



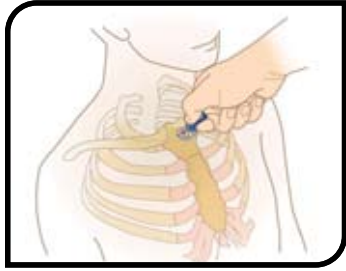
EZ-IO Product System for Military Use

Why Use Intraosseous Access?

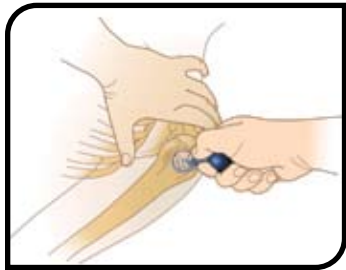
- Immediate Vascular Access
- Stable and Secure From Field to Tertiary Care
- Equivalent to IV for Effectively Delivering Fluids and Medications
- Supported by the AHA, ERC and ILCOR Guidelines

Immediate Vascular Access...
When You Need It MostSM

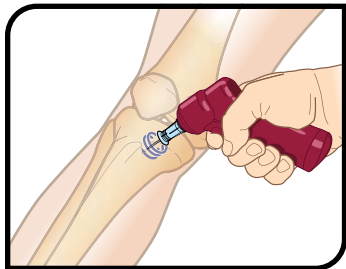
STERNUM



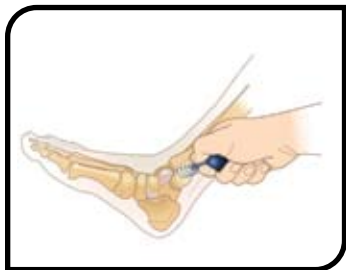
PROXIMAL HUMERUS



PROXIMAL TIBIA



DISTAL TIBIA



EZ-IO product systems are a valuable addition to life-saving emergency medical technology and are now available to the combat lifesaver, medic, nurse and physician. From site of wounding through each level of care, the EZ-IO is your proven access solution.

*Immediate Vascular Access...
When You Need It MostSM*

In the tactical environment, flexibility means survival. When it comes to severe injuries and the need for immediate vascular access, EZ-IO is your solution across all levels of care. Packing the EZ-IO means you've got a combat proven access device that is immediate, safe, easy and effective. Using the EZ-IO means you can focus on immediate priorities rather than the procedures. The EZ-IO can be set up in a number of mission specific configurations, providing you with multi-site, user-controlled access ports for your team or unit's immediate critical care needs. The lightweight Manual and Sternal EZ-IO Needle Sets are undaunted by austere conditions while the powered EZ-IO remains the device of choice in transport, as well as field support areas. Either by manual or power insertion, the EZ-IO stands beside you as field proven for resuscitation, sedation, paralyzation, antibiotic therapy and fluid maintenance.

Retention of critical skills, while in a fight or preparing for one, has long been recognized as a key element of mission success. The EZ-IO's intuitive design is as simple in form as it is in function.

Our training program is specifically designed for complex military environments. The training is realistic, hands-on and simple. In the world of combat casualty care, the EZ-IO provides immediate vascular access when you need it most!

The EZ-IO Product Systems

- Small battery-powered or manual devices with beveled, hollow drill-tipped needle sets
- Specifically designed for safety and controlled intraosseous vascular access
- Multiple sites, simple solutions
- Creates a secure stable port, allowing access into the intraosseous space
- Fluids and drugs administered reach the central vascular system within seconds
- Superior speed, control, safety and effectiveness result from unparalleled technological advancement, making the system the best product on the market today

World Wide Resuscitation Guidelines - AHA, ERC, (ACLS)

- Declare IO access a safe and effective route for accessing the central vascular system
- Support the theory that IO access is similar to central line access and carries less risk of complications for emergency medical physicians
- Now recommend IO as the first alternative to IV in adult cardiac arrest patients
- State that IO is now the standard of care for cardiac arrest patients



ACROSS ALL LEVELS OF CARE

Level I

In the field



Level II

Field hospitals



Indications for Use

- Altered level of consciousness
- Arrhythmias
- Burns
- Cardiac arrest
- Dehydration
- Head injury
- Sedation
- Paralyzation
- Hypotension
- Respiratory arrest
- Seizures
- Shock
- Trauma
- Central line bridge
- Mass casualties

*Other medical conditions when immediate vascular access is required, but standard IV access is challenging or impossible.

Contraindications for Use

- Fracture (fluids may extravasate into subcutaneous tissue)
- Recent IO or prosthesis
- Infection at the insertion site
- Absent landmarks or excessive tissue

Distinguishing Features

Speed of insertion – Stable and secure – Drugs reach the central vascular system within seconds

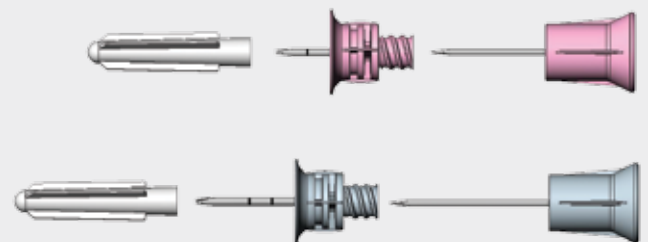
- 15 gauge, 25 mm needle sets for patients weighing 40 kg and greater
- 15 gauge, 15mm needle sets for patients weighing between 3 kg and 39 kg
- Needle sets made of 304-stainless steel
- Battery power makes insertion effortless and controlled
- Lightweight complete manual options
- Standard luer-lock catheter
- Easy removal – no special tool needed
- Compact size and weight for any level of care

Benefits

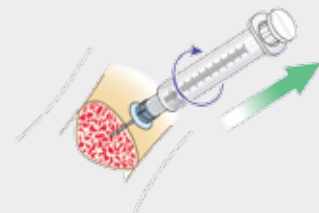
- Powered insertion time in 10 seconds or less
- Manual insertion time in 30 seconds or less
- Delivers fluids, medications and blood products directly into the vascular system with blood levels equivalent to IV administration
- Effective, safe multi-site ability
- Complete, realistic training (mannequin, cds and Web site)



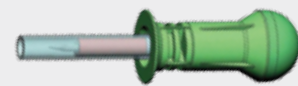
EZ-IO® Power Driver



Pediatric and Adult Needle Sets



No Removal Tool



Sternal Needle Set
(For Sternal Use Only)



Manual Needle Set
(For Use In Any Extremity)



Features

Manufacturer	EZ-IO Vidacare, USA
Use	Single use needle set. Inserted by manual or battery-powered driver. No removal tool
Power source for insertion	Battery or manually operated
FDA cleared insertion site	Adult & pediatric proximal tibia, distal tibia, proximal humerus and adult sternum
Depth control	Needle set depth control by operator
IO site securing	Low profile, hub in contact with skin 90 degree extension set, stabilizer
Average/minimum time from decision to obtain access – to IO fluid flowing with site secured	< 30 seconds
Estimated drug delivery time	25 seconds humeral and sternal access 51 seconds tibial access
Field effectiveness	97%
Compatibility with other systems	Standard Luer Lock

Frequently Asked Questions

- Q:** What are the risks or complications associated with IO?
- A:** The documented overall complication rate associated with intraosseous insertion and infusion is less than 1 percent. Potential complications include extravasation (leakage), dislodgement of the catheter, compartment syndrome, bone fracture, pain related to infusion of medications/fluids and infection.
- Q:** What are the infection rates associated with the use of IO?
- A:** Overall IO experience in thousands of children and adults show the infection rate to be less than 0.6 percent. Complications are most often not serious and can be treated in an outpatient capacity.
- Q:** What is the pain/trauma associated with IO vs. IV?
- A:** EZ-IO AD (40 kg and greater) insertion has been well documented in conscious patients. Studies have shown that EZ-IO insertion is well tolerated by conscious patients and is no more painful than a large bore peripheral IV stick. Conscious patients have reported pain after EZ-IO insertion associated with the initial administration of fluid or medication. This is due to the extensive network of pressure sensitive nerves located within the medullary cavity. An initial bolus of preservative-free Lidocaine has proven effective in alleviating this discomfort.
- Q:** How long may the EZ-IO catheter be left in place?
- A:** The catheter should be removed within 24 hours.

Bibliography

- Intraosseous vascular access in the out-of-hospital setting position statement of the National Association of EMS Physicians. *Prehospital Emergency Care*, 2007; 11(1):62.
- Fowler R, Gallagher JV, Isaacs SM, Ossman E et al. The role of intraosseous vascular access in the out-of-hospital environment (resource document to NAEMSP position statement). *Prehospital Emergency Care*, 2007; 11(1):63-6.
- Davidoff J, Fowler R, Gordon D, Klein G et al. Clinical evaluation of a novel intraosseous device for adults: prospective, 250-patient, multi-center trial. *JEMS* 2005;30:s20-3.
- Timboe HL, Bruttig SP, Ruemmler MW. Adult IO in the combat zone: the past, present and future use of intraosseous infusion by the U.S. military. *JEMS* 2005;30:27-8.
- Vardi A, Berkenstadt H, Levin I, Bentencur A, Ziv A. Intraosseous vascular access in the treatment of chemical warfare casualties assessed by advanced simulation: proposed alteration of treatment protocol. *Anesth Analg* 2004;98:1753-8.
- Frascione R, Kaye K, Dries D, Solem L. Successful placement of an adult sternal intraosseous line through burned skin. *J Burn Care Rehabil* 2003;24:306-8.
- Ben-Abraham R, Gur I, Vater Y, Weinbroum AA. Intraosseous emergency access by physicians wearing full protective gear. *Acad Emerg Med* 2003;10:1407-10.
- Dublick MA, Holcomb JB. A review of intraosseous vascular access: current status and military application. *Mil Med* 2000;165:552-9.
- Calkins MD, Fitzgerald G, Bentley TB, Burris D. Intraosseous infusion devices: a comparison for potential use in special operations. *J Trauma* 2000;48:1068-74.

Ordering the EZ-IO

9025 EZ-IO Manual Driver (handle only)	6515-01-540-9794
9050 EZ-IO Power Driver (no case)	6515-01-537-9615
9001 AD Needle Sets	6515-01-537-9007
9018 PD Needle Sets	6515-01-537-9013
9026 Military Sterile Training Needle Sets	6515-01-541-1946
9017 AD Training Needle Sets	6515-01-540-9808
9021 PD Training Needle Sets	
9045 Sternal Needle Set Kits	
9047 Sternal Training Needle Set Kits	
9055 Manual Needle Set Kits	
9057 Manual Training Needle Set Kits	
9044 Sternal Training Mannequin	
9042 Sternal Training Replacement Bones and Skin	
9037 Soft Tissue IO Extremity Trainers (Adult Tibia, Infant Tibia)	
9041 Training Bones (Adult Proximal Tibia, Distal Tibia, Proximal Humerus, Child Tibia, Infant Tibia)	

*additional NSN numbers pending
GSA Contract Number V797P-4984a
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