PROCEDURE

# Reverse total shoulder replacement

Reverse total shoulder replacement is surgery that replaces a damaged shoulder joint and uses the deltoid muscle to move the arm.

**PURPOSE**
Relieve pain and restore function when rotator cuff cannot

**PROCEDURE TYPE**
Therapeutic surgery

**WHERE IT IS DONE**
Operating theatre

**ANAESTHESIA**
General, often with a regional nerve block

**HOW LONG IT TAKES**
1 to 2 hours

**PREPARATION**
Fasting and medication review; facility instructions take priority

**RECOVERY**
Same day or overnight; no driving until cleared

**MAIN RISKS**
Infection, dislocation, fracture, nerve injury

**RESULTS**
Improvement becomes clear over weeks to months

## Overview

Reverse total shoulder replacement is an operation that replaces the two sides of your shoulder joint.

In a natural shoulder, the ball is at the top of the upper arm bone, and the socket is part of the shoulder blade. In a reverse replacement, their positions are switched. A metal ball is attached to the shoulder blade, and a cup-shaped socket is attached to the upper arm bone.

This design allows the deltoid, the large muscle over the outside of your shoulder, to lift the arm. It is especially useful when the rotator cuff tendons are badly damaged and cannot control a standard shoulder replacement.

The operation aims to reduce pain and improve useful arm movement. It does not usually

restore a completely normal shoulder.

## Why the procedure is performed

A reverse replacement may be offered when shoulder pain and loss of movement continue despite treatments such as physiotherapy, activity changes, medicines, or injections.

Reasons include:

Your surgeon should explain which problem the operation is intended to address and what improvement is realistic for you.

- Severe arthritis combined with an irreparable rotator cuff tear
- A large rotator cuff tear causing major weakness or loss of movement
- A complex fracture near the top of the upper arm
- Failure of a previous shoulder replacement
- Severe joint damage, deformity, or bone loss in selected cases

## Who should and should not have it

This operation may be suitable if shoulder damage is causing substantial pain or difficulty with daily activities and less invasive treatment has not provided enough relief. Your deltoid muscle and the nerve supplying it must usually work well enough to power the replacement.

It may not be the right option when symptoms remain manageable without surgery or when another procedure is more likely to preserve your natural joint. If your rotator cuff works properly, a standard anatomical shoulder replacement may be more appropriate for some types of arthritis.

Surgery may be avoided or delayed if you have:

Smoking, poorly controlled blood sugar, and some dental or skin infections can increase surgical risks. These do not automatically rule out surgery, but your team may recommend addressing them first.

- An active infection, including infection in or near the shoulder
- A medical condition that makes anaesthesia or surgery temporarily unsafe
- Poor deltoid function or major damage to its nerve supply
- Skin sores or wounds near the planned incision

- Bone loss that cannot securely support the implants

## How to prepare

Your treating facility's own instructions take priority because fasting, admission, and medication plans differ between hospitals.

Tell the surgical team about all prescription medicines, over-the-counter products, vitamins, supplements, allergies, and previous reactions to anaesthesia. If you take a blood thinner like warfarin or apixaban , do not stop it unless the clinician responsible for your procedure gives you a specific plan.

You will usually be told when to stop eating and drinking. Following these instructions helps make general anaesthesia safer.

Arrange for someone to take you home and help during the early recovery period. Set frequently used items at waist height, prepare loose front-opening clothes, and plan how you will manage meals and personal care with one arm.

Preoperative assessment may include blood tests, heart testing, shoulder imaging, and a review by the anaesthesia team.

## What happens during the procedure

You will usually have general anaesthesia, so you are unconscious during the operation. A regional nerve block may also be used. This temporarily numbs the shoulder and arm to reduce pain after surgery.

The surgeon makes an incision over the front or side of the shoulder. The damaged ball at the top of the upper arm bone is removed.

A metal baseplate is fixed to the socket area of the shoulder blade, and a metal ball is attached to it. A stem is placed into the upper arm bone, with a plastic-lined cup fitted at its top. The surgeon checks the joint's stability and movement before closing the incision.

A dressing is applied, and your arm is usually placed in a sling. The procedure commonly takes about one to two hours, although complex revision surgery may take longer.

## Recovery and what to expect afterward

Pain is expected after surgery, especially as a nerve block wears off. Your team may use

several types of pain relief. Tell them if pain is not controlled or if a medicine causes troublesome side effects.

You can usually begin drinking and eating once you are awake and no longer feel sick. Some people go home the same day, while others stay overnight or longer because of their health or the complexity of surgery.

You will wear a sling for the period recommended by your surgeon. A physiotherapist may teach you hand, wrist, elbow, and shoulder exercises. Early movements protect against stiffness, but lifting, pushing, pulling, or reaching behind your back may be restricted while tissues heal.

Do not drive home. You should not drive while using a sling, taking medicines that impair alertness, or unable to control the vehicle safely. Return only after your surgical team has cleared you and you can perform emergency movements comfortably.

People with desk-based jobs may return within several weeks. Work involving lifting, climbing, driving, or overhead use usually requires more time and may need permanent adjustments. Recovery continues for several months.

## Risks and possible complications

Most people do not experience a major complication, but possible problems include:

Some complications can be treated without another operation. Others may require revision surgery to repair or replace part of the joint.

- Infection around the wound or implant
- Bleeding, blood clots, or complications from anaesthesia
- Dislocation or instability of the new joint
- Fracture of the upper arm or shoulder blade
- Injury to a nerve or blood vessel
- Stiffness, ongoing pain, or less movement than expected
- Loosening, wear, or mechanical failure of an implant
- Stress fracture near the acromion, the bone at the top of the shoulder
- Scapular notching, where the implant contacts and wears the shoulder-blade bone

## Results and follow up

Pain relief often begins during the early recovery period, but strength and movement improve gradually. The result becomes clearer over several months as tissues heal and rehabilitation progresses.

Many people gain better use of the arm for activities at waist or shoulder height. Reaching high overhead, behind the back, or rotating the arm may remain limited.

Routine follow-up usually includes wound checks, an assessment of movement and nerve function, and X-rays to check implant position. Later appointments monitor implant wear or loosening. Keep these appointments even if the shoulder feels well.

The implants are designed for long-term use, but no artificial joint can be guaranteed to last for life. Avoid activities that your surgeon says could overload or dislocate the replacement.

## Alternatives

Alternatives depend on the condition of your joint, tendons, muscles, and bone.

Ask what each option is expected to achieve in your particular shoulder and what may happen if you postpone surgery.

- Non-surgical care: Activity changes, pain medicines, physiotherapy, and injections avoid surgical risks. They may ease symptoms but cannot rebuild a destroyed joint or repair an irreparable tendon.
- Rotator cuff repair: This preserves your natural joint when the tendon can be repaired. It is less suitable for an irreparable tear or advanced arthritis and requires a substantial rehabilitation period.
- Standard anatomical shoulder replacement: This keeps the natural ball-and-socket arrangement and may suit arthritis with a working rotator cuff. It can perform poorly if the cuff cannot support it.
- Partial shoulder replacement: Replacing only the ball avoids placing a socket implant. It may be used for selected fractures or other problems, but pain relief and function can be less predictable.
- Tendon transfer or joint-preserving reconstruction: These may help selected people without advanced arthritis. They preserve bone but involve lengthy rehabilitation and may not restore reliable strength.
- No operation for now: Continuing non-surgical care avoids immediate surgical risks, but pain, weakness, or joint damage may continue.

## When to call your healthcare team

Contact your surgical team promptly if you develop increasing wound redness, warmth, swelling, drainage, fever, worsening pain, or new numbness or weakness in the hand. Also call if swelling in the arm does not improve or your sling, dressing, or pain plan is causing problems.

A fall or sudden change in the shoulder's shape, movement, or pain needs urgent assessment. Do not try to push a suspected dislocation back into place.

Seek emergency help for trouble breathing, chest pain, fainting, uncontrolled bleeding, or an arm or hand that suddenly becomes cold, pale, or blue. These are not routine recovery symptoms.

Questions about exercises, sleep, medicines, work, or expected stiffness can usually wait for normal office hours or a scheduled follow-up appointment.

## Common questions

Will I be asleep?

Usually, yes. Reverse shoulder replacement is generally performed under general anaesthesia. You may also receive a nerve block that keeps the arm numb for several hours.

Can I drive home?

No. Arrange for someone else to drive you. You should not resume driving until you are out of the sling, are not impaired by pain medicine, and can control the vehicle safely.

How painful is it?

Moderate pain is common at first and should gradually improve. A nerve block and other pain treatments can help. Pain that is suddenly worse or not controlled should be reported.

When will I know if it worked?

Pain may begin improving within weeks, but movement and strength develop over several months. Your progress is assessed at follow-up visits and during rehabilitation.

How long will I need the sling?

The length of time is based on the operation and your surgeon's rehabilitation plan. Wear it as instructed, but continue approved hand, wrist, and elbow movements.

## Sources

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