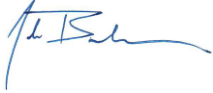





EZ-IO		6091-F
	Effective 7/1/2023	Expires 6/30/2026
Low Frequency/High Risk: EZ-IO	Approval: Medical Director John Beuerle, M.D.	Signed 
Applies To: Paramedics	Approval: EMS Director Teresa Rios	Signed 

Performance Objective

To establish, maintain, and ensure intraosseous vascular access for the delivery of drugs and fluids.

Before establishing intraosseous access, paramedics must:

1. Confirm that intraosseous access is clinically indicated and required for emergency stabilization.
2. Do not place if any of these contraindications to intraosseous access are present:
 - a. Fracture of insertion site bone
 - b. Inability to clearly identify insertion site (absence of anatomical landmarks / excess tissue / other problem)
 - c. Infection at insertion site
 - d. Previous orthopedic procedure at insertion site (IO attempt within last 48 hours / joint replacement / prosthetic)

While establishing intraosseous access, paramedics must:

1. Select the most appropriate insertion site based on clinical needs, operational requirements, and the available device:
 - 1) EZ-IO Power Driver may be used by paramedics while following a standing order at these insertion sites: Proximal tibia in adults & pediatrics and proximal humerus in adults.
2. Identify the insertion site using anatomical landmarks.
3. Select the size of needle set or device based on patient size, the selected insertion site, and tissue depth.
4. Cleanse and prepare the insertion site using aseptic technique.
5. Assemble and prepare equipment using aseptic technique.
6. Establish IO access by following the manufacturer's instructions for the available device:
 - a. EZ-IO with pink, blue, or yellow needle sets:
 - 1) <http://www.teleflex.com/en/usa/ezioeducation/index.html>
 - 2) <http://www.ezioapp.com>
7. Verify Intraosseous placement:
 - a. Needle is free standing, without support
 - b. Aspiration of blood/marrow
 - c. Infusion without extravasation
8. Attach IV set and adjust infusion rate as clinically indicated.
 - a. Despite proper placement, pressure infusion may be needed to achieve the required flow rates.
 - b. Give Lidocaine 2% as ordered by the applicable treatment protocol or a base hospital order for infusion pain in the conscious patient.
9. Secure the insertion site and splint the limb to maintain intraosseous vascular access despite scene activity, patient movement, and transport.
10. Routinely reassess the insertion site to ensure vascular access.
11. Document the procedure.

Critical Success Targets for IO

1. Aspiration of blood/marrow from the intraosseous access site
2. Infusion without extravasation

Core Competency Requirements to be covered during education/ training on EZ-IO

1. Assessment
2. Anatomy and physiology
3. Differences between neonatal, pediatric, adult, and bariatric patients
4. Indications and contraindications
5. Equipment and site selection
6. Precautions and complications

Equipment Requirements

1. Personal protective equipment
2. An intraosseous access device and EZ-IO with pink (15g / 15 mm), blue (15g / 25 mm), and yellow (15 g/45 mm) needle sets
3. 10 mL syringe containing 3 to 5 mL of normal saline
4. Normal saline
5. IV administration set
6. Tape
7. Antiseptic
8. Gauze/Securing Device

Instructor Resource Materials

1. Paramedic Care Principles & Practice, Third Edition, Bledsoe, Porter, Cherry

Intraosseous Infusion

Score	Performance Steps	Additional Information
	Take or verbalize body substance isolation. *	Selection: gloves, goggles, mask, gown, booties, P100 PRN
	Confirm that intraosseous access is clinically indicated. *	
	Do not place if contraindications to intraosseous access are present. *	Fracture of insertion site bone Inability to clearly identify insertion site (absence of anatomical landmarks / excess tissue / other problem) Infection at insertion site Previous orthopedic procedure at insertion site (IO attempt within last 48 hours / joint replacement / prosthetic)
	Select the most appropriate insertion site based on clinical needs, operational requirements, and the available device.	EZ-IO Power Driver may be used while following a standing order at these insertion sites: Proximal tibia in adults & pediatrics
	Identify the insertion site using anatomical landmarks.	
	Select the size of needle set or device based on patient size, the selected insertion site, and tissue depth.	EZ-IO with pink (15g / 15 mm), blue (15g / 25 mm), and yellow (15g / 45 mm) needle sets
	Cleanse and prepare the insertion site using aseptic technique. *	
	Assemble and prepare equipment using aseptic technique. *	
	Establish intraosseous access by following the manufacturer's instructions for the available device.	

	Verify Intraosseous placement.	<ol style="list-style-type: none"> 1. Needle is free standing, without support 2. Aspiration of blood/marrow 3. Infusion without extravasation
	Attach IV set and adjust infusion rate as clinically indicated.	Despite proper placement, pressure infusion may be needed to achieve the required flow rates.
	Secure the insertion site	
	Routinely reassess the insertion site to ensure vascular access. *	
	Document the procedure.	

Critical Failure Criteria

- Failure to take or verbalize BSI appropriate to the skill prior to performing the skill.
- Failure to confirm that intraosseous access is clinically indicated.
- Placement when any contraindication to intraosseous access is present.
- Failure to identify the insertion site using anatomical landmarks.
- Failure to select the size of needle set or device based on patient size, the selected insertion site, and tissue depth.
- Failure to cleanse and prepare the insertion site using aseptic technique.
- Failure to assemble and prepare equipment using aseptic technique.
- Failure to follow the manufacturer's instructions for the available device.
- Failure to attach IV set and adjust infusion rate as clinically indicated.
- Failure to secure the insertion site and splint the limb.
- Failure to routinely reassess the insertion site to ensure vascular access.
- Any procedure that would have harmed the patient