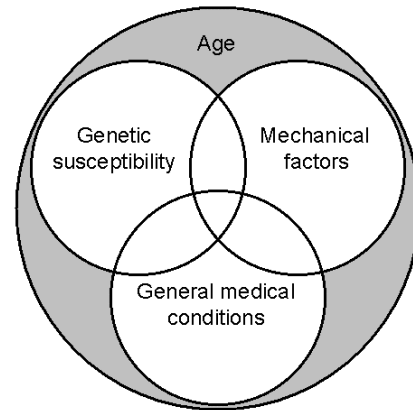
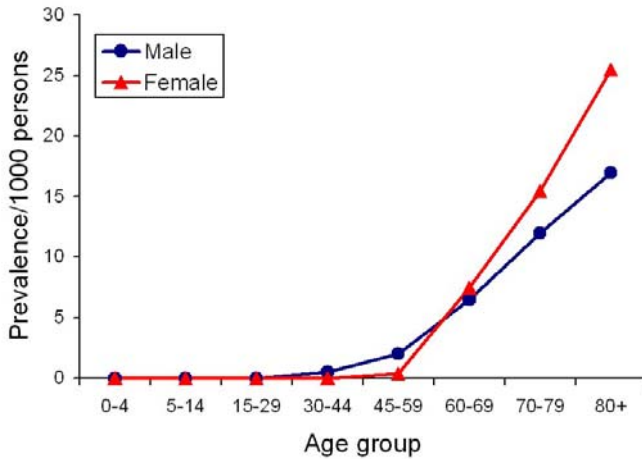
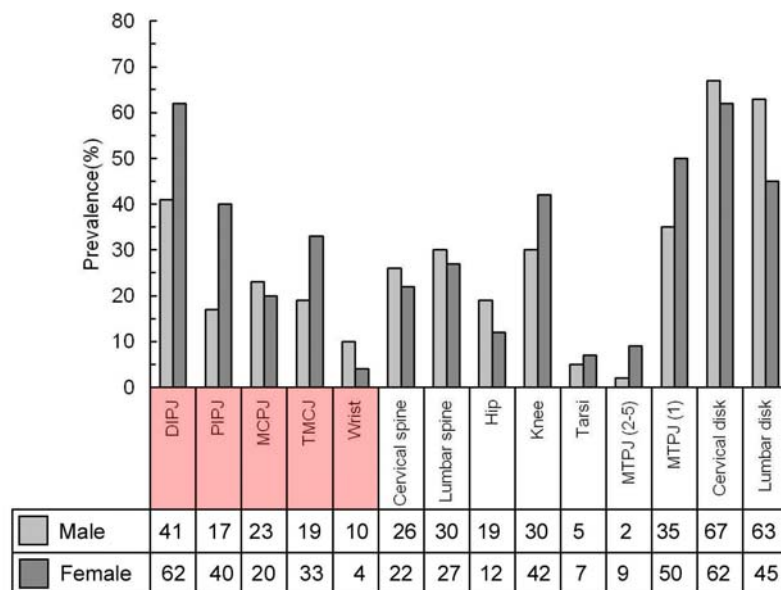
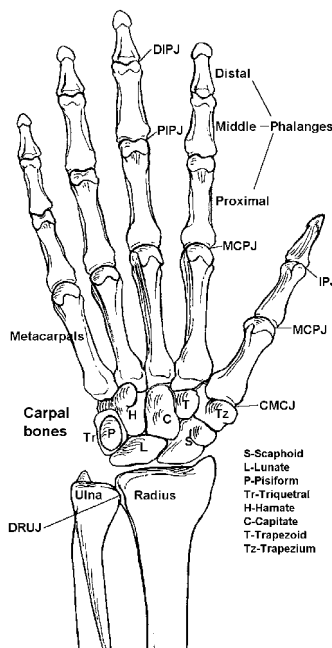


OSTEOARTHRITIS OF THE HAND AND WRIST

Osteoarthritis (OA) is the most common joint problem. It becomes more prevalent with ageing, although it is not simply a “wear and tear” problem. It commonly affects the spine, the weight-bearing joints in the leg and certain joints in the hand. By the age of 40, almost everyone has some osteoarthritic changes in weight-bearing joints (e.g., hip and knee joints) and, by age 75, virtually everyone has changes in at least one joint.



The majority of people have *primary* OA which has no known cause. In some patients, the OA is *secondary* to pre-existing damage to the joint, for example caused by fractures, ligament injuries, maldevelopment of bone or joint, or other types of arthritis. Its development in any joint depends therefore upon many factors the most important being (i) genetic susceptibility, (ii) the physical demands placed upon the joint and (iii) general medical conditions.



The hand overall is the most commonly affected area with 75% of women aged 60-70 having x-ray evidence of OA of the distal interphalangeal joints (DIPJ) of the hand.

OA causes damage to and loss of the smooth joint cartilage accompanied by thickening of the joint lining and compensatory bone overgrowth. The process is demonstrated in this series of x-rays of a DIPJ which show loss of joint space, increased density of the surrounding bone (sclerosis), bone overgrowth at the joint margins (osteophyte) and altered bone shape. The cartilage itself is invisible to x-ray and therefore joint space narrowing reflects loss of cartilage.

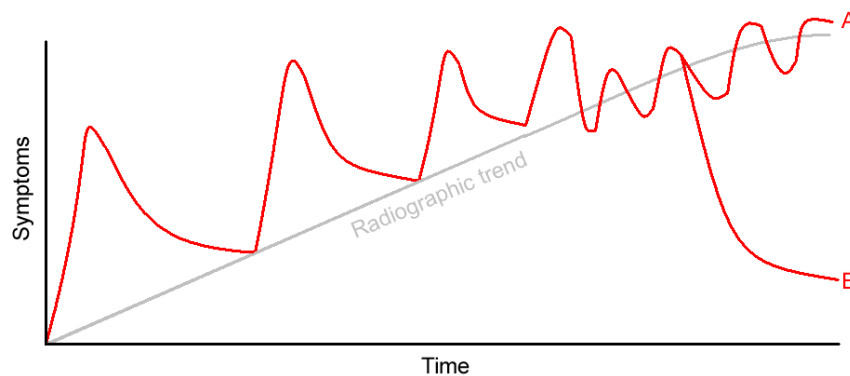
OSTEOARTHRITIS OF THE HAND AND WRIST



This process causes the characteristic symptoms and signs: swelling, nodules & cyst formation, tenderness, pain, stiffness, deformity and inevitably dysfunction. The most characteristic features of OA of the hand are the nodules at the DIPJ (Heberden's nodes) and the "square" appearance of the palm due to malalignment of the thumb-base. Nodules at the PIPJ are a less common feature (Bouchard's nodes)

The diagnosis is usually made by clinical examination supported by x-rays. In the early stages, radio-isotope bone scans can be useful if x-rays changes have not yet occurred.

The symptoms from an osteoarthritic joint are not necessarily equivalent to x-ray appearances. Not all people have symptoms from involved joints and conversely some patients can experience severe symptoms from joints with minimal x-ray changes. The progress of symptoms is unpredictable and non-linear. Previously painless OA can be unmasked by accidents and it is my experience that in many patients, symptoms increase in a stepwise manner due presumably to minor knocks and strains. Whilst many joints remain painful (A), some settle eventually because the joint stiffens (ankylosis) (B)



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There are a number of ways of managing an arthritic hand, which can be broadly divided into non-surgical and surgical

Activity modification Resting an affected joint will usually improve symptoms and slow progression. However, whilst it is clearly neither practicable nor desirable not to use a hand, there are often activities that can either be stopped, modified or delegated to another person. Sadly, an element of common sense and acceptance is required. Ignoring symptoms by continued heavy use of painful joints can be counter-productive, increasing inflammation and probably joint wear.

Splint Preventing movement, particularly when the joint is loaded or stressed, will reduce pain and protect a joint. Splints need to be well fitted and appropriate for the specific joint otherwise they can be either ineffective or even injurious. Many "off the shelf" splints are inappropriate and used incorrectly. Ideally they should be prescribed and fitted by an experienced clinician and/or hand therapist. Poorly fitted splints can cause skin problems and stiffness in adjacent joints. In some situations, they are effective and well tolerated but some joints are difficult to immobilise effectively without significant functional compromise.

Aids There are a number of devices available for assisting functions such as opening lids and jars. There may be situations where the function of a stiff hand can be significantly improved by simple measures such as padding the handles of tools or even getting larger grips on golf clubs!

Physiotherapy There is evidence that physiotherapy aiming to improve muscle power is helpful for OA of the knee but there is no such evidence for OA of the hand where joints are not dependant on muscle tone for stability. Maintaining movement by regular, gentle use and exercise of joints is sensible but forceful manipulation and heavy resisted exercises worsen pain.

Glucosamine This is a natural precursor of the fluid component of joint cartilage and fluid. It appears to be a safe preparation that as yet has not been clearly shown to be beneficial.

Medications Pain is the principle symptom of OA and there are many analgesic and anti-inflammatory medications available. All have side-effects and the choice should be individualized taking into account other prescribed medications and health problems.

Steroid injection Injection of steroid preparations into joints generally results in short term relief of symptoms (one month). Repeated injections are contraindicated because of local effects on soft tissues, most often seen as thinning and depigmentation of skin. Injections pose a small risk of serious joint infection.

Hyaluronic acid injection Presently there is some evidence of its efficacy in the knee.

Surgery The indications are pain, stiffness, deformity and appearance in descending priority. Surgery is usually performed when non-surgical methods of controlling pain fail.

Surgeons will often see patients with severely deformed hands who nevertheless are not in pain and who can perform their normal activities of daily living (ADL). Surgery is not appropriate in these circumstances. Decision making should be logical, objective and take into

account factors such as employment, hobbies, social support, general health and mobility. The indications and potential benefits for surgery should be clearly defined and should outweigh the potential risks and inconvenience posed by sometimes lengthy rehabilitation.



There are a number of techniques available for managing osteoarthritic joints which are individualized according to the joint involved, the severity of the arthritis, the demands placed on the hand and patient preference.

The surgical options are covered in more detail for individual joints in the following links:

[Finger arthritis](#), [Finger arthroplasty \(joint replacement\)](#), [Finger fusion](#), [STT osteoarthritis](#), [Trapeziectomy](#), [Wrist fusion \(Degenerative\)](#), [Wrist osteoarthritis](#)