

UTI PREVENTION

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UTIs, or urinary tract infections, also known as bladder infections and acute cystitis, are extremely common in women and a source of great distress for many. Although many women seek urologic evaluation in hopes a correctable condition can be found and treated, it is actually rare that an anatomic cause of urinary tract infection is found. That being said, a few simple tests are reasonable.

- Renal ultrasound: to rule out stones, obstruction and other kidney abnormalities
- Bladder ultrasound: to rule out incomplete bladder emptying, diverticula, and stones
- Physical examination: to identify factors such as vaginal atrophy and urethral abnormalities
- Urinalysis and urine cultures
- Vaginal cultures
- Cystoscopy (viewing of the inside of the bladder with a scope) is sometimes indicated

UTIs are caused by the same bacteria found in the colon, or large intestine. The most common bacteria found there is E Coli, which is also the most common bacteria found in UTIs. Bacteria from the colon live on the skin between the colon and urethra and therefore in and around the vagina as well. There are also healthy bacteria in the colon such as lactobacillus acidophilus, found in yogurt, and other healthy bacteria found in probiotic supplements. When these bacteria are on the skin and vaginal surfaces, UTIs are unlikely to occur. This is often the case in younger women with healthy vaginal secretions which promote the growth of such “good bacteria.”

When “bad bacteria” inhabit these surfaces, it is quite easy for them to enter the bladder via the short female urethra. In women prone to UTIs, these bacteria will stick to the walls of the bladder and cause a UTI. The risk of UTI increases in the following instances:

A recent UTI, which damages the naturally “slippery” lining of the bladder

Low estrogen levels, seen in the following situations:

- Perimenopause and menopause
- Nursing mothers
- Women taking birth control pills
- Women on medication for breast cancer

Other factors that contribute to UTIs include:

Constipation, which results in overgrowth of bacteria, and can impair bladder emptying

Incontinence, which causes irritation of the skin, linked to bacterial overgrowth

Impaired mobility, with difficulty getting to the toilet often enough
Travel, which often makes it difficult to get to the bathroom frequently enough
Sexual activity, which can “push” bacteria up into the bladder
Neurologic conditions such as Multiple Sclerosis and Parkinson’s disease which affect bladder function

Treatment of UTIs requires antibiotics, but it is important to note that not all bacteria in the bladder are indicative of a UTI, thus *not all positive urine cultures require treatment*. Treating asymptomatic bacteria in the urine unnecessarily puts patients at risk, and also causes antibiotic resistance, making future UTIs more difficult to treat. Bacterial resistance, patient allergies to antibiotics, and drug interactions make finding an appropriate antibiotic with which to treat a UTI extremely challenging at times. IV, or intravenous, antibiotics are frequently necessary in these challenging cases. The following situations are examples of frequent overuse of antibiotics:

Patients with bladder *catheters* (bacteria will always be found, and rarely need treating)

Patients who are unable to provide a *clean catch urine sample* (bacteria found on the skin are cultured and treated as if they were causing a UTI)

Women over 80 years of age, whose bladders are frequently “colonized,” not infected

UTI Prevention

Fortunately, there are steps that can be taken to reduce the risk of UTI, but it should be kept in mind that complete prevention of UTIs in patients prone to them is not likely. A reasonable goal is to reduce UTIs to 1 - 2 per year.

To reduce the risk of UTI the following steps are recommended

Voiding habits:

Wipe front to back after voiding and BMs, to avoid pulling fecal bacteria forward

Void at least every 3 - 4 hours

Void after sexual activity

Vaginal hygiene:

Use vaginal moisturizers daily and lubricants with sex to prevent irritation

Consider vaginal estrogen if an appropriate candidate (estrogen lowers the vaginal pH, encouraging the growth of “good bacteria”)

Take Probiotics, so that they, instead of bad bacteria, may inhabit the vagina

Nutritional supplements:

Although research is limited, there is evidence that high potency cranberry tablets or capsules reduce E Coli’s ability to stick to the bladder wall, thus reducing UTI risk. D-mannose may also reduce UTI risk. These supplements vary a great deal in their potency and are not regulated by the FDA so results are unpredictable, but many patients find them effective.

Antibiotics:

Low dose preventative (also termed “suppressive” or “prophylactic”) antibiotics are necessary in many cases, to reduce the frequency of UTIs which require high dose antibiotics. The risks involved with taking low dose continuous antibiotics is much lower than the risk of taking treatment-dose antibiotics and does not cause one to become “resistant” to antibiotics. Individual bacteria may become resistant but in this case they will be treated with a different antibiotic. The validity and effectiveness of this approach has been well documented.

Self-treatment of UTIs: patients who reliably develop consistent UTI symptoms and thus know when they have a bladder infection are good candidates for self treatment. They are typically given a prescription to fill in case UTI symptoms develop and are asked to call their physician if any of the following occur:

- No improvement in symptoms in 3 days

- Fever or chills

- Flank (side of the back) pain

- Visible blood in the urine

Special Considerations in UTI treatment:

Children: UTIs in children are not common and are more likely to be associated with anatomic or other abnormalities, thus require a thorough evaluation.

Men: UTIs in men are not as common as those in women, and require evaluation

Elderly women: Bacterial colonization, or harmless occupation, of the bladder is common, especially after the age of 80. By this time, low estrogen levels have been present for decades and vaginal atrophy is the rule. Constipation is also very common in elderly women and contributes to incomplete bladder emptying and bacterial overgrowth. Suppressive antibiotics for 6-12 months and vaginal estrogen should be considered in elderly women with recurrent UTIs.*

Summary:

UTIs are common and a source of great distress

UTI prevention requires meticulous hygiene and proper voiding habits

UTIs are associated with vaginal atrophy due to lack of estrogen

Low dose antibiotics and vaginal estrogen effectively reduce the occurrence of symptomatic UTIs

* For additional reading:

Urinary Tract Infections in Older Women: A Clinical Review

JAMA 2014:vol 311, No. 8 : “Care of the Aging Patient: From Evidence to Action”

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