

## **URINARY TRACT INFECTIONS**

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Most women will experience a 'urinary tract infection' at some point in their lives. Urinary Tract Infection or 'UTI' as it is commonly called, is an extremely common type of infection, mostly for women, but it is not uncommon among children and adolescents and even for men. Infections of the urinary tract (UTIs) are the second most common type of infection in the body according to the National Institutes of Health. So, what exactly is a UTI? A UTI is an infection, most commonly with bacteria, anywhere along the urinary tract. The urinary tract includes all the organs that form the urine, collect the urine and store the urine and all the 'tubes' that carry it from where urine is formed in the kidneys to the outside of the body via the urethra. In other words, these organs and tubes are kidneys, ureters, urinary bladder, urethra and in men the prostate.

What causes a UTI? A UTI is caused most commonly by bacteria, commonest types of bacteria that cause a UTI are those that normally live in the intestines and get excreted in the stools (example E. Coli, Proteus species), bacteria that normally live in the vagina or around the urethra. The urinary tract in human beings is normally 'sterile' i.e. no bacteria of any type normally live in these organs. When bacteria enter this normally 'sterile' environment, most of the time they are eliminated by the body's defense mechanism and no infection results. In some cases, this defense mechanism fails for example if the person is a very young child or any elderly person where these mechanisms are not well developed yet or are weak. Women are prone to infection because the urethra is very short (only 5 cm) and it is near the vagina, where many different bacteria normally live. During sexual intercourse bacteria may enter the urethra and travel upwards into the bladder and cause an infection. Also, if a woman wipes from 'behind forwards' ( i.e. from the anus towards the urethra) after a bowel movement then bacteria which are around the anus may enter the urethra and then travel upwards to cause an infection. That is why it is very important to utilize good hygiene technique always and teach it to your daughters at a very young age, because bad/wrong habits once formed in childhood are very difficult to correct later in life. It is also important to observe your daughter wiping herself so that you are sure that she is doing it correctly.

Most women who have a urinary tract infection never have it again. But 1 in 5 women will have more than three infections in a year or will have repeated infections. The causes of recurrent UTIs can be an anatomical (structural) malformation of the urinary tract, stone(s) in the urinary tract or diseases which allow bacteria to grow quickly such as diabetes, conditions where the urine moves very slowly through the urinary tract such as narrowing or during pregnancy or if a woman 'holds' urine for a long time allowing the bacteria time to grow in the bladder.

In men, if the prostate is enlarging, the same 'outflow' difficulty occurs and so urine stays in the bladder a long time so infection occurs.

#### **How do you know if you have a UTI?**

The three 'classical' symptoms of a UTI are burning or pain when you pass urine, pain in the center of the lower part of the abdomen just above the pubic hair area when you urinate and heaviness or pain in the same area, the urge to urinate frequently sometimes even every 5 minutes or less and pass only a few drops painfully when you do go, 'urgency' i.e. feeling as if you have to go at once and will leak urine if you do not go at once. The urine itself may smell like 'ammonia' and look cloudy. You may see blood in the urine if the infection is really severe. These are the symptoms of a UTI when the bladder and urethra are infected. If the infection has ascended (gone up) to involve the ureter(s) or the kidney(s) then you may experience fever, chills and flank pain also. Such 'upper' urinary tract infections are dangerous and are more

difficult to treat. In pregnant women, such infections can cause preterm labor contractions and even preterm delivery if remain undiagnosed or untreated.

### **What will the doctor do to find out if I do have a UTI?**

The simplest way to determine the diagnosis of a UTI is a urine analysis. For this you will provide a 'clean' specimen meaning that you must wipe the area around the urethra clean, then hold the 'lips' apart and take only the 'middle' part of the urine into the sterile cup (pass the first part of the urine in the toilet bowl and the last part into the bowl). This will be tested to see if there are signs of infection. A 'culture' of the urine may be performed to determine the type of bacteria that is causing the infection. Rarely if someone gets many repeated infections and the doctor suspects that there may be an anatomical problem, then; an ultrasound, a CT scan, or even an Intravenous Urogram (IVU), to see the structure of the entire urinary tract be necessary. In certain cases a cystoscopy, meaning visualization of the inside of the bladder and urethra may be performed.

Most urinary tract infections are simple and involve the bladder only, and are simple to diagnose and treat.

### **How will the UTI be treated?**

Most UTIs are treated by a short 3 day course of the appropriate antibiotic. The doctor may give you a 'urinary analgesic' to help with the intense pain. These medications will color your urine bright orange and when this happens, it is an indication that the medication has started to work, and you will also feel less pain when this happens.

Recurrent infections may need longer course of antibiotics. If a woman is pregnant, or if the UTI has involved the 'upper' urinary tract such as the ureter(s) or kidney(s), then you may need to be admitted to the hospital and be treated with antibiotics directly injected into your vein (intravenous antibiotic). You may need a longer course of the antibiotic.

### **Can I do anything to prevent recurrent urinary tract infections? YES - YES -YES**

You can prevent infections by the following suggestions

- always wipe from front to back
- wash the area around the rectum and genital area with warm water, especially before and after sex and at least once daily (e.g. during your shower) to wash away bacteria
- never use 'douches' or vaginal cosmetics or powder around the genital or rectal area
- empty your bladder before and after sex
- do not 'hold' urine for long periods of time
- drink plenty of fluids e.g. 8 to 10 glasses per day, this helps the urine to constantly flow so bacteria will be flushed out
- wear loose cotton underwear so that friction from tight clothes (which may cause bacteria to be 'milked' into the urethra and possibly upwards into the bladder) will be avoided
- drink cranberry juice – this contains a substance that inactivates the 'legs' ('pili') of the bacteria that commonly cause a UTI, so they cannot attach to the wall of the urinary tract and get washed out with the urine flow. Also, the cranberry juice and vitamin C make the urine acidic so bacteria cannot grow in the urine
- remember – do not self treat i.e. do not take anything 'over the counter', do go promptly to your doctor if you have symptoms of a UTI. Most of the UTIs can be treated quickly if caught in time.

If you have any questions please do speak with your doctor.

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