Long-Term Care Survey Alert

MEDICATION MANAGEMENT: Vanquish 2 Sources Of Serious Drug-Drug Interactions

If your facility isn't doing this, residents may be in jeopardy.

Unless a resident is taking only one medication, you have to worry about drug-drug interactions. And with the revised F329 tag in play, you need to show how you're on top of this potentially serious problem.

A great place to start: Five of the 10 top drug-drug interactions listed in the F329 survey guidance involve warfarin (Coumadin), notes **Carla Saxton McSpadden,** a pharmacist with the **American Society of Consultant Pharmacists**.

Thus, facilities "that clean up their policies and procedures and processes around warfarin management" will address a large majority of drug interactions, she notes. Not only that, but "warfarin-related drug interactions are the most potentially harmful" because they tend to increase bleeding, McSpadden adds.

Warfarin can also counteract the therapeutic effect of other drugs. The anti-seizure medication Dilantin (phenytoin) is a common example. Phenytoin potentiates the effect of warfarin, and conversely, warfarin can potentiate phenytoin and increase serum phenytoin concentrations, McSpadden warns.

Beware antibiotics + warfarin: If a resident is taking warfarin and the physician starts him on an antibiotic, the person's INR "will go off the wall and he could have a bleed," cautions **David Mehr, MD, MS**, an associate professor of medicine at the **University of Missouri-Columbia**. But if you remind the doctor in all cases that the patient is taking warfarin, he can address the problem. For example, the doctor can decrease the warfarin dose during the week that the person takes the antibiotic and/or do additional INRs, says McSpadden.

Vitamins Can Cause Problems

Vitamin K supplements can counteract warfarin's anticoagulant effect. In fact, **Jeff Williamson, MHS, MD,** reports caring for patients who weren't on warfarin who "had significant clotting problems caused by taking large doses of vitamin K" supplied by their family.

So assess residents at admission and routinely to see if they are taking herbal remedies or vitamins, advises Williamson, an assistant professor at **Wake Forest University School of Medicine.** Also educate residents and families to notify the nursing staff before taking any non-prescribed herbal or vitamin remedies, he adds.

Another one: Vitamin E (200 IU/day) increases the risk of bleeding when given with warfarin, according to an article in U.S. Pharmacist.

Free resource: For a list of drug-herbal interactions, see Table 6 in the article at www.uspharmacist.com/oldformat.asp?url=newlook/files/feat/mar00druginteractions.htm.

Identify This Problem

Some drug-drug interactions occur when a medication affects the enzymatic pathway that metabolizes other medications. For example, bupropion, cimetidine, fluoxetine, and paroxetine, can competitively inhibit CYP2D6, a major pathway responsible for metabolizing many medications taken in the nursing home, including some antipsychotics, antidepressants and pain medications (see the list of drugs at http://medicine.iupui.edu/flockhart/table.htm).

Common clinical example: A patient is taking oxycodone, which is metabolized by CYP2D6, says **Scott Armstrong, MD**, medical director for **Tuality Center for Geriatric Psychiatry** and associate clinical professor of psychiatry at **Oregon Health and Science University**. The resident's pain is well controlled, but she's showing signs of depression. So the doctor prescribes bupropion (Wellbutrin). Then the nursing staff then notes the patient is sleeping more and assumes bupropion must be making her sleepy. The physician thus stops the bupropion and the resident's depression worsens.

But the more likely explanation for the sedation is that is that bupropion competitively inhibits CYP2D6, Armstrong tells **Eli.**

"Thus, the patient's oxycodone levels are rising and she's possibly getting toxic on the medication."

Solution: If the physician were aware of bupropion's ability to inhibit oxycodone's metabolism, he or she could consult with the pharmacist to identify an antidepressant that doesn't inhibit CYP2D6.

Avoid these: Antidepressants such as paroxetine or fluoxetine strongly inhibit CYP2D6, Armstrong says, so you'd want to avoid those in this scenario.

Good question: What if the physician lowered the oxycodone dose and kept the person on bupropion? That's another alternative, says Armstrong. But if the clinician stopped the bupropion at some point, the resident would again metabolize oxycodone normallyand in a few days she might complain of pain due to decreased oxycodone levels. She might even experience mild opiate withdrawal symptoms, he cautions.

Cut to the Chase in Heading Off Drug Metabolism Issues

Go back to the old adage in geriatrics: "Start low and go slow" and carefully evaluate the patient for adverse reactions, advises **Joseph Gruber, RPh, CGP, FASCP,** regional director of clinical services for **Omnicare Inc**. in St. Louis, MO.

Also keep in mind that most clinicians, including those seeing patients in long-term care facilities, routinely deal with only with 25 to 35 drugs, observes Armstrong. And clinicians can learn how those 25 to 35 drugs are metabolized and how they might inhibit or induce enzymes that metabolize medications, he suggests.

When the physician prescribes an unfamiliar medication, he and the care team can consult with the pharmacist and read the package insert and other information to find out how the medication is metabolized.

Editor's note: Read the next Long-Term Care Survey Alert to find out how your facility can consolidate and reduce the med pass to accommodate residents' schedules and free up licensed nurses to do more for residents.