

Kidney Infection (Pyelonephritis)

Understanding infection of the upper urinary tract

Q What is a kidney infection?

A Kidney infection (called pyelonephritis) is infection of the kidneys with bacteria. If not treated promptly, pyelonephritis can lead to serious and permanent damage to the kidneys.

Q What causes kidney infection?

A Kidney infection most often results from a lower urinary tract infection (usually in the bladder) that has traveled up to the kidneys through the ureters. Anything that blocks the flow of urine through the urinary tract, such as urinary stones or an enlarged prostate gland, makes a kidney infection more likely. Occasionally, the blood may carry infection to the kidney from another part of the body.

Q What are the symptoms of a kidney infection?

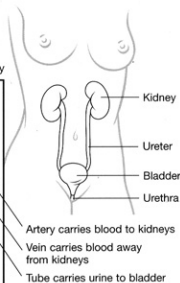
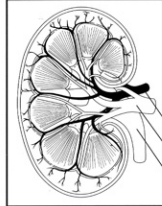
A Symptoms include:

- Fever, chills, and sweats
- Pain in the side, abdomen, or lower back
- Headache
- Nausea, vomiting, or diarrhea
- A strong, frequent urge to urinate
- Malaise (not feeling well)

Q How does the doctor diagnose a kidney infection?

A A kidney infection is likely if you have a urinary tract infection and the symptoms listed above. To confirm this diagnosis, your doctor may examine a sample of your urine under a microscope for bacteria and white blood cells and may order urine and blood cultures (growing bacteria from a urine or blood sample on a culture plate). Your doctor may use certain

Magnified cross section of kidney



To prevent kidney damage, it is important to treat a kidney infection promptly.

imaging tests, such as intravenous pyelogram (IVP) or ultrasound, to get a closer look at the kidneys and urinary tract and check whether any part of the urinary tract is blocked.

Q How is a kidney infection treated?

A A kidney infection needs to be treated with antibiotics to kill the bacteria as soon as possible and to prevent scarring or other damage to the kidneys. Your doctor may also ask you to drink extra fluids to help flush bacteria out of your urinary tract. It is very important to take all of your medication exactly as your doctor prescribes. If you don't, you can develop a second infection that is harder to treat. You may need to take antibiotics for at least 14 days. If you have nausea and vomiting or other complications, you may need to be hospitalized for treatment.

Q What follow-up is needed?

A During and after treatment, your doctor may perform repeat urine cultures to be sure that no bacteria remain in your urinary tract. Some people may need additional antibiotic treatment to completely eliminate the infection.