



Wise use of antibiotics in patients with wound infections

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Antibiotic resistance is a pressing public health threat not only in the United States, but worldwide. According to the World Health Organization (WHO), it is one of the major threats to human health.

Despite these concerns, antibiotics continue to be widely used—and overused. In long-term care, for instance, antibiotics are the most frequently prescribed medications, with as many as 70% of residents receiving one or more courses per year. And antibiotics are consistently ordered for suspected pressure ulcer infections.

Here is what clinicians who care for patients with wounds can do to help reduce antibiotic resistance.

Understand the potential harm

Organisms that are resistant to antibiotics because of overprescribing can cause serious harm in patients with wounds. For example, a patient could develop a serious diarrheal infection from *Clostridium difficile*, which can further infect the wound and impede healing. It's also important to keep in mind that any drug, including an antibiotic, can cause adverse events or interfere with the action of other drugs.

Culture first

If you suspect a pressure ulcer or wound is infected, don't immediately think "antibiotic." Instead, first confirm the infection. If

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there is no infection, you can avoid an unnecessary medication and if there is an infection, a targeted antibiotic—instead of a broad-spectrum drug—can be chosen as needed.

The gold standard is to obtain a tissue biopsy. A tissue biopsy will identify organisms invading the wound, not those contaminating the wound surface. Unfortunately, surface swabs will only reveal the colonizing organism and may not reflect deeper tissue infection. If the wound is in need of debridement, this is an ideal time to obtain the tissue biopsy.

If a tissue biopsy is not feasible, then obtain a swab using the Levine method. (See *Levine quantitative swab technique for culturing a wound*.)

Advocate for the patient

If you have prescribing authority, use it wisely. If you don't have prescribing authority, you can still be an advocate for the patient by questioning antibiotic orders without proper biopsy or cultures. Remember, the goal is to prevent overuse of antibiotics and the risks associated with inappropriate use. ■

Levine quantitative swab technique for culturing a wound

The National Pressure Ulcer Advisory Panel lists the following steps for the Levine culture method:

- Cleanse wound with normal saline (do not use wound cleansers).
- Blot dry with sterile gauze.
- Culture the healthiest looking tissue in the wound bed.
- Do not culture exudate, pus, eschar, or heavily fibrous tissue.
- Rotate the end of a sterile alginate-tipped applicator over a 1 cm by 1 cm area for 5 seconds.
- Apply sufficient pressure to the swab to cause tissue fluid to be expressed.
- Use sterile technique to break tip of the swab into a collection device designed for quantitative cultures.

Note: You must be able to swab viable tissue, so if the wound is covered with slough and/or eschar, the best approach would be to first have the wound debrided and biopsied.

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Selected references

CDC. The Core Elements of Antibiotic Stewardship for Nursing Homes. Atlanta, GA; US Department of Health and Human Services, Centers for Disease Control and Prevention. 2015. Updated March 16, 2016. www.cdc.gov/longtermcare/prevention/antibiotic-stewardship.html.

CDC. Making Health Care Safer - Antibiotic Rx in Hospitals: Proceed with Caution. March 2014. www.cdc.gov/vitalsigns/pdf/2014-03-vitalsigns.pdf.

National Pressure Ulcer Advisory Panel, European Pressure Ulcer Advisory Panel and Pan Pacific Pressure Ulcer Injury Alliance. Prevention and Treatment of Pressure Ulcers: Clinical Practice Guideline. Haesler E, ed. Cambridge Media: Osborne Park, Western Australia; 2014.

Smith P, Watkins K, Miller H, et al. Antibiotic stewardship programs in long-term care facilities. *Ann Longterm Care*. 2011;19(4). www.annalsoflongtermcare.com/article/antibiotic-stewardship-programs-long-term-care-facilities

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