

Paediatric intraosseous insertion at a glance

NEEDLE SELECTION

Neonate /Infant



≥ 3kg



>40kg



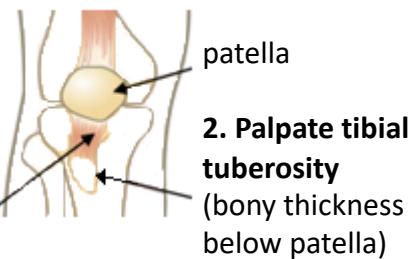
INDICATION: Need for immediate IV access without ability to insert line. *All intravenous medication can go via intraosseous line including inotropes* Do not use >24hrs.

CONTRAINDICATIONS

- Fracture in the bone of insertion
- Infection at site of insertion
- Landmarks not identifiable
- IO/attempted IO access in bone within last 48 hrs
- Prosthesis /orthopaedic procedure near site

Proximal Tibia

1. Position:
Infant: flexed knee, Adolescent: straight leg

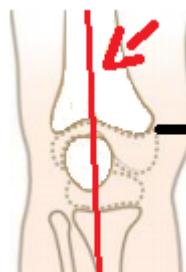


3. Insert 2-3cm below + medial to tibial tuberosity into the flat antero-medial surface of tibia



Distal Femur < 6yr old

1. Position: straight leg.



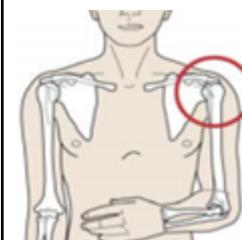
2. Palpate 2-3cm above external condyle



3. Insertion just medial to midline to avoid tendon

Proximal Humerus >6yr old

1. Position: Elbow adducted, hand over the umbilicus



2. From the mid-shaft humerus , palpate up, toward the proximal aspect/humeral head.



3. Palpate small bony protrusion close to shoulder.

4. Insert at base of greater tubercle (Insert at 45° to bone)

Step by step guide to IO insertion

1. Clean site and position patient



2. Place needle at **90° angle to bone**
(except for humerus -45° to bone)



3. Push the needle through the skin –
**do not rev the gun until it touches the
bone. Use longer needle if no black
line is visible at this point**



4. Gently drive into the bone



**5. Stop when you feel loss of
resistance**



6. Ensure needle stable in bone



7. Remove central stylet

8. Aspirate bone marrow to confirm
location. (NB not always possible)



9. Send bone marrow for culture and
glucose if able (inform lab)



10. Connect extension set with
dressing.



11. Flush IO – there should be easy
flow. Check for extravasation injury



12. Fix IO needle to the limb with
dressing or forceps



13. Monitor limb carefully using **SORT
intraosseous needle observation
chart**

IO Lignocaine Lignocaine can be used for pain relief for infusions via intraosseous needle in conscious children **WITH EXTREME CAUTION**

Dose: 0.5 mg/kg (0.05mL/kg of 1%). Maximum 40mg.

Infuse lignocaine IO over 120 seconds

Wait 60 seconds to let lignocaine dwell in IO space

Flush with 2-5 mL of normal saline

Repeat doses are half of first dose infused over 60 seconds if needed

SORT August 2019 Review August 2022
www.sort.nhs.uk,