SHANDS Jacksonville

DRUG UPDATE

SPECIAL ISSUE

PRESCRIBING

THE ROLE OF SAFE PRESCRIBING IN THE PREVENTION OF MEDICATION ERRORS

Medications are the most common cause of adverse events in hospitalized patients.[1,2] Adverse drug events (ADEs) occur during 6.5% of hospital admissions and 1% of patients suffer disabling injuries as a result of an ADE.[1,2,3] Common causes of medication errors are listed in Table 1.[4] Because adverse reactions to medications can be serious or fatal, it is extremely important that drug allergies and the reactions are documented. Additionally, medications can be easily confused as a result of look-alike or sound-alike names and abbreviations (e.g., Toradol and tramadol, O.D. can be interpreted as once daily or right eye, and AZT could represent azathioprine or zidovudine). It is important that everyone utilize strategies to decrease medication errors. Several tips for safe prescribing of medications are reviewed in Table 2 and should be incorporated into daily practice.[4]

When writing orders for patients in the hospital, the same tips are useful. However, there are additional considerations. First, make sure there is a pink or yellow copy present beneath the white order sheet so that the pharmacist will get a copy of the new order. Second, once an order is written it cannot be crossed out or altered; a new order clarifying the previous order is required. Third, there are subtle differences in the administration schedules. For example, at Shands Jacksonville, "T.I.D." orders are administered during waking hours (i.e., 0900, 1300, and 2100) while "every 8 hours" orders are given around the clock (i.e., 0100, 0900, and 1700). Lastly, after the order is written, flag the patient's chart and place it in the rack by the clerical associate to ensure that the nurse and the pharmacist are aware of the order. This process is essential because the omission of medication administration, usually first time doses, is the most frequently reported medication error type at Shands Jacksonville.

" Preventing medication errors must be a multi-disciplinary effort."

Obviously, no one group of healthcare professionals is responsible for all errors. Therefore, preventing medication errors must be a multi-disciplinary effort. For any further questions, please contact your liaison pharmacist or the Drug Information Service at 244-4185.

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Table 1. Common Causes of Medication Errors

- Ambiguous strength designation
- Look-alike or sound-alike names or use of prefixes and suffixes in drug names
- Equipment failure or dysfunction
- Illegible handwriting
- Improper transcription
- Inaccurate dosage calculation
- Inadequately trained personnel
- Inappropriate abbreviations use
- Labeling errors
- Excessive workload
- Lapses in individual performance
- Unavailable medication resulting in delayed treatment

Table 2: Tips for Safe Prescribing

1. Prescriptions and inpatient orders should be legible.
2. Prescriptions and inpatient orders should be complete and include:
   - Date and time
   - Patient's name
   - Documentation of drug allergies and specific reactions
   - Generic drug name
   - Exact metric strength or concentration (except insulin and vitamins, which use units)
   - Dosage form
   - Route and site of administration
   - Frequency of administration
   - Prescriber's name, signature, and Shands Jacksonville computer number
   - A brief notation of purpose (e.g., for cough)
3. Leading zeros should always precede a decimal < 1 (e.g., 0.02).
4. Trailing zeros should never be used after a decimal (e.g., 1.0 could be mistaken for 10).
5. Avoid the use of abbreviations, including medication names and Latin directions for use.
6. Avoid vague instructions such as "take as directed" or "use as needed."
7. Contact a pharmacist for any questions about medications.

(Safe Prescribing from page 1)

One of the major causes of medication errors is the ongoing use of potentially dangerous abbreviations and dose expressions. Underlying factors contributing to many of these errors are illegible or confusing handwriting by clinicians and the failure of healthcare providers to communicate clearly with one another. Medication safety and the identification, prevention, and timely reporting of medication errors are of primary importance to the Joint Commission.

References:

1. Brennan TA, Leape LL, Laird N, et al. Incidence of adverse effects and negligence in hospitalized patients: results of the Harvard Medical Practice Study I. New Engl J Med 1991;324:370-6.
2. Leape LL, Brennan T, Laird N, et al. The nature of adverse events in hospitalized patients: results of the Harvard Medical Practice Study II. New Engl J Med 1991;324:377-84.
3. Bates DW, Cullen DJ, Laird N, et al. Incidence of adverse drug events and potential adverse drug events: implication and prevention. JAMA 1995;274:29-34.
4. ASHP guidelines on preventing medication errors in hospitals. *Am J Health Syst Pharm* 1993;50:305-14.

Table 3. Shands Jacksonville List of Unacceptable Abbreviations

UNACCEPTABLE	CORRECT USAGE
"MS" and "MSO_4" or "$MgSO_4$" for morphine sulfate or magnesium sulfate.	Write "morphine sulfate" Write "magnesium sulfate"
"u" or "IU" for units	Spell out the word "units"
"q.d." "qd" "Q.D." "QD" or "OD" for daily	Spell out the word "daily"
"Q.O.D." for every other day	Spell out "every other day"
Trailing zero such as "5.0"	Do not use a zero after a decimal point such as "5"
Decimal point without a leading zero such as .5" (mistaken for 5)	Use leading zero before a decimal point such as "0.5"