

Institute for Safe Medication Practices

1800 Byberry Road, Suite 810, Huntingdon Valley, PA 19006

www.ismp.org

FOR IMMEDIATE RELEASE
August 12, 2004

CONTACT: Renee Brehio, Media Relations
704-321-3343
rbrehio@ismp.org

ISMP Advocates Changes in Epinephrine Labeling

HUNTINGDON VALLEY, Pa.—The recent death of a 16-year old boy in an emergency department due to an epinephrine overdose has highlighted ongoing problems with labeling for the drug. The dilution strengths of epinephrine are currently expressed as ratios, which often causes confusion. ISMP has petitioned the United States Pharmacopeia (USP) asking for the elimination of ratio expressions for epinephrine injection and labeling changes to reduce confusion between epinephrine and ephedrine.

Factors that contribute to epinephrine dosing errors include lack of understanding of the difference between dose concentrations (for instance, 1:1,000 or 1 mg/mL and 1:10,000 or 0.1 mg/mL) and the fact that it is easy to confuse the number of zeros in the ratio, especially when expressed without the commas. There also is no warning on ampuls of epinephrine reminding practitioners that the more concentrated forms need to be diluted before use. In its petition to USP, ISMP stressed that the drug should be expressed only in mg per mL, except when being combined with local anesthetics.

ISMP also asked for changes to prevent epinephrine from being confused with the similar-looking and sounding ephedrine, another longstanding problem. ISMP requested that these drugs be labeled with enhanced letter characters (EPIneprine and ePHEDrine) or that the name ephedrine be changed to *efedrine*.

ISMP practice recommendations for avoiding errors with epinephrine include:

- Create a dose conversion chart reflecting available concentrations and post on emergency carts and in other areas where these medications may be prepared.
- During annual CPR certification for clinical staff, review the dose chart and mention potential confusion with emergency drugs dosed in ratio or percent concentrations alone.
- Store a single concentration wherever possible and affix warning labels as appropriate to minimize confusion between the two concentrations of epinephrine.
- In units where multiple concentrations are needed (such as the emergency room), apply auxiliary warning labels to 1:1,000 ampuls to alert staff to the concentration in mg and to dilute it before IV use.
- Consider use of tall man letters on computer screens, labels on pharmacy and nursing unit shelves and bins, and prescription product labels to avoid name mixups.

For more information, visit ISMP's web site at www.ismp.org. To schedule an interview on this issue, contact Renee Brehio at 704-321-3343 or at rbrehio@ismp.org.

About ISMP: The Institute for Safe Medication Practices (ISMP) is a 501c(3) nonprofit organization that works closely with healthcare practitioners and institutions, regulatory agencies, consumers, and professional organizations to provide education about medication errors and their prevention. ISMP represents nearly 30 years of experience in helping healthcare practitioners keep patients safe, and continues to lead efforts to improve the medication use process. In 2004, the Institute is celebrating the 10th anniversary of its official incorporation as a nonprofit organization. For more information on ISMP, or its medication safety alert newsletters for healthcare professionals and consumers, visit www.ismp.org

-end-