# MDS Alert

## Medication Safety: Are Your Residents Taking Any of These Drug Combos?

**Expert warns about drug-drug interactions that can cause negative outcomes.**

Suppose a patient develops bradycardia and faints or you notice that someone with dementia seems more cognitively impaired than usual.

These could be signs of a potential drug-drug interaction, according to a presentation by **Thomas Lynch, PharmD,** at the March 2011 annual American Medical Directors Association meeting.

Lynch provided examples of various types of drug-drug interactions, including pharmacodynamic ones, which he noted involve interactions between medications' mechanism of actions. That's where "you have additive effects because two drugs have similar mechanisms of action or antagonistic effects -- either one," Lynch said.

Example of additive effect: When patients take a beta blocker along with diltiazem or verapamil, you can see "fairly symptomatic results with very low pulse rates and syncope," he reported.

Is the patient taking an ACE inhibitor and an ARB? "If you add nonsteroidals to that mix, especially over-the-counter, you can actually antagonize the effect of ACE inhibitors and ARBs," which can make a patient's hypertension or heart failure worse, Lynch cautioned. He advised conferees to "be aware of that and rather than add another drug, maybe remove the nonsteroidal, and find an alternative agent."

A "classic" drug-drug interaction in the elderly occurs when you combine an acetylcholinesterase inhibitor with anticholinergic agents, as these have "opposite effects,"

Lynch noted. The result, according to his session handout, can be increased dementia.

Pharmacokinetic drug interactions, which affect drug "absorption, distribution, metabolism, and excretion," can also occur, Lynch noted. He provided an example involving a once a day quinolone antibiotic. "Anything containing ferrous iron, calcium, magnesium, zinc, will inhibit absorption" of the quinolone antibiotic. "Think about it -- those are in multivitamins," he said.