



**REGION 11
CHICAGO EMS SYSTEM
POLICY**

Title: Epinephrine Dilution for Shortage
Section: Patient Care
Approved: EMS Medical Directors Consortium
Effective: August 1, 2022

EPINEPHRINE DILUTION FOR SHORTAGE

I. PURPOSE:

To define the proper dilution and administration of Epinephrine during times of drug shortage in the Chicago EMS System.

II. DEFINITION:

Epinephrine may be carried in two forms for EMS use:

- A. Epinephrine 0.1 mg/ml (1:10,000) prefilled syringe
- B. Epinephrine 1 mg/ml (1:1000) vial

Glass ampules should not be used for medication administration by EMS.

III. USE:

- A. Epinephrine 0.1 mg/ml (1:10,000) prefilled syringe is the preferred formulation to administer IV epinephrine when indicated by EMS protocols.
- B. For shortages of the Epinephrine prefilled syringe, Epinephrine from the 1 mg/ml (1:1000) vial may be used after one of the below Epinephrine Dilution Procedure methods.

IV. EPINEPHRINE DILUTION PROCEDURE:

There are two methods that can be used to dilute the epinephrine:

- A. Method 1: Place a 23-gauge needle on the end of a saline flush - 0.9% Sodium Chloride Injection (10 mL prefilled syringe) and discard 1 mL from the syringe. Remove the plastic top of the vial and clean with an alcohol wipe. Draw up 1 mL of 1 mg/mL (1:1000) epinephrine from the vial into the syringe. Gently swirl the medication. The syringe now contains 0.1 mg/mL (1:10,000) Epinephrine.
- B. Method 2: Remove the plastic top of the epinephrine vial and clean with an alcohol wipe. Draw up 1 mL of 1 mg/mL (1:1000) Epinephrine from the vial into a 10 mL syringe using a 23-gauge needle. Draw up 9 mL from a bag of 0.9% Sodium Chloride IV Solution. Gently swirl the medication. The syringe now contains 0.1 mg/mL (1:10,000) Epinephrine.



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V. HOSPITAL REPLACEMENT:

- A. Hospitals should prioritize Epinephrine prefilled syringes for EMS replacement.
- B. Hospitals that are unable to replace Epinephrine prefilled syringes may replace EMS providers with an “Epinephrine Dilution Kit” containing the following:
 - 1. Epinephrine 1 mg/mL (1:1000) vial
 - 2. 23-gauge needle
 - 3. Alcohol wipe
 - 4. Saline flush – 0.9% Sodium Chloride Injection (10 mL prefilled syringe) OR Syringe (10 mL)