PROCEDURE

# Elbow replacement

Elbow replacement is surgery that replaces damaged elbow joint surfaces with artificial components.

**PURPOSE**
Relieve pain and improve elbow movement and stability

**PROCEDURE TYPE**
Therapeutic surgery replacing damaged joint surfaces with implants

**WHERE IT IS DONE**
Operating theatre

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

**HOW LONG IT TAKES**
About 1 to 3 hours

**PREPARATION**
Fasting, medication review, transport and home planning

**RECOVERY**
Same day or short stay; no driving after discharge

**MAIN RISKS**
Infection, nerve injury, stiffness, implant loosening

**RESULTS**
Implant position immediately; recovery gains over several months

## Overview

Elbow replacement, also called total elbow arthroplasty, removes damaged parts of the elbow joint and replaces them with artificial components.

The elbow is mainly formed where the upper-arm bone, or humerus, meets the ulna in the forearm. Metal components are placed inside these bones and connected with a plastic and metal joint that bends and straightens. Some operations replace only part of the joint.

Replacement can reduce pain and improve daily function, but it does not usually create a completely normal elbow. The implant cannot safely tolerate unlimited lifting.

## Why the procedure is performed

Elbow replacement may be considered when severe pain, poor movement or instability has not improved enough with nonsurgical treatment.

Reasons include:

For arthritis, surgery is generally considered after medication, activity changes, physiotherapy or injections no longer provide acceptable relief. It may be offered sooner for a fracture broken into pieces that plates or screws are unlikely to hold securely.

- Rheumatoid or another inflammatory arthritis
- Osteoarthritis or arthritis following an injury
- A complex fracture that cannot be repaired reliably
- Failure of an earlier fracture repair or elbow operation
- A replacement that has loosened, worn out or become infected

## Who should and should not have it

Replacement may suit someone whose joint damage affects everyday activities. The surgeon considers general health, bone quality, muscles, ligaments, previous surgery, usual activities and the ability to protect the implant.

Surgery may be avoided or delayed if you have:

It may not suit people whose work or sport repeatedly places heavy loads through the arm. Smoking, poorly controlled diabetes and other health conditions can increase risk and may need treatment before surgery.

- An active infection or poorly healing skin near the elbow
- A condition that makes anaesthesia or healing unsafe until treated
- Severe nerve, muscle, bone or soft-tissue damage that prevents the implant from functioning
- Difficulty following rehabilitation or permanent lifting restrictions

## How to prepare

Follow your treating facility's instructions, which take priority over general information here.

You may need blood tests, X-rays and an anaesthesia assessment. Give the team a current list

of prescription medicines, over-the-counter products, vitamins and supplements. Blood thinners and some diabetes medicines require special planning. Do not stop prescribed medicine unless instructed.

Follow directions about when to stop eating and drinking. Report any recent illness, fever, skin sore, dental infection or other infection.

Arrange for someone to take you home. Prepare loose clothing, move frequently used items within easy reach and organise help with meals, shopping and household tasks.

## What happens during the procedure

You will usually receive a general anaesthetic. A regional nerve block may also numb the arm and reduce pain afterward.

The surgeon makes an incision, usually behind the elbow, and moves soft tissues to reach the joint. Damaged bone and cartilage are removed from the humerus and ulna. Channels are prepared inside the bones, and artificial components are inserted, commonly using bone cement.

Many implants have two metal parts joined by a pin with a plastic bearing between them. Other designs may be used depending on the damage and joint stability.

The surgeon checks movement and stability, closes the wound and applies a dressing. A splint or temporary drain may be used. Surgery usually takes 1 to 3 hours, with complex or revision procedures taking longer.

## Recovery and what to expect afterward

Pain is expected during the first few days. Medicine and a nerve block can help, although the block may leave the arm numb or weak for several hours. Support the arm and protect numb skin from heat and pressure. Pain should gradually improve.

Staff will explain wound care and exercises for the hand, wrist, shoulder and elbow. Elbow movement may start early or after time in a splint, depending on the operation and repaired tissues. Physiotherapy helps restore useful movement without overloading the implant.

Do not push yourself up from a chair, lift objects or place weight through the operated arm until permitted. Most artificial elbows require permanent limits on heavy or repeated lifting. Follow the limits given for your implant.

You cannot drive home. Drive again only when you are off medicines that impair alertness, can

safely control the vehicle and have been cleared by the surgical team. Check insurer or licensing requirements.

Desk work may resume before manual work. Jobs involving lifting, pushing, pulling or impact may require major changes.

## Risks and possible complications

Possible complications include:

Ulnar nerve irritation may cause numbness, tingling or weakness, often in the ring and little fingers. It may be temporary, but persistent injury is possible.

An artificial elbow can wear or loosen over time. Further surgery may be required, and revision surgery is usually more complex.

- Infection, bleeding or wound-healing problems
- Nerve irritation or injury, especially to the ulnar nerve
- Blood-vessel injury or blood clots
- Stiffness, weakness or limited movement
- Instability or dislocation
- Bone fracture
- Implant wear, loosening or breakage
- Complications related to anaesthesia

## Results and follow up

The surgeon checks implant position during surgery and on postoperative X-rays. Pain relief and function cannot be judged immediately because swelling, weakness and stiffness are common early on. Improvement usually continues for several months.

Follow-up visits check the wound, remove stitches or clips if needed, review X-rays and adjust exercises. Later appointments may monitor for wear or loosening even if the elbow feels comfortable.

Many people gain pain relief and useful movement, but some stiffness and permanent activity limits usually remain.

## Alternatives

Alternatives depend on whether the problem is arthritis, a fracture or failure of previous surgery.

Medication, injections, physiotherapy, braces, aids and activity changes may reduce symptoms but cannot rebuild a severely damaged joint.

Arthroscopic or open debridement removes loose material, scar tissue or bone spurs. It preserves more bone but is mainly useful when damage is limited.

Some fractures can be treated with plates and screws if there is enough bone for secure fixation. Interposition arthroplasty places tissue between damaged surfaces but may provide less predictable pain relief and stability.

Elbow fusion permanently joins the bones. It can create a strong, stable arm but prevents the elbow from bending or straightening.

Continuing without surgery is also an option if your current pain and function are acceptable.

## When to call your healthcare team

Contact the surgical team about wound care, exercises, medicine side effects, persistent swelling or returning to activities.

Seek prompt medical advice for increasing redness, warmth or drainage; fever; worsening pain after initial improvement; an opening wound; new hand weakness; or persistent numbness.

Contact the surgical team urgently if the elbow changes shape, you hear or feel a snap, or the joint becomes unstable after an injury.

Call emergency services for chest pain, severe breathing difficulty, fainting, or a suddenly cold, pale or blue hand.

## Common questions

Will I be asleep?

Usually. Elbow replacement commonly uses general anaesthesia, often with a regional nerve block for pain control.

Can I drive home?

No. Arrange transport and wait to drive until you can safely control the vehicle and are no

longer affected by sedating medicine.

How painful is elbow replacement?

Pain may be significant for a few days, but medicine, positioning and sometimes a nerve block help. It should gradually improve rather than steadily worsen.

When will I know if it worked?

Implant position can be assessed soon after surgery. Pain relief, movement and strength are evaluated over the following weeks and months.

How long will the replacement last?

There is no guaranteed lifespan. Wear depends on activity, loading, bone quality, infection and the implant. Following lifting limits helps protect it.

Will I regain full movement?

Not always. The goal is a comfortable, stable elbow with useful movement. Previous damage, scarring or weakness may limit the final range.

## Sources

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- Sanchez-Sotelo J. "Total Elbow Arthroplasty." The Open Orthopaedics Journal . 2011;5:115-123. doi:10.2174/1874325001105010115