

Patient Safety Advisory

Veterans Health Administration Warning System
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- Item:** Epinephrine, Phenylephrine, and other High Alert Medication Safety in the Operating Room
- General Information:** Administration errors of epinephrine, phenylephrine or other High Alert Medication as the result of selecting the incorrect concentration or wrong drug (look-alike/ sound-alike) can result in significant patient harm, including death. Although recurrent incidences within the VA of inadvertent administration of concentrated phenylephrine or epinephrine prompted the need for this patient safety advisory, it should be noted that this patient safety advisory is applicable for all High Alert Medications used in the OR.
- Recommendations:** Review and complete the following recommendations or implement other measures to achieve an equivalent or increased level of safety within 60 calendar days of the issue date of the Advisory:
1. Ensure high-alert medications are stocked in ready-to-use dosage forms when commercially available. Stocking and use of multi-dose vials should be minimized.
 2. Standardize and minimize the number of medication concentrations stocked.
 3. Identify high risk medications that require dilution prior to administration (e.g., phenylephrine) and develop a process to assure these are available in the diluted form only. (Some VAMCs have the Pharmacy Dept. prepare these daily.)
 4. Epinephrine concentrations should be communicated and labeled in mg/mL strength rather than ratio strengths, such as 1:1,000.
 5. Store look-alike/sound-alike medications in physically separate drawers and shelves in medication/anesthesia carts and automated dispensing cabinets. Topical products should be stored separate from parenteral products.

6. Restocking of automated dispensing cabinets (ADCs) should incorporate bar-code technology or a suitable double-check to ensure stocking of the correct drug and concentration.
7. If the VAMC is using an ADC, open vials of medications, not used during procedures, should not be restocked in the ADC by the end-user.
8. All medications on and off the sterile field must be labeled. All unlabeled solutions or medications are to be discarded.
9. Communicate all medication orders in a standard and consistent fashion. Confirm verbal orders in the OR by repeating the complete order.
10. A dose conversion chart indicating approved VAMC standard concentrations should be readily available.
11. Nothing in this Advisory should be construed to circumvent existing local VAMC narcotic control procedures.
12. Within 75 calendar days of the issue date of this Advisory, the Patient Safety Manager will document on the VHA Hazard Alerts and Recalls website, that top management reviewed and implemented these recommendations or implemented equivalent safety measures.

Sources:

VA Medical Centers

Hicks RW. Patient safety first alert-epinephrine and phenylephrine in surgical settings. *AORN Journal*. 2003; 77(4):743-747.

Grissinger M, Cohen H, Vaida AJ. Using technology to prevent medication errors. *Medication Errors, 2nd edition*. Washington, DC: American Pharmacists Association; 2007.

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