



State of Maryland

**Maryland
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To: EMS Clinicians
EMS Operational Programs
Medical Directors

From: Timothy Chizmar, MD
State EMS Medical Director

Date: February 17, 2022

Re: Saline Flush and Medication Shortages

Currently, there are regional and national shortages of several medications used by EMS. Within the state, jurisdictions and commercial services have indicated that the following medications and IV fluids are in short supply and have limited availability from most distributors:

- Saline flushes
- Epinephrine, pre-filled syringes and vials
- Dextrose (D10 and D50)
- Ketamine (certain concentrations)

While the list above may grow or change with time, a few principles are important to keep in mind.

With regard to saline flushes, I would urge sound judgment and conservation, when possible. If the patient is hemodynamically stable and their condition is not likely to require intravenous medications or fluids during the EMS encounter, we may forego establishing an IV at the judgment of the EMS clinician during this time of critical shortage.

Additionally, we should consider alternative or oral (PO) medications for appropriate patient scenarios. For example, oral glucose 10-15 grams may be used for hypoglycemic patients, when appropriate, in lieu of IV dextrose (D10 or D50). Similarly, we may consider midazolam instead of ketamine for some patients experiencing severe agitation.

MIEMSS does not have the legal authority to “extend” medication expiration dates. This capability rests with federal agencies, such as the U.S. FDA, which are aware of the situation. We will share further guidance as it becomes available.

I recognize that these medication and fluid shortages are especially challenging, as the duration of the supply disruption is unknown. Thank you for your flexibility and sound judgment as we aim to deliver excellent patient care during this difficult time.

CC: MIEMSS Regional Coordinators
Base Stations