



## Medical Direction and Practices Board

### WHITE PAPER

#### Infusion Pumps

##### **BACKGROUND**

Recognizing the importance of having an accurate method to administer certain medications, in 2011 the Medical Direction and Practices Board (MDPB) adopted protocols which required that administering dopamine to pediatric patients must be done with an infusion pump.

Effective on December 1, 2013, the pressor for treating patients in shock is changing from dopamine to norepinephrine. At the same time, MDPB requires the use of a medication pump for administration of norepinephrine to *all patients*. Administration of intravenous epinephrine will require a medication pump as well.

##### **REASON FOR CHANGE**

In addition to the change in the pressor used for the treatment of shock comes the requirement that it be delivered with an infusion pump for all patients. This is a significant operational change from previous EMS practice.

The MDPB feels strongly that it is no longer reasonable to administer any pressor without the safety and accuracy of a pump. An infusion pump assures that the right amount of medicine is delivered at the right frequency. Both Norepinephrine and epinephrine (like dopamine) can cause severe hypertension and arrhythmias. The risk of adverse reactions rises as the dose is increased. An infusion pump allows providers to accurately deliver just the right amount of medicine to increase perfusion without concerns that we may be giving more medicine than intended.

With this protocol update, infusions pumps are not *required* equipment; however, future updates to Maine EMS rules will align with Maine EMS protocols and at that time, infusion pumps will be required for paramedic level services. In the meantime, the MDPB strongly urges EMS leadership to consider purchasing these devices prior to the Rule change.

Norepinephrine for shock and intravenous epinephrine for patients in severe and treatment-resistant anaphylaxis CANNOT be provided without using a pump. In order to use these potentially life-saving medications, an EMS Service MUST have a medication administration pump.

## **INFUSION PUMP REQUIREMENTS**

- 1) FDA-approved
- 2) Customizable Drug Library: This would help prevent medication errors by preprogramming according to medication formulary and Maine EMS protocols.
- 3) Latex-free tubing system
- 4) Needle-free tubing / ports
- 5) Administration sets with integral free flow protection
- 6) Battery and AC power sources

## **COST OF INFUSION PUMPS**

Previous searches have found these pumps cost approximately \$750 to \$1,000 each; and refurbished units are available at a reduced cost.