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. Compartment syndrome
c. Cellulitis or burns at the site
d. Underlying bone disease, such as osteoporosis
e. Previous orthopedic procedures, such as prosthetic limb or joint
f. Soft tissue infection
g. 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.

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; and
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
Detailed instructions and guidelines regarding IO Catheter use at UTMB are available online.

IV. Standards
Pain management recommendations for conscious/awake adults and pediatric patients are delineated at this link.

Examples of placement confirmation can be found at this link.

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 should include:
1. Indications and absence of contraindications (physician procedure note)
2. IO site, use of anesthetic, adult or pediatric IO
3. Patient tolerance of procedure, including number of attempts (if more than one)
4. Date and time of insertion
5. Date and time of discontinuation
6. Assessment of site for signs of infection and/or extravasation; and
7. Patient and/or family teaching

V. References


ACEP Policy Statement

American Association of Critical Care Nurses Position Statement

AHRQ – Emergency nursing resource: difficult intravenous access
The complete list of references is available at this [link](#).

VI. Dates Approved or Amended

<table>
<thead>
<tr>
<th>Originated: 08/05/2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reviewed with Changes</td>
</tr>
<tr>
<td>Reviewed without Changes</td>
</tr>
<tr>
<td>08/01/2013</td>
</tr>
<tr>
<td>01/20/2017</td>
</tr>
</tbody>
</table>

VII. Contact Information

Resuscitation Committee

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