

Pyelonephritis (Kidney Infection) in Adults

National Kidney and Urologic Diseases Information Clearinghouse



National
Institute of
Diabetes and
Digestive
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What is pyelonephritis?

Pyelonephritis is a kidney infection, usually from bacteria that have spread from the bladder.

What causes pyelonephritis?

Possible causes of kidney infection include the following:

- infections in the bladder
- use of a catheter to drain urine from the bladder
- use of a cystoscope to examine the bladder and urethra
- surgery on the urinary tract
- conditions such as prostate enlargement and kidney stones that prevent the efficient flow of urine from the bladder
- defects or abnormalities in the urinary tract that block the flow of urine

What are the symptoms of pyelonephritis?

Symptoms include the following:

- back, side, and groin pain
- urgent, frequent urination
- pain or burning during urination
- fever
- nausea and vomiting
- pus and blood in the urine

What are the complications of pyelonephritis?

Severe or recurrent infections may cause permanent kidney damage and lead to chronic kidney disease.

In rare cases, infection in the kidney may spread to the bloodstream. Infection of the bloodstream is a serious condition called sepsis. Acute renal failure, a temporary condition in which the kidneys stop working, can also result.

How is pyelonephritis diagnosed?

Diagnosis is made with a urine test to identify bacteria and formations of white blood cells, called casts, shaped like tubes in the kidneys. If an infection cannot be easily cured, x rays might be done to look for abnormalities in the kidneys, ureters, and bladder.

How is pyelonephritis treated?

A kidney infection is treated with an appropriate antibiotic taken for several weeks. Anatomic abnormalities may need to be surgically treated.

Severely ill patients with kidney infections may be hospitalized until they can take fluids and needed drugs on their own.

Various drugs are available to relieve the pain of a kidney infection. A heating pad may also help.



U.S. Department
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For More Information

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You may also find additional information on this topic using the following databases:

The NIDDK Reference Collection is a collection of thousands of materials produced for patients and health care professionals, including fact sheets, brochures, and audiovisual materials. Visit www.catalog.niddk.nih.gov/resources.

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