

Urinary Tract Infections

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## Urinary Tract Infections

An infection in any part of the urinary system, the kidneys, bladder, or urethra is known as a urinary tract infection. There are different types of urinary tract infections, which include the kidneys, urethra, and bladder. Each type of urinary tract infection has a specific name that correlates with each part of the urinary tract system that's infected and has different signs and symptoms depending on where the infection is located. Urinary tract infections are more common in women and usually occur in the bladder or urethra. Serious infections are most likely occurring in the kidneys.

## Signs and Symptoms

Not all urinary tract infections cause signs or symptoms but it's good to know what they are in case you or someone you know have any. Common signs and symptoms may include urgency, burning upon urination, frequency with very little output, foul-smelling urine, or dark-colored and cloudy urine. It's also good to know that many UTI symptoms could be overlooked for other infections in older adults.

### Types of Urinary Tract Infections

There are different types of urinary tract infections and depending on which part of the urinary tract system is affected, they each have more specific signs and symptoms. Infection in the kidneys, also known as acute pyelonephritis, symptoms could include flank pain, fever, chills, nausea, or vomiting. Infection in the bladder, also known as cystitis, symptoms could include pelvic pressure, lower abdominal discomfort, frequent and painful urination, and hematuria. Infection in the urethra, also known as urethritis, symptoms includes burning with urination and discharge.

### Causes

When bacteria enters the urethra into the urinary tract and begin to multiply in the bladder, urinary tract infections start to occur. The urinary system is designed to keep out microscopic intruders but sometimes it fails which could result in a urinary tract infection. Most common urinary tract infections occur in women and are located in the urethra and bladder. Infection of the bladder, also known as cystitis, is usually caused by *Escherichia coli* and is a type of bacteria commonly found in the gastrointestinal tract. Sexual intercourse can lead to cystitis, however, you don't have to be sexually active to develop it. Due to their anatomy, all women are at risk for developing cystitis. Infection of the urethra, also known as urethritis, can

occur when bacteria spread from the anus to the urethra. Sexually transmitted infections can also cause urethritis because of the female urethra being close to the vagina.

### Risk Factors

Many women experience more than one urinary tract infection during their lifetime. The female's urethra is shorter than a male's, leaving the bacteria to travel a shorter distance to the bladder. Women who are sexually active also tend to have more urinary tract infections than those who aren't. Certain types of birth control can put women at a higher risk as well as a decline in circulating estrogen due to menopause which causes changes in the urinary tract that make a woman more vulnerable to infection. Urinary tract abnormalities can also put someone at a higher risk of getting a urinary tract infection such as babies who are born with abnormalities in their urinary tract that don't allow urine to leave the body normally or cause urine to back up in the urethra. Blockages such as kidney stones or an enlarged prostate can also cause a urinary tract infection because the urine cannot leave the bladder and sits creating a breeding ground for bacteria. Catheter use, whether straight-catheter, acute or long-term use of an indwelling foley catheter can also be another risk for urinary tract infections.

### Complications

If left untreated, urinary tract infections can lead to serious consequences. Women who experience more than two or more urinary tract infections in a six-month period are at risk for

recurrent infections. Recurrent urethritis can cause urethral narrowing, also known as a urethral stricture, in men. Acute or chronic kidney infections can lead to permanent kidney damage.

Sepsis can also happen and could potentially be life-threatening if the infection works its way up to your kidneys.

### Prevention

To help prevent or reduce your risk for developing a urinary tract infection you should drink plenty of fluids. Water helps dilute your urine and drinking it will help you urinate more frequently. Urinating more frequently will allow you to flush the bacteria from your urinary tract before an infection can occur. Emptying your bladder after sexual intercourse and drinking a full glass of water will flush any bacteria that was introduced. You should always wipe from front to back after urination or having a bowel movement in order to prevent introducing bacteria from the anus.

### Diagnose

Urinary tract infections are common and if treated properly they rarely lead to complications. In order to diagnose a UTI, your urine would need to be tested and analyzed for white blood cells, red blood cells, and bacteria. In order to find out what type of bacteria is causing the UTI, a growth lab test would be performed. Your doctor could also perform a

cystoscopy if you have recurrent urinary tract infections, which is a scope that goes into your urethra that looks inside your bladder.

### Treatment

Depending on the type of bacteria causing the urinary tract infection and your health condition, would determine the line of treatment, which antibiotic would be used, and for how long. Antibiotics are usually the first line of treatment for simple infections. For frequent infections, low-dose antibiotics could be prescribed for six months or longer, a single dose of antibiotic could be prescribed after sexual intercourse if that's the cause of the recurrent urinary tract infections, or vaginal estrogen therapy if you're postmenopausal. If a serious infection is present, intravenous antibiotics in the hospital may be needed.

## References

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