

RHEUMATOID HAND PROBLEMS

Rheumatoid arthritis is the commonest disorder of connective tissues. It has an incidence of 1-3% of the population. It is three times more common in women. The principal target tissue is **synovium** which lines both joints and tendons. 90% of affected patients have involvement of the upper limb.

Early disease usually presents as polyarthritis (arthritis of many joints) characterised by pain and swelling. If the disease remains active, irreversible damage can occur. This causes stiffness, deformity and instability.

The figure above shows how synovium can thicken and then invade the joint. This is called **synovitis**. It causes destruction of the smooth gliding surfaces. Invasion of the underlying bone causes collapse and distortion of the joint surfaces. The synovium also invades the surrounding capsule and ligaments. This weakens them and causes deformity and instability of the joint. The synovium can pierce the capsule and invade the surrounding tissues. This results in the appearance of lumps under the skin, that are felt as '**nodules**'. The process can eventually "burn out", but leaves a distorted stiff joint.

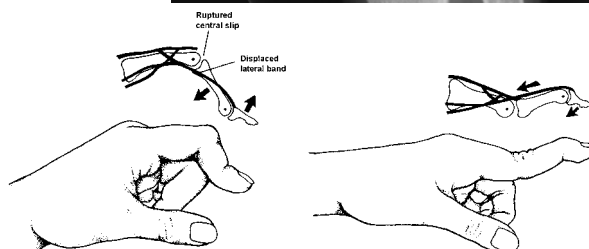


The same process can occur in the tendon linings. This causes loss of movement and ultimately either malalignment or rupture of the tendons. During this time, the swelling can cause pressure on the surrounding tissues such as nerve. This is felt as numbness or pins&needles in the fingers.

In the early stages, treatment is supervised by your Rheumatologist. Management consists mainly of anti-inflammatory drugs and sometimes more specific anti-rheumatoid drugs. During this time you may be referred to a Hand Therapist. She will give you advice about protecting your joints. She may also provide you with splints to prevent deformity or to rest inflamed joints. Occasionally, surgery is needed in the early stages to correct (i) nerve compression and (ii) tendon rupture (snap). There is some urgency about the correction of these problems as the situation can deteriorate quite quickly.



If the arthritis persists, despite drug treatment, a number of deformities can develop. These characteristically are "Z" shaped (see diagrams and X-ray). These are associated with functional problems such as loss of movement and poor grip.



The need for surgery is assessed individually, often jointly by Surgeon, Rheumatologist and Hand Therapist. Factors taken into account are (i) Your level of pain, (ii) Your functional problems, (iii) The likelihood of deterioration. These are balanced against: (i) Your functional requirements (job, hobbies), (ii) Your ability to complete rehabilitation, (iii) Your general health, (iv) The need for surgery to other joints (hip, knee)

There are many operations used to treat rheumatoid arthritis of the hand. The commoner procedures are:

- **Carpal tunnel release** to relieve pressure on the major hand nerve.
- **Synovectomy** to remove thickened synovium in joints or around tendons. Mainly preventative.
- **Arthrodesis (Fusion)** to stiffen a painful and/or unstable joint. Commonly used in the thumb to improve grip.
- **Arthroplasty (Joint replacement)** involves removal of a damaged joint and its replacement by an artificial joint made of silicone-rubber.
- **Bone removal** such as spikes of bone or misplaced bones that are causing pain and sometimes cause tendons to fray.
- **Tendon reconstruction** to repair snapped tendons. This often involves transfer of tendons or grafting as simple repair is usually not possible.
- **Tendon rebalancing** to correct progressive zigzag deformities of the fingers.