

Urinary tract infection (UTI) is a common diagnosis. Almost all physicians and paramedical staff have diagnosed and perhaps even treated an uncomplicated UTI.

**However, it is likewise not uncommon** for a patient to have been misdiagnosed and/or inappropriately treated for “a bladder infection.” The goal of this short article is to provide a better understanding of how to diagnose and treat these infections.

My definition for an uncomplicated UTI is a culture-documented bacterial or fungal infection of the bladder in the absence of an anatomical abnormality. The mere presence of bacteria or yeast does not equate to infection. Symptoms of urinary urgency, frequency, dysuria (burning with urination), and/or suprapubic tenderness must accompany the presence of the organisms to be considered an infection. Uncomplicated infections are common in healthy young women and generally are self-limited with appropriate short-duration antimicrobial therapy.

### When It Gets Complicated

Patients with complicated urinary tract infections have anatomic, metabolic, host-defense, or functional abnormalities. Patients that

present with sepsis, febrile infection, gross hematuria, signs of obstruction, urologic stones, or pregnancy must be considered complicated and require a more extensive evaluation. In addition, most urologists would consider a male patient of any age with an infection to be complicated.

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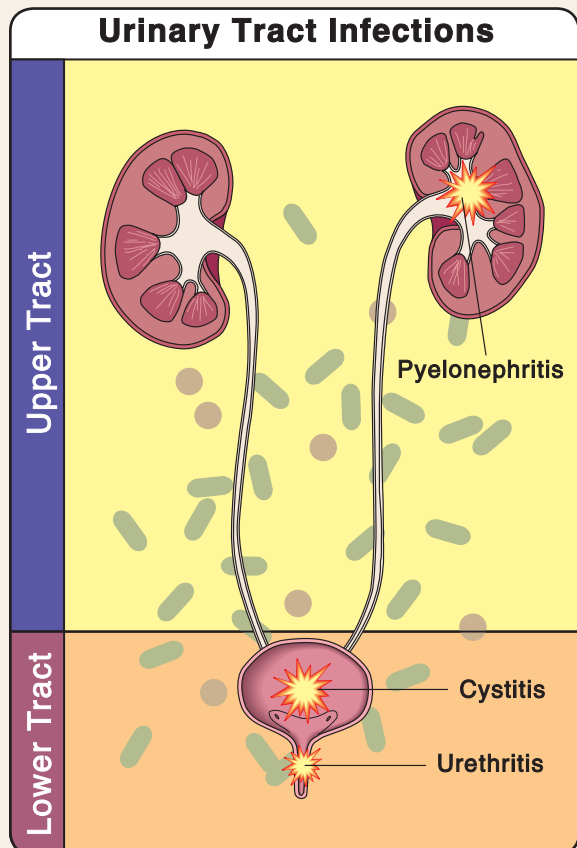
The majority of patients referred to the urologist for UTIs are by nature considered complicated. The evaluation is designed to rule out an anatomic abnormality, obstruction, or nidus for infection. Generally the investigation will incorporate upper tract imaging (visualizing the kidneys) and evaluation of the bladder with cystoscopy.



# A Common Misdiagnosis

Urinary tract infection symptoms can signal a more complicated disease

BY ROBERT A. BATLER, MD



Schematic illustration of the urinary system showing the types of possible urinary tract infections in the upper tract (kidneys and ureters) and in the lower tract (bladder and urethra).

The evaluation must be tailored appropriately to the patient. Every evaluation must include a thorough physical exam, urinalysis, and, when appropriate, laboratory evaluation. In the pediatric population, renal ultrasound and voiding cystourethrogram (VCUG) is the rule. In the adult population, intravenous pyelogram (IVP) or computed tomography (CT) scan without and with contrast and cystoscopy will usually be performed. An abbreviated evaluation in an elderly patient with multiple comorbidities may include renal ultrasound, a KUB, and a postvoid residual bladder volume.

### Bacterial Colonization or UTI?

A special consideration is the patient whose urinary tract has become colonized with bacteria or yeast. Most patients with a chronic indwelling catheter or suprapubic catheter, those on clean intermittent catheterization, and many elderly women will become colonized with bacteria. These patients are particularly difficult to manage because they are often inappropriately treated for infections in the absence of symptoms. This practice has led to the emergence of highly resistant bacteria. It is my practice to educate patients on the difference between a UTI and bacterial colonization to minimize the unnecessary therapy.

### Future Impact

The diagnosis and treatment of infections of the urinary tract rely on using proper terminology and accurate gathering of history and physical and available data. When a patient is diagnosed with an infection that is considered complicated, an investigation will often lead to the diagnosis of a reversible cause. As 70 million baby boomers turn 60 years old, it will be increasingly more important to diagnose and treat infections appropriately in order to minimize the impact on patients as well as society.

Not uncommonly, a patient with incomplete bladder emptying or significant urologic stone disease will present first with the diagnosis of UTI. Unfortunately, it is also not uncommon for a patient to be referred for a presumed recurrent UTI after several rounds of unsuccessful therapy for an "infection" heralded by recurrent painless gross hematuria. A patient who presents with gross hematuria must be followed carefully, particularly when he or she is above the age of 50 and/or a smoker. Painless gross hematuria must always raise the suspicion for malignancy.

As with many common diagnoses, the danger lies in regarding the problem as mundane. Certainly the vast majority of uncomplicated UTIs are mundane. However, physicians must not be lulled by the high incidence of urinary infections. Instead, they must continue to investigate and treat those patients who fall into the complicated category and always consider the possibility of an alternate, and perhaps more serious, diagnosis. ■



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## Frequently Asked Questions

### What causes UTIs?

Most UTIs are solitary events that don't recur when treated. Some patients have anatomical and genetic predispositions that make them more susceptible to UTIs than is typical.

### How can I avoid UTIs?

There are some simple steps women can take to avoid UTIs, such as drinking plenty of fluids to keep well hydrated. You should not delay urinating or hold in urine without emptying your bladder completely. After urinating, wipe from front to back to prevent bacteria around the anus from entering the vagina or urethra.

Urinating after sexual intercourse may also decrease the risk of UTI because it can flush out any bacteria that were introduced during intercourse. Certain forms of birth control, such as spermicidal foam and diaphragms, are known to increase the risk of UTIs. For women who have gone through menopause, estrogen replacement therapy can be a simple solution.

### When should I be concerned?

If you have symptoms of a UTI that do not improve with treatment or are accompanied by nausea and vomiting, then you should seek medical attention. If you ever see blood in your urine, you should contact your physician immediately.

If you are pregnant and have symptoms of a UTI, then you should contact your physician immediately. UTIs during pregnancy can put both mother and baby at risk if not addressed quickly and properly.

### What should I do if I have recurring UTIs?

When treated early, UTIs usually have no lasting influence on the urinary tract. Recurrent or undiagnosed UTIs could cause damage if not treated. If you are having recurrent UTIs (three or more per year), then you should see your physician for further testing such as a urinalysis. You may also need an ultrasound or CT scan to look for any abnormalities of the urinary tract.

If you continue to have UTIs, you may benefit from a longer course of low-dose antibiotics or by taking an antibiotic after sexual intercourse. There are also methods of self-testing that your urologist may help coordinate with you to institute both diagnosis and treatment of UTIs at home.

Source: [urologyhealth.org](http://urologyhealth.org)