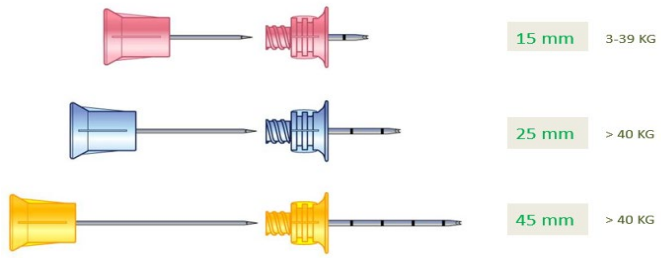
Centre for Prehospital Care
Health Sciences North

INTRAOSSEOUS ACCESS VIA EZ IO® SYSTEM

Document Owner: L. Simard **Revision Date:** November 2023	**Program/Service Area**: Centre for Prehospital Care	**Issue Date:** April 2009
Approval: Corey Petrie, Interim Regional Manager, Centre for Prehospital Care & Trauma Services	**Frequency: As Required,** in accordance with the Adult Intraosseous Medical Directive.	
Signature:		

Purpose: To ensure a consistent standardized practice for intraosseous (IO) access via the EZ IO®

	Content	Details
1.	Ensure that the patient qualifies for intraosseous (IO) access via the EZ IO or contact a Base Hospital Physician (BHP) for further direction.	"IV access is unobtainable" does not imply that you must attempt an IV and fail before proceeding to the IO, but it must be considered.
2.	Communicate the need for intraosseous (IO) access via the EZ IO, and its effects to the patient/family member whenever possible.	
3.	Ensure your patient ≥ 3 kilograms and select the appropriate needle size and affix to the EZ IO® driver.	The EZ-IO® Needle Sets are supplied in three different lengths; 
4.	Landmark the proximal tibia as the primary site or the proximal humerous as the secondary site, thoroughly cleaning and preparing the selected insertion site.	For patients 3-39kg utilizing the 15mm EZ-IO® and NO tuberosity is present, the insertion site is located approximately 4 cm below the patella and then medial along the flat aspect of the tibia. If the tuberosity IS present, the insertion site is located approximately 2cm medial to the tibial tuberosity along the flat aspect of the tibia. For patients ≥40kg utilizing the 25mm or 45mm EZ-IO® and accessing the proximal tibia, the insertion site is approximately 2cm below the patella and approximately 2cm medial to the tibial tuberosity.
5.	Landmark the proximal humerous if chosen as the secondary site.	The patient must be ≥12 years of age when accessing the proximal humerous. Utilizing the 15mm or greater EZ-IO®, the insertion site is located directly on the most prominent aspect of the greater tubercle. Slide your thumb up the anterior shaft of the humerous until you feel the greater tubercle, this is the surgical neck.

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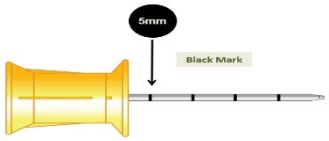
		Approximately 1 cm (depending on patient anatomy) above the surgical neck is the insertion site.
6.	Prepare IO tubing by priming with saline via 10 ml pre filled syringe.	Leave syringe with remaining saline attached to the IO tubing until IO needle is securely in place.
7.	With appropriate needle affixed to the driver, insert the needle at a 90 degree angle to the bone and insert through the skin until the bone is reached. Do not power the driver until this is accomplished.	Prior to powering the driver, it is important to verify that one of the black lines on the needle is visible above the surface of the skin. This will ensure that the needle will penetrate through the compact bone and into the medullary space. 
8.	Power the driver on by depressing the trigger continuously. Apply the minimal amount of pressure required to keep the needle advancing straight into the bone.	Gently drill into the medullary space until a loss of resistance is felt (approximately 1-2 cm) or until the needle set hub is close to or flush with, but not pressed into, the skin.
9.	Stabilize the needle set and secure.	While stabilizing the needle set, remove the driver followed by the stylet by rotating it counter clockwise and dispose of it in a sharps container. Affix the EZ-Stabilizer® dressing to help secure the catheter and help prevent accidental dislodgement.
10.	Affix primed IO tubing, push and then draw back on syringe plunger to aspirate marrow confirming placement. Follow this step by flushing with remaining saline in pre filled 10 ml syringe.	Considerable force may or may not be required during initial flush. More than one flush may be required. Always monitor IO site to ensure fluid is not infiltrating in surrounding tissues
11.	Place IV solution bag in a pressure infusion bag inflated to a maximum of 300 mmHg. Attach solution tubing to IO needle set and begin infusion.	Any medication that can be administered IV can be given by the IO route
12.	Discontinue if complications occur, or as directed by the BHP.	
13.	Document the IO procedure on the patient care record as per the Ministry of Health and Long Term Care Emergency Health Services Branch Ambulance Call Report Documentation Standards and your Service Provider policy which includes: • needle length • IO site • if IO access was successful	
14.	Document patient condition before and after IO access	

Expected Outcome: To successfully initiate and maintain IO access.