

# WRIST PAIN

## Causes & Treatment

Pain in the wrist has a variety of causes, some of which are mild, but others are debilitating. Accurate diagnosis, treatment with both surgical and non-surgical methods together with a hand rehabilitation programme help to manage wrist pain and return to good function.

### CAUSES

Wrist pain may be caused by trauma, degeneration and inflammation. **TRAUMATIC WRIST PAIN** may be caused by sudden acute injury or chronic repetitive injury (repetitive strain injury – RSI). Falls on the outstretched hand may cause fractures or ligamentous injuries resulting in pain and loss of function, especially gripping and pushing. The commonest wrist fracture is that of the scaphoid, which can sometimes be difficult to diagnose. If not properly treated, it can result in non-union and chronic wrist pain due to arthritis. Ligament injuries of the wrist may be partial or complete, with complete injuries resulting in instability, pain on gripping and loading of the wrist.

*Nonunion of the scaphoid fracture, on X-ray and arthroscopic views.*



*Minimally invasive arthroscopic bone grafting and screw fixation.*



Falls or twisting injuries may cause tears of the cartilage and ligaments (called triangular fibrocartilage complex – TFCC) stabilising the joint on the little finger side of the wrist (the distal radioulnar joint – DRUJ). This may cause debilitating pain and limitation of rotation of the forearm.

**REPETITIVE STRAIN INJURIES (RSI)** are associated with wrist pain affecting the tendons (inflammation of tendons – tendinitis) that control the movements of the thumb or the wrist. Repeated use of the hand and wrist in extremes of bending and twisting are thought to predispose the wrist to getting this problem. Minor injuries that normally recover do not have sufficient time to do so due to overuse.

**OSTEOARTHRITIS**, either due to degeneration (wear and tear) or old injury (post-traumatic) causes pain, stiffness and loss of function. This may also be associated with bony swellings and ganglion cyst formation, and deformities. Old fractures of the distal radius or wrist bones, ligament injuries all predispose to early degeneration resulting in post-traumatic arthritis.

**INFLAMMATORY CAUSES OF WRIST PAIN** are usually rheumatoid arthritis or gouty arthritis. They are usually associated with pain and swelling, and instability. An important diagnosis to exclude is infection of the wrist joint, which also presents with pain and swelling.



*Synovitis of the wrist and extensor tendons*

### TREATMENT

Diagnosis is made by taking a careful history and performing a meticulous physical examination. X-rays help to diagnose arthritis. Advanced imaging techniques such as ultrasound and magnetic resonance imaging (MRI) are useful and help to diagnose cartilage, ligamentous and bony injuries which cannot be seen on plain x-rays.

Treatment depends on the cause of wrist pain. Rest, activity modification and splinting help to rest and allow the wrist to recover from the milder forms of wrist pain. Local steroid injections are effective in treating tendinitis, supplemented with splinting. However, such tendinitis may recur. Surgical release is sometimes required. Rheumatoid arthritis and gouty arthritis are usually treated with medication. However, if there is no response to medication, surgery may sometimes be necessary.

Ligamentous and cartilaginous injuries are confirmed with arthroscopy. Repair of the cartilage can also be done through arthroscopy. This is a key-hole technique, whereby small holes are made to pass a scope into the wrist, and small instruments to clean up the wrist and repair done using special sutures.

Osteoarthritis, whether due to degeneration or trauma, may be treated with medication, splinting, or surgery. Partial or total wrist fusion or wrist joint replacement will help to treat the pain, with replacement having the advantage of preserving motion.



*Arthroscopy (key hole surgery) of the wrist, showing repair of the TFCC.*



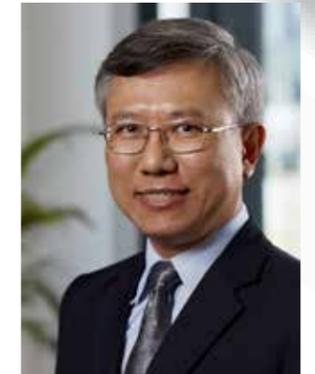
*Rheumatoid arthritis with destruction of the wrist joint treated with total joint replacement.*

### CONCLUSION

Wrist pain can be due to a variety of causes. Accurate diagnosis must be made before appropriate treatment can be instituted for best outcome. Recent advances in surgery include minimally invasive arthroscopic surgery for optimal recovery and joint replacement surgery to preserve motion.



*Severe osteoarthritis of the wrist after ligament injury*



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Dr Chew was involved in the set-up of the Department of Hand Surgery in Tan Tock Seng Hospital (2007-2011) and subsequently headed the Hand and Micro Surgery section (2008-2012). He went on to be a senior Consultant on a part time basis serving patients with hand problems, and teaching and training students and junior staff before going into private practice.

He is the only surgeon to date, to be specially trained in both Orthopaedic and Hand Surgery. Dr Chew's clinical interest include managing fractures of the hand and wrist, keyhole surgery of the wrist and finger joints, reconstruction for deformities of rheumatoid and degenerative arthritis including total joint replacement for the wrist and fingers, and microsurgery including reattachment of amputated fingers or limbs and toe-to-hand transfers.

His current practice at BJIOS Orthopaedics located at Farrer Park Medical Centre, provides Consultation, Radiology, Day Surgery and Rehabilitation services all under one roof. The one-stop orthopaedic centre aims to provide seamless healthcare to patients ruling out the need to commute to an external location for radiology, surgery and rehabilitation.