

Infusion Pump Maintenance Protocol

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Preamble

Patients are routinely transported between facilities with an infusion device delivering a drug. In many cases these patients are stable but require a registered nurse (RN) escort because of the infusion device. Appropriately trained EMS personnel escorts can provide this function.

For the purposed of this protocol, all models of infusion pump delivery systems are included using the term "infusion pump".

This protocol does not authorize EMS personnel to supervise the administration of any medication. A separate protocol has been established for this purpose.

Requirements

1. Fully licensed Technician.
2. Certification in the drug infusion maintenance protocol by the Medical Director.

Indications

1. Stable patient, with an infusion pump running, who is being transported between facilities.

Contraindications

1. Infusion device not authorized for use.
2. Infusion of agents requiring titration or variable dosing schedules / regimens.
3. Infusion of agents by central venous access devices.
4. Infusion of agents not authorized by drug infusion maintenance protocol.

Procedure

1. Perform patient assessment and record vital signs.
2. Assess that patient meets criteria for this protocol.
3. Ensure there are no contraindications to use of this protocol.
4. At the referring hospital, the hospital staff will draw up the medication or IV fluid to be infused and ensure the infusion pump is functioning properly. The infusion rate will be set based on a written and signed physician's order. The infusion pump will be labeled with the medication name, concentration, and time the infusion was prepared.
5. Prior to transport, the EMS personnel will confirm:
 - the physician's written and signed order for the infusion
 - the medication and concentration being infused
 - the infusion pump has enough medication for the expected transport time
 - the infusion tubing is properly connected to a three-way stopcock on the patient's intravenous line
 - at some facilities, heparin can be infused via a syringe pump without being piggybacked into a running intravenous line
 - the rate of infusion pump delivery
 - the infusion is in progress
 - the volume of infusion already administered
6. If an alarm is displayed during transport, the attendant should attempt to correct the problem. If the problem is corrected, the alarm display message will disappear. If the problem cannot be remedied, the attendant should press the start / stop button to turn the infusion off.
 - if the infused medication is not being piggybacked into an running intravenous line, an infusion of normal saline should be instituted at a keep vein open rate.
7. Several error messages may appear during the infusion pump operation. Error conditions indicate the pump has detected a possible internal malfunction. If an error message appears, the attendant should turn the pump off and then on again. If the error display message disappears when the pump is turned on again, ensure the medication is infusing at the prescribed rate. If the error message persists, the pump should be turned off. The possible internal error malfunction should be reported to the sending and receiving facilities.

8. Upon arrival at the receiving hospital EMS personnel should confirm the volume infused during transport and any additional volume remaining. These volumes should be charted on the patient care report. Inform the receiving hospital of any problems encountered with the infusion, and how they were resolved. Document these problems and their resolution on the patient care report.

Documentation Requirements

The following information must be documented on the patient care report form:

1. Patient's presenting signs and symptoms, including vital signs.
2. Indications for protocol use.
3. Order for infusion signed by referring physician.
4. Dosage and concentration of drug being delivered by infusion pump.
5. Patient assessment, including vital signs at regular intervals during transport. A acceptable interval is q15-20 minutes, unless required more frequently by referring physician.
6. Volume (and dosage if required) delivered during transport, and volume remaining in infusion pump.
7. Patient assessment, including vital signs at regular intervals during transport. A acceptable interval is q15-20 minutes, unless required more frequently by referring physician.
8. Record of any alarms or error messages displayed by the infusion device during transport, with a description of corrective action to manage alarm or message.
9. Changes from baseline, if any, that occur during transport.
10. Signature and license number of EMS personnel performing any transfer of function skills.

Certification Requirements

1. Attend in-depth classes and lectures on operation of the infusion pump.
2. Demonstrate the ability to take appropriate corrective actions for all potential alarms and error display messages that can be encountered when using the infusion pump.

3. Acquire supervised familiarization with the infusion pump in a clinical setting prior to certification.
4. Pass a written examination.
5. Certification is by the Medical Director.

Recertification Requirements

1. Review class and recertification is done every 12 months.
2. A record will be kept to document all cases where this protocol is used.

Decertification

1. Decertification is at the discretion of the Medical Director or the Provincial Medical Director, Emergency Medical Services, Manitoba Health & Healthy Living.

Quality Assurance Requirements

1. Appropriate quality assurance policies must be in place. The Medical Director or designate must review all instances where this protocol is used. As a minimum, the following must be assessed:
 - i) appropriateness of implementation
 - ii) adherence to protocol
 - iii) any deviation from the protocol
 - iv) corrective measures taken, if indicated
2. Yearly statistics for protocol use compiled and forwarded to Emergency Medical Services, Manitoba Health & Healthy Living.