

# Urinary Tract Infection (UTI)

## What Is A Urinary Tract Infection (UTI)?

Your urinary tract is the system in your body that is responsible for filtering wastes in your blood, and excreting wastes out of the body. Your urinary tract consists of your kidneys, ureters and bladder. Once the kidneys and their nephrons filter excess wastes that have circulated through your body, they are then able to turn the excess waste products into urine. The urine flows out of your urethra, and out of your body.

If left untreated, a urinary tract infection, bladder infection or infection of any part of your urinary system can lead to serious complications. In many healthy individuals, the body's immune system can take care of a urinary tract infection. However, if you are undergoing chemotherapy, or are elderly, you may be more susceptible to the urinary tract infection spreading throughout the urinary tract to the kidneys (pyelonephritis) or into the bloodstream (urosepsis). What may begin as a mild sign of a urinary tract infection could escalate to a much more serious infection.

## Preventing UTIs & Bladder Infections:

Your body has many defense mechanisms in place to prevent urinary tract infections and bladder infections. These include:

- The design of the urinary system. Your ureters and the drainage system is designed for urine to flow out of the body.
- Your urinary system is a sterile environment. This means that there are no bacteria normally present. This is a defense mechanism to maintain a "clean" environment. Anti-bacterial substances in the lining of the bladder prevent infections.
- Many bacterium are washed out of the body with normal urination.
- Your immune system functions to rid the body of bacteria, by killing them.
- In men - the prostate gland secretes infection-fighting materials.
- In fertile women - the vagina is very acidic. Bacteria do not like acidic environment and this helps to kill bacteria.
- Most urinary tract infections do not lead to permanent kidney problems, as long as they are treated with antibiotics.

## Causes and Risk Factors of Urinary Tract Infections:

- People who have a lowered immune system due to chemotherapy, certain medications (such as immunosuppressant's or steroids) or Acquired Immunodeficiency Syndrome (AIDS) have a greater risk of UTIs.
- You are more susceptible to the symptoms of urinary tract infections if you have diabetes or are sexually active.
- Women who are pregnant are at a higher risk of urinary tract infections
- Infections caused by abnormal bacteria or certain types of fungus (such as yeast) may have entered your urinary tract, and caused an infection. This may happen due to the way you cleanse yourself following a bowel movement. For women especially, if you wipe from the back of your rectal area, to the front of your body, you may contaminate your urinary tract, causing an infection. In general, women are more susceptible to UTIs compared to men because of their anatomy. Due to women having a shorter urethra, there is less distances that bacteria must travel to reach the bladder. Sexually active women are more at risk for UTIs compared to women who are not sexually active.
- Men with an inflammation of their prostate (prostatitis) may develop urinary infections. Elderly people, especially women, are more at risk for UTIs. Poor hygiene - people who do not cleanse themselves regularly may be more at risk for developing urinary tract infections.
- People who catheterize themselves to urinate (by placing a tube in their bladder) are also at risk for infections.
- Your doctor or healthcare provider may need to check your urine for bacteria with a sterile urine sample. This is often done to diagnose your condition, and sometimes after you have been treated with antibiotic therapy.

## Urinary Tract Infection Symptoms:

- You may be experiencing an urgency to go to the bathroom or urinate more frequently.
- You may have pain, or experience a burning sensation, when you urinate. This could be due to an inflammation of your urethra (called urethritis)
- You may not be urinating very often. Your urine may be dark or red blood-tinged.
- Your urine may look cloudy, or have blood in it.
- Your urine may have a strong smell or odor.
- You could have pain in your back, pelvis or abdominal area.
- You may have fever or chills, if you have an infection
- You may be overly tired, or very weak (fatigued), if there is an infection present.
- With severe infections, you could experience nausea or vomiting.

## Things You Can Do About Urinary Tract Infections:

## General Recommendations:

- Remind your doctor or healthcare provider if you have a history of diabetes, liver, heart or prior kidney disease.
- If you are ordered an antibiotic, or another medication to treat this disorder:
- Follow all of your healthcare provider's instructions. Take all of your medication as directed
- Do not stop taking your medication unless your healthcare provider tells you to.
- Take the medication exactly as directed.
- Do not share your pills with anyone.
- Antacids, such as Mylanta®, Pepcid®, Nexium® and others, may change the way many medications are absorbed. If you have any questions specific to medications that may have been ordered for you, ask your healthcare provider.
- If you miss a dose of your medication, discuss with your healthcare provider what you should do.
- If you experience symptoms or side effects, especially if severe, be sure to discuss them with your health care team. They can prescribe medications and/or offer other suggestions that are effective in managing such problems.
- Keep all your appointments for treatment and/or follow-up.

## Prevention of Urinary Tract Infections:

- Wipe from the front of your body, to the back after a bowel movement. Cleanse with soap (non-fragranced) and water, if possible.
- Wear white cotton underwear. Shower regularly, and keep good hygiene.
- Do not wear tight fitting pants, underwear, or pantyhose, if possible.
- If you catheterize yourself, make sure to use a good technique. Cleanse the catheter well with soap and water after each use. If you are at risk for symptoms of kidney problems such as infection due to a lowered immune system, using a sterile catheter each time may help decrease your risk of infection.
- Take showers instead of bathing in the bathtub.
- Avoid creams, lotions, feminine sprays or oils near your genital area.
- Utilize water based lubricant for sexual intercourse, if you require lubricant. Your healthcare provider may recommend a different type of birth control, if you utilize spermicide and/or a diaphragm and have frequent UTIs.
- Empty your bladder often. Do not wait to go to the bathroom if you feel the urge.

## Fluids/ Diet:

- Keep yourself well hydrated when signs of kidney problems are present. Drink two to three quarts (2-3 liters) of fluid every 24 hours, unless you are instructed otherwise.
- Cranberry and blueberry juices may help decrease the incidence of urinary tract infections by preventing certain bacteria from multiplying in your urinary tract.

There is no special diet that you should eat to help prevent urinary tract infections. In general, increase the amount of fresh fruits, vegetables and fiber in your diet. Avoid excess fats, sugars and red meat.

## Drugs That May Be Prescribed by Your Health Care Provider:

Depending on your urinary tract infection symptoms and your overall health status, your doctor may recommend that certain drugs be used to treat your urinary tract infection. In addition to maintaining good hydration status (by drinking lots of fluids), some of the common urinary tract infection treatment drugs may include:

**Antibiotics** - If your doctor or healthcare provider suspects that you have a urinary tract infection, he or she may order antibiotics. You will likely receive your antibiotics in a pill form, if you have a simple infection, or intravenous (IV) if you have a more serious blood infection. Antibiotics such as Bactrim®<sup>1</sup>, Macrobid®<sup>2</sup>, Keflex®<sup>3</sup> and Ciprofloxacin®, are commonly used because of their ability to get rid of certain bacteria that are common to urinary tract infections. If you are prescribed antibiotics, take the full prescription. Do not stop taking pills once you feel better.

**Antispasmodic Agents** - If you are experiencing spasms (or contractions) in your bladder, your healthcare provider may temporarily prescribe an antispasmodic agent. Your healthcare provider will determine if this is right for you based on your symptoms of kidney problems.

**Phenazopyridine** - This medication may be given, in a pill form, to treat symptoms of pain and discomfort that are associated with a urinary tract infection. Do not take this medication for more than 2 days, and discontinue it when your symptoms improve after treatment. Your urine will turn orange while you are taking this medication, and this may cause your clothing to become stained. If you notice any kidney problems symptoms of shortness of breath, or confusion, contact your physician or healthcare provider immediately.

**Acetaminophen (Tylenol®)** - Acetaminophen alone may provide relief from fever and discomfort, due to a bladder infection. It is important not to exceed the recommended daily

dose of Tylenol, as it may cause liver damage. The maximum total daily dose of Acetaminophen (Tylenol) is 4000 mg per day. Your healthcare provider may recommend two tablets of 325 mg of regular acetaminophen every 4 hours as needed or two extra-strength tablets every 6 hours as needed to help with fevers and/or discomfort.

Non-Steroidal Anti-inflammatory (NSAID) Drugs – your healthcare provider may or may not recommend NSAID drugs such as ibuprofen and naproxen to help with discomfort. If you have signs or symptoms of kidney dysfunction or have certain medical conditions, your healthcare provider may recommend that you avoid NSAID drugs.

## General Recommendations -

- Discuss all over-the-counter medications with your healthcare provider before you take them.
- Your healthcare provider will discuss with you which treatments are helpful to you. Please follow his or her recommendations.
- Do not stop any medications abruptly, without first discussing them with your healthcare provider.
- Do not take anyone else's medications not prescribed to you.

### When to Contact Your Health Care Provider:

- Fever of 100.5° F (38° C), and/or chills (possible signs of infection if you are receiving chemotherapy).
- If you begin urinating less frequently, or if your urine is dark, cloudy, or painful.
- If you have new or worsening pain in back, pelvis, or abdominal area.
- If you have nausea and/or vomiting.
- Urinary symptoms such as: frequency, urgency, burning, pain on urination, blood in the urine.
- Any new rashes on your skin, itchy skin.
- Changes in your mental state, including confusion. If your urinary tract infection symptoms worsen or do not improve in 3 days of therapy.

Note: We strongly encourage you to talk with your health care professional about your specific medical condition and treatments. The information contained in this website about symptoms of kidney problems and other medical conditions is meant to be helpful and educational, but is not a substitute for medical advice.