

Patient information from BMJ

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Kidney infection

Having a kidney infection can make you feel very sick. But if you get the right treatment you should make a quick recovery.

What happens in a kidney infection?

Your kidneys make urine from water and your body's waste products. Most kidney infections start when bacteria get into your urethra, the tube you use to pass urine. When this happens the bacteria can spread to infect one or both kidneys.

Most people with a kidney infection can be treated at home. But you might need treatment in the hospital if you:

- are very unwell
- have kidney stones or other conditions affecting the kidneys
- are pregnant
- are older than 60.

Anyone can get a kidney infection. But certain things make it more likely. These are called risk factors. For women, risk factors for kidney infections are the same as for bladder infections (cystitis). They include:

- having sex often
- using a spermicide for contraception
- having had cystitis or another urine infection in the last year
- having diabetes.

What are the symptoms?

Most people with kidney infections feel very sick. The symptoms usually come on over a few hours. You might have:

- a fever
- shivering

Kidney infection

- pain in your side or pelvis
- back ache
- nausea, vomiting
- diarrhea
- the need to urinate more, and urinating might be painful
- cloudy or strong-smelling urine
- urine that's a different color from usual.

Older people often get different symptoms from a kidney infection. These could be:

- a fever with no other symptoms
- confusion and sluggishness
- loss of appetite
- or just feeling generally unwell.

You'll need a urine test to check for signs of infection. You might also need a blood test. Some people need further tests, such as an x-ray, ultrasound, or CT scan.

What treatments work?

The usual treatment for a kidney infection is antibiotics. Antibiotics are drugs that kill bacteria. Most people can take their antibiotic pills at home. But some people need to have antibiotics as a drip (also called an IV or an intravenous infusion) in the hospital.

Medications

If you're well enough to be treated at home you'll be given antibiotic pills to take. You'll probably take pills for one or two weeks, depending on how severe your infection is. Some doctors recommend taking antibiotics for at least 10 days.

You should start to feel better within two days and be completely better in two weeks. You should always finish your pills, even if you're feeling better before then.

If you need to be treated in the hospital you might be given intravenous (IV) antibiotics through a drip in your arm. The antibiotics work quickly when given like this because they go straight into your bloodstream.

Things you can do for yourself

Kidney infections can be painful. You might want to take pain relievers, such as acetaminophen or a nonsteroidal anti-inflammatory drug (NSAID), such as ibuprofen.

You should also drink plenty of fluids.

What will happen to me?

Most people get better completely with treatment. Your doctor should check to see if you are getting better in one or two days. Tell your doctor if you don't feel a lot better by then.

Kidney infection

Sometimes the bacteria causing the infection have become resistant to the antibiotic you've been given. If that happens, the antibiotic treatment will not work and your doctor will change you to a different antibiotic.

Some people get a build-up of pus in their kidney, called an abscess. If this happens you might need an operation to remove the pus.

Two serious but rare complications of kidney infections are sepsis and kidney failure.

Sepsis is caused by bacteria getting into your bloodstream. **Kidney failure** is when your kidneys stop working. If either of these things happens, you'll need treatment in the hospital.

Some people get repeated kidney infections, which can cause kidney damage. For these people doctors sometimes recommend taking a small dose of an antibiotic every day to prevent repeated infections.

People who have repeat infections, or infections that don't get better with antibiotics, might need tests to find out what is causing the infections.

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