

# Antibiotic overuse is high for common urology procedures

December 21 2018

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A new study suggests that antibiotics are being overused in up to 60 percent of patients undergoing common urological procedures. The study, led by Daniel Livorsi, MD, University of Iowa assistant professor

of internal medicine, shows that the high rates of overuse were mostly due to extended use of antibiotics following the procedure. The findings were published Dec. 21 in *JAMA Network Open*.

It is common for patients undergoing a urological or any other surgical procedure to be given antibiotics as a precaution to prevent a surgery-related infection. But [overuse of antibiotics](#) can promote [antibiotic resistance](#), which the Centers for Disease Control and Prevention has defined as a major health concern. Moreover, unnecessary use of antibiotics exposes patients to potential harm, such as an increased risk of infection by *C. difficile* bacteria.

Based on evidence that a longer course of antibiotics does not add any benefit to patient outcomes and may in fact increase risks to patient health, the American Urological Association (AUA) recommends that antibiotics should be given for no more than 24 hours following most urological procedures.

Livorsi and his colleagues took two approaches to investigate whether urologists are following the AUA guidelines for [antibiotic prescribing](#). They manually reviewed the [medical records](#) of 375 patients who had one of three common urological procedures. These procedures all use endoscopic devices inserted into the urethra to examine and manipulate portions of the urinary tract. The patients were treated between January 2016 and July 2017 at five Veterans Health Administration hospitals located in different parts of the U.S.

The team also reviewed administrative data from 29,530 patient records from the entire Veterans Health Administration system.

Overall, the study found that 217 of the 375 patients (58 percent) were prescribed antibiotics in a way that did not follow the AUA guidelines. The most common deviation from the guidelines involved antibiotic-

prescribing after the procedure: 211 patients (56 percent) were given antibiotics for longer than 24 hours following a procedure. In fact, patients were often given antibiotics for three to five days following a procedure instead of the 24 hours or less that the guidelines recommend.

The national administrative data also showed high rates of excess antibiotic prescribing; nearly 40 percent of records showed a median of three extra days of antibiotic therapy. Overall, there was good agreement between the results from the manual chart reviews and the administrative data among the cases evaluated by both data sources.

"This study shows that antibiotics are often continued for several days after common urologic procedures, even when there is no clear indication for antibiotics. This seemingly unnecessary [use of antibiotics](#) is exposing patients to potential harm," says Livorsi, who also is a physician with University of Iowa Health Care and the Iowa City VA Health Care System. "Reducing unnecessary antibiotic use in this setting is just one example of how physicians can be better stewards of antibiotics."

The team chose to look at [patients](#) within the VA system because it is the largest integrated health care system in the United States, which makes it easier to do this type of study. However, Livorsi does not think the findings are unique to the VA. He notes other studies in non-VA settings have found similar results.

The study did not investigate why urologists are prescribing antibiotics for longer than recommended after a procedure. Given that the AUA provides clear recommendations for antibiotic therapy during these procedures, Livorsi believes it would be helpful to understand if urologists are not aware of the guidelines and the evidence behind them, or if there are other reasons why urologists are not adhering to the recommendations.

Nonetheless, the researchers believe the study identifies the post-[procedure](#) period as a good opportunity to improve antibiotic prescribing in a way that could decrease antibiotic resistance and reduce health care costs without harming patient outcomes.

"If a patient undergoing surgery is given antibiotics for more than 24 hours, he or she should ask the provider to explain why more [antibiotics](#) are necessary," Livorsi says.

**More information:** Chelsea Khaw et al, Assessment of Guideline Discordance With Antimicrobial Prophylaxis Best Practices for Common Urologic Procedures, *JAMA Network Open* (2018). [DOI: 10.1001/jamanetworkopen.2018.6248](#)

Provided by University of Iowa

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