et al (2020) RA-UK Plan A Blocks Poster – Upper Limb & Trunk
Bowness et al (2021) International consensus on anatomical structures to identify on ultrasound for the performance of basic blocks in ultrasound-guided regional anaesthesia
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