HURON PERTH HEALTHCARE ALLIANCE

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MEDICAL DIRECTIVE

Medical Directive	Intraosseous Insertion – Adult
Directive #	MD-ED-CC-027
Approval	Medical Advisory Committee
Date	November 22, 2018
Signature	James Moore
Review/Revision Date	Original Oct/18
Specific to	HPHA Critical Care Unit and Emergency Medicine Departments

Description of Procedure:

Insertion of an Intraosseous (IO) needle into the bone marrow using a battery-powered hand held drill in the patient requiring immediate emergency administration of medications and/or fluids.

If the adult patient is responsive to pain and when doing so would not delay emergent treatment, consider administering 3 mLs of Lidocaine 2% (20 mg/mL) subcutaneously to the identified site and allow 1 minute for effect, prior to IO insertion.

If the patient is responsive and patient condition allows, consider administering Lidocaine prior to flushing the IO post insertion:

- Adults: inject 60 mg (3 mL) of preservative free Lidocaine 2% (20 mg/mL) via IO over 120 seconds, allow Lidocaine to dwell in the IO space 60 seconds, then flush with 10 mL of Sodium Chloride 0.9%.

An intraosseous (IO) needle should be removed as soon as reliable peripheral or central venous access is obtained. An IO needle should not remain in place for more than 24 hours.

Authorized To:

- Registered Nurses employed in the Critical Care Unit and Emergency Medicine Departments at the Huron Perth Healthcare Alliance who have successfully obtained certification specific to this particular skill are eligible to implement this directive.

Specific Patient Conditions:

Any adult patient at the Huron Perth Healthcare Alliance requiring immediate emergency intervention, where the securement of IV access has been unsuccessful after 2 attempts or 90 seconds.

Contraindications:

- Non emergent situations where IV access can be readily obtained.
- Patient capable of consent refuses treatment or substitute decision maker refuses on behalf of the patient.

Note: If a patient or substitute decision maker refuses treatment contact the physician <u>immediately</u> to determine plan of care.

- Any documented allergy to Lidocaine is a contraindication to the administration of lidocaine **only**.
- Fracture of the tibia or femur (consider alternate tibia)
- Previous significant orthopedic procedure
- Previous IO attempt in the same bone within 48 hours
- Pre-existing medical condition affecting the integrity of the bone (tumor near site, osteogenesis imperfecta, etc)
- Infection at insertion site (consider alternate site)
- Inability to locate landmarks (significant edema)
- Excessive tissue at insertion site (obesity)

Reasons to seek immediate medical consultation or discontinue procedure/ treatment/intervention:

- Patient capable of consent refuses treatment or substitute decision maker refuses on behalf of the patient.
- Through-and-through penetration of the bone
- Occlusion of the IO needle
- Change in sensation, pulses, or perfusion distal to the IO needle
- Signs of infiltration such as increased fluid leakage around the insertion site, new edema or increased diameter of the accessed extremity

Documentation:

- Implementation of the Medical Directive including name and number of the directive, name, signature and credentials of the implementer and name of the attending physician in the order section of the chart.

Quality Assurance

- The Medical Program Director, Emergency Medicine and/or Medical Program Director, Medicine will approve the education component of the Medical Directive.
- The Emergency Department/Critical Care Registered Nurse will complete an annual educational component specific to this medical directive as outlined in the related HPHA Policy to be eligible to implement the directive.
- The Emergency Department/Critical Care Registered Nurse will demonstrate competence in the Medical Directive prior to initiating.
- An annual review will be conducted at the discretion of the HPHA Emergency Care Team to review the appropriateness of the Medical Directive.

Originator	HPHA Clinical Nurse Educators
Current Review/Revision	October 2018
Responsibility	HPHA Joint Emergency/Critical Care Team
Distribution	HPHA Emergency Department Manuals/Critical Care Unit Manuals HPHA My Alliance CCU/Telemetry and ED Medical Directives HPHA Start Hub link ED Medical Directives

Appendix

For step-by-step review of anatomical site identification Click here

Reference(s):

Elsevier Performance Manager (2018). Clinical Skills: Intraosseous Needle Placement (Pediatric)

Lakeridge Health. (2012). Medical Directive-Advanced Life Support: Intraosseous (IO) Cannulation and Infusion.

Saskatoon Health Region. (2011). Intraosseous Infusion-Assisting with Insertion and Removal. Policies and Procedures. Retrieved from https://www.saskatoonhealthregion.ca/about/NursingManual/1186.pdf

Teleflex® Incorporated. (2015). ARROW®EZ-IO®: EZ-IO® Intraosseous Vascular Access Needles Instructions for Use. Retrieved June 6, 2018, from https://www.teleflex.com/global/clinical-resources/ez-io/8082_Rev_02_-_FDA_Intraosseous_Infusion_System_IFU_ATH_v2_-_PRESS.pdf

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Physician Approval Form

Medical Directive	INTRAOSSEOUS INSERTION – ADULT
Directive #	MD-ED-CC-027

I, the undersigned physician, have:

- Reviewed the directive to fully understand the conditions under which it will be implemented, including knowing how the staff will be educated to provide this care and how they document or make me aware that the directive has been implemented so I can assume care appropriately, and
- Agree to assume the care of patients who have had an intervention performed as authorized by the directive

_____

Name of Physician (please print)

_____

Signature

_____

Date

Note: The above Medical Directive was approved at the HPHA Medical Advisory Committee meeting November 22, 2018. If agreeable, please sign and return this form to Medical Services, Attn: Lori Hartman (Fax 519-271-7137).