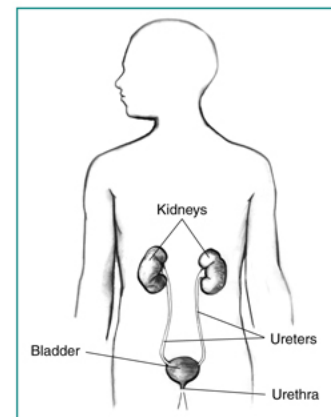


## Family Medicine Clerkship Plain Language Summary



**Title:** Urinary Tract Infections in Children – What are they and how should they be treated?

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### **Plain Language Summary:**

#### **What is the urinary tract?**

The body filters the liquid waste in the blood through the kidneys. The extra water and waste is removed through the urinary tract. The urinary tract includes the kidneys, two ureters, a bladder, and a urethra. The kidneys are about the size of a fist and located on each side of the back. Blood is always passing through the kidney and while most returns to the body, the waste product (urine) is filtered out of the body. Urine goes first to the ureters, two long narrow tubes that carry urine from each kidney to the bladder. The bladder stores urine until you need to go to the bathroom. It is like a balloon - it can get bigger or smaller based on how much urine it is holding. Finally, when you need to pee, the muscle that holds the urine in the bladder relaxes, and urine passes through another tube called the urethra to the outside.

#### **What is a urinary tract infection (UTI)?**

The urine that is removed by the urinary tract normally does not have any microbes in it. These are tiny germs that are too small to see with your eyes that can cause illness. The most common type to cause illness, or infection, in the urinary tract is bacteria. Sometimes these germs can get inside your body and you cannot get rid of them. If your body cannot fight them off, then they can make you sick. If the urethra is infected with these germs, it is called urethritis. If the bacteria travel further up, they can cause an infection of the bladder, or cystitis. Occasionally they can travel all the way up to the kidneys and cause a very serious infection called pyelonephritis.

#### **What are the symptoms of a UTI in children?**

A UTI in kids might cause burning when going to the bathroom, a weird smell to the urine, pain in the lower abdomen, or fever. They may go more often, spill urine into their clothing or bed, or cry when going to the bathroom. The infection may go all the way up to the kidney. Then the child may have pain in the back, a high fever, chills or vomiting. It is hard to see an infection in kids because some may have very few symptoms.

#### **How is a UTI diagnosed?**

A UTI is found by collecting a sample of urine from the child. The lab looks for bacteria, blood, and signs that the body is fighting an infection. If the child is not toilet trained, the collection might be done another way. A bag may be placed over the genitals or a small tube called a catheter passed into the urethra. The urine will be seen under a microscope to look for bacteria. If there are bacteria, the lab will let them grow for several days. Then they can tell what type it is and how it can be treated.

#### **How is a UTI treated?**

Most UTIs are caused by bacteria. Therefore a medication that fights bacteria can be used most of the time. These are called antibiotics. The health care provider may change the

treatment based on what grows in the lab. The child can take an antibiotic for 2-4 days if there is no kidney infection. The doctor would look for signs of pain in the back or sides of the trunk, high fever, or any other signs of infection of the kidneys. Recent studies have shown this length to be just as good as a longer treatment such as 7-14 days. These will be either liquid or pills depending on the age of the child. It may take several days for the symptoms to go away. If there are signs of a kidney infection, then the treatment is different. The child might receive a shot followed by a longer treatment of 10-14 days. To prevent a UTI in the future, parents can help their child in a number of ways. They can encourage going to the bathroom more often, drinking more water, and proper cleaning.

**Additional Resources:**

MedlinePlus: Urinary tract infection – Children

<http://www.nlm.nih.gov/medlineplus/ency/article/000505.htm>

Family Doctor.org: Urinary Tract Infections

<http://familydoctor.org/familydoctor/en/diseases-conditions/urinary-tract-infections.html>

National Kidney and Urologic Diseases Information Clearinghouse: Urinary tract infections in children <http://kidney.niddk.nih.gov/kudiseases/pubs/utichildren/>

American Urological Association Foundation: Urinary tract infections in children

<http://www.urologyhealth.org/urology/index.cfm?article=46>

**Key Words:**

UTI – children

Cystitis – children

Bladder infection – children

UTI – treatment

Kidney infection – children

Pyelonephritis – children

This document was created by a medical student enrolled in the Family Medicine Clerkship at the University of Minnesota Medical School as part of the course project. The aim of the project is to present information on a medical topic in the format of a patient education handout. It does not necessarily reflect the views of the University of Minnesota Medical School physicians and faculty. These materials are provided for informational purposes only and are in no way intended to take the place of the advice and recommendations of your personal health care provider. The information provided may no longer be up-to-date since it has not been reviewed since the date of creation. The information provided should not be used to diagnose a health problem or disease, or as a means of determining treatment. In the event of a medical emergency, immediately contact a doctor or call 911.