

## DIABETIC STIFF HAND

Diabetics have a higher incidence of hand problems than the general population. The reasons are not well understood but possible factors include:

**Abnormal accumulation of proteins** in the tissues. This particularly involves collagen that is the key contributor to the strength of tissues including skin, tendon and ligament. The composition of collagen is slightly altered which can make it stiffer.

**Loss of blood flow** in the tissues (*ischaemia*). Diabetes is complicated by abnormalities of the small blood vessels (*micro-angiopathy*). This is responsible for some of the most serious complications of diabetes, such as eye problems (*retinopathy*). Nerves may be affected (*neuropathy*) causing loss of sensation as well as muscle weakness. Small blood-vessel disease may cause scarring in any of the tissues in the hand. This can interfere with the normal gliding of tendons and flexibility of joints.

Diabetic stiff hand or *diabetic cheiro-arthropathy* often causes a general sensation of “stiffness” or “slowness” in the hand. There often is some real loss of mobility in the joints, particularly the middle finger joints. This makes it difficult for you to bend the fingers right into the palm or to straighten them fully.

The condition is characterised by a number of specific problems. All are seen in non-diabetics but they are more common in diabetics. These can occur singly or together.

**Flexor tenosynovitis** is due to a thickening of the tissue lining the tendons that bend the fingers. This tissue is present from the wrist to the finger-tips. Thickening causes swelling of the palm and fingers. Rings may feel tight and the hand may ache. The palm and fingers may be tender to pressure. Tenosynovitis contributes to the finger stiffness. The symptoms are often worse in the night or on awakening. This is because fluid collects in the arms whilst you are asleep and inactive. When severe, it can cause a clicking sensation and even catching or “triggering” of the tendon.

**Carpal tunnel syndrome** is due to compression of the median nerve within a tunnel comprising a “U” shaped collection of bones with a tight ligament at the top. This causes pins and needles in the area supplied by the nerve (thumb, index, middle and ring fingers). The condition is mainly caused by the tenosynovitis that squashes the nerve as it swells. It may also be contributed to by neuropathy (see above).

**Dupuytren’s contracture** is a thickening of deep tissue (fascia), which passes from the palm into the fingers. Shortening of this tissue causes “bands” which pull the fingers into the palm.

**Other** common conditions such as “tennis elbow” and “frozen shoulder” are more common in diabetic patients.

Once established, the background stiffness will persist and cannot be cured. The tenosynovitis will vary from week to week. “Flare-ups” may respond to anti-inflammatory medications or gels. Specific problems, such as triggering, are usually treated by steroid injections. Carpal tunnel syndrome and Dupuytren’s contracture often need to be treated by surgery.

Diabetic cheiroarthropathy

