



# Nurse Advise-ERR™

Educating the healthcare community about safe medication practices

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## Santa's onto something... He checks his list twice, shouldn't we?

Asking another nurse to double check your work can be an important safety strategy to catch a potentially serious mistake before it reaches a patient. Yet, attitudes among those responsible for seeking out or performing the double check have not always been positive. The checking process takes extra time that some may not feel is justified by what they believe to be a very small number of problems that are uncovered. Others may think that double checks could lead to more mistakes as staff learn to rely upon the checker to catch problems. With staffing shortages and other significant time constraints looming over healthcare, the value of double checks is under increased scrutiny, especially since most facilities have experienced errors that have reached patients despite double checks. So are double checks worth your time?

While research is scarce about double checks performed by nurses, studies involving other clinicians suggest that they are, indeed, worth your time if conducted *independently*.<sup>1,2</sup>

**Double checks identify a higher rate of errors than people realize.** For example, in one study, pharmacists who *independently* checked 5,700 prescriptions awaiting pick-up uncovered 240 (4.2%) that were filled in error. Of these, 2.1% were considered potentially harmful to the patients.<sup>1</sup>

**Most errors are recognized during a double check process.** In studies where artificial errors were introduced into the medication use process, 93-97% of these errors were identified during an *independent* double check. Thus, even with small error rates, a

significant number of mistakes can be identified over time with an *independent* double check.<sup>1,2</sup>

**It's hard to find your own mistakes.** In simulations, participants were much better at finding others' mistakes than their own.<sup>1</sup> One reason is that confirmation bias fogs our ability to always see our own mistakes. (See our November 2004 issue for more on confirmation bias.) For example, the nurse preparing a medication may not be able to recognize that she's selected the wrong drug because she can only see what her mind thinks she should see - the intended medication. Putting a fresh pair of eyes on the subject improves accuracy.

**Double checks should be limited to situations that involve high-alert drugs.**

**Double checks work best when conducted *independently*.** To be most effective, one person must perform the double check without any cues from the person who carried out the initial work. (See In The **Spotlight** for more on *independent* double checks.)

While double checks are not as effective as system changes that prevent mistakes, there's evidence that, if performed *independently*, double checks can prevent an error from reaching the patient. However, double checks should be limited to situations that involve high-alert drugs, complex processes, and high-risk patients. Too many checkpoints dilute their effectiveness and are a sure sign of an ailing medication system with lots of Band-Aids downstream to detect errors, instead of prevention efforts upstream. Let's not risk getting coal in our stockings this holiday season for failing to "check our list twice!"

See references under In The **Spotlight**.

## Newsletter free in 2005!

We are pleased to announce that **McKesson** will be providing an educational grant to ISMP to sponsor **free** distribution of **Nurse Advise-ERR™** in 2005. Please join us in thanking our prior sponsor, Eli Lilly and Company, and our new sponsor, **McKesson!**

## In The Spotlight

**An independent double check** requires two people to *separately* check each component of the work process. For example, one nurse calculates and prepares a dose, and another *independently* checks the order, makes the same calculation, and matches the results for verification.

Two people are unlikely to make the same mistake if they work *independently*. But if they work together or influence the checking process by offering "hints," both nurses could follow the same path to an error. So holding up a syringe and a vial and saying, "This is 5 units regular insulin, can you check it?" is not effective. Each person should *independently* start with the order and end up with the same result. The person asking for the double check must not influence the checker in any way.

While studies show that *independent* double checks can be effective,<sup>1,2</sup> there may also be environmental conditions that lead both nurses to make the same mistake even if working *independently*. For example, both may misread a poorly legible order or a confusing drug label. Thus an *independent* double check should never be the only strategy for high-alert drugs, or high-risk processes and patients.

**References:** 1. Grasha AF, et. al. Delayed verification errors in community pharmacy. Tech Report Number 112101. Cognitive Systems Performance Lab. 2. Campbell GM, Facchinetti N. Using process control charts to monitor dispensing and checking errors. *Am J Health-Syst Pharm* 2000; 55: 946-952.

## Missing medications - missed opportunity?

While it's frustrating to be unable to find a medication dose when you need it, the case of a *missing* dose could be your chance to uncover an error. A dose may not really be "missing;" it could signal a potential error, such as (among others) those described below:

- The medication was already given but not documented
- The medication was already given on another unit or in a procedure area
- The medication was prescribed using a brand name and dispensed as a generic or therapeutic substitution
- The medication time or frequency was scheduled incorrectly
- The prescriber's order was incorrectly interpreted or mistranscribed at some point in the medication process
- The medication was not yet dispensed by pharmacy due to a safety problem (e.g., allergy, unsafe dose, interaction)
- The order was not sent to pharmacy
- A discontinued drug remains active on the medication administration record.

For example, extra doses of oral colchicine were given to a patient because the physician prescribed the drug "daily PC" for prophylaxis of gout. The physician really wanted the patient to receive one dose daily after one of his meals, but the nurses incorrectly interpreted this to mean that colchicine should be given three times daily after each meal. Despite the error-prone order, pharmacy interpreted it as intended and dis-

pensed one dose of colchicine daily. However, nurses called for and received the 2 additional doses for several days until someone finally investigated the reason for so many *missing* doses.

Another patient received unintended warfarin doses (8 mg) when a nurse misinterpreted this poorly handwritten order for **AVANDIA** (rosiglitazone) as **COUMADIN** (warfarin). The pharmacy dispensed



*Coumadin - 5 mg  
PO daily*

Avandia, but for 2 days, nurses called for the *missing* warfarin. On the third evening, when a nurse called again, the pharmacist added warfarin to the patient's profile as a daily dose, but this was done improperly without an actual order for verification. After 5 days, a physician discovered the error when reviewing a computer-generated list of the patient's medications. The patient required fresh frozen plasma and vitamin K. After this and appropriate antidiabetic therapy, the patient recovered.

Missing doses are an inconvenience, and could certainly be related to system problems with pharmacy dispensing or delivery. However, even if therapy is delayed, *missing* doses should never be borrowed from other patient supplies. Any discrepancies should require verification against the original order before requesting and administering a *missing* medication.

### safetywire



**Clarify HS.** "HS" is on the ISMP list of error-prone abbreviations (see the July 2004 issue) for manufacturers to avoid as part of a drug name to mean "half strength."

However, even when used appropriately to mean "bedtime" (or hour of sleep), it's meaning could be misinterpreted. A prescriber ordered **CeeNU** (lomustine) to be administered at "hs" for treatment of a brain tumor. Typically, this drug is prescribed every 5 to 6 weeks as a single oral dose given at bedtime. However, the pharmacist (and subsequently the nurses) interpreted "hs" to mean "nightly at bedtime." After 9 nightly doses, the patient died from irreversible thrombocytopenia and leukopenia. By writing out "once tonight at bedtime," this tragedy might have been avoided. Another way this error might have been prevented is to only allow nurses with special training and certification to administer chemotherapy, even oral doses. Up-to-date protocols or other reliable drug references should also be available in units where chemotherapy is given so that nurses can verify all doses and dosing schedules before administration.

### nicecatch



#### It wasn't clear to me.

A nurse in a long-term care facility was about to administer what she thought was

**HYPOTEARs PF** (polyvinyl alcohol, preservative-free) drops to a resident. What she initially picked up instead was a container of albuterol inhalation solution, which had been mistakenly placed in the resident's medication cart drawer. Luckily the nurse noticed the error and did not place albuterol into the resident's eyes.

Hypotears PF are packaged in a clear, single dose, low-density polyethylene (LDPE) container, very similar to many inhaled respiratory medications (see photo). The names of the medications are molded into the plastic but are colorless.



Can you pick out the eye drops?

To avoid mix-ups with the many products packaged in LDPE containers, be sure to store each separately. If possible, also keep medications that come in LPDE containers in their original outer packaging, which is often labeled more clearly. If the medications cannot be stored in their original packaging, ask pharmacy if they can dispense all LDPE containers (including respiratory medications) in clear plastic bags with auxiliary labels for easier identification.

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**Report medication errors to ISMP at 1-800-FAIL-SAF(E).**

## Special Recognition...

Our 2004 Nurse Advise-ERR™ clinical advisory board

Production of this peer-reviewed newsletter would not be possible without the assistance of a reliable and talented clinical advisory board. As 2004 nears an end, we want to thank each of the following members of the advisory board for their dedication to making this newsletter a valuable medication safety resource for clinicians.

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