

Urine tests don't always confirm urinary infections, study finds

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Doctors can rely on symptoms to start treatment, experts say.

(HealthDay)—When doctors suspect a patient has a urinary tract infection, they often request a urine sample so they can test for the presence of bacteria. Now, new research suggests this step may be unnecessary.

Nearly one-quarter of women who had signs of a [urinary tract](#) infection—a burning feeling when urinating or feeling an urgent need to pee—had no evidence of [bacteria](#) in their urine or in their bladders, the study found. And although a number of urine culture tests found a variety of different bacteria, only one bug—*Escherichia coli*—was found in both the [urine test](#) and the bladder.

These findings suggest that today's lab tests may not be refined enough to detect very small quantities of bacteria in the bladder. It's also possible that the symptoms may not be caused by a bladder infection, but instead may be caused by an infection in the urethra, the tube that allows urine to pass out of the body. Or, inflammation in the urethra might be causing the symptoms, rather than bacteria.

"Our study provides further evidence that midstream urine cultures don't routinely need to be done. Most labs don't quantify low enough unless you specifically ask them to. Most women are treated right away for symptoms anyway, because

the urine culture doesn't come back for two days," explained the study's lead author, Dr. Thomas Hooton, a professor of medicine at the University of Miami Miller School of Medicine in Florida.

Hooton added that a short course of antibiotics is likely to be effective, and that it's important to keep studying urinary tract infections. In particular, he said, "we need to know more about exactly what causes symptoms."

Results of the study were published in the Nov. 14 issue of the *New England Journal of Medicine*.

Urinary tract infections (also called UTIs or acute cystitis) are common bacterial infections, responsible for about 9 million doctor's visits in the United States every year, according to the study.

The bacteria responsible for the infection is generally found through a test of urine collected when someone goes to the bathroom. Urine collected directly from the bladder would yield more accurate results because there are fewer places for the urine to potentially become contaminated. But collecting urine from the bladder requires insertion of a catheter, an uncomfortable, invasive and more expensive procedure.

However, the 226 women included in the current study volunteered to collect a midstream [urine sample](#), and immediately after allowed another sample to be collected directly from their bladder via a catheter.

All of the women were healthy, premenopausal women who had symptoms of a [bladder infection](#).

When the researchers found *E. coli* in the midstream urine sample, it was also quite likely that they would find it in the bladder urine, too. However, when other types of bacteria were found in the midstream urine sample, they often didn't correlate to bacteria in the bladder.

The researchers also found that when other bacteria were in the midstream urine sample, *E. coli* was often present in the [bladder](#) urine samples.

"*E. coli* is probably causing most infections," said Hooton.

"Our findings are further confirmation that collection of urine has limited usefulness. You don't get the results back for two days, and just practically speaking, it's an added cost because we know *E. coli* causes most UTIs," noted Hooton.

If your physician decides to treat you without asking for a urine sample to culture, that's reasonable, said the author of an accompanying journal editorial, Dr. Michael Donnenberg, a professor of medicine, microbiology and immunology at the University of Maryland School of Medicine in Baltimore.

But Donnenberg noted that this study raises a number of questions, too: "Do bacteria in the urethra cause symptoms? And, if they do, does treating them make the symptoms go away more quickly?"

The test relied on today needs to be refined if it continues to be used in clinical practice, he suggested. Millions of these tests are still performed annually, he wrote in the editorial.

Both experts said more research on when antibiotics are helpful and when they're not might help reduce potentially unnecessary antibiotic use. Reducing unnecessary antibiotic use is important because of concerns about growing antibiotic resistance.

More information: Learn more about urinary tract infections from the [U.S. National Library of Medicine](#).

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