



When you read up about your physical condition, you take an important tool into your own hands. The more you know about your physical condition, and the more positive steps you take, the better your chance for positive outcomes and treatment success.

Health Topic: Urinary Tract Infection (UTI)

What is a UTI? A urinary tract infection (UTI) is used to describe a bacterial infection of the bladder and/or kidneys. It is a very common medical problem that is estimated to affect 150 million people a year. It can occur in males and females in any age group. Children are most commonly infected by bacteria called *Klebsiella* and *Enterobacter* and Adults by *E coli*.

What are the risk factors? For Children: congenital obstruction or vesicoureteral reflux poses an increased risk for kidney infections. Male children who are uncircumcised are more likely than circumcised males to develop an infection.

For Adult Women: sexual activity, pregnancy, gynecologic surgery, bladder prolapse, stones, menopause and catheterization are all risk factors for bladder and kidney infections.

For Adult Men: prostate enlargement causing incomplete bladder emptying, stones and catheterization are all risk factors for developing a UTI.

How is it diagnosed? Urinalysis and urine cultures are key to the diagnosis. A urinalysis is testing for white and red blood cells, leukocyte esterase and nitrites. White blood cells are the body's natural defense cells that seek and destroy bacteria. Leukocyte esterase is a breakdown product of white blood cells caused by bacteria. Nitrite is a substance produced by the breakdown of nitrates by certain bacteria.

A culture is a sample of urine that is placed on a plate of medium which supports bacterial growth. Each bacterium will form a single colony. The number of colonies is then counted. Traditionally >100,000 colonies represents a clinically significant infection, but recent studies have demonstrated that less bacteria in the urine can still be significant.

How is it treated? Antibiotics are still the mainstay of treatment. It is important to ensure complete bladder emptying and to identify any underlying risk factors and eliminate them to decrease infection recurrence.

What can be done to prevent UTIs? There are natural host defense mechanisms that are already in place. Urine itself is acidic which is not conducive to bacteria and there are proteins such as Tamm-

Horsfall which help fight off infections. The unobstructed flow of urine helps eliminate bacteria from the system should it enter. And vaginal bacteria such as lactobacillus helps decrease colonization of uropathogens.

There are some actions individuals can take to help the natural defenses, such as wiping from front to back (to prevent fecal soiling), voiding every two or three hours and in general avoiding "holding" your urine. For women, voiding after intercourse can help.