



# County of San Diego

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February 28, 2022

## **EPINEPHRINE 1:10,000 1 MG/10 ML (0.1 MG/ML) PRE-FILLED SYRINGE SHORTAGE – GUIDANCE FOR EMS PERSONNEL**

The San Diego County EMS Office is aware that epinephrine 1:10,000 1 mg/10 mL (0.1 mg/mL) pre-filled syringes are in limited supply and may be difficult to obtain. EMS agencies are encouraged to anticipate shortages and implement internal mitigation strategies by monitoring drug reports via the [FDA website](#) and their pharmaceutical supply vendor.

This epinephrine concentration is used to treat cardiac arrest patients. Additionally, after dilution, it is used via intravenous push-dose to treat hypotensive patients.

San Diego County EMS authorizes the following modifications to current policy and practice until July 31, 2022:

- EMS providers should retain and reserve any available epinephrine 1:10,000 1 mg/10 mL pre-filled syringes for push-dose epinephrine use
- Expired epinephrine may be administered following a Base Hospital Physician Variation Order
- EMS providers may dilute an epinephrine 1:1,000 1 mg/1 mL ampule with 9 mL of normal saline to create a 1:10,000 1 mg/10 mL concentration for use in cardiac arrest situations.<sup>1</sup> This solution may be used in place of an epinephrine 1:10,000 1 mg/10 mL pre-filled syringe.
- EMS providers should limit epinephrine administration in an adult cardiac arrest patient to 3 doses
- Dilution of epinephrine 1:1,000 1 mg/1 mL to create epinephrine 1:100,000 push-dose epinephrine for hypotensive patients is **NOT authorized**

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<sup>1</sup> Paramedic personnel creating an epinephrine 1:10,000 solution shall:

- Draw up one 1 mg/1 mL of epinephrine from an epinephrine 1:1,000 1 mg/1mL ampule into a 10 mL syringe.
- Add 9 mL of normal saline from a vial or an IV normal saline bag to the epinephrine.
- The resulting 10 mL solution may be used in place of an epinephrine 1:10,000 pre-fill syringe.

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**Epinephrine is a high alert medication and may cause significant patient harm when used in error. To minimize the potential for error, paramedics should take the following steps:**

- Have another crew member confirm the dilution
- Mark the diluted epinephrine syringe to ensure it is not mistakenly used (e.g., as a normal saline flush)
- Do not prepare epinephrine solutions in advance
- Do not save prepared epinephrine solutions for later use

Please notify County EMS via [EMSNotifications@sdcounty.ca.gov](mailto:EMSNotifications@sdcounty.ca.gov) when the epinephrine 1:10,000 1 mg/10 mL backorder resolves and a return to standard operations and stock occurs. We would welcome you to recontact our office to request an extension to this time-limited exemption should the shortage last longer than anticipated.

Thank you for your assistance in continuing to provide outstanding care to our patients.

Sincerely,

A handwritten signature in blue ink that reads "Kristi Koenig".

San Diego County Emergency Medical Services Office  
San Diego County Fire

cc: Andrew Parr, EMS Administrator