PROCEDURE

Total knee joint replacement - revision

Revision knee replacement is surgery to remove and replace some or all parts of an existing artificial knee.

PURPOSE
Restore function when an artificial knee has failed

PROCEDURE TYPE
Therapeutic surgery through an incision over the knee

WHERE IT IS DONE
Operating theatre

ANAESTHESIA
General or spinal anaesthesia, often with a nerve block

HOW LONG IT TAKES
About two to four hours

PREPARATION
Fasting and medication adjustments, including blood thinners

RECOVERY
Several days in hospital; no driving until safely cleared

MAIN RISKS
Infection, blood clots, stiffness, implant loosening

RESULTS
Implant position immediate; cultures may take several days

Overview

Revision total knee replacement is an operation on a knee that has already had a joint replacement. The surgeon removes and replaces one, several, or all parts of the artificial joint.

Revision surgery is usually more complex than the first knee replacement. Scar tissue may need to be removed, and there may be bone loss around the existing implant. The surgeon may use longer-stemmed implants, metal supports, or bone grafts to rebuild and strengthen the knee.

The aim is usually to reduce pain, improve stability, treat infection, or restore movement. Results are influenced by why the first replacement failed, the condition of the bone and soft tissues, and your general health.

Why the procedure is performed

A revision may be recommended when an artificial knee is no longer working safely or comfortably. Possible reasons include:

Pain alone does not always mean the implant has failed. Before recommending revision, your surgeon will usually investigate other causes of pain. Tests may include X-rays, blood tests, scans, and removal of joint fluid with a needle. Joint fluid can be checked for infection and crystals.

- Loosening of the implant from the bone
- Wear or damage to plastic or metal components
- Infection around the artificial joint
- Knee instability, such as giving way
- Significant stiffness or loss of movement
- A fracture around the implant
- Incorrect implant position or problems with kneecap tracking
- Ongoing pain linked to a problem that revision surgery can address

Who should and should not have it

Revision surgery may be appropriate when tests show a correctable implant problem and symptoms are affecting daily life. It may also be needed urgently for certain fractures or infections.

It is not the right option for every painful knee replacement. Surgery may offer limited benefit if no mechanical problem or infection can be identified. Your surgeon should explain what they believe is causing the problem and how revision is expected to help.

The operation may be delayed when a health problem would make surgery or healing less safe. Examples include an infection elsewhere in the body, open skin wounds near the knee, unstable heart or lung disease, or poorly controlled long-term illness. Smoking, poor nutrition, and severe dental disease may also need attention before surgery.

Some people have bone, muscle, nerve, or blood vessel damage that makes reconstruction difficult. In these cases, the expected benefit and other options need careful discussion with a specialist revision team.

How to prepare

Your treating facility's own instructions take priority because preparation differs according to your operation, anaesthetic, and health.

You may have blood tests, X-rays, an electrocardiogram to check your heart rhythm, and an anaesthetic assessment. If infection is possible, the team may collect joint fluid or arrange other tests before surgery.

Give the team a complete list of medicines, vitamins, and supplements. Some medicines that affect blood clotting may need to be paused or changed. Do not stop a prescribed blood thinner like warfarin or apixaban unless the treating team gives you a specific plan.

You will receive instructions about when to stop eating and drinking. Tell the team if you become unwell, develop a skin sore, or have an infection before the operation.

Plan for help at home. Remove loose rugs and other trip hazards, place commonly used items within reach, and arrange transport. You will not be able to drive yourself home.

What happens during the procedure

You will usually have either a general anaesthetic, which makes you unconscious, or a spinal anaesthetic, which numbs the lower half of your body. Sedation can help you relax during spinal anaesthesia. A nerve block may provide additional pain relief.

The surgeon usually opens the previous scar. They inspect the artificial joint, bone, ligaments, and surrounding tissue. Samples may be sent to a laboratory to look for infection, even if infection was not previously confirmed.

The surgeon carefully removes the affected implant parts and old cement. Damaged or infected tissue is cleared away. Bone loss may be repaired using bone graft, metal wedges, cones, or sleeves.

Revision implants often have stems that extend farther into the thighbone or shinbone for support. After checking alignment, stability, and movement, the surgeon closes the wound and applies a dressing.

If there is a serious joint infection, treatment may be done in stages. The first operation removes the implant and infected tissue and may place a temporary antibiotic-containing spacer. A later operation places the new knee after the infection has been treated.

Recovery and what to expect afterward

Pain and swelling are expected at first. You will receive pain relief, and ice or elevation may be recommended. Tell the hospital team if pain is not controlled or suddenly becomes much worse.

You can usually drink and begin eating when you are awake and not feeling sick. A temporary loss of appetite is common after a major operation.

You will be encouraged to move your feet and ankles and to stand with help. A physiotherapist will teach you how to walk with a frame, crutches, or sticks. How much weight you can place on the leg is determined by the reconstruction and your surgeon's instructions.

Recovery is often slower than after a first knee replacement. Exercises focus on safe walking, knee movement, and muscle strength. Avoid falls and do not return to strenuous activity until your team says the implant and bone are ready.

Do not drive while taking medicines that make you drowsy or while you cannot control the vehicle safely. You need enough strength and movement to perform an emergency stop. Your surgeon or physiotherapist can help you decide when it is safe, and you may need to check insurance rules.

Time away from work is influenced by the operation and your job. Desk work may be possible sooner than work involving lifting, climbing, kneeling, or prolonged standing. A phased return may be useful.

Risks and possible complications

Revision knee replacement is a major operation. Its risks can be higher than those of a first knee replacement because the surgery is more complex.

Possible complications include:

Measures such as early movement, compression devices, and prescribed blood-thinning medicine may be used to reduce clot risk. Your team will explain the risks that apply most directly to your situation.

- Infection in the wound or around the implant
- Blood clots in the leg or lungs
- Bleeding or a need for blood transfusion
- Damage to nearby nerves or blood vessels
- Fracture during or after surgery

- Poor wound healing
- Stiffness, weakness, or ongoing pain
- Knee instability or problems with the kneecap
- Implant loosening, wear, or another infection
- Reactions or complications related to anaesthesia

Results and follow up

The surgeon can usually tell you what was replaced and whether the knee was stable at the end of surgery. X-rays may be taken to confirm the position of the new components.

Laboratory results take longer. Samples collected during surgery may need several days of testing because some bacteria grow slowly. These results can affect whether you need antibiotics and for how long.

Routine follow-up checks the wound, knee movement, walking, and implant position. Stitches or clips may need removal unless dissolving stitches were used. Further appointments and X-rays help monitor healing.

Improvement is usually gradual. The operation may improve pain and stability, but a revised knee may not move or feel like a natural knee. Some people continue to have stiffness, weakness, or activity limits.

Alternatives

The realistic alternatives depend on why the artificial knee is causing problems.

Observation may be reasonable if symptoms are manageable and tests do not show a problem that needs prompt surgery. This avoids an operation but does not repair loosening, wear, or progressive bone loss.

Pain medicine, activity changes, walking aids, and physiotherapy may improve comfort and function. They involve less risk but cannot secure a loose implant, correct major instability, or clear a deep implant infection.

For some early infections, surgeons can wash out the joint, remove infected tissue, and replace the plastic liner while keeping fixed metal components. This is a smaller operation than full revision, but it is not suitable for every infection and may not clear it.

A limited revision can replace only the damaged component. It preserves more bone but is

appropriate only when the remaining parts are well fixed, correctly positioned, and compatible with the new part.

When reconstruction is unlikely to succeed, knee fusion may provide a stable, pain-reduced leg but permanently prevents the knee from bending. Amputation is a last-resort option for uncontrolled infection or severe tissue damage when limb-preserving treatment is not safe or workable.

When to call your healthcare team

Contact your surgical team promptly for increasing wound redness, drainage, worsening swelling, fever, chills, new knee instability, or pain that is getting worse rather than gradually improving. Also call if the wound opens or you cannot manage prescribed exercises because of pain or weakness.

Seek urgent medical assessment for new calf pain or one-sided leg swelling, as these can occur with a blood clot.

Call emergency services for sudden shortness of breath, chest pain, coughing up blood, fainting, or severe difficulty breathing. Also seek emergency help if the foot becomes suddenly cold, pale, numb, or difficult to move.

Routine questions about dressings, medicines, exercises, or return to work can usually wait for the surgical team during normal contact hours.

Common questions

Will I be asleep?

You may be fully asleep under general anaesthesia. Another option is spinal anaesthesia, which numbs your lower body, usually with sedation to make you relaxed or sleepy.

Can I drive home?

No. Arrange for someone to take you home. You should not drive until you can enter and leave the car safely, control the pedals, and perform an emergency stop without hesitation.

How painful is revision knee replacement?

Pain is expected, especially during the first days. Medicine, nerve blocks, ice, positioning, and gradual movement can help. Pain should generally become more manageable as healing progresses.

When will I know if the operation worked?

Your surgeon can describe the reconstruction soon after surgery. Infection tests may take several days. Improvement in pain, movement, and walking is judged over the following weeks and months.

Is recovery longer than after my first knee replacement?

It often is. Revision surgery may involve more scar tissue, bone loss, and larger implants. Your recovery plan will reflect how much reconstruction was needed.

Sources

- American Academy of Orthopaedic Surgeons: Revision Total Knee Replacement
- American Academy of Orthopaedic Surgeons: Diagnosis and Prevention of Periprosthetic Joint Infections-Clinical Practice Guideline
- American Association of Hip and Knee Surgeons: Revision Knee Replacement
- Infectious Diseases Society of America: Diagnosis and Management of Prosthetic Joint Infection-Clinical Practice Guideline
- NHS: Knee Replacement