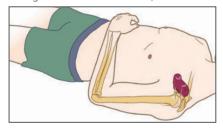
Arrow® EZ-IO®

Intraosseous Vascular Access System

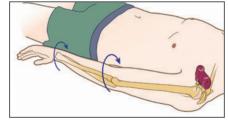
Proximal Humerus

Arm Positioning

Using either method below, adduct elbow, rotate humerus internally.



Place the patient's hand over the abdomen with arm tight to the body.



Place the arm tight against the body, rotate the hand so the palm is facing outward, thumb pointing down.

Landmarking

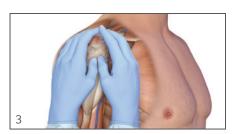


Place your palm on the patient's shoulder anteriorly.

- The area that feels like a "ball" under your palm is the general target area
- You should be able to feel this ball, even on obese patients, by pushing deeply

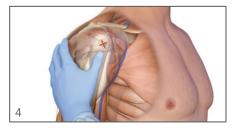


Place the ulnar aspect of one hand vertically over the axilla. Place the ulnar aspect of the opposite hand along the midline of the upper arm laterally.



Place your thumbs together over the arm.

 This identifies the vertical line of insertion on the proximal humerus



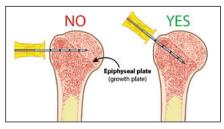
Palpate deeply as you climb up the humerus to the surgical neck.

 It will feel like a golf ball on a tee – the spot where the "ball" meets the "tee" is the surgical neck

The insertion site is on the most prominent aspect of the greater tubercle, 1 to 2 cm above the surgical neck.



Point the needle tip at a 45-degree angle to the anterior plane and posteromedial.



24 Hour Clinical Support: 1-888-413-3104

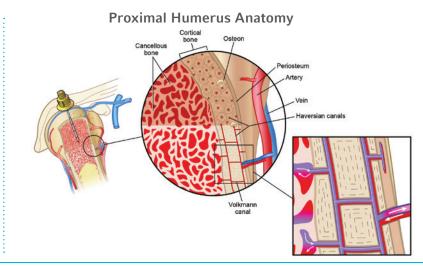


Intraosseous Vascular Access System

The Arrow® EZ-IO® Intraosseous Vascular Access System from Teleflex is a Proven¹, Fast², and Effective³ solution when IV access is difficult or impossible to obtain in emergency situations. The EZ-IO® System is indicated anytime vascular access is difficult to obtain in emergent, urgent, or medically necessary cases for up to 24 hours and provides peripheral venous access with central venous catheter performance.⁴⁷ Insertion sites include proximal humerus, proximal tibia, distal tibia, and distal femur (pediatrics only).

Proximal Humerus Site Advantages

- Average flow rate of 6.3 L/hr under pressure for humerus, 1 L/hr for tibia8-11
- 3 seconds to heart with medications/fluids^{9,12}
- Lower insertion and infusion pain^{9-11,13}
- · Less medication required for patient pain management^{7,10,13}



Arrow® EZ-IO® System Ordering Information

ITEM NUMBER	DESCRIPTION	PATIENT WEIGHT	QTY/CASE
9058	EZ-10® Vascular Access Driver	NA	1
9079P-VC-005	EZ-10 45 mm Needle Set' + EZ-Stabilizer® Dressing	≥40 kg	5
9079-VC-005	EZ-10 45 mm Needle Set'	≥40 kg	5
9001P-VC-005	EZ-10 25 mm Needle Set' + EZ-Stabilizer Dressing	≥3 kg	5
9001-VC-005	EZ-10 25 mm Needle Set	≥3 kg	5
9018P-VC-005	EZ-IO 15 mm Needle Set' + EZ-Stabilizer Dressing	3-39 kg	5
9018-VC-005	EZ-IO 15 mm Needle Set	3-39 kg	5
9066-VC-005	EZ-Stabilizer Dressing	NA	5

^{*}Each Needle Set includes a 15 gauge sterile EZ-IO Needle, EZ-Connect® Extension Set, Patient Wrist Band and NeedleVISE® Sharps Block

teleflex.com/em



Federal Law (USA) restricts these devices to sale by or on the order of a physician.

Potential complications may include local or systemic infection, hematoma, extravasations, or other complications associated with percutaneous insertion of sterile devices.

See Instructions For Use for detailed information regarding the Instructions For Use, Contraindications, Potential Adverse Events, Warnings, and Cautions. This material is not intended to replace standard clinical education and training by Teleflex Incorporated and should be utilized as an adjunct to more detailed information which is available about the proper use of the product.

View educational resources at www.teleflex.com/ezioeducation or contact a Teleflex clinical professional for any detailed questions related to product insertion, maintenance, removal and other

- 1. Dolister M, Miller S, Borron S, et al. Intraosseous vascular access is safe, effective and costs less than central venous catheters for patients in the hospital setting. J Vasc Access 2013;14(3):216-24. doi:10.5301/jva.5000130. Research sponsored by Teleflex Incorporated.
- Davidoff J, Fowler R, Gordon D, Klein G, Kovar J, Lozano M, Potkya J, Racht E, Saussy J, Swanson E, Yamada R, Miller L. Clinical evaluation of a novel intraosseous device for adults: prospective, 250-patient, multi-center trial. *JEMS* 2005;30(10):s20-3. Research sponsored by Teleflex Incorporated.

 Cooper BR, Mahoney PF, Hodgetts TJ, Mellor A. Intraosseous access (EZ-IO*) for resuscitation: UK military combat experience. *J R Army Med Corps*. 2007;153:314-6.
- Hoskins SL, Nascimento P Jr., Lima RM, Espana-Tenorio, JM, Kramer GC. Pharmacokinetics of intraosseous and central venous drug delivery during cardiopulmonary resuscitation. Resuscitation 2011; doi:10.1016/j.resuscitation.2011.07.041. Research sponsored by Teleflex Incorporated. (preclinical study)
- Hoskins SL, Zachariah BS, Copper N, Kramer GC. Comparison of intraosseous proximal humerus and sternal routes for drug delivery during CPR. Circulation 2007; 116:II_993. Research sponsored by Teleflex Incorporated. (preclinical study)
 Compared to single lumen Central Venous Catheters (CVCs).
- Based on Adult Proximal Humerus EZ-IO® insertion data.
- Puga T, Montez D, Philbeck T, Davlantes C. Adequacy of Intraosseous Vascular Access Insertion Sites for High-Volume Fluid Infusion. Crit Care Med 2016; 44(12):143. Research sponsored by Teleflex Incorporated. Based on healthy volunteer study.
- Based on Adult Proximal Humerus data
- 10. Philbeck TE, Miller LJ, Montez D, Puga T. Hurts so good; easing IO pain and pressure. JEMS. 2010;35(9):58-69. Research sponsored by Teleflex Incorporated.
- 11. Based on Adult Proximal Tibial data.
- 12. Montez D, Puga T, Miller LJ, et al. Intraosseous infusions from the proximal humerus reach the heart in less than 3 seconds in human volunteers. Annals of Emergency Medicine. 2015;66(4S):S47. Research sponsored by Teleflex Incorporated.
- 13. Compared to EZ-IO System tibial insertions.

NeedleVISE is a trademark or registered trademark of Atrion Medical Products, Inc.

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