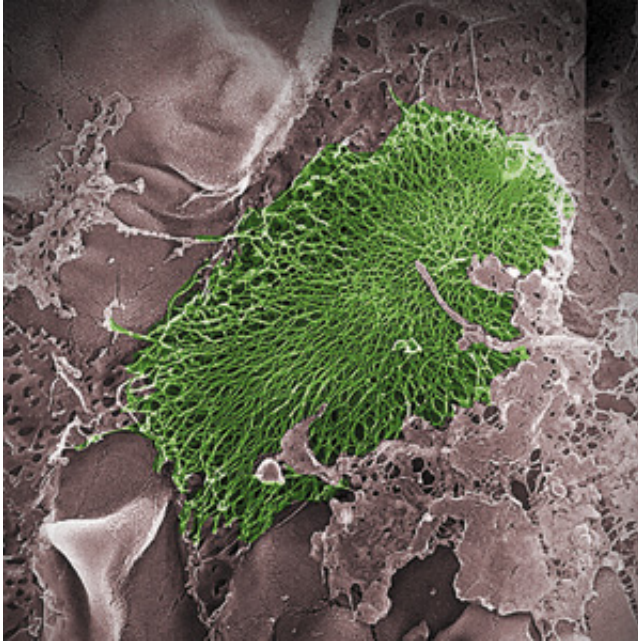


# Antibiotics prevent some hospital UTIs

June 21 2013, by Caroline Arbanas

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Urinary tract infections are among the most common infections acquired in hospitals, with most caused by *E. coli* bacteria, shown above, that enter the body via a catheter. A new analysis suggests that some of these infections could be prevented if patients were to receive antibiotics when they have urinary catheters removed. Credit: HULTGREN, HEUSER AND ROTH

(Medical Xpress)—Urinary tract infections are among the most common infections acquired in hospitals. Most are linked to catheters that drain urine from the bladder, providing a direct route for bacteria to enter.

But a new analysis, by researchers at Washington University School of Medicine in St. Louis and Baylor College of Medicine in Houston,

suggests that some urinary tract infections could be prevented if patients were to receive antibiotics when they have [urinary catheters](#) removed.

The results are now available online in the *British Medical Journal*.

The report, a meta-analysis, pooled data from various clinical trials involving more than 1,000 patients. Overall, the researchers found that giving antibiotics to catheterized patients reduced the risk of a urinary tract infection by nearly 6 percent, when compared with giving a placebo. But the researchers caution that more research is needed to evaluate whether the costs of prescribing antibiotics and other potential downsides outweigh the benefits of antibiotics in catheterized patients.

"Avoiding urinary tract infections in the hospital is desirable, but we need to look at the big picture," said first author Jonas Marschall, MD, an [infectious diseases](#) specialist at Washington University School of Medicine in St. Louis. "There's a legitimate concern that widespread [antibiotic use](#) will encourage [antibiotic resistance](#) and cause side effects that include [allergic reactions](#), drug toxicities or the onset of C. difficile, an infection causing severe diarrhea."

An estimated 20 percent of hospitalized patients get urinary catheters at some point during their stays. Most are [surgery patients](#) who have a catheter inserted for only a short time, typically a day or two. But the longer a patient is catheterized, the higher the risk of infection.

Beginning in 2009, Medicare, the government's [health insurance program](#) for the elderly and disabled, stopped paying hospitals for the treatment of catheter-related urinary tract infections that develop during hospital stays. Since then, hospitals have been trying to find ways to reduce these infections, which are thought to be largely preventable.

The analysis included seven studies, with some showing a benefit to

giving antibiotics to catheterized patients while others did not. Each evaluated whether antibiotics, compared with a placebo, could reduce the risk of symptomatic urinary tract infections in hospitalized patients who had urinary catheters inserted for 14 days or fewer. Five of the seven studies were in patients undergoing surgery.

Collectively, the studies included several types of antibiotics commonly prescribed to treat [urinary tract infections](#): ciprofloxacin and trimethoprim/sulfamethoxazole were used most frequently, followed by nitrofurantoin and cefotaxime. The treatment regimen varied in the studies from a single dose given at the time a [catheter](#) was removed to a three-day course.

To reduce potential negative consequences associated with prescribing antibiotics, the researchers suggest additional studies be conducted to determine which catheterized patients are most likely to benefit. These studies could include patients in intensive care units and those in long-term care facilities, in addition to surgical patients.

"The judicial use of antibiotics should really be focused on those patients most likely to benefit," said study co-author Christopher Carpenter, MD, a Washington University physician who treats patients in the emergency room at Barnes-Jewish Hospital. "Our study highlights the benefits of doing a meta-analysis. You wouldn't know the complete picture without looking at the medical literature as a whole, and the only way to do that is through a thorough review and analysis."

**More information:** Marschall, J. et al. Antibiotic prophylaxis for urinary tract infections after urinary catheter removal: A meta-analysis. *British Medical Journal*. Online June 11, 2013.

Provided by Washington University School of Medicine in St. Louis

Citation: Antibiotics prevent some hospital UTIs (2013, June 21) retrieved 19 April 2024 from <https://medicalxpress.com/news/2013-06-antibiotics-hospital-utis.html>

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