



DECISION AID

Diabetic foot ulcers: Can amputation be avoided?

You have diabetic foot with a chronic wound (ulcer) on your foot. Foot ulcers can develop if you have nerve damage (neuropathy) that stops you from feeling pain and injuries properly, or at all. If you also have blood flow problems, wounds can't heal. Blood flow problems can go unnoticed if the nerve damage prevents you from feeling typical symptoms like lower leg pain. The risk of wounds becoming chronic also increases if they are repeatedly put under pressure, like if your shoes are too tight.

Treating chronic wounds takes a lot of patience. But if treated properly, they can heal – even if they have already been there for months. Amputation can usually be avoided with good treatment. Your doctor might have recommended a foot or leg amputation. But an amputation should only be done if there are no other options.

The aim of this decision aid is to help you choose a treatment path together with your doctors. It is a good idea to seek medical advice from doctors who are specialized in diabetic foot problems.

THESE ARE THE TREATMENT OPTIONS:

- Wound treatment and pressure relief
- Blood flow improvement
- Treatment of the infection
- Skin graft or tissue graft
- Minor amputation
- Major amputation (only in very rare cases)

PERSONAL DECISION

This short decision aid can't include all of the information that you need. You will still need to talk to a doctor, but the decision aid can help you. The treatment decision will depend on things like

- whether the nerve damage and blood circulation problems have been correctly diagnosed,
- how big and deep the wound is,
- the likelihood of complications,
- which treatments have already been tried out,
- how promising further treatment is, and
- what risks are associated with the treatment.



Even if the symptoms are distressing, take your time to gather the information you need and don't let anyone pressure you into choosing a certain treatment!

HOW CAN AMPUTATION BE AVOIDED?

It is often worth still trying to treat the wound instead of amputating part of the foot. Good treatment, preferably by specialists, is key. That includes, in particular:

- **Pressure relief:** This is the most important factor. It can be achieved through things like pressure-relieving shoes, a plaster cast, or special splints or braces (orthotics).
- **Wound treatment:** Dead tissue is removed. The wound is cleaned and covered with a wound dressing. The dressing is regularly changed.
- **Treatment of the infection:** Infected pieces of bone and other tissue are removed. You also take antibiotics.
- **Improvement of blood flow:** With surgery to widen or replace a blood vessel.
- Regular medical check-ups, even if you don't have any symptoms
- Keeping a close eye on your feet and taking proper care of them
- Well-adjusted blood sugar
- Medical foot care (podiatry treatment)
- Patient education about taking care of a diabetic foot

In certain situations, further options might include:

- Surgery to correct foot deformities
- A skin graft or tissue graft

Before deciding to amputate, doctors should always check whether surgery to improve blood flow is possible instead. The wound can only heal properly if it has a good blood supply. But nerve damage won't go away, even if blood circulation is improved.

WHEN IS AMPUTATION CONSIDERED?

Amputation should always be avoided if possible because it has a major impact on your life. Amputation is only considered if

- a toe or the foot can no longer be saved,
- the wound can only heal if smaller parts of the foot are removed, or
- a dangerous infection is spreading in the leg and could also spread to the rest of the body.

The surgeon should remove as little of the foot as possible. For instance, if only one toe is amputated, you can still walk more or less normally with specially adapted shoes. In a major amputation, the whole foot and sometimes the lower or upper leg are also removed. But this is only needed in very rare cases.



Recommendation: Seek a second medical opinion before having an amputation!
You have a legal right to do this.

THE DIFFERENT SURGERY OPTIONS

| | Surgery to improve blood flow | Skin graft or tissue graft | Minor amputation | Major amputation |
|---|--|--|---|---|
| What does the treatment involve? | A thin tube (catheter) is inserted through the groin. The narrow blood vessel is widened (angioplasty). It is also possible to fit a new blood vessel (bypass). | Surface wounds are covered with a thin skin graft (usually taken from the thigh). Deeper wounds are covered with a piece of tissue (flap surgery). | Parts of the front of the foot are removed. These may be individual toes or sections of the foot up to the ankle. | The foot (sometimes with parts of the leg) is amputated above the ankle. |
| What are the effects of the treatment? | The blood flow in the foot is better, allowing the wound to heal – but only if it is properly relieved of pressure. It might then be possible to avoid amputation. | The wound can heal better – but only if it is properly relieved of pressure. It might then be possible to avoid amputation. | It can relieve pressure or prevent infection from spreading through the body. This may avoid the need for major amputation. | It can prevent infection spreading through the body. |
| What side effects and disadvantages can it have? | Side effects include bruising and damage to blood vessels. But the procedure rarely causes complications. | Complications from this surgery are rare. Wound infections and wound-healing problems may develop afterwards. | Things like pain, unusual sensations and restricted movement. These may be permanent. General surgery-related risks (like bleeding and wound-healing problems) are also possible. | The foot or leg is no longer there. Daily life is a lot more difficult. Mobility is permanently restricted. Pain and unusual sensations might occur. General surgery-related risks (like bleeding and wound-healing problems) are possible, too. There is also an increased risk of death afterwards. |
| Who is the treatment suitable for? | People who have blood flow problems in their leg and who have tried wound treatment and pressure relief but it hasn't helped enough. | People who have tried wound treatment and pressure relief but it hasn't helped enough. | People with big or deep wounds where other treatments haven't helped enough and who have permanently destroyed bones. | People whose feet can no longer be saved or who are at risk of a severe infection spreading throughout their whole body. Major amputation is only needed in very rare cases. |

HELP WITH YOUR DECISION

You might still be unsure about which treatment would be most suitable for you. You can write down your thoughts and questions on the following two pages.

| Which treatments would I consider? | | What do I like about it? | What don't I like about it? |
|-------------------------------------|-----------------------|--------------------------|-----------------------------|
| Pressure relief and wound treatment | <input type="radio"/> | | |
| Surgery to improve blood flow | <input type="radio"/> | | |
| Skin graft or tissue graft | <input type="radio"/> | | |
| Minor amputation | <input type="radio"/> | | |
| Major amputation | <input type="radio"/> | | |

HELP WITH YOUR DECISION

Treating a chronic wound takes patience. And it's not always easy to know which treatment is right for you. If you need more help:

- Seek advice from diabetic foot experts. In Germany, these can be found in certified diabetic foot treatment centers, for example. You can find addresses at [ag-fuss-ddg.de](https://www.ag-fuss-ddg.de). Find out if the treatment there is completely covered by your health insurer.
- You can get a second medical opinion. That is especially important before a possible amputation.
- Talk to friends and family.
- Support groups also offer help.

You will find links to further information on the next page.

YOU WILL FIND IN-DEPTH INFORMATION ABOUT THE FOLLOWING TOPICS ON THE INTERNET:



Preventing diabetic foot
www.informedhealth.org/DiabFootPrevention



Treating diabetic foot
www.informedhealth.org/DiabFootTreatment



Second medical opinions
www.informedhealth.org/SecondOpinion

PREPARING FOR THE DOCTOR'S APPOINTMENT

Do you still have any questions? What are you most concerned about? Write down any questions or thoughts you may have, and take this decision aid with you to the appointment. You can ask the doctor about anything you would like to know, or discuss anything you are worried about.

You will find a list of questions here:

www.informedhealth.org/questions



PUBLISHING DETAILS

This decision aid was developed by the Institute for Quality and Efficiency in Health Care (IQWiG, Germany). You will find information about our work and the sources used here:

www.informedhealth.org/our-approach

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