Health Policy Newsletter

Volume 16 Number 2 **June, 2003** **Article 5**

Jefferson Launches Effort to Eliminate Use of Dangerous Medication Abbreviations and Dose Designations

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Suggested Citation:
Senholzi C. Jefferson launches effort to eliminate use of dangerous medication abbreviations and dose designations. Health Policy Newsletter 2003; 16(2): Article 5. Retrieved [date] from http://jdc.jefferson.edu/hpn/vol16/iss2/5.

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One of the leading causes of medication errors is the use of confusing abbreviations and dose designations by health professionals. Studies have shown that the use of such abbreviations and dose designations may be responsible for more than 10% of medication errors.[1] A study of "problem" medication orders conducted at the Thomas Jefferson University Center City Campus in 2001 showed use of nonstandard abbreviations to be the third most frequently occurring problem with written medication orders (after illegible handwriting and non-specific doses). Healthcare professionals who write medication orders/prescriptions must keep in mind that nurses, pharmacists, pharmacy technicians, clerks, and other healthcare professionals have widely differing experience with interpreting those orders. Care must be taken to assure that orders are as clear as possible to all potential caregivers, from the novice practitioner to the seasoned professional.

The Pharmacy & Therapeutics Committee at Thomas Jefferson University Hospital (TJUH) has developed a list of abbreviations/dose designations that should never be used due to their potential to contribute to medication errors. This list was developed based on a review of the literature and our own experience with these abbreviations/dose designations contributing to medication errors. The list, reprinted here, can be found displayed in patient care areas throughout the Center City, Ford Road, Jefferson Hospital for Neuroscience, and Methodist campuses. In addition, these abbreviations are included in medication safety material presented during orientation to all TJUH physicians and employees involved in the medication use process. While not comprehensive, this list will serve as a starting point for eliminating use of dangerous abbreviations.

The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) has recently mandated that accredited organizations develop and enforce such a list. As a result, any order that is written at TJUH using one of these abbreviations/ dose designations must be clarified before the order can be transcribed to the medication administration record and then administered to the patient. Failure to do so can compromise patient safety and risk noncompliance with JCAHO standards. Prescribers (as well as other healthcare professionals taking verbal orders) are asked to avoid use of the listed items. Such an approach will save a phone call to the prescriber later down the line.

Implementation of computerized prescriber order entry (CPOE) has virtually eliminated problems with use of abbreviations and dose designations in the inpatient populations covered by CPOE; however, until CPOE is fully implemented throughout TJUH (critical care units, step down units, and the maternal/children areas are not covered by CPOE at this point), attention must be paid to the proper ordering of medications by handwritten means. This list should also be used as a guide to safe medication ordering on outpatient prescriptions.

Abbreviations/Dose Designations That Should Never Be Used in Medication Orders/Prescriptions		
Abbreviation/ Dose Designation	**Problem**	**Correction**
Use of "qd" (for daily)	Misinterpreted as "qid" (resulting in 4-fold overdose)	Write "daily"
Use of "qod" (for every other day)	Misinterpreted as "qid" or "qd"	Write "q other day" or "q48 hours"
Use of "u" (for units)	Misinterpreted as a "0" (resulting in a 10-fold overdose"	Write the word "units"
Use of "µg" (for micrograms)	Mistaken for "mg"	Use "mcg" or write "micrograms"
Use of "od" (for daily)	Misinterpreted as "right eye"	Write "daily"
Use of zero after a decimal point (e.g., 1.0 mg)	Decimal point can be missed on order (resulting in a 10-fold overdose)	Do not use trailing zeros when dose is a whole number
Failure to use a zero before a decimal dose (e.g., ".1mg")	Decimal point can be missed on order (resulting in a 10-fold overdose)	Always use a leading zero before a decimal dose less than one

References

1. Lesar TS, Briceland L, Stein DS. Factors related to errors in medication prescribing. JAMA 1997;277:312-17.

About the Author

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