

WRIST ARTHRITIS

Patient Information

What is Wrist Arthritis?

The human wrist is a complex structure that allows delicate, controlled movement for art, writing and typing but also allows for great strength for weight lifting, gymnastics and manual work. A functional wrist is necessary for many daily activities that require a combination of stability, a wide range of motion, delicacy of touch and strength. To achieve this wide range of apparently opposing functions, the wrist is a complex structure of eight bones lying between the two forearm bones and the five hand bones.

There are a large number of ligaments that hold the wrist bones together and to the hand and the forearm. The ligaments control the movements of the bones within a certain range. Injuries to the ligaments can cause wrist pain at the time of injury but if they do not heal then the complex motions of the bones against each other is not properly controlled and the joints between the bones may become overloaded. This causes the cartilage

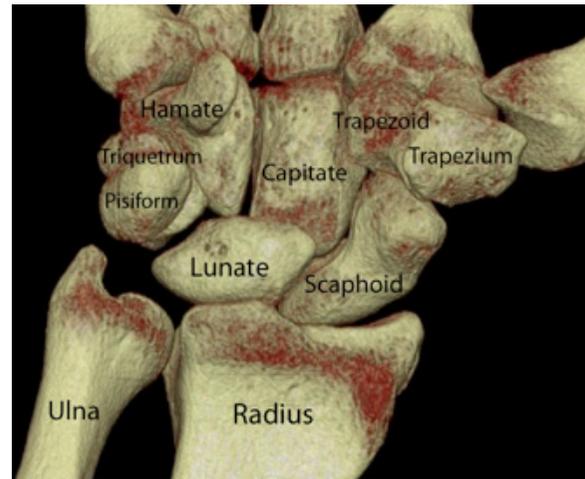


Figure 1. Wrist bones

covering the bones to break down, causing chronic pain, swelling and loss of movement. This is arthritis.

Arthritis (the break down of the cartilage covering the bones at the joints) may also be caused by other mechanisms. For example the inflammation of rheumatoid arthritis can eat away the cartilage in the wrist joint, causing arthritis. Wrist fractures that involve the joint can leave steps and gaps in the joint surface that lead to arthritis. Fractures of wrist bones, particularly the scaphoid, that

do not heal may lead to abnormal loading of the wrist and cause arthritis. In some patients, wrist arthritis comes on by simple degeneration of the wrist joints in the same way as it does in the hip and knee, for example. There are also other reasons for wrist arthritis.

Symptoms of wrist arthritis

There is usually discomfort in part or all of the wrist. This may be related to certain movements, such as cocking the wrist back and pressing down on it, such as when using the hands to get out of the bath or do a press-up. Sometimes it hurts more when twisting the hand palm up to palm down. This is more related to the distal radioulnar joint. Discomfort may get worse with time. There may be a localised swelling or a general swelling of the wrist. This may come and go. The wrist may be felt or heard to grind or crunch.

Treatments for wrist arthritis

There are a number of treatments for wrist arthritis:

Non-surgical treatment:

- 1) Painkillers. Simple tablets pain killers such as paracetamol, codeine or ibuprofen may help either individually or in combination
- 2) Activity modification. Some patients are able to change their activities either at work or at home to avoid the particular activities that make their pain worse.
- 3) Injections. Steroid and local anaesthetic injections into the wrist or distal radioulnar joint may be helpful in certain circumstances. These may flare the pain up in the wrist for 48 hours afterwards and the effect may be temporary, as they do not generally affect the arthritic process. They can be useful for pain control however, or to reduce inflammation in the wrist if this is part of the cause.
- 4) Splints. Removable wrist splints can help to limit discomfort in general or may be

worn to support the wrist just for heavier activities that may cause discomfort with out.

Surgical treatment:

- 1) Wrist arthroscopy & debridement.
A keyhole operation on the wrist may be advised for both diagnostic reasons and to help pain. The various cartilage surfaces of the wrist can be seen through four 3mm incisions on the back of the wrist. The bones and the ligaments can be inspected directly, probed and moved whilst being looked at and photographed. Inflammation and tears in the ligaments and cartilage may be tidied up or areas of cartilage loss may be treated by microfracture.
- 2) Denervation. This procedure is used to cut the nerves to the joint so that pain is not felt so much from the joint, whilst the nerves to the skin are preserved so that the feeling of the skin is not altered. It may be done through two or more incisions.
- 3) Proximal row carpectomy. In this procedure the scaphoid, lunate and triquetrum bones are removed to help certain types of arthritis, particularly due to chronic tear of the scapholunate ligaments or scaphoid fracture
- 4) Partial wrist arthrodesis, e.g. 4-corner arthrodesis or radioscapholunate arthrodesis. These procedures are used for focal arthritis and wrist pain. The aim is to make some of the wrist bones knit together and thereby reduce the wrist pain. The scaphoid bone may also be removed in the 4-corner arthrodesis. Sometimes a special type of circular plate and screws may be used to hold the bones still whilst they knit. In other procedures headless screws or just wires may be used. The general reason for doing these procedures is to retain some wrist movement (usually about half of normal), whilst improving the main wrist pain. Bone graft may be required from the forearm bone (radius) or the hip bone (iliac crest) to improve the knitting of the

bones.

- 5) Wrist fusion. This procedure is usually done for severe arthritis. It causes knitting of bone all the way from the forearm (radius bone) to the hand (3rd metacarpal bone). This allows the hand to be rotated – palm up / palm down – but not to bend at the wrist. This usually significantly decreases wrist pain at the expense of wrist movement but the wrist is stable and strong. The fingers still move normally however. A long metal plate is used to stabilise the wrist after the joints have been removed and packed with bone graft from either the radius or the hip bone (iliac crest).
- 6) Wrist replacement. The wrist may be replaced, like the hip or the knee, in certain cases with a metal and plastic artificial joint. This is usually performed in patients with lower demands on the wrist, for example older patients or those with rheumatoid arthritis. This has the aim of preserving some movement whilst

significantly reducing pain in a very arthritic wrist. Like other joint replacements, wrist replacements wear out with time (usually after a number of years), occasionally dislocate and have other associated complications such as fracture. The range of motion of the wrist should not be expected to improve much after wrist replacement. It is not advised to lift heavy weights (more than 5Kg) after a wrist replacement.

After your surgeon has recommended an operation to help your arthritis, you will be placed on a waiting list for surgery. The vast majority of these operations are done under general anaesthetic or under a regional block (a numbing injection around the shoulder which freezes the arm and you are awake for the surgery). It may be a day case operation or an overnight stay depending on your fitness and the size of the operation. Do not drive to the hospital yourself. You will need a responsible adult to pick you up after your surgery. You will be given a gown to wear

on the ward before the operation is carried out. It is recommended that you wash your hands with soap and water before the operation. Make sure your nails are clean. You will be taken to the anaesthetic room, just off the operating theatre, where you will be given the anaesthetic. You will then have a tourniquet placed around your upper arm. This is blown up when the operation starts so that the wound does not bleed and the surgeon can see what he is doing. Smaller operations such as wrist arthroscopy and wrist denervation may take an hour whilst larger ones such as wrist arthrodesis or replacement may take two hours.

After the Operation

You will find that there is a large bandage on your wrist if you have had an arthroscopy or denervation or a plaster cast if you have had an arthrodesis procedure or replacement. It is important to move your arm including the shoulder, elbows and fingers after the operation to stop them stiffening. Depending on the exact type of operation, you will be given

specific instructions on movements by the surgeon and / or hand therapist.

Stitches are usually removed at 2 weeks. You will be given specific instructions regards your plaster cast if you have one although this is usually kept for 6 weeks for an arthrodesis procedure. Advice on return to work will be given specifically for each case. Frequently at least 6 weeks off work is required. More major procedures may require 3 months.

X-rays are usually taken after 6 weeks and possibly again later to ensure that all is well, particularly for arthrodesis procedures and wrist replacement. They are not usually taken after arthroscopy or denervation.

Risks of Surgery

These procedures are considered to be effective. However, on occasion people may have problems after surgery. The commonest of these is discomfort around the wrist and hand, which may last for a couple of months after surgery. For partial wrist arthrodesis procedures, this may take 6 – 12 months to improve. Other problems are swell-

ing and stiffness of the hand, which if severe and accompanied by pain is called complex regional pain syndrome and is uncommon. Infection is also uncommon. There will be a visible scar from surgery but this will fade over the course of a year. There is a small risk of damage to nerves and blood vessels in the area of surgery. There is a chance of a haematoma (collection of blood under the wound) forming. This may slow or prevent wound healing and may occasionally require drainage. There is a risk of non-union (bone not knitting) with arthrodesis procedures. Occasionally this causes implanted plates or screws to break requiring further surgery. Occasionally implanted plates require removal if they catch on tendons or cause discomfort after the bone has knitted.

If bone graft is required, particularly from the hip, a separate incision will be required. Sometimes the bone graft harvest site may be sore for a while after surgery. This tends to settle with time.

The majority of these procedures will require physiotherapy and / or occupational therapy

treatment for a while after surgery to gain the best result.

One-Handed Living

Do not forget that you will not be able to use the hand that has been operated on fully for a while after surgery. Make life easy for yourself at home by planning ahead, particularly if you are alone at home or if you will be alone at home for long periods in the day. Get enough shopping in to last for a week or two after your surgery, as you will not be able to drive. Loosen the tight caps of jars (but don't forget the contents will go off more quickly). Ready-meals might be useful for a few days after surgery or do some cooking before and freeze it. Wear slip-on shoes so you don't have to tie laces etc.