

Title	Midline Placement Procedure
Section on CEM site	Procedures
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Author (s)	Ward, Maxwell



Midline Catheters

A midline is a peripheral intravenous catheter inserted into an upper limb vein (basilic, brachial, cephalic) with the distal tip situated in the axillary vein.

Placement is via seldinger technique under direct ultrasound guidance. The line can be used for IV contrast (green flow rate label must be attached to the line).

Indications for placement include:

- Likely >1week of IV therapy required
- Poor peripheral venous availability (no visible or palpable veins suitable for cannulation) or undergone 3 or more failed attempts of cannulation by an experienced practitioner
- Cases without an indication for central venous access

Placement should only be performed by those competent to do so i.e., after formal training and initial supervision.

Procedure

- Collect equipment (midline box located in resus storage cupboard) and verbally consent patient to midline placement.
- Position the patient, arm out at 45° and supported. Perform non-sterile vessel assessment with ultrasound. Identify insertion site.
- Prep for sterile procedure as per sterile procedures protocol, clean area with chlorhexidine 2%, ensure use of ultrasound probe cover and sterile gel. Flush line during preparation.
- Infiltrate adequate intradermal 1% lidocaine with orange needle.
- Align vein with screen centre. Use in- or out-of-plane technique to insert the needle into the vein. Blood return will be observed in the needle if successful.
- Introduce the wire into the needle, do not force it, it should thread easily.
- Remove the needle over the guide wire.
- Make a small nick in the skin alongside the wire with a scalpel, before passing the introducer through subcutaneous tissues.

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- Remove introducer and thread midline over guidewire holding midline close to insertion site to prevent kinking of guidewire. Insert to hilt.
- Remove wire and aspirate blood from lumen (may not bleed without aspiration). Attached bio connector and flush.
- Secure with 2 x hand tie sutures and apply semipermeable IV dressing.
- Ensure green flow rate sticker attached to line (use will be limited without this).
- No post insertion imaging required.

References & further information

<https://www.aintreehospital.nhs.uk/media/9504/picc-midline-insertion-and-troubleshooting-review-june-2018.pdf>

<https://rebelem.com/midline-iv-catheters/>

<https://www.stemlynsblog.org/jc-long-lines-for-uss-guided-peripheral-ivs-st-emlyns/>

<https://emcrit.org/emcrit/midlines-1/>

<https://www.rcemlearning.co.uk/foamed/advanced-lines/>

<https://rcemlearning.libsyn.com/august-2022>