ISMP Medication Safety Alert!®

©2003 Institute for Safe Medication Practices

Nurse Advise-ERR™

Educating the healthcare community about safe medication practices

April 2003 ■ Premier Issue

New color coding of 25 gauge needles may lead to a serious insulin overdose

Nearly every nurse equates the color orange with insulin products. Orange caps on insulin vials, orange color on insulin syringe wrappers, orange needle covers or plunger tips on insulin syringes – all help nurses locate insulin vials and syringes. But this longstanding color scheme has become unreliable.

An international standards-setting organization now requires companies that distribute syringes and needles worldwide to use orange color-coding on all safety-engineered 25 gauge needles. As a result, most 25 gauge needles, and syringes with 25 gauge needles, have orange color-coding on the wrapper and syringe. Before this change, 25 gauge needles were color-coded in blue.

The new color-coding system has already led to an insulin overdose. A hospital had just received a new supply of tuberculin (TB) syringes (VanishPoint), with orange plunger tips and orange writing on the wrappers. The nurse manager accidentally put the new syringes in a drawer reserved for insulin syringes. When a nurse went into this drawer, she picked up a new TB syringe. Seeing the orange plunger tip, she assumed it was an insulin syringe and drew up what she thought was 5 units of regular insulin. But the syringe's gradations were marked without leading zeros (.1, .2). What the nurse saw as the "5 unit" mark was actually the ".5 mL" mark, so she drew up and gave 50 units. Luckily, the patient suffered no harm as a result of the error.

Nurses equate the color orange with insulin syringes ... but this has become unreliable.

If you work in an adult patient care area, you may want to remove TB syringes from the unit and ask pharmacy to dispense all skin tests and small subcutaneous medication doses. Or you could switch to 26 gauge (brown) or 27 gauge (gray) needles on TB syringes so that the only 0.5 or 1 mL orange-coded syringes on the unit are insulin syringes. Due to clear size differences, mix-ups between insulin syringes and 3 mL syringes with a 25 gauge needle are less likely.

safetywire

Tale of the tape. During emergencies, many hospitals use the Broselow Tape to quickly estimate a child's weight (based on height) and correlate it with appropriate precalculated medication doses, fluid volumes, and equipment sizes. But the Broselow Tape won't help if the drug concentrations stocked in the pediatric crash cart don't correspond with the concentrations on the tape. For example, the tape may indicate that 0.2 mg or 2 mL of atropine (0.1 mg/mL) is needed. The volume cited is based upon the adult strength of 1 mg/10 mL. However, atropine is available commercially in other concentrations, including 0.25 mg/5 mL syringes (0.05 mg/mL). If this concentration is stocked on the crash cart, a subtherapeutic dose may be given. Check your crash carts to make sure the drug concentrations stocked match the concentrations listed on the Broselow Tape.

welcome!

Welcome to the premier issue of **Nurse Advise-ERR**, a medication safety newsletter from the Institute for Safe Medication Practices (ISMP). Written by nurses and edited by a diverse, expert advisory board, **Nurse Advise-ERR** is designed to:

Alert nurses to serious medication hazards
Inform nurses about the deeply rooted system causes of medication errors
Empower nurses to protect patients from medication errors
Engage nurses as integral members of interdisciplinary medication safety teams.

To achieve these goals, we'll bring you anonymous medication safety stories—sometimes amusing, sometimes tragic, but always memorable—that ISMP has received. We'll talk about why mistakes happen, and offer practical advice on how to avoid errors.

Just as important, you'll have a chance to share your safety stories, ask questions, and participate in surveys so we can learn about you, your medication safety concerns, and the innovative ways that you make patients safe.

We're glad you're joining us on this very important journey to prevent medication errors.

to the point

"We cannot dramatically improve safety until people increase their perception of risk in various situations and reduce their overall tolerance for risk."
E. Scott Geller

Provided through an unrestricted educational grant from Eli Lilly and Company

System changes can keep you inside the safety zone

A nurse did not have an oral syringe available to give **AUGMENTIN** (amoxicillin and clavulanate) oral suspension to an infant, so she drew the dose into a parenteral syringe. Before she could administer it, she had to leave the room to attend to an emergency with another patient. She handed the syringe to the infant's mother, saying, "Can you give this to her?"

The infant still had a saline lock in her arm, which had been used for prior doses of IV antibiotics before switching to the oral Augmentin. The mother had previously watched nurses administer IV antibiotics to her baby. So she uncapped the saline lock, attached the parenteral syringe to it, and administered the oral suspension intravenously.

Fortunately, a physical therapist called for help when the baby stopped breathing. The infant was successfully resuscitated, but the nurse was so devastated that she resigned.

This error occurred when a nurse was drawn outside of her safety zone by two important factors: lack of oral syringes (specifically designed so they cannot be connected to IV ports) and suddenly being called to an emergency at a critical point in the medication administration process. The availability of the baby's uneeded IV access then led to an injury. The baby's safety, and the nurse's career might not have been compromised had oral syringes been available, and the saline lock discontinued when it was no longer needed.

Q: What is the purpose of brand and generic drug names?

A: A generic name (usually not capitalized) is a unique name assigned to each medication after approval by the United States Adopted Name (USAN) Council. Generic names often contain word stems to help identify the class to which they belong. For example, medications using the word stem "-teplase" are tissue-type plasminogen activators. These word stems also can help clinicians recall common side effects for the specified class of medications.

Medications may have one or more brand names. To market the drug, manufacturers usually select a brand name that is easy to pronounce, spell, and remember. For example, **TYLENOL** was the brand name chosen by the company that first manufactured acetaminophen.

Since the patent on Tylenol has expired, other companies now manufacture acetaminophen and market it under different brand names, such as **ACETA**, **FEVERALL**, and **TEMPRA.**

In **Nurse Advise-ERR**, we'll consistently list all generic names in lower-case letters. The first time we mention a specific brand name, we'll boldface and capitalize all letters and list its generic name in parentheses.

how to report errors

Share your medication safety stories and error reports in confidence by calling ISMP (800-FAIL SAFE), via our web site (www.ismp.org) or through e-mail (nursing@ismp.org). Reporter identity and location remain strictly confidential and are never published. Anonymous reports also are accepted.

how to subscribe

Visit www.ismp.org to subscribe to **Nurse Advise-ERR** . This monthly newsletter will be offered **free** during 2003. Our goal is to make **Nurse Advise-ERR** available to all front-line nurses via e-mail to a designated nursing representative at each site, who would then redistribute it to other nurses in the institution. Individual subscribers also are welcomed.

nicecatches

The nose knows. A pharmacist mistakenly dispensed the antihistamine **ZYRTEC** (cetirizine) syrup instead of the antiulcer drug **ZANTAC** (ranitidine) syrup. Five days later, a nurse caught the error after questioning the syrup's odor. The pharmacy instituted three procedures to prevent future errors: (1) an independent double-check of all Zyrtec and Zantac prescriptions is required; (2) the two products are stored by generic rather than brand name; and (3) look-alike/sound-alike warnings have been added in the pharmacy computer. Always trust your instincts (and nose!) and investigate if you suspect a problem.

Minibag mixup. A nurse reported that an automated dispensing cabinet was filled with potassium chloride 40 mEq/100 mL minibags instead of the expected 10 mEq/100 mL minibags. Although the pharmacy had ordered 10 mEq/100 mL minibags, the supplier had sent 40 mEq/100 mL bags by mistake and labeled the shipment as containing 10 mEq/100 mL minibags. The pharmacist who received the shipment compared the order against the shipping label and it matched, so the error was not noticed. The pharmacy technician who stocked the cabinet also failed to notice the error because the minibags looked just as he expected. Fortunately, the nurse discovered the error before the wrong product was administered to a patient.

©2003 Institute for Safe Medication Practices. Permission is hereby granted to subscribers to use material from **Nurse Advise-ERR** for in-house newsletters or other internal redistribution. Reproduction for external use is prohibited without written permission. Errors reported in this publication were received through the USP-ISMP Medication Errors Reporting Program. **Editors**: Judy Smetzer, RN, BSN; Susan Paparella, RN, MSN; Hedy Cohen, RN, BSN; Michelle Mandrack, RN, BSN. **Institute for Safe Medication Practices, 1800 Byberry Road, Suite 810, Huntingdon Valley, PA 19006**. Tel. 215 947 7797; Fax 215 914 1492; E-MAIL:nursing@ismp.org.