

Monash Health Fellowship examination OSCE

SUBJECT AND CURRICULUM REFERENCE:

IO Insertion

- Medical expert
- Procedure

Length: 10 minutes

CLINICAL SCENARIO STEM:

The scenario takes place in the paediatric resuscitation room.

A 1yo (10kg) female patient is brought to the ED in septic shock.

Attempts in insertion of a peripheral cannula have been unsuccessful.

The candidate is asked to prepare and insert an IO in the patients proximal tibia.

INSTRUCTIONS:

Candidate

The scenario takes place in the paediatric resuscitation room. You have one assistant who is an experienced paediatric nurse who will be able to perform nursing tasks at your instruction.

Your patient is a 1yo female (10 kg) patient in septic shock. Attempts in insertion of a peripheral cannula have been unsuccessful.

Can you prepare for, and insert an IO in this child's proximal tibia. Demonstrate how you will infuse the appropriate amount of fluid bolus

The patient does not have any contraindications for the insertion of an IO

Her parents have chosen not to be present for the procedure

Role player

- **patient:** Baby mannequin with limb compatible with IO insertion
- **Nurse assistant:** You are experienced ED nurses. You will follow the candidate's instructions promptly, efficiently and competently. You will not prompt him with regards to patient management. You will alert him to significant deterioration in the patient's condition.

Examiner:

This station is to assess the preparation and the performance of the technical skill of insertion of and IO . The candidate has been asked to:

- Prepare and insert an IO in the patient's proximal tibia
- Demonstrate how he/she will infuse the appropriate amount of fluid bolus

Upon completion of the procedure ask the candidate:

- what blood tests can be sent
- what fluids can be infused
- what drugs can be given through and IO

Assessment criteria

⇒ Prepares equipment:

- Dressing pack and skin cleaning solution (e.g., chlorhexidine or povidone-iodine).
- Local anesthetic if patient is conscious
- Needle with trochar or drill (eg EZ-IO) with appropriate needle.
- 5 ml and 20 ml syringe
- Infusion fluid and giving set
- 3 way tap
- artery forceps, bandage and tape

⇒ Positions Patient and demonstrates correct landmark

- The patient is positioned on their back.
-
- Identify site- proximal tibial insertion: Antero-medial surface of tibia 2-3 cm below the tibial tuberosity
- Prepare the area with a skin-cleansing agent such as chlorhexidine or povidone-iodine.
- Bend and stabilize knee
- Approach skin at 90 degree angle
- Advance needle using screwing technique until a "give" in the bone is felt as the cortex is penetrated or uses EZ-IO
- Remove trochar
- Attach a 5 ml syringe and aspirate. Successful aspiration confirms placement. Failure to aspirate, despite good position, is common. Failure to aspirate should

not be used as a reliable sign that positioning is poor.

- Flush with 10 ml N.Saline

⇒ Post – procedure Care

- EZ-IO needle – does not require stabilisation.
- Stabilization of needle with trochar is stabilised by clamping the needle with artery forceps and stabilizing the forceps to the limb with tape. Dressing gauze is used around the forceps to protect the skin.