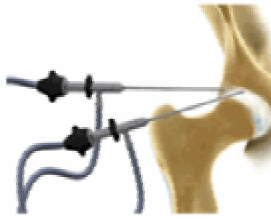


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What GPs need to know about Total Elbow Replacement?

Unlike hip and knee joint replacements, which are performed thousands of times per year within the NHS and the private sector, elbow joint replacement is a more recent and much less common operation. Although the number performed remains small, it is regarded as a well-established surgical procedure. However, not all orthopaedic surgeons will perform this surgery.

Description

The joint consists of two metal stems joined by a metal and plastic hinge. It is a semi-constrained prosthesis with a sloppy hinge which allows some rotation but not much at the level of the joint.

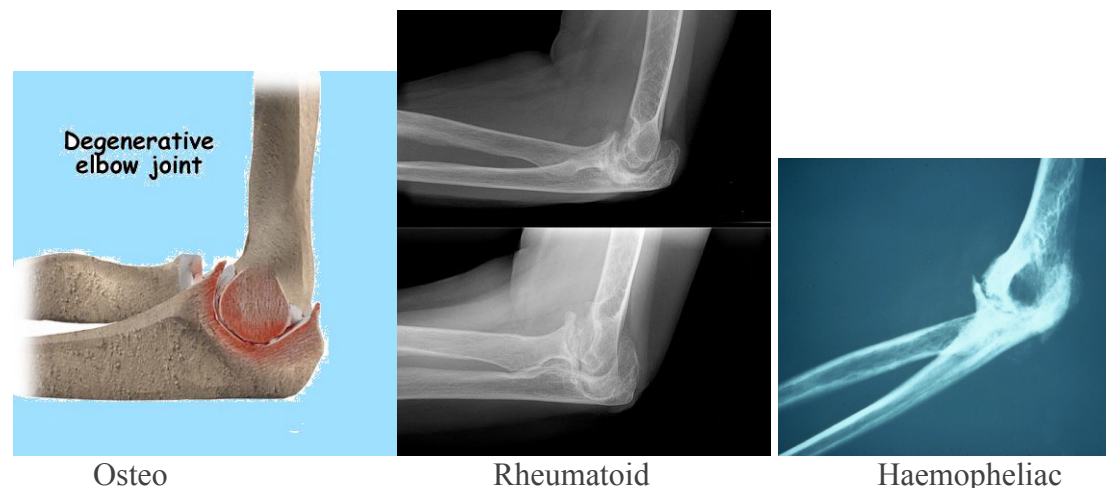


Indications

Joint replacement surgery is performed when other interventions, medical and surgical, will not offer a satisfactory outcome.

Underlying pathology includes:

- Osteoarthritis.
- Rheumatoid arthritis (RA).
- Complex fracture of the elbow, especially in the elderly.
- Severely damaged or torn soft tissues in the elbow resulting in instability.
- Malignancy in or around the elbow.
- Poor results from previous elbow surgery.



Amongst those who get severe damage to the elbows are haemophiliacs.

Osteoarthritis follows recurrent haemarthrosis. Anyone who has taken blood from a haemophiliac will have noticed that extension of the elbow is usually well short of 180°.

Indication for operation can be summarised as severe pain with radiological changes of joint destruction in the presence of failed conservative treatment. The commonest underlying pathology is RA. Before operation the disease process of the RA should be under control.

Preoperative assessment

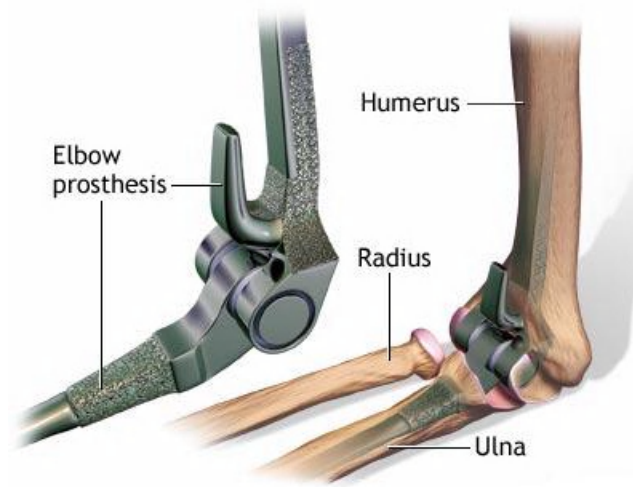
This is as for most surgery. PA and lateral X-rays of the joint are required and the usual blood tests are performed. In elderly patients the routine will include chest X-ray and ECG. Haemophiliacs will need appropriate boosting of factor VIII.

- The operation usually takes about one to two hours.
- It is usually performed under general anaesthesia but regional anaesthesia with sedation can be employed.

An incision is made, usually on the dorsal side, to expose the elbow joint. The surgeon removes the lower end of the humerus and the upper end of the ulna, along with any damaged tissue. The surgeon then drills out a portion of the centre of the humerus and ulna and inserts one stem of the prosthesis into each. Usually, the prosthesis is cemented into place.

The two stems are joined with the hinge mechanism. The wound is closed, and a bandage is applied to splint the arm for stability. I also apply a plaster cast with the

elbow extended . The plaster cast is usually removed at 48 to 72 hours and gentle mobilisation is commenced.



Risks

There are risks attached to any form of surgery.

- Haemorrhage.
- Infection.
- Thromboembolism is less common with upper limb surgery.

There are specific risks to this operation:

- Nerve damage during surgery, especially the ulnar nerve.
- Blood vessel damage during surgery.
- Fracture of bone during surgery.
- Dislocation of the prosthesis.
- Loosening of the implant over time.
- Allergic reaction to the implant.
- Fracture of the prosthesis is uncommon but if it occurs,

results of revision surgery are reasonably satisfactory.

Postoperative management

The patient will stay in hospital for about 3 or 4 days. A plaster back slab is used after surgery to help stabilise the elbow.

- Physiotherapy starts with gentle flexing exercises. Patients who have a splint typically start therapy a few weeks later than those who do not.
- The patient will need help with everyday activities, such as driving, shopping, bathing, meal preparation, and household chores, for up to 6 weeks.
- Some patients may begin to regain function of the elbow as soon as 12 weeks after surgery, although additional recovery can take up to a year.
- The patient should not lift more than about 2.5 kg with the operated arm, even when fully recovered.

Choice of prosthesis

In the past there has been criticism of joint replacement surgery because of poor comparisons between the various types of prostheses that are commercially available.

Follow up should be for at least 10 years and controlled trials should be performed as for drugs. There is now a national joint register for England and Wales but it does not yet include elbow prostheses. This should help to decide if any of the various types of prosthesis are significantly better or worse than others. A comparison of 3 types from Oxford found little to choose between them. Some of the devices used for elbows have outcomes published for 5 to 10 years10 or longer. Others have none. The most commonly used unlinked prostheses are Kudo and Souter-Strathclyde. The most commonly used linked prostheses are Coonrad-Morrey, Gschwend and Discovery implants. A recent review of the English language literature on total elbow arthroplasties suggests that linked hinge implants restore a better arc of movement, may return a higher proportion of good and excellent results and may have a lower rate of radiological loosening. The rates of revision of linked hinges and unlinked devices is comparable at a mean follow-up of 5 years.

I use the Conrad Morrey Linked Prosthesis with successful results.

Prognosis

Elbow replacement surgery relieves pain for most patients. Full benefit is not usually felt until about 6 months after operation.

[Total Elbow replacement Guide.pdf](#)

[Total Elbow Physio Protocol.pdf](#)

[Coonrad Morrey TER.pdf](#)

If you are interested in making an appointment to discuss a treatment, please click here to [contact us](#), or telephone 01215807406

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