

Diabetic foot problems: prevention and management

Information for the public

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About this information

NICE guidelines provide advice on the care and support that should be offered to people who use health and care services.

This information explains the advice about diabetic foot problems that is set out in NICE guideline NG19.

Does this information apply to me?

Yes, if you are a child, young person or adult with diabetes.

Parents and carers: it's really important that you read this information too so you know the treatment and care the child you care for should be having.

Diabetic foot problems

People with diabetes have too much sugar (glucose) in their blood. There are 2 main types of

diabetes: type 1 and type 2. In type 1 diabetes, the body can't make insulin – insulin is the hormone that controls how much glucose is in the blood. In type 2 diabetes, the body doesn't produce enough insulin, so blood glucose levels become too high.

Diabetes has lots of effects on the body. It can affect blood flow, particularly in the feet and legs. It can also damage nerves, causing pain or uncomfortable tingling and numbness or complete loss of feeling in the feet and legs.

Blood flow problems and nerve problems can mean that:

- you might not notice if you hurt your feet or get any sores or ulcers on them (an ulcer is a patch of broken skin)
- any wounds on your feet won't heal as quickly or as well as they used to or, in some cases, won't heal at all
- the bones in your feet may become weak and change the shape of the foot or ankle (Charcot arthropathy)
- you may find it difficult to stand or walk, which may affect your lifestyle, employment, social life and even routine tasks such as cutting your toenails.

In very extreme cases the tissues in the feet may die (gangrene). If this happens, it may be necessary to remove (amputate) toes, part of the foot or even the lower leg.

Prevention is the best approach when it comes to foot care for people with diabetes. But if problems do happen, they are less likely to become severe if dealt with quickly.

Keeping your diabetes under control is an important part of foot care. By understanding your diabetes better, you'll be more able to manage it successfully. There is a lot you can do to keep your diabetes under control, so ask for more information and advice.

Your diabetes care services

The foot protection service and the multidisciplinary foot care service both provide specialist foot care for people with diabetes.

The doctors, nurses and other healthcare professionals who provide diabetes care should take into account if you have any disabilities, for example, if you have any sight problems. In addition, if you are housebound or living in a care home or nursing home, they should take this into account to make sure you have the same foot checks and treatments as everyone else.

Foot protection service

The foot protection service is usually based outside the hospital, for example, in a health centre or GP clinic. The foot protection service specialises in providing foot care for people with diabetes, preventing diabetic foot problems and dealing with foot problems that don't need to be treated in hospital.

The foot protection service should be led by a podiatrist (someone trained to look after your feet; sometimes called a chiropodist) with special training in dealing with diabetic foot problems.

Multidisciplinary foot care service

The multidisciplinary foot care service is usually based at a hospital. It specialises in treating more severe diabetic foot problems. You might also hear it called an interdisciplinary foot care service, but the meaning is the same.

The terms 'multidisciplinary' and 'interdisciplinary' mean that the foot care service is made up of different kinds of healthcare professionals who work together to deliver care. The diabetes multidisciplinary service should include diabetologists (consultants who specialise in diabetes), podiatrists and diabetes nurse specialists, as well as other healthcare professionals with expertise in treating and managing diabetic foot problems.

Some treatments or care described here may not be suitable for you. If you think that your treatment does not match this advice, talk to your healthcare professional.

Questions to ask about your care

- Please tell me more about living with diabetes.
- Please tell me more about diabetic foot problems.

- Can you give me written information? What websites are helpful?
- What about lifestyle? Can you give me information about diet and exercise?
- How often will I need to see someone? Who will I see and where will I see them?
- What should I take to my appointments?
- Who should I contact if I have any questions or am worried about my diabetes or about my feet?
- What sorts of health problems are associated with having diabetes? What can I do to help prevent these?
- Can you point me towards local or national support groups?

Foot checks for people with diabetes

If you have diabetes it's very important to have your feet and lower legs checked regularly, to make sure there aren't any problems.

How often should foot checks happen?

Adults with diabetes should have a foot check:

- when diabetes is diagnosed and at least once a year after that
- if they think they have a problem with their feet
- if they have to go into hospital for any reason, and if they have any foot problems during the hospital stay.

Young people with diabetes who are aged 12–17 years will be looked after by the hospital paediatric team (which looks after children and young people) or the hospital transitional care team (which looks after young adults who are preparing to move to adult services). They should have a foot check once a year as part of their diabetes annual review, and be given information about foot care. If they have any problems with their feet they should be referred to see a specialist.

Children under 12 (and their parents and carers) should be given information about foot care.

What does the foot check involve?

The foot checks will usually be done by the foot protection service.

You'll need to take off your shoes and socks, and any bandages or dressings will be removed. Then, both your feet should be carefully examined. This will involve:

- finding out whether you have any foot problems at present
- examining your foot shape and footwear to see whether you may be at risk of rubbing or pressure
- checking your skin for changes in colour and looking for ulcers, sores, areas of hard skin and any signs of inflammation or infection
- testing the feeling in your feet to see how well the nerves are working
- taking the pulse in each of your feet to check the blood flow
- working out your risk (low, moderate or high) of developing a diabetic foot problem.

If the foot check shows that you don't have any foot problems, you will still need to have a foot check every year. Your healthcare professional should talk with you about your risk of developing foot problems in the future and explain how to look after your feet.

If you do have a foot problem, or if the foot check shows that you have a moderate or high risk of a problem developing, you may be referred to see another healthcare professional. This may be someone in the foot protection service or the multidisciplinary foot care service.

If you don't need to be referred to see anyone else, your healthcare professional will let you know when they need to see you again.

Importance of foot care

It is very important to take good care of your feet, because having diabetes puts you at risk of foot problems.

You should get information on diabetes and foot care when diabetes is diagnosed, during foot checks and if you develop any foot problems. The information should include:

- why foot care is important
- what good foot care involves
- what to do if you think there may be a problem
- footwear advice
- your risk of developing a foot problem in the future
- information about diabetes and the importance of managing your blood glucose.

The information you need about foot care – and how often you need to have a foot check – will depend on your risk of developing foot problems. Your healthcare professional can give you more information about this and talk with you about questions or worries you might have.

If you already have a foot problem (for example, an ulcer on your foot), your healthcare professional should explain what is wrong and what the treatment will involve. They may also ask whether you would find it helpful to see pictures of foot problems, such as long-term foot damage or amputation.

Questions to ask about your risk of developing a foot problem

- What is my risk of developing a foot problem, and how have you worked this out?
- What did the foot check show?
- How will I know if my risk changes?
- What should I do if I think I've got a foot problem?
- What is the best way of looking after my feet?
- Can you advise me about shoes, socks and insoles?
- Are there any changes to my lifestyle that I need to make?
- How can managing my diabetes help?
- How often do I need to have a foot check?
- Why are you referring me to someone else? What will they do?

Treating diabetic foot problems

If you have a diabetic foot problem, you will be treated either by the foot protection service or the multidisciplinary foot care service.

Many foot problems can be treated by the foot protection service. However, if the diabetic foot problem is severe or if you have other problems that are a concern, then the multidisciplinary foot care service provides the treatment, usually in the hospital.

You should be referred to hospital immediately, and the multidisciplinary foot care service should be informed, if:

- You have a diabetic foot ulcer and you have a fever or any other symptoms of blood poisoning (the medical name for this is sepsis), or if there is a problem with the blood supply to your foot.
- Your healthcare professional thinks you have a severe foot or bone infection, or you have gangrene (whether or not you have a diabetic foot ulcer).

Questions to ask about treating diabetic foot problems

- Can you tell me more about the foot problem I have?
- How can making sure my diabetes is controlled help?
- What can I do to keep my diabetes under control?
- Can you tell me more about the treatment? What will it involve?
- What are the pros and cons of having this treatment?
- How long will the treatment take to have an effect?
- Are there any risks associated with this treatment?
- Are there any support organisations in my local area?
- Can you provide any information for my family and carers?

Diabetic foot ulcer

If you have a diabetic foot ulcer, your healthcare professional should check the size and depth of the ulcer and look for signs of infection and other problems.

Treatment for diabetic foot ulcers involves 1 or more of the following:

- offloading, in which a plaster cast is used to take pressure off the ulcer and help with healing
- treating any foot infection with antibiotics
- making sure the foot has a good blood supply
- clearing away the dead, damaged and infected skin from the ulcer (the medical name for this is debridement)
- using dressings while the ulcer heals.

The treatment will depend on how severe the ulcer is, where it is, and what you would prefer.

You'll need to have regular appointments as part of your treatment plan – how often will depend on your overall health, how well the ulcer heals, and whether any other problems develop.

Diabetic foot infection

If your healthcare professional thinks you have a foot infection you should start antibiotics as soon as possible. The type of antibiotic will depend on how bad the infection is and whether there is a risk of complications.

A small sample should be taken from your foot to check which bacteria are causing the infection. Your doctor may change your antibiotic when the results of these tests come back.

The infection should start to clear up within 1 to 2 days of starting antibiotics. Tell your doctor if it doesn't start to improve, if it starts to get worse or if you feel very unwell at any time.

How long you have to take antibiotics will depend on how bad the infection is and how quickly it starts to improve. Your doctor should explain that antibiotics can cause side effects, such as diarrhoea and nausea (feeling sick).

You might also have an X-ray to see how severe the foot infection is. Some people may need a type of scan called an MRI.

Charcot arthropathy

Charcot arthropathy is a serious condition, which is more common if people lose feeling in their feet. The bones in the foot can become weak and lead to dislocations, fractures and changes in the shape of the foot or ankle. Charcot arthropathy may develop if you have diabetes and you fracture your foot or ankle. If it is not treated quickly, ulcers or other sores can develop. Symptoms of Charcot arthropathy include the foot feeling hot and painful, and looking swollen or red.

Charcot arthropathy is diagnosed and treated in hospital by the multidisciplinary foot care service. If a healthcare professional thinks you may have Charcot arthropathy, they should refer you to the multidisciplinary foot care service within 1 working day, and you should be seen within another working day. You should rest and not put any weight at all on the foot until your appointment with the multidisciplinary foot care service. You may have an X-ray or a type of scan called an MRI.

The treatment for Charcot arthropathy usually involves having a plaster cast fitted.

If you are treated in hospital

You should have a named consultant who will be responsible for your overall care.

If a diabetic foot problem is the reason you are in hospital, or if you have other medical problems but your diabetic foot problem needs the most urgent care, your care should be transferred to the multidisciplinary foot care service within 24 hours.

Sources of advice and support

- Diabetes UK, 0345 123 2399, www.diabetes.org.uk
- Diabetes Research and Wellness Foundation, www.drwf.org.uk
- Black and Ethnic Minority Diabetes Association (BEMDA), www.bemda.org

Diabetes UK has more information about [taking care of your feet](#). You can also go to [NHS Choices](#) for more information.

NICE is not responsible for the quality or accuracy of any information or advice provided by these organisations.

Update information

November 2019: We updated the information on antimicrobial prescribing for adults with a diabetic foot infection in line with the October 2019 update to the guideline.

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Accreditation

