PROCEDURE

Leg or foot amputation

Leg or foot amputation is surgery to remove damaged or diseased tissue when preserving the limb is unsafe or unlikely to succeed.

PURPOSE
Remove unhealthy tissue, control disease, and create a usable limb

PROCEDURE TYPE
Therapeutic; surgical removal of part of the lower limb

WHERE IT IS DONE
Operating theatre

ANAESTHESIA
General, often with regional pain control

HOW LONG IT TAKES
About one to four hours

PREPARATION
Fasting, medicine review, skin checks, and rehabilitation planning

RECOVERY
Several hospital days; no driving until medically cleared

MAIN RISKS
Bleeding, infection, poor healing, blood clots

RESULTS
Surgical outcome immediate; tissue testing may take several days

Overview

A leg or foot amputation is surgery to remove a toe, part of the foot, or part of the leg. The surgeon removes tissue that cannot heal, threatens your health, or cannot be reconstructed successfully.

The level of amputation describes where the limb is removed. Examples include a toe amputation, partial-foot amputation, below-knee amputation, and above-knee amputation. Surgeons aim to preserve as much healthy limb as possible while creating a wound that is likely to heal.

Amputation may be planned after careful assessment or performed urgently when there is a severe infection, uncontrolled bleeding, or major injury. It is often one part of a longer treatment plan involving wound care, rehabilitation, pain management, and emotional support.

Why the procedure is performed

The purpose is to remove tissue that is dead, dangerously infected, severely damaged, or affected by disease that cannot be managed safely in another way.

Common reasons include:

Before a planned amputation, your team may assess blood flow, infection, nerve function, mobility, and the condition of your other leg. Imaging, blood tests, and tissue samples may help determine how much tissue must be removed.

- Severely reduced blood flow that has caused tissue death
- A diabetic foot wound that cannot heal or has serious infection
- Major trauma, such as a crushed or badly damaged limb
- Bone or soft-tissue cancer when limb-sparing treatment is unsuitable
- Severe infection that is spreading or cannot be controlled
- A painful, non-functional limb when reconstruction is not realistic

Who should and should not have it

Amputation may be appropriate when keeping the affected tissue would place your health at greater risk, or when other treatments are unlikely to produce a healing and usable limb. Your goals, general health, expected mobility, home support, and rehabilitation potential are part of the decision.

It is not automatically the right treatment for every non-healing wound or serious injury. When time allows, your case may be reviewed by vascular surgeons, orthopaedic surgeons, infection specialists, diabetes teams, rehabilitation specialists, and prosthetic experts.

A planned amputation may be avoided or delayed if blood flow can be restored, infection can be controlled, or the wound is likely to heal with less extensive treatment. It may also be delayed while serious heart, lung, blood-clotting, or blood-sugar problems are stabilised. In an emergency, delaying surgery may be more dangerous than proceeding.

The proposed level matters. Removing less of the limb preserves length but is only useful if the remaining tissue is likely to heal and function. A higher amputation may heal more reliably in some situations, but it usually requires more energy for walking.

How to prepare

Follow the treating facility's own instructions first, because they take priority over general information.

You will usually receive instructions about when to stop eating and drinking. Tell the team about all medicines, supplements, allergies, previous problems with anaesthesia, and any chance of pregnancy.

Do not stop a blood thinner like warfarin or apixaban , diabetes medicine, or other prescribed treatment unless the surgical team gives you specific instructions. Some medicines need to be adjusted rather than stopped.

Your preparation may include blood tests, heart testing, scans of the limb, and assessment of blood flow. The team may mark the planned surgical site and discuss pain control.

When possible, you may meet a physiotherapist, occupational therapist, rehabilitation doctor, or prosthetist before surgery. They can explain transfers, mobility aids, home changes, and whether an artificial limb may be practical later.

Arrange help with transport, daily activities, wound care, and appointments after discharge. Smoking can interfere with healing; your team can offer support if you want to stop.

What happens during the procedure

Most leg and major foot amputations are performed under general anaesthesia, so you are unconscious. Regional anaesthesia may also be used. This numbs part of your body and can help control pain during and after surgery.

The surgeon removes the unhealthy part of the limb. Blood vessels are sealed to control bleeding. Nerves are divided carefully, and the remaining bone is shaped and smoothed. Muscle and skin are then arranged over the end of the limb to form the residual limb, sometimes called a stump.

The wound may be closed with stitches or staples. A drain may be placed temporarily to remove fluid. In severe infection, the wound may initially be left open or the operation may be completed in stages. This allows further removal of infected tissue before final closure.

Removed tissue may be sent to a laboratory, especially when infection or cancer is involved.

Recovery and what to expect afterward

Pain is expected after surgery, but it should be actively treated. Pain relief may include tablets,

injections, a nerve block, or a small catheter delivering local anaesthetic. You may also feel sensations that seem to come from the removed limb. These are called phantom sensations. If they are painful, treatment is available.

You can usually drink and eat once you are awake and nausea is controlled. Some people begin with light food.

Activity starts with safe positioning, breathing exercises, and movement in bed. A physiotherapist will help you transfer to a chair and use a wheelchair, walker, or crutches. Exercises help maintain strength and prevent joints from becoming fixed in a bent position.

You must not drive yourself home. Return to driving requires a healed wound, safe control of the vehicle, and approval from your healthcare team. Vehicle adaptations and notification of licensing or insurance organisations may be required.

Returning to work may take weeks or months. Timing is influenced by healing, the level of amputation, your job, other health conditions, and whether you will use a prosthesis. Rehabilitation continues after the hospital stay and may include wound care, strengthening, balance training, emotional support, and prosthetic fitting.

Risks and possible complications

Your surgical team should explain risks in the context of your health and the planned level of amputation.

Possible complications include bleeding, infection, poor wound healing, wound breakdown, and blood clots in the legs or lungs. Heart or breathing complications can occur around major surgery.

Nerve endings may form a tender lump called a neuroma. Phantom limb pain can persist after the wound heals. Muscles and joints may tighten, making movement or prosthetic use harder.

If blood flow is poor or infection remains, more tissue may need to be removed in another operation. A further amputation at a higher level is sometimes necessary.

Results and follow up

The immediate result is removal of the affected tissue. The wound and remaining limb will be checked regularly for healing, blood flow, swelling, pressure damage, and infection.

Laboratory results from removed tissue may take several days. These results can confirm whether infection or cancer reached the surgical margin and whether more treatment is

needed.

Stitches or staples are removed when the wound is ready. Routine follow-up may involve surgery, wound care, rehabilitation, pain services, diabetes care, vascular care, and prosthetic services.

A prosthesis is not fitted immediately. Swelling must reduce and the wound must be strong enough to tolerate pressure. Not everyone chooses or can use a prosthesis; wheelchairs and other mobility aids can provide safe, independent movement.

Alternatives

The realistic alternatives are based on why amputation has been proposed and how urgently treatment is needed.

Restoring blood flow with bypass surgery or angioplasty may help a wound heal. Angioplasty uses a small balloon, sometimes with a stent, to open an artery. These treatments preserve the limb but may not work when disease is extensive or tissue has already died.

Antibiotics like amoxicillin or doxycycline , drainage, and surgical removal of infected tissue may control infection while preserving more of the foot or leg. They can require repeated procedures and prolonged wound care, and they may not succeed when infection is widespread.

Specialist wound care can include pressure relief, dressings, treatment of swelling, and diabetes management. It avoids major surgery but cannot restore dead tissue or reliably overcome critically poor blood flow.

After trauma, reconstruction may use bone fixation, skin grafts, or tissue flaps. This can preserve length but may involve several operations, a long recovery, and an uncertain functional result.

For cancer, limb-sparing surgery may be combined with chemotherapy or radiotherapy. It is only suitable when the tumour can be removed safely while leaving a useful limb.

Comfort-focused care may be considered when surgery does not match your goals or its burdens outweigh its expected benefit. This does not remove the underlying problem but prioritises pain relief and quality of life.

When to call your healthcare team

For routine questions, contact your team if pain is not well controlled, the wound is slow to

improve, swelling is increasing, or you are having difficulty with exercises, equipment, sleep, or mood.

Seek urgent medical advice for:

Call emergency services for severe breathing difficulty, chest pain, fainting, confusion, uncontrolled bleeding, or signs of a severe allergic reaction.

- New redness, warmth, pus, bad odour, or wound opening
- Fever or chills
- Sudden worsening pain or a change in the residual limb's colour
- Bleeding that continues despite firm pressure
- New swelling or pain in the other leg

Common questions

Will I be asleep?

Most major amputations use general anaesthesia, so you are unconscious. Regional anaesthesia may be added for pain relief or used in selected cases.

Can I drive home?

No. Arrange transport from the hospital. You should not drive again until your wound, strength, reactions, medicines, and vehicle controls have been assessed.

How painful is it?

Pain is common after surgery but should be treated. Phantom sensations are also common and do not mean something has gone wrong. Tell your team if pain is severe or interferes with sleep and rehabilitation.

When will I know whether the operation worked?

The surgeon can usually explain the immediate result soon after surgery. Healing becomes clearer over the following days and weeks. Laboratory testing may take several days.

Will I be able to walk again?

Some people walk with a prosthesis, while others use a wheelchair or combine both. The likely outcome is influenced by the amputation level, healing, strength, balance, heart and lung health, and condition of the other leg.

How long will I stay in hospital?

A stay of several days is common after a major amputation, but urgent illness, infection, wound

healing, and rehabilitation needs can extend it.

Sources

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- US Department of Veterans Affairs and Department of Defense. Clinical Practice Guideline for Rehabilitation of Individuals with Lower Limb Amputation - rehabilitation, mobility, residual-limb care, and prosthetic planning