The alphabet soup of drug name suffixes

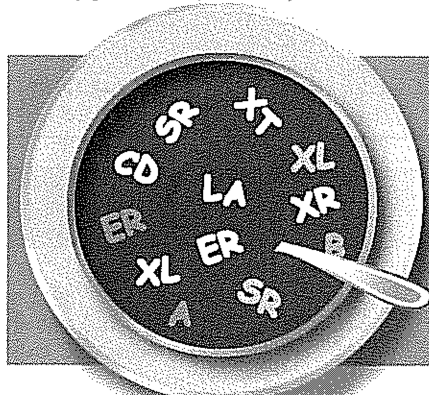
Medications with delayed or extended release formulations can play a vital role in improving adherence to drug therapy. These unique dosage formulations prevent the need for multiple daily doses of a medication by delivering a total daily dose steadily over a period of time. This mechanism is convenient for patients, may reduce certain adverse effects, and, on occasion, even allows use for different indications. The nomenclature used for long acting dosage forms is often confusing, however, and errors can occur when the same drug has several oral dosage forms with different release rates.

Manufacturers have adopted the practice of adding suffixes or modifiers (e.g., Welbutrin SR) to medication names to maintain brand awareness while signifying that the formulation is different from the immediate-release version of the product. No standardization of the terms for the many different kinds of long-acting formulations exists, however. As a result, inconsistencies abound, allowing different suffixes to be used for an identical formulation by two different manufacturers or even similar suffixes for dissimilar formulations. In short, the nomenclature used for these formulations often fails to provide appropriate cues to the patient regarding the proper use of the dosage form.

In addition to lack of standards, physicians commonly prescribe extended release products without the appropriate suffix. Practitioners have also been known to include suffixes that do not exist for the specified product. In an analysis of 402 prescribing errors published by Medscape Pharmacists, Timothy S. Lesar, PharmD, found that the most common type of error was failure to specify the controlled release formulation (280 cases, 69.7%).

Suffix confusion

The Institute for Safe Medication Practices (ISMP) has received reports of numerous cases in which community pharmacists dispensed Metadate ER instead of Metadate CD (two different extended release forms of methylphenidate—UCB). In one of these reports, a prescription for Metadate CD 20 mg with instructions to "take two every morning" was taken to an outpatient pharmacy, where the staff dispensed Metadate ER 20 mg. Confusion can also be expected between Ritalin LA and Ritalin SR, two other formulations of methylphenidate (Novartis).



ISMP still receives reports of confusion between Abbott's extended release Depakote ER and delayed release Depakote (divalproex sodium), as well as Glucotrol/Glucotrol XL (glipizide—Pfizer) and Glucophage/Glucophage XR (metformin—Bristol-Myers Squibb). Some products have numerous suffixes to differentiate formulations of the same drug; for example, suffixes for various diltiazem products include SR, CD, XR, XT, and LA. The potential for confusion between suffixes has been compounded by the use of electronic prescribing. In one recent report, the wrong drug was selected by a prescriber because of stemming (entering a few letters of a drug name) on his PDA. He selected metoprolol tartrate instead of the intended metoprolol succinate.

Dealing with confusion

ISMP has recommended to USP that nomenclature standards be established to prevent confusion among various formulations of the same drug. Standard suffixes or descriptive phrases could be incorporated directly into the drug name, or a unique brand name could be used to designate a different formulation property, as Novartis did with Neoral (cyclosporine modified) and Sandimmune (cyclosporine). FDA is aware of these name extension problems and is examining ways to improve trademark nomenclature.

Pharmacists should, in the meantime, be on high alert to avoid possible confusion among different formulations of medications and the suffixes used in their trade names. Build alerts into computer systems and mark drug containers to warn staff about the differences. Design computer mnemonics to separate the different formulations on computer screens used during order entry. Store similarly named drugs separately and use auxiliary labels to differentiate the products.

Keep in mind that prescriber confusion among various suffixes has also been reported; therefore, new prescriptions for any of these medications may need to be verified. Review patient history for discrepancies when medication names with potentially confusing suffixes are received electronically. When giving or repeating back verbal orders, practitioners always should use the full words "extended release" or "sustained release" instead of abbreviations. Patient participation may also be helpful. When prescribing and dispensing potentially confusing medications, practitioners should alert patients to possible mix-ups between formulations and suffixes.

—Institute for Safe Medication Practices

The reports described in this column were received through the ISMP Medication Errors Reporting Program (MERP). Errors, close calls, or hazardous conditions may be reported on the Institute for Safe Medication Practices (www.ismp.org) website or communicated directly to ISMP by calling 800-FAIL-SAF (800-324-5723) or e-mailing ismpinfo@ismp.org. The topics in this column are covered in greater detail in *Medication Errors, 2nd edition,* written by ISMP President Michael R. Cohen, BPharm, MS, ScD. The book may be purchased from APhA at www.pharmacist.com or by calling 800-878-0729.