



# Mountain-Valley

**Emergency Medical Services Agency**

**DATE:** July 7, 2010

**TO:** ALS Providers

**FROM:** Dr. Kevin Mackey  
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**SUBJECT:** Drug Shortages

- 10 mg/1 mL MORPHINE SULFATE
- PREFILLED EPINEPHRINE 1:10,000 SYRINGES
- PREFILLED DEXTROSE 50%

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The FDA and the American Society of Health Systems Pharmacists (ASHP) have reported shortage of medications due to a pharmaceutical company discontinuing production of medication in emergency syringes. The medications that potentially affect the MVEMSA region are Morphine Sulfate, Prefilled Epinephrine 1:10,000, and Prefilled Dextrose 50%.

The following variances are authorized for provider agencies that may be impacted by this shortage.

## **MORPHINE SHORTAGE**

ALS providers may experience some difficulty obtaining 10 mg/1 mL ampules of Morphine Sulfate over the next several weeks. After researching and verifying with distributors, this issue appears to be a manufacturing backorder related to the ampules and not the medication itself.

Currently, MVEMSA Drug and Equipment Policy (407.00) and Controlled Substance Policy (439.00) specify that an ALS unit may carry Morphine Sulfate in ampules of 10 mg. Most of the pharmaceutical companies indicate that they have available supplies of 5mg ampules. Therefore, for the duration of this shortage, providers may purchase and stock Morphine Sulfate in ampules of 5mg. Please check with your pharmaceutical distributor to determine if your agency will be impacted by this temporary shortage.

MVEMSA will continue to monitor this situation and will provide additional information as necessary. We will review and update the Drug and Equipment policy (407.00) and Controlled Substance policy (439.00), as necessary, if this shortage continues beyond the anticipated next 4-8 weeks

### **EPINEPHRINE SHORTAGE**

Due to manufacturing and approval issues, prefilled one (1) mg epinephrine syringes 1:10,000 are on back order and may be difficult to obtain. Shipments were expected by the first part of July 2010, but there is no guarantee.

If you do not have epinephrine prefilled syringes for use, please follow these procedures for dilution of epinephrine to obtain a 1:10,000 concentration for use in cardiac arrest patients:

- **Draw up on (1) mg of epinephrine from an epinephrine 1:1000 ampule. This is one (1) mL of volume**
- **Add to the epinephrine nine (9) mL of normal saline from a vial or the IV line.**
- **The resulting ten (10) mL solution may be used in place of a prefill.**

**EPINEPHRINE IS A HIGH ALERT MEDICATION AND MAY CAUSE SIGNIFICANT PATIENT HARM WHEN USED IN ERROR; THE FOLLOWING STEPS SHOULD BE FOLLOWED TO MINIMIZE THE POTENTIAL FOR ERROR:**

- **Have another crew member confirm the dilution**
- **Do not save the solution or prepare it in advance**
- **Use of the one (1) mg ampule is recommended**
- **It is better if you always prepare the dilution using the same source of epinephrine to avoid confusion**

If you have multi-dose vials of 1:1000 epinephrine make sure you **DO NOT** draw up 9 mL of epinephrine solution. We recommend the epinephrine solution for dilution and normal saline should be kept together in a clear plastic “baggie” with a label on the epinephrine that says one (1) mL use, along with the 10 mL syringe and brief instructions for dilution.

If intravenous epinephrine is needed in the anaphylaxis patients while solution dilution is being used, the base hospital MICN should confirm with the field crew the correct dilution and the correct dose in mL and milligrams.

## **PREFILLED DEXTROSE 50%**

Due to manufacturing and approval issues, prefilled Dextrose 50% is on back order and may be difficult to obtain. Shipments were expected by the first part of July 2010, but there is no guarantee.

If your agency experiences shortage in D50 follow the procedures listed below:

- **If patients are awake and able to protect their own airway, use oral glucose paste for treatment of hypoglycemia. In patients at risk for aspiration and unable to protect their airway, Glucagon 1 mg SC or IM may be used, If IV administration is necessary and D50 is not available, D25 may be administered to adult patients IV for a maximum single dose of 25 grams of Dextrose and repeated once prior to base contact if supplies permit.**

Paramedics should make immediate base contact for online medical direction if there are any uncertainties with medication calculations, administration or patient dosing. Providers are cautioned about the increased risk of medication errors with the above variances and are advised to provide adequate training and education to their EMS personnel prior to changing any products permitted under the above variances.

If you have any questions, please feel free to contact me at (209) 529-5085 or at [rmurdock@mvemsa.com](mailto:rmurdock@mvemsa.com)