

Wrist Osteoarthritis

Joints wear out either as a long-term consequence of injury or disease, or due to normal use in an individual with an inherited tendency. The pattern of wear varies according to the predisposing condition. Wear is manifested in loss of joint space on x-ray, indicating that the cartilage has disappeared in the affected area, swelling if there is some associated inflammatory change, ganglion formation (a cyst containing joint fluid), bony thickening around the joint margin, pain and crepitus, which is a creaking noise and sensation when denuded bone rubs together. The range of movement in the joint is diminished with pain at extremes.

Management of osteoarthritis in the wrist depends on the site of arthritis and the severity of symptoms. An x-ray will show the precise distribution of the condition, and the extent of bone destruction and cartilage loss. However, it cannot be used to determine treatment which is based on symptoms and the way in which the condition has developed and progressed. Arthritis resulting from an old injury of the scaphoid ("scaphoid non-union advanced collapse, or SNAC wrist") is planned with recognition of the likely wide extent of the joint changes. It may be possible to improve symptoms with simple measures such as splintage, anti-inflammatory drugs and physiotherapy. Surgery may be needed, and can be designed to preserve some movement, usually in the form of partial fusion of carpal (wrist) bones, with excision of part of the scaphoid bone. A similar approach can be taken to arthritis resulting from old ligament injury ("scapho-lunate advanced collapse, or SLAC wrist").

More extensive arthritis may require removal of the wrist joint and usually arthrodesis (fusion) of the joint using bone graft taken from the hip. This operation eliminates extension and flexion (up and down movement), eliminating pain associated with those movements, but preserves rotational movement of the forearm (pronation and supination), which is functionally the most important movement.

Joint replacement is now possible, but has not been as popular as in other major joints because the alternative operation of arthrodesis has been more acceptable than in other joints, and loosening and other complications have meant that revision surgery is eventually likely to be needed, adding to uncertainty in the long term. New designs of joint replacement may change this.

Primary osteoarthritis (not due to old injury or disease) is often more localized to a particular area of the wrist joint. The two areas most often involved are below the base of the thumb, and on the ulnar (outer) side of the wrist beneath the pisiform bone. Osteoarthritis in the base of the thumb is separately described. The next joint down, between the trapezium, trapezoid and scaphoid, known as the scapho-trapezio-trapezoid (STT) joint can wear out causing pain. This is often not particularly related to movement, particularly of the thumb, a distinguishing feature from trapezio-metacarpal (or base of thumb) arthritis. X-ray shows narrowing of the joint with increased bone density. Mild symptoms can be helped by steroid injection, but this may not last, and definitive treatment involves either excision of the joint, leaving a gap which allows movement, or fusion of the joint.

The former has the advantage of rapid healing and recovery; there is a small risk of clicking or instability. The latter leaves a stable wrist but takes longer to heal, with non-union as a possibility requiring further surgery, and has the disadvantage of fixing the scaphoid in its position relative to the radius, making arthritis in that part of the wrist likely after a number of years.

Arthritis beneath the pisiform bone (pisotriquetral arthritis) causes sharp pain on the outer (ulnar) side of the wrist on movement, and is one of the diagnoses that needs considering in ulnar wrist pain. The pain can be provoked by moving the pisiform on the underlying triquetrum bone, and x-ray at the correct angle looking sideways through the joint shows narrowing and bone irregularity. Injection of local anaesthetic and steroid into the joint clinches the diagnosis, and excision of the pisiform is usually curative.