

## TITLE

**JUST IN TIME INFUSION PUMP TRAINING**

## SCOPE

Provincial Emergency Medical Services

## DOCUMENT #

PS-EMS-07

## APPROVAL AUTHORITY

Executive Director, EMS Clinical Compliance Training &amp; Standards

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Director, Learning &amp; Development, Clinical Compliance Training &amp; Standards

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## PARENT DOCUMENT TITLE, TYPE, AND NUMBER

Not applicable

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**NOTE:** The first appearance of terms in bold in the body of this document (except titles) are defined terms – please refer to the Definitions section.

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**OBJECTIVES**

- To increase patient safety by providing direction in extenuating circumstances for **EMS health care professionals** who are called to accept the care of patients who require the use of **intravenous (IV) infusion pumps** of which they are not familiar. This policy is to be used in addition to regular IV infusion pump training.
- This policy is not intended to replace annual IV infusion pump training and recertification requirements. EMS health care professionals are expected to maintain a general knowledge of all IV infusion pumps for which there is information available on AHSEMS.

**PRINCIPLES**

- Providing EMS health care professionals with rapid access to training resources and materials is integral in mitigating the known safety risks related to IV infusion pump errors. It is essential to ensure that EMS health care professionals have rapid access to information and training materials in order to safely care for patients.
- EMS health care professionals are ultimately responsible to ensure that they are competent and comfortable prior to accepting **clinical handover**.

**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. Identifying Training Requirements

- 1.1 When it is identified in the Inter-Facility Transfer (IFT) dispatch notes that an IV Infusion Pump is being used for patient care and EMS health care professionals have not received formal training on the IV Infusion Pump, EMS health care professionals will:
- a) Notify a **Supervisor** (or designate) to determine if there is an alternative EMS Healthcare Professional who is available and has received formal training on the specific IV infusion pump that can assume care of the patient.
  - b) Determine whether an alternative IV infusion pump, for which the EMS Healthcare Professional has received formal training on, is available and can be used instead.
  - c) Consult the training materials that are available on AHSEMS or through the WebServices link on the ePCR tablet prior to arrival at the facility (if possible).
  - d) Advise the sending facility or the EMS Healthcare Professional who is providing clinical handover (the sending Healthcare Professional) that you (the receiving EMS Healthcare Professional) have not had formal training on the IV infusion pump currently being used on the patient.
  - e) Ask for training from the sending Healthcare Professional, (if that person feels comfortable to do so).
  - f) Ensure that the sending Healthcare Professional can adequately demonstrate their knowledge and understanding of the following skills:
    - Safe and appropriate set-up, loading, unloading, and disposal of IV lines for the Infusion Pump being used
    - Access the **drug library** (if applicable)
    - Safe programming of a parenteral fluid or medication using, **independent double-checks**, knowing **High-Alert Medications**, and using **Drug Error Reduction Software (DERS)** (if applicable) including **Hard Stops/Limits** and **Soft Stops/Limits**
    - Safe programming of secondary medication, using DERS (if applicable)
    - Respond appropriately to pump notifications/alerts
      - (silencing an) Alarm

- Infusion Complete
- Piggyback Callback Alert
- Troubleshoot the most common types of issues
  - Misloaded Tubing
  - Air In Line
  - Line Occlusion
  - Low Battery
  - Device Failure
  - Restart an infusion after an alarm has been cleared
- Clear infusion settings from the IV infusion pump
- g) Ensure any additional supplies, such as pump specific IV tubing, are procured from the sending facility if they are not regularly stocked on the **Emergency Response Vehicle**.

## 2. Further Trouble Shooting

- 2.1 If after completing the steps outlined in Section 1.1 (see above), the receiving EMS Healthcare Professional feels as though they are not comfortable or competent to safely accept clinical handover, or if training has been refused by the sending Healthcare Professional, they will:
- a) Determine with the sending Healthcare Professional if it is possible to discontinue the infusion for the duration of the transport
  - b) Determine if there is a qualified Healthcare Professional from the sending facility who is available to accompany the EMS Healthcare Professional on the IFT.
  - c) Notify a Supervisor (or designate) of the situation
  - d) Notify the sending Healthcare Professional that the EMS Healthcare Professional will not be able to assume patient care (if all options have been considered and no other solution has been found)

## 3. Just in Time IV Infusion Pump Training Documentation

- 3.1 The receiving EMS health care professionals will:
- a) Document in the comments section of the **Patient Care Record (PCR)** that Just in Time (IV Infusion Pump) Training was completed

- b) Record which IV Infusion Pump the training was received
- c) Record what information reviewed about the IV Infusion Pump
- d) Record the name and the professional designation (example; RN, LPN etc) of Healthcare Professional who provided the training
- e) Note any issues or concerns that occurred during the training

## DEFINITIONS

**Clinical handover** means the transfer of professional responsibility and accountability for some or all aspects of care for a patient, or group of patients, to another person or professional group on a temporary or permanent basis. Clinical Handover requires a minimum amount of information to be contained and transferred in an individual patient handover (as outlined in Clinical Handover Accreditation Canada Required Operational Practice).

**Dose Error Reduction Software (DERS)** means pre-determined programming for compatible pumps with digital memory, including minimum and maximum doses and minimum and maximum rates of administration, for given standard concentrations of solution. Pumps that use this software are also known generally as “SMART” or “smart technology” pumps.

**Drug library** means a digital memory, often for use with an electronically loadable infusion pump, containing a plurality of medication information entries, including, but not limited to, minimum, default and maximum parameters for concentration, delivery rate, dose and bolus size. (Adapted from Baxter/United States Patent and Trademark Office [2013])

**Emergency Response Vehicle** means an EMS Vehicle including, but not limited to, Ambulances and paramedic response units that are equipped with Emergency Warning Devices and used or intended to be used for providing emergency medical services.

**Hard Stops/Limits** means a pre-set alert, in an infusion pump, that will notify the user that the dose, rate or concentration selected is out of the institution-determined safe range for that medication, and will not allow the infusion to be administered unless the pump is reprogrammed within the acceptable range (Provincial Infusion Pump Education Working Group, 2010).

**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 and role.

**High-Alert Medications** means medications that bear a heightened risk of causing significant patient harm when used in error (Institute for Safe Medication Practices [ISMP], 2012).

**Independent double-check** means a verification process whereby a second health care provider conducts a verification of another health care provider's completed task. The most critical aspect is to maximize the independence of the double-check by ensuring that the first health care provider does not communicate what he or she expects the second health care provider to see, which would create bias and reduce the visibility of an error (Institute for Safe Medication Practices [ISMP], 2005).

**IV Infusion Pump** means a device used to pump fluids and medications into a patient in a controlled manner. The device may use a piston pump, roller pump, or a peristaltic pump and may be powered electrically or mechanically.

**Patient Care Record (PCR)** means the document created to record patient care, demographic and billing information. This document can be stored electronically or on paper.

**Soft Stops/Limits** means a pre-set alert, in an infusion pump, that will notify the user that the dose, rate or concentration selected is out of the anticipated range for that medication. However, soft stops/limits can be overridden by the user, and the medication can still be infused without changing the dose error reduction software pump settings. (Provincial Infusion Pump Education Working Group, 2010)

**Supervisor** means a leadership role in EMS that reports directly to a Manager. This position is responsible and accountable for providing frontline direction and leadership towards the activities of EMS in support of the vision, mission and business plan of Alberta Health Services. A Supervisor can be from either a direct delivery service or a contracted provider.

## REFERENCES

- Alberta Health Services Resources:
  - Health Professions Strategy & Practice Standards and Guidelines for Infusion Pump Education
- Non-Alberta Health Services Documents:
  - Accreditation Canada EMS Standards, available on AHSEMS web

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