



Find out more

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Osteomyelitis

Information for patients

Introduction

Osteomyelitis is a medical term that describes an infection inside a bone. It is usually caused by a bacterial infection.

People with diabetes are at increased risk of osteomyelitis, as diabetes can affect the blood flow to the feet and legs. If bone is not getting a steady supply of blood (more specifically, a supply of infection-fighting white blood cells) it is more vulnerable to infection.

People with diabetes are particularly vulnerable to osteomyelitis because they have an associated risk of developing foot injuries and ulcers. As increased levels of glucose in the blood can cause nerve damage, people with poorly controlled diabetes may begin to lose sensation in their feet. This means that ulcers or injuries to the feet may not be noticed. As a result of poor circulation, a serious infection can quickly develop in the feet and then spread to the bone.

Symptoms

In patients with diabetic foot disease, bone infection can develop early on (within one or two months of an initial infection/ulcer) or much later. There may be localised bone pain, redness, heat and swelling of the affected body part, drainage of pus or fluid from the affected body part, and / or deformity, instability or loss of movement in the affected body part.

In some cases, osteomyelitis may not cause any obvious symptoms, or the symptoms may be the result of an injury rather than infection.

What happens during a bone infection?

Once a bacterial infection develops inside the bone, the immune system will attempt to stop it by sending specialised, infection-fighting white blood cells to the source of the infection. They will attempt to kill the bacteria that are causing the infection, but are sometimes unable to do so. If the infection is not treated, a collection of dead cells will build up inside the bone, forming a pocket of pus known as an abscess.

In cases of chronic osteomyelitis, abscesses can block the blood supply to the bone, which will eventually lead to the death of the bone.

Diagnosis

In the first stage of confirming a diagnosis of suspected osteomyelitis, there will be a physical examination of your foot, checking for signs of tenderness or swelling. If you have a foot ulcer, the Podiatrist will assess how deep the ulcer is, and if bone can be detected. You may be asked to have a blood test. While a blood test cannot be used to diagnose osteomyelitis, a high number of white blood cells in your blood may suggest that you have an infection.

If a diagnosis of osteomyelitis is suspected, it is likely that you will be referred for further imaging testing. There are a number of imaging tests that may be able to detect bone damage that is caused by osteomyelitis. These include:

- X-rays (although they can usually only detect osteomyelitis in its later stages),
- computerised tomography (CT) scans,
- ultrasound scans, and
- magnetic resonance imaging (MRI) scans.

Treatment

The recommended treatment for osteomyelitis will depend on the severity of the infection and whether there is any associated bone damage. Mild cases of osteomyelitis, with no associated bone damage, can usually be successfully treated using antibiotics. Most adults will require an 8-12 week course of daily antibiotics. More severe cases may require a combination of antibiotics and surgery to repair any bone damage. In cases of extensive bone damage, it will be necessary to surgically remove any diseased bone and tissue. If the infection threatens to spread from a body part, such as a toe or the foot, to the rest of your body, it may be necessary to amputate the affected part.