PROCEDURE

Ankle replacement

Ankle replacement is surgery that replaces damaged ankle joint surfaces with artificial parts.

PURPOSE
Relieve arthritic pain while preserving ankle movement

PROCEDURE TYPE
Therapeutic, surgical joint replacement

WHERE IT IS DONE
Operating theatre

ANAESTHESIA
General, often with a regional nerve block

HOW LONG IT TAKES
About two to three hours

PREPARATION
Fasting, medication review, and home planning

RECOVERY
Usually overnight; no driving until cleared

MAIN RISKS
Infection, wound problems, blood clots, implant loosening

RESULTS
Assessed over weeks to months as healing progresses

Overview

Ankle replacement, also called total ankle replacement or total ankle arthroplasty, is surgery for a severely damaged ankle joint. It aims to reduce pain while preserving some up-and-down movement.

The surgeon removes damaged surfaces from the lower shin bone, called the tibia, and the ankle bone, called the talus. Metal components and a medical-grade plastic spacer replace them.

Ankle replacement does not restore a completely normal ankle, but it may make walking and daily activities more comfortable. The artificial joint can eventually wear, loosen, or require further surgery.

Why the procedure is performed

Ankle replacement mainly treats advanced arthritis caused by previous injury, inflammatory conditions such as rheumatoid arthritis, or gradual wear. An old fracture is a common cause.

Surgery may be considered when pain and stiffness limit walking, work, sleep, or daily life despite treatments such as supportive footwear, braces, activity changes, pain medicines, physiotherapy, or injections.

Unlike ankle fusion, replacement preserves some joint movement. This may reduce strain on nearby foot joints, although results vary.

Who should and should not have it

Replacement may be suitable if you have severe arthritis, persistent pain despite nonsurgical care, and enough healthy bone to support an implant. The surgeon also assesses alignment, ligament stability, circulation, nerve function, activity level, and expectations.

High-impact activities, including repeated running, jumping, and heavy lifting, can place extra stress on the implant. Fusion may be more durable for some highly active people.

Replacement is generally avoided when there is:

Surgery may be delayed because of an open wound or uncontrolled medical condition. Nicotine use and poorly controlled diabetes increase wound and infection risks and may need to be addressed first.

- An active infection in or near the ankle
- Very poor blood flow to the foot
- Severe nerve damage with loss of protective feeling
- Charcot joint damage
- Major bone loss that cannot support the implant
- Severe deformity or instability that cannot be corrected

How to prepare

Follow your treating facility's instructions, as plans are tailored to your health and operation.

Tell the team about all medicines, supplements, allergies, and previous reactions to anaesthesia. If you take a blood thinner like warfarin or apixaban , the surgeon and prescribing

clinician will decide whether to pause or change it. Do not stop it yourself.

Follow instructions about when to stop eating and drinking, and ask which regular medicines to take on the morning of surgery.

Arrange transport home and help with meals, washing, and household tasks. You may need crutches, a walker, knee scooter, or wheelchair while you cannot put full weight on the ankle. If possible, prepare a sleeping area and bathroom on one floor and remove trip hazards such as loose rugs.

What happens during the procedure

You will usually have a general anaesthetic, so you are unconscious. A regional nerve block may also numb the leg and reduce pain afterward.

The surgeon makes an incision, moves nearby tissues aside, and removes damaged bone and cartilage from the tibia and talus. Metal components are fitted to the prepared surfaces, with a plastic spacer between them. The surgeon checks alignment, stability, and movement before closing the incision.

Additional procedures may correct bone alignment, repair ligaments, or lengthen a tight Achilles tendon. A sterile dressing and splint or cast are then applied.

Recovery and what to expect afterward

Pain and swelling are expected initially. Pain medicine, elevation, and protecting the ankle can help. A nerve block may cause temporary numbness or weakness.

The ankle is protected in a splint or cast. Many people must avoid putting weight on it until early healing is confirmed. You may later use a walking boot and gradually increase weight-bearing according to wound healing, bone quality, implant type, and any additional procedures.

Physiotherapy may help restore movement, strength, balance, and walking. Swelling can continue for several months, particularly after standing.

Do not drive while taking sedating pain medicine or if a cast or boot prevents safe vehicle control. You must be able to perform an emergency stop comfortably. Return to work depends on healing and whether your job involves standing, climbing, lifting, or walking.

Risks and possible complications

Possible complications include:

Some problems respond to wound care, medicine, physiotherapy, or a smaller procedure. Others require revision surgery. Occasionally, the implant must be removed and the ankle fused.

- Infection or delayed wound healing
- Blood clots in the leg or lungs
- Injury to a nerve, tendon, or blood vessel
- Numbness or tingling near the incision
- Bone fracture during or after surgery
- Stiffness, instability, or persistent pain
- Implant movement, sinking, wear, or loosening
- Poor alignment or new bone forming around the joint

Results and follow up

X-rays taken before discharge or during early follow-up show the implant's position but do not predict final pain or function.

Appointments are used to examine the incision, remove stitches or staples, guide weight-bearing, and assess movement and walking. Improvement is gradual, and swelling may last for months.

Long-term follow-up remains important even if the ankle feels well. Periodic X-rays may identify implant wear or loosening before major problems develop.

Alternatives

Nonsurgical options include supportive footwear, braces, activity changes, physiotherapy, pain medicine, and injections. These may control symptoms but do not restore lost cartilage or correct advanced damage.

Ankle fusion permanently joins the tibia to the talus. It can provide reliable pain relief and may suit people placing heavier demands on the ankle, but it removes ankle-joint movement and may increase stress on nearby joints.

Keyhole surgery to remove loose bone or tissue may help selected people with impingement or less advanced disease but is unlikely to provide lasting relief for widespread arthritis.

Choosing no further treatment is also an option if symptoms remain manageable. Discuss the likely effects on pain and mobility with your clinician.

When to call your healthcare team

Contact your surgical team promptly for increasing redness, warmth, wound drainage, fever, worsening pain that is not controlled as expected, or a cast that feels increasingly tight.

Seek urgent assessment for new calf pain or swelling; toes that become cold, pale, blue, or increasingly numb; or sudden loss of movement not explained by a nerve block.

Call emergency services for chest pain, severe trouble breathing, coughing up blood, collapse, or fainting. These may indicate a serious blood clot or another emergency.

Routine swelling, medication questions, dressing concerns, and plans for work or physiotherapy can usually be discussed during office hours or follow-up.

Common questions

Will I be asleep?

Usually. Ankle replacement is commonly performed under general anaesthesia, often with a nerve block for postoperative pain.

Can I drive home?

No. Anaesthesia, pain medicine, and the splint or cast make driving unsafe. Arrange for another adult to take you home.

How painful is ankle replacement?

Moderate pain is expected early in recovery. Medicine, elevation, and a nerve block can help. Report pain that suddenly worsens or is not controlled as expected.

When will I know if it worked?

Early X-rays show implant position, but pain relief and function are assessed over several months. Swelling and weakness may temporarily limit progress.

How long will the new ankle last?

There is no guaranteed lifespan. Longevity depends on the implant, bone quality, alignment, activity, body weight, complications, and wear. Some implants eventually require revision or

conversion to fusion.

Can I return to sport?

Lower-impact activities such as walking, cycling, swimming, and golf may be possible after recovery. Running, jumping, and contact sports place greater stress on the implant. Ask your surgeon which activities are appropriate.

Sources

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