Alberta Health Services

PROTOCOL

TITLE
INTRAOSSEOUS VASCULAR ACCESS

SCOPE
Provincial: Emergency Departments and Urgent Care Centres

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HCS-231-01

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Vice President System Innovations & Programs

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OBJECTIVES

- To provide direction to **healthcare professionals** for adult or pediatric **patients** who present to the Emergency Department (ED) or Urgent Care Centre (UCC) who would benefit from the insertion of an intraosseous (IO) vascular access.
- To ensure safe and consistent practice with preparation; insertion; confirmation of placement; infusion and monitoring, and removal of an IO vascular access.

APPLICABILITY

Compliance with this document is required by all Alberta Health Services employees, members of the medical and midwifery staffs, students, volunteers, and other persons acting on behalf of Alberta Health Services (including contracted service providers as necessary).

ELEMENTS

1. Points of Emphasis

1.1 The insertion of an IO vascular access device is restricted to health care professionals who demonstrate continuing competency in the advanced practice of managing an IO vascular access after receiving the appropriate clinical education by a designated trainer (refer to AHS *Intraosseous Vascular Access Learning Module - Emergency Department/Urgent Care Centres*).

1.2 IO vascular access can be used for fluid and medication administration if peripheral or central venous access is difficult or impossible to obtain in

emergent, urgent, or medically necessary cases and when the patient is at risk of increased morbidity and mortality.

1.3 IO vascular access is considered a bridging vascular access device until suitable peripheral or central venous access can be obtained.

a) The IO vascular access device should be removed once reliable vascular access is obtained; and

b) The IO vascular access device shall be removed no later than 24 hours after insertion.

1.4 Patients with an IO vascular access device in place shall only be transferred to a designated care space capable of caring for patients with IOs, as per facility operations direction.

a) UCC shall require patients with IO vascular access in-situ to be transferred to an Acute Care facility.

2. Limitations of use with IO Vascular Access

2.1 IO vascular access must be maintained by continuous infusion under pressure and frequent reassessment to ensure patency (refer to AHS *Intraosseous Vascular Access Learning Module - Emergency Department/Urgent Care Centres*).

a) An IO vascular access device shall not be saline locked.

2.2 Magnetic Resonance Imaging (MRI) and Computed Tomography (CT):

a) The IO vascular access needle is not MRI compatible and shall be removed prior to MRI.

b) The extension set provided in the IO vascular access insertion set is not pressure injector rated for CT contrast dye. Diagnostic Imaging (DI) will give direction as required.

3. Preparation; Insertion; Confirmation of Placement; Infusion and Monitoring, and Removal

3.1 An order from a Physician / Nurse Practitioner is required for IO vascular access insertion and for the administration of Schedule One (1) medications.

3.2 Preparation; insertion; confirmation of placement; infusion and monitoring, and removal of the IO vascular access device shall occur as per AHS clinical education and training (refer to *Intraosseous Vascular Access Learning Module - Emergency Department/Urgent Care Centres*).

3.3 Verify with Laboratory Services their capacity to process IO vascular access samples prior to drawing blood samples from an IO vascular access site.

Note: Laboratory Services requires specialized calibrated equipment to process blood samples drawn from an IO vascular access site. Only ABO blood grouping is possible on intraosseous (IO) blood specimens. The Laboratory will not accept such specimens for chemistry or hematology testing.

3.4 For patients who are responsive to pain the health care professional should obtain an order from a Physician / Nurse Practitioner to administer one (1) or two (2) percent preservative free lidocaine without epinephrine prior to and intermittently during infusion (refer *to AHS Provincial Parenteral Manual and AHS Intraosseous Vascular Access Learning Module - Emergency Department/Urgent Care Centres*).

4. Documentation

4.1 All assessments, reassessments, interventions and patient responses to interventions shall be documented on the patient's **health record**. Documentation shall include:

a) the size of needle;

b) type of flush solution used and ease of return of blood and/or bone marrow fluid;

c) date and time IO vascular access needle inserted;

d) appearance of insertion site during infusion and after removal of device;

e) patient's tolerance of procedure;

f) total amount of fluid infused (In/Out record);

g) details of removal of the IO vascular access needle and who removed it; and/or

h) any unusual occurrence and actions taken.

DEFINITIONS

Health care professional means an individual who is a member of a regulated health discipline, as defined by the *Health Disciplines Act* or the *Health Professions Act*, and who practices within scope or role.

Health record means the Alberta Health Services legal record of the patient's diagnostic, treatment and care information.

Patient means an adult or child who receives or has requested health care or services from Alberta Health Services and its health care providers or individuals authorized to act on behalf of Alberta Health Services. This term is inclusive of residents, clients and outpatients.

REFERENCES

- Alberta Health Services Resources:
  - *Provincial Parenteral Monograph* (Pharmacy Services)
  - *Intraosseous Vascular Access Learning Module - Emergency Department/Urgent Care Centres*, Emergency Strategic Clinical Network.