



Southern
Urogynecology

Center for Incontinence and Female Pelvic Medicine

URINARY TRACT INFECTIONS

Definition

Infections of the urinary tract are the second most common type of infection in the body. The organs of the urinary tract include the kidneys, ureters, bladder and urethra. These organs are responsible for producing and eliminating urine. Normally, urine is sterile. A urinary tract infection (UTI) occurs when bacteria cling to the opening of the urethra, multiply and cause inflammation. Bacterial invasion of the urethra causes urethritis. If the bacteria travel to the bladder, cystitis occurs, and if left untreated, the bacteria can ascend to the kidneys causing pyelonephritis. The bacteria responsible for most UTIs is *Escherichia coli* (*E. coli*) which is normally found in the colon.

At Risk Populations

UTIs affect both men and women of various ages; however, UTIs are more common in women and will occur in one in five women in their lifetime. Although the reasons are not yet well understood, women may be more prone to UTIs because the urethral opening is close to the source of bacteria from the anus and vagina, and a woman's urethra is short, allowing bacteria easy entry into the bladder. Sexual intercourse also seems to trigger an infection in many women. A woman's risk of developing a UTI increases with age. Post menopausal women may have frequent infections because the lack of estrogen causes changes in the pH of the vagina which promotes the growth of *E. coli*. And for women affected by pelvic organ prolapse, residual urine after voiding also causes infection.

Other populations at risk are those with an abnormality of urinary tract, obstructing the flow of urine (i.e. kidney stones), those with catheters, and those with diabetes or other diseases that suppress the immune system.

UTI Symptoms

The most common symptoms associated with a UTI are frequent urination often with only small amounts of urine passed, burning with urination, and pain or pressure above the pubic bone even when not urinating. The urine may appear cloudy and even pink or red if blood is present. A UTI may also cause systemic symptoms such as tiredness, shakiness, and confusion, especially in the elderly. A fever is generally an indication that the infection has reached the kidneys and is usually accompanied by back pain below the ribs and nausea and vomiting. It is important to note however, that not everyone with a UTI has symptoms.

Diagnosing a UTI

Your provider will test your urine for bacteria. You will be asked to provide a "clean catch" urine sample. This means washing the genital area and collecting a "midstream" sample of urine in a sterile container. For a midstream urine

sample, you should begin urinating and then place the cup in the urine stream. This method of urine collection helps prevent bacteria around the genital area from getting into the sample and confusing the results. The urine is then tested either in the office or sent to a laboratory.

Treating a UTI

Antibiotics are used to treat UTIs. There are a variety of medications to choose from. Choosing the correct medication and length of treatment depends upon the patient's history and the type of bacteria identified as the cause. Medications such as trimethoprim/sulfamethoxazol (Bactrim), nitrofurantoin (Macrobid), and ciprofloxacin (Cipro) are drugs most often used to treat a UTI. Because symptoms may disappear before the infection is resolved, it is extremely important to complete the full course of antibiotic medication. This is especially important to combat the increasing antibiotic resistance among E. coli to many commonly used antibiotics. There are also medications to help relieve the pain of a UTI. Pyridium and various over the counter remedies such as Uristat have an analgesic effect on the bladder. It is important to note that when taking these medications, the urine becomes bright orange and can stain clothing. If you wear contact lenses, you should remove them to avoid staining. Other measures that can be taken to treat a UTI include the use of a heating pad, avoiding coffee, alcohol, spicy foods, and drinking plenty of water. For years women have been told to drink cranberry juice to treat infections with little scientific evidence to support that treatment. Now however, research has shown that women who drank a little over eight ounces of cranberry juice a day had a decreased amount of bacteria in the urine. Cranberry juice is however not a substitute for antibiotic treatment.

Recurrent UTIs

Nearly 20 percent of women who have a UTI will have another and 30 percent of those will have yet another. Of the last group, 80 percent will have recurrences (three or more a year). The bacteria's ability to attach to the cells that line the urinary tract is one factor in recurrences. There are treatment options available for women with recurrent infections:

- Daily low doses of trimethoprim/sulfamethoxazol or nitrofurantoin daily for 3 to 6 months or longer. The medication remains in the bladder longer if taken at bedtime.
- A single dose of an antibiotic after intercourse.
- A short course of antibiotic when symptoms appear
- Drinking plenty of water every day
- Wiping front to back to prevent bacteria around the anus from entering the urethra
- Taking showers instead of tub baths
- Cleansing the genital area before sexual intercourse
- Avoiding feminine hygiene products which may irritate the urethra and change the pH of the vagina.