

**Institutional Handbook of Operating Procedures**  
**Policy 09.13.33**

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| Section: Clinical Policies  | Responsible Vice President: EVP and CEO Health System |
| Subject: General Procedures | Responsible Entity: Resuscitation Committee           |

**I. Title**

*Intraosseous Catheters*

**II. Policy**

**Indications** for the insertion of an [Intraosseous \(IO\) catheter](#) include short-term treatment when intravascular access cannot be achieved.

Individuals who may insert an IO catheter include:

- 1) Trained physicians who have completed the required IO catheter training under the direction of a credentialed faculty member; and
- 2) In urgent/emergent situations (e.g., resuscitation), specially trained nurses who have completed the required IO catheter training.

Aseptic technique and standard precautions shall be utilized for insertion.

**Contraindications** for the insertion of an IO catheter include:

- a. Placement in a fractured bone or in a limb with vascular injury
- b. Previous significant orthopedic procedure at the site, prosthetic limb, or joint
- c. Infection at area of insertion site
- d. Excessive tissue and/or absence of adequate anatomical landmarks

Once a bone has been punctured by an IO attempt it cannot be used again for a time period of 48 hours.

The EZ-IO is made of 304 stainless steel; MRI procedures are contraindicated while in place.

Nurses who have completed the required IO catheter training will assume primary responsibility for the following:

- a. Administration of medications via IO catheter
- b. Monitoring of the IO site for signs of complications
- c. Notification of the ordering provider if any complications develop

Discontinuation of the IO Catheters

1. IO catheters must be removed within 24 hours of insertion
2. IO catheters may only be removed by physicians and specially trained nurses who have completed the required IO Catheter training.
3. If the patient deteriorates and IO access is required again, bone that has been accessed within the previous 48 hours cannot be accessed again for a time period of 48 hours.

**III. Procedures**

Instructions, guidelines, and standards regarding IO Catheter use at UTMB are [available on line](#).

Blood Sampling

Blood sampling for laboratory testing from the IO is acceptable on a limited basis. Acceptable testing includes cultures and chemistry (except CO2 Total). Sampling from the IO is not acceptable for hematology, coagulation, or blood bank testing. All samples obtained from an IO should be labeled with this information. Individual questions or concerns regarding sampling from the IO for a specific patient should be directed to the Clinical Laboratory (Attn: Director on-Call for the specific laboratory service).

Documentation of the IO insertion is completed in the patient's medical record.

**IV. References**

American Heart Association (2016). Advanced Cardiovascular Life Support. Provider Manual.

Arrow EZ-IO Intraosseous Vascular Access System. 2017 The Science and Fundamentals of Intraosseous Vascular Access.

[INS Position Paper, \(nd\) The role of the registered nurse in the insertion of intraosseous access devices](#). Accessed 3/3/2020 from <https://www.learningcenter.ins1.org/position-papers>.

American College of Emergency Physicians. (2017). Alternative Methods to Vascular Access in the Emergency Department. Accessed 3/3/2020 from <https://www.acep.org/globalassets/new-pdfs/policy-statements/alternative-methods-to-vascular-access-in-the-emergency-department.pdf>.

**V. Dates Approved or Amended**

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|-------------------------------|---------------------------------|
| <i>Originated: 08/05/2010</i> |                                 |
| <i>Reviewed with Changes</i>  | <i>Reviewed without Changes</i> |
| 08/01/2013                    |                                 |
| 01/20/2017                    |                                 |
| 01/11/2021                    |                                 |

**VI. Contact Information**

Resuscitation Committee  
[oycomeau@utmb.edu](mailto:oycomeau@utmb.edu)