

Patient information from BMJ

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Osteomyelitis

Osteomyelitis is an infection in a bone. It can happen for several reasons, such as an infection spreading from another part of the body, or if your immune system is weakened.

Osteomyelitis can often be treated with antibiotics if it is diagnosed early. But some people need to have surgery.

What is osteomyelitis?

Infections are common, and we all get them from time to time, most commonly in the throat, chest, or ears. But infections can also happen in our bones. When this happens it's called osteomyelitis.

Osteomyelitis can happen for several reasons, including when:

- an infection spreads from other tissues
- a bone is damaged by an injury
- an infection spreads from a prosthetic (artificial) joint, such as a hip or knee replacement
- an infection starts after you have surgery.

Some things that can make osteomyelitis more likely include:

- injecting recreational ('street') drugs
- having diabetes
- having HIV
- having an infection of the gums called periodontitis. This infection can spread to the teeth and the bone in the jaw.

What are the symptoms?

As with any infection, the first symptoms you might notice are fever, fatigue (tiredness), and feeling generally unwell. You might also notice:

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- pain in the part of your body where the infection is
- difficulty moving the infected limb
- redness and swelling in the joint nearest the infection
- weeping from any sore or open wound.

If your doctor suspects a bone infection, he or she will examine you and ask you about your symptoms and what other medical conditions you have. Your doctor will also ask whether you have had surgery recently, or suffered any injury.

There are some tests that can help to tell if you have an infected bone. These include:

- scans, such as ultrasound or MRI (magnetic resonance imaging)
- blood tests
- tests on the fluid in any joint that is affected. In this test, the fluid is taken from the joint with a needle.
- tests on any fluid that comes from an abscess (open sore).

What treatments work?

The treatment you will need depends on several things, including:

- whether the infection is diagnosed early
- whether you have any other medical conditions that could make treating the infection difficult
- how badly the bone has been affected.

Antibiotics

Bone infections are almost always caused by bacteria. So the main treatment is antibiotics. Antibiotics are drugs that kill bacteria.

Different antibiotics work against different bacteria. So the antibiotics you need will depend on which type of bacteria has caused your infection.

If your infection is diagnosed early, antibiotics might be the only treatment that you need. You will probably need to have intravenous (IV) antibiotics several times over a two-week period. You will then need to take antibiotic tablets for another few weeks.

It is vital that you take the tablets exactly as your doctor advises, so that you have the best chance of getting rid of the infection completely.

Your doctor might also prescribe painkillers to help relieve any pain in the infected area.

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Surgery

For many people, antibiotics are not enough to get rid of the infection, and they need surgery. You might also need surgery if:

- some of the infected bone tissue has died. This is called osteonecrosis
- a joint is affected by the infection. This is called septic arthritis.

Before the operation your surgeon will probably take small samples of bone from the affected area. Testing these samples in the lab will help show which type of bacteria is involved, and how much bone is affected.

In the operation, the surgeon will remove any dead bone. He or she will then pack the space left after removing the dead bone with filler material that slowly releases antibiotics.

There are several types of filler material. Some of them need to be removed a few weeks after the operation, while others dissolve on their own.

If a lot of bone needs to be removed, the limb might need to be shortened slightly. Your surgeon should discuss with you everything about your surgery, and you should ask any questions that you want to.

After the surgery you will need to take antibiotics for several weeks.

Other options

Surgery for osteomyelitis can be complicated, and recovery can take a long time, especially if you have other medical conditions. So some people who are offered surgery choose not to have it, especially if the possible risks of having surgery might be greater than the benefits.

These people might need to be treated with short courses of antibiotics when their symptoms flare up. It doesn't cure the infection, but it helps to manage it.

What will happen?

Most people who only need antibiotics recover fully with no complications. But some people need to have a second course of treatment.

If you need surgery, recovery takes longer. You might need to have rehabilitation to help you to strengthen the affected limb. And you might need to wear a frame to support the limb for a while. Your doctor should see you often and keep a close eye on your recovery.

Your doctor should discuss with you the things that you can do to help prevent the infection returning. These include taking care of your general health (for example, eating a healthy diet), practising good hygiene, not smoking, and not injecting recreational drugs.

Your doctor should also advise you about signs that suggest that the infection might be coming back, such as redness, fever, and pain. If you notice any of these signs, get medical help straight away for the best chance of treating the infection.

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