

Long-Term Care Survey Alert

Medication Safety: Rein In Inappropriate Antibiotic Use To Ensure These Meds Help Rather Than Harm

Check out 5 components of an effective oversight program.

Too much of a good thing can turn into a big problem, especially if it's antibiotics. While the right antibiotic given in time can save a life, inappropriate use breeds resistant microorganisms and other negative outcomes, including F329 and other tags.

Unfortunately, "antibiotic use doesn't have the oversight it should in many nursing facilities," says infection control expert **James Marx, RN, CIC**, principal of **BroadStreet Solutions** in San Diego. "There's extensive oversight in hospitals but not yet in SNFs."

SNFs can boost oversight, however, by implementing these strategies:

1. Develop an antibiogram, which is a document that describes microorganisms and patterns of resistance to help prescribers choose effective medications, explains **Jeannette Wick, RPH, MBA**, senior clinical research pharmacist with geriatric expertise at the **National Institutes of Health**. "Microbiology varies tremendously by region, so that a bug in one geographic area may respond to different antibiotics than the same bug just 50 miles away," she says.

A facility can tap its referring hospitals and local public health agencies for this information, Wick adds. And it should be able to get its own microbiological profile from the lab doing its testing, advises **Susan Levy, MD**, medical director for **LifeBridge Health's Levindale and Jewish Convalescent Centers** in Baltimore.

Antibiograms come in handy when clinicians prescribe antibiotic therapy empirically based on assessment alone if they, for example, can't obtain a sample for lab testing, such as sputum for an upper respiratory infection or a clean catch urine from a combative or bed-bound resident. "Obtaining specimens from deep-tissue infections can also be difficult to do," Wick notes. But if the physician knows the "emergent pathogens in the area, he's more likely to select the right antibiotic." That's also true even when the physician orders testing to pinpoint the cause of the infection but wants to start antibiotic therapy before the test results are back.

2. Implement an antibiotic formulary or protocols to restrict access to antibiotics. For example, the facilities where Levy serves as medical director have developed a formulary for *C. difficile* to help practitioners not only select the right antibiotic but also treat relapsed cases more aggressively, she says. "We have a guideline/protocol for how to do that and an accompanying order sheet. They both encourage the right selection of antibiotic, and the right dosing and duration for an initial case and a relapse."

This approach makes it easier for the practitioner choosing an antibiotic empirically for a case that "looks like, smells like" *C. difficile*, especially in cases where she doesn't want to wait for the lab test.

Tip: Saint Elizabeth Community has implemented an assessment and monitoring protocol for residents with only a single symptom of urinary tract infection, which prevents physicians from automatically ordering antibiotics for the condition, says **Janelle Hackett, RN**, with the nursing facility in East Greenwich, RI. (For details, see Vol. 6, No. 6 of MDS Alert, or if you're not yet a subscriber, receive a free copy of the article by e-mailing KarenL@Eliresearch.com.)

3. Rotate antibiotics to reduce resistance. Many hospitals use this approach, Wick notes. They will use a broad-spectrum antibiotic for three to six months and then switch to a different one. "That's something that nursing homes can do if they get the pharmacist, infection control and physicians to work together to determine how the rotation will work and what antibiotics they will use."

4. Implement a review system to determine if clinicians are using antibiotic therapy appropriately based on a resident's symptoms. For example, "if the patient/resident had no fever, no elevated white count, no purulent symptoms and nothing red and hot -- what was the rationale for ordering antibiotics?" Levy says.

5. Educate staff about drug-drug interactions involving antibiotics. The care staff should also be aware of potential drug-drug interactions and adverse drug reactions associated with an antibiotic. "Otherwise, the physician may order an antibiotic at 5 p.m. on Friday, which the nursing staff starts giving the resident -- and it's Monday before anyone realizes that the resident has a problem related to the medication," Levy cautions.

Beware of these specific problems: The quinolones can produce some neurological effects, Levy cautions. And "some can affect seizure thresholds."

In addition, the risk of an antibiotic interacting with Coumadin is high, Levy says. "Almost all antibiotics cause some problems in that regard," Levy notes. "Some antibiotics clearly interact with Coumadin, whereas other may affect [INRs] due to how they affect the intestinal flora [and drug absorption]."