

Paediatric Vascular Access

Quick Reference Guide



Ultrasound

Recommend 22G Cannula (length)

Assistant: Hold limb,
tourniquet, stretch skin



US



Assistant:
Hold child, look for flashback

Person
Cannulating

Mid fore-arm veins best target for US in children
Other useful sites: inside of wrist, saphenous &
straight up from the 4th knuckle in the hand



CVC

Preferred Site:

- Femoral (child weight-bearing)
- Neck (child non weight-bearing)

Size

- <5kg: 4 Fr, double lumen, 5 cm length
- <15kg: 5 Fr, triple lumen, 8cm length
- >15kg: 5 Fr, triple lumen, 15cm length⁴



Analgesia

- Baby: Swaddling, breastfeeding, sucrose on dummy
- AMETOP/EMLA
- Ethyl Chloride spray
- Distraction (music, videos)



Helpful Equipment

Accuvein – handheld IR device to visualize & identify veins

BabyWire – 0.31mm guidewire to help thread neoflon, thread wire as soon as flashback



IO Access in Infant/Child Sites

- 1) Proximal tibia
2 fingers down, 1 finger medial from patella
- 2) Distal tibia
2 fingers proximal to medial malleolus
- 3) Distal femur
1 finger up, 1 finger medial from patella
- 4) Proximal humerus
Find surgical neck humerus, 1 finger up

Sizes EZ-IO



15mm – neonates/young infants



25mm – infants/younger children



45mm – older children & any age humeral



DFTB:
Paediatric
IO¹



DFTB:
Cannulation
Video



DFTB:
Top Cannula
Tips²



DFTB: US Top
Tips³



1. Gavin Hoey and Owen Keane, Gyula Tovishazi: Intraosseous access, Don't Forget the Bubbles, 2020: <https://doi.org/10.31440/DFTB.31005>
2. Henry Goldstein: Twelve Tips to placing a well secured Peripheral IV Cannula, Don't Forget the Bubbles, 2016: <https://doi.org/10.31440/DFTB.7939>
3. Trent Calcutt: Ultrasound Guided Peripheral Vascular Access, Don't Forget the Bubbles, 2021: <https://doi.org/10.31440/DFTB.23253>
4. Children's Acute Transport Service SOP: Vascular Access (www.cats.nhs.uk)
5. Advanced Life Support Group: Paediatric Life Support: Practical Approach to Emergencies (Seventh Edition) 2023.