

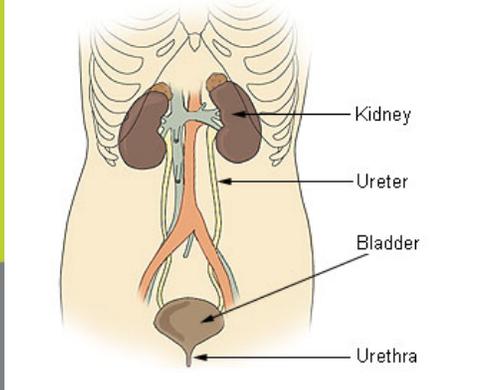
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# What is a Urinary Tract Infection (UTI)?

## General Information

A UTI is an infection of the urinary system. The urinary system consists of the kidneys which are bean shaped organs. The kidneys are connected to the ureters which are tubes that lead to the bladder. The bladder stores the urine until its ready to be emptied. The urethra is the tube like structure that carries the urine from the bladder to the outside environment. Infections of the upper tract (kidneys and ureters) are called pyelonephritis. Infections of the lower tract (bladder-*cystitis* and urethra) are much more common.

### Components of the Urinary System



## For more information

Consider talking to your doctor today about prophylactic antibiotic use if you have a child with recurrent urinary tract infections

Mayo Clinic

<http://www.mayoclinic.com>

National Institute of Health

<http://www.kidney.niddk.nih.gov/>

Family Doctor

<http://www.familydoctor.org>

## Pamphlet created by

Emily Day  
Medical Student  
University of Minnesota Medical School  
[dunph027@umn.edu](mailto:dunph027@umn.edu)  
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## Urinary tract Infections in Children

Does prophylactic antibiotics reduce the risk?

**Emily Day**

University of Minnesota Medical School

# UTI

## Symptoms

Urinary frequency  
Urinary urgency  
Pain or burning during urination  
Fever  
Diarrhea  
Vomiting  
Irritability  
Back or stomach pain  
Urine that smells bad  
Bloody urine

## Causes

Bacteria, which are germs, that gets into the urinary tract.

## Risk Factors

Urinary Tract Abnormalities  
Urinary Tract Obstruction  
Tight-fitting clothing  
Holding urine for a long time  
Bubble baths  
Girls wiping from back to front

## Diagnosis

Urinary Sample

## UTI in Children Statistics

- 2% of boys and 8% of girls by age 7
- Kidney damage in 5% of affected children
- Most common cause is due to vesicoureteral reflex (VUR).
- Most common antibiotic for treatment is trimethoprim-sulfamethoxazole



## Treatment

The treatment for a urinary tract infection is an antibiotic. The antibiotic kills the germs. Some of the antibiotics which are used are Trimethoprim-sulfamethoxazole, Amoxicillin, Nitrofurantoin, Ampicillin, Ciprofloxacin.

Usually symptoms will clear up in a few days, however treatment is done for 7-10 days to prevent kidney damage.

## Prevention

Drink plenty of water  
Avoid bubble baths  
Wipe from front to back  
Empty your bladder often  
Wash foreskin of an uncircumcised boy

## Complication

The major complication of an untreated UTI is pyelonephritis which is an infection of the kidney. Pyelonephritis left untreated can lead to permanent kidney damage.

## Prophylaxis does it work?

Some children are born with urinary tract abnormalities the most common of which is vesicoureteral reflux (VUR). This is an anomaly which causes the urine to flow in the reverse direction. The urine travels from the bladder to the ureters and kidneys. Urine normally travels from the kidneys via the ureters to the bladder. VUR makes children more susceptible to having recurrent UTI.

VUR as well as other reasons for children having recurrent UTI leads to the question whether prophylactic antibiotics help to reduce the number of UTI. In one study low-dose trimethoprim-sulfamethoxazole prophylaxis was given daily to children with recurrent UTI to determine whether a reduction in UTI occurred. Did it work?

## Prophylaxis is Key!

According to this study, only 16 children with recurrent UTI need to be treated to prevent recurrence in one individual. Every time a child is on prophylactic antibiotics their risk of getting recurrent UTI is dropped by **6.6%**. The side effects of low-dose trimethoprim-sulfamethoxazole do not seem to outweigh the benefits to children with recurrent UTIs. The purpose of treating is to prevent irreversible kidney damage, which can lead to devastating results.