



SURGERY

Elbow Arthrolysis

Diagram to show the parts of the Elbow Joint



What does this involve?

This involves cleaning out the elbow joint and removing any bony or soft tissue structures around the joint which are limiting movement. This is done to improve the range of motion in the joint.

There are two aspects to elbow motion – bending and straightening (flexion and extension) and forearm rotation (pronation, palm down and supination, palm up).

An arthrolysis mainly to improve rotation involves the top part of the radius (the radial head). This might not need to include the rest of the joint.

An arthrolysis to improve flexion and extension usually needs to include the whole joint and is a much bigger undertaking.

To clean out all areas of the joint and remove the tight soft tissues (capsule) involves a lot of work at the front and back of the joint. After this the elbow will be swollen for quite some time. Despite this early exercises of the joint need to be undertaken in order to make sure you get as much benefit from the operation as possible. This can be very painful at the start so to help with this most patients stay in

hospital for 2-3 days after a total joint arthrolysis. During this stay the arm is kept numb with local anaesthetic around the nerves at the top of the arm so that physiotherapy and exercises can begin immediately without you being in pain. An exercise programme needs to continue once you are discharged home.

Whilst you still need to work on movement with exercises after an arthrolysis to regain rotation the swelling and discomfort is less and this can usually be managed as a day case, or single overnight stay depending on the amount of work done inside the joint.

When is surgery needed?

For an arthrolysis to be worth the risks and hard work involved the elbow should be stiff enough to be a real nuisance for you before the operation. In most cases this means having lost at least half your normal amount of forearm rotation and/or at least 50° of your normal range of flexion and extension. You can check what is normal for you by looking at what you can do with the other elbow.

These limitations apply because the joint will inevitably stiffen up again to some extent after this sort of surgery. This reduces how

much improvement in your movement you eventually keep after the operation.

Other options, such as physiotherapy, splints and exercises, should be exhausted before considering surgery. Most patients find they can accommodate a moderate loss in the range of motion of their elbow without too much trouble.

A very painful stiff elbow might not be well treated with an arthrolysis alone as this may not help the pain. Other options might need to be considered in this situation.

Which operation is the right one for me?

This depends on your symptoms and which parts of the elbow are affected. Your surgeon will discuss your individual case with you.

What are the results of this operation?

Studies report around 80% of patients are satisfied after this operation but very few regain a full range of elbow motion. The range of motion 1 year after the operation seems to be maintained at least for several years.

	Arthrolysis for Rotation	Total Joint Arthrolysis
<i>Type of Operation</i>	Day case/Overnight stay	2-3 day stay in hospital
<i>Length of Procedure</i>	1 hour	2 hours
<i>Anaesthesia</i>	General Anaesthetic (asleep) and/or a Regional Anaesthetic (arm numbed with local anaesthetic)	General Anaesthetic (asleep) and/or Regional Anaesthetic and brachial plexus catheter (local anaesthetic around nerve during and after surgery)



What are the main risks of these operations?

Swelling, Stiffness and Scar pain

This is a big operation and the arm and hand will be swollen after the surgery. This can be reduced by keeping the arm elevated and moving all the free joints as soon as possible. In most people the general swelling reduces dramatically in the first two weeks after the operation.

Local swelling around the surgical site can persist for several months. Local swelling can be helped by massaging the tissues and this may also improve any irritability in the surgical scar.

The elbow will be stiff initially and this will require you to work hard on your movement with exercises, as mentioned above.

Infection

Deep infections involving the joint are rare after this surgery (less than 1%) but are a serious complication. Deep seated infections require re-admission to hospital, antibiotics into the vein for several weeks and more surgery.

Superficial wound healing problems occur more frequently but can usually be treated with antibiotics by mouth and dressings. Even minor wound healing problems should be brought to the attention of your surgeon to avoid any infection spreading and causing more trouble.

Nerve Damage

The ulna nerve is most at risk with this surgery. It runs very close to the elbow and must be found and carefully held out of the way in each case. The majority of people with symptoms of nerve irritation after this surgery find things settle in 6-8 weeks. Up to 10% (1 in 10) of patients having some permanent symptoms of altered sensation in the little and ring fingers of the hand which are supplied by the ulna nerve. In the most severely affected cases there will also be 'clawing' of the little and ring fingers and loss of the small muscles within the hand leaving the hand weakened and less dextrous. This occurs in less than 1% of cases.

Joint Instability

An over-aggressive joint release can leave the elbow unstable and liable to dislocation. This may require further surgery. This occurs in less than 1% of cases.

Tendon rupture

In severe contractures detachment of the triceps tendon (which straightens out the elbow) has been recorded after this surgery. This is very rare, less than 0.5%, but would require more surgery.

Heterotopic Ossification

Occasionally the soft tissues around the elbow become stiffened with calcified material after this sort of operation. This material can eventually turn into bone. This is called heterotopic ossification. You may have a degree of this after your injury or it may start after an arthrolysis. This is a difficult condition to treat as more surgery to remove the abnormal bone can just stimulate more bone to form. There is some evidence that bisphosphonates, radiotherapy and treatment with NSAIDs (anti-inflammatories such as indomethacin) can reduce the formation of heterotopic ossification but these are not without their own risk and are therefore not routinely prescribed. One of those options might be considered if you have suffered with heterotopic ossification previously however. Your surgeon will discuss your case with you.

Post Operative Course

Day 1 - 3

- A dressing and padded bandage are applied after the operation.
- Keep the dressings clean and dry.
- Keep the arm elevated in a sling or on pillows to reduce swelling
- Start moving all the joints in the arm immediately to prevent stiffness. The bandage is kept light around the elbow so it doesn't stop you being able to move the joint. This can lead to some ooze from the wound which might require re-dressing before you go home.
- A physiotherapist will see you on the ward to help you with the exercises before you go home and will also arrange follow up in their department when you are discharged.
- Take painkillers before the anaesthetic wears off and as necessary thereafter

Day 3 - 14

- You may need to change the adhesive dressing on your wound to keep it clean and dry when you are at home. The nurses will run through this with you or arrange for a district nurse to come and help you with this.
- Continue to exercise all the joints of the arm and keep the arm elevated between exercise sessions. Don't rely on the sessions in the physiotherapy department, do the exercises regularly yourself at home every hour at least.

2 Weeks

- Within the first 2 weeks you will be seen in clinic for a wound check and removal of the stitches. The details will be arranged before you are discharged home.
- Physiotherapy and exercises should continue.
- Scar and soft tissue massage for 10 minutes a day is useful, once the wounds have healed, to reduce scar sensitivity and oedema (fluid in the tissues).

6 Weeks

- A further clinic visit will be arranged and xrays obtained.
- Physiotherapy will continue, working on strengthening the arm as well as the range of motion

3 Months

- Contact sports can be re-introduced if good progress is made

1 Year

- You may see improvements in your range of motion even up to this stage after surgery.



Post Operative Difficulties

Contact your surgical centre at any stage if:

- Your fingers become more swollen, stiff or painful than you expect
- You see any discharge, wetness or detect any unpleasant smells from below your dressing

Outside normal working hours you may need to attend your local Accident and Emergency Department for help with these issues.

Driving

You may drive when you feel confident to control the car, even in an emergency. For this surgery it is usually six weeks before you should consider driving again.

Time off Work

This will vary depending on the nature of your job and the exact nature of your surgery. Sick notes can be provided on the day of your operation, at your clinic visits and by your own GP.