

# SINGLE SKILL STATION

## Intraosseous Access

Map © iStockphoto/Thinkstock

### Objective

Demonstrate the proper technique to gain intraosseous access with an intraosseous (IO) device.

### Reference

*PHTLS: Prehospital Trauma Life Support, 9th ed.*

### Evaluation

The instructor will verify the accuracy of the participant's ability to correctly gain intraosseous access with an IO device.

### Materials

- IO
- Betadine/alcohol prep
- Syringe
- Saline
- Extension tubing

### Instructor Guidelines

1. Ensure that each participant has all the required materials.
2. Read the objective and the evaluation method to the participants.

### Performance Steps

Indications for use:

- For adult and pediatric patients any time, vascular access is difficult to obtain in emergent, urgent, or medically necessary situations for up to 24 hours.

Contraindications for use:

- Fracture of the targeted bone
- Previous, significant orthopedic procedures at the insertion site (e.g., a prosthetic limb or joint)
- IO in the targeted bone within the past 48 hours
- Infection at the area of insertion
- Excessive tissue or absence of adequate anatomical landmarks

1. Verbalize and/or demonstrate appropriate infection control precautions.
2. Verbalize indications and contraindications.
3. Gather and prepare equipment.
4. Verbalize at least two anatomic sites (adult and pediatric).
5. Identify and cleanse the insertion site.
6. Ensure the needle set and driver are seated.
7. Remove the needle safety cap from the device.
8. Position needle at a 90-degree angle to the bone.
9. Ensure that the needle rests against the bone with at least 5 mm of a visible catheter.
10. Engage driver trigger and apply firm, steady, downward pressure until entering the medullary space (decreased resistance).
11. Hold the hub in place while removing the power driver.
12. Remove stylet and confirm catheter stability.
13. Attach extension set to hub's Luer lock.
14. Aspirate blood/bone marrow for confirmation.
15. Flush with 10 mL of normal saline.
16. Stabilize and monitor the site for signs of displacement and/or complications.
17. For responsive casualties, consider an anesthetic agent.
18. Connect fluids and use a pressure bag as needed.
19. Verbalize removal:
  - Attach the syringe to the IO catheter and remove by applying traction with clockwise twisting, taking care not to rock or bend the catheter.
  - Appropriately dispose of sharps.

### Critical Criteria

1. Failure to ensure 5-mm catheter remains visible after needle touches bone.
2. Failure to select appropriate insertion site.
3. Failure to flush catheter with 10 mL normal saline.
4. Uses inappropriate technique or orders a dangerous intervention.
5. Failure to properly dispose of sharps.
6. Contaminates insertion site or fails to correct contamination.