

HAND, WRIST & UPPER LIMB SURGERY

TENDON TROUBLE IN THE HANDS

Find out about the different injuries and treatment options available.



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In the hands, tendons allow you to bend your wrist and hand joints, and move your fingers and thumbs. Injuries to the tendons will affect movements of the joints.

Closed tendon injuries are a special category of tendon injuries that do not have any open wound. As these are less dramatic in appearance since there are no open bleeding wounds, patients often think their injuries are trivial and seek treatment late. Neglected injuries may lead to permanent disability.

These closed tendon injuries are common, especially among athletes. Successful treatment of these injuries requires early recognition, accurate diagnosis, and appropriate treatment.

Examples of closed tendon injuries are mallet finger, boutonniere deformity, flexor tendon avulsion, and dislocation/subluxation of the extensor tendon.

Mallet finger

This is the most common closed tendon injury. The injury usually results in a rupture of the tendon that straightens the last joint

“Mallet finger is the most common closed tendon injury.”

(distal interphalangeal joint, or DIPJ) of the finger. The last joint of the finger remains bent and is unable to be straightened. It is often caused when playing sports, but sometimes results from minor injury during housework. High-energy trauma may cause an associated fracture of the distal phalanx where the tendon attaches.

Treatment X-rays may be required to exclude a fracture. Most mallet finger cases can be treated with a well-fitting splint over the affected finger to keep the DIPJ fully extended. This splint must be worn continuously for six to eight weeks. Thereafter, the splint can be gradually

weaned off over three to four weeks. Surgery will be required when the patient presents late, is unable to tolerate prolonged splint use or those associated with severe fracture.

Boutonniere deformity

Boutonniere deformity occurs due to rupture of the tendon that straightens the middle joint (proximal interphalangeal joint, or PIPJ) of the finger. When this tendon is ruptured, you may have difficulty straightening your finger. Without treatment, the tendon imbalance causes secondary deformity to occur; the DIPJ permanently bends back (hyperextend) and the PIPJ permanently bends forward (flex). Unless treated promptly, the injury may result in permanent deformity and impaired functioning.

Treatment X-rays will be required to exclude a fracture and assess the joint. Conservative treatment is usually preferred. A splint is applied to stretch, straighten and keep the PIPJ of the finger extended. Exercises to bend the DIPJ will also start. The splint is normally worn for four to six weeks or longer. Occasionally, the tendon fails to repair itself and the deformity remains. In this case, surgery will be required and can be discussed with your hand surgeon.

Flexor tendon avulsion

This injury involves the long flexor tendon (flexor digitorum profundus, or FDP) that usually bends the last joint (DIPJ) of the finger. When this tendon is affected, you will not be able to bend the DIPJ. This is the result of forced extension to the DIPJ that is actively grasping strongly. It is frequently seen in sporting activities where a player grabs the opponent's jersey and is pulled away — such an injury is also known as 'jersey finger'. The FDP tendon is pulled away from the bone (avulsion injury). There may be a fracture pulled off together with the avulsed FDP tendon.

Treatment If you suspect a tendon injury from an avulsion, seek urgent medical attention. X-rays, ultrasound and/or MRI may be ordered by your hand surgeon. An avulsion injury of a flexor tendon is often treated surgically to reattach the tendon and/or bone.

Dislocation/subluxation of extensor tendon

The extensor tendons are held in position at the back of the knuckles (metacarpophalangeal joint, or MCPJ) by bands of fibrous tissues called sagittal bands. These bands also assist in full extension of the fingers. Injury to the sagittal band

“ Boutonniere deformity occurs due to rupture of the tendon that straightens the middle joint of the finger. ”

will cause extensor tendon instability and subluxation of the tendon. It is commonly caused by blunt trauma or finger flicking injury. The middle finger is most commonly affected. There is pain, swelling, snapping over the MCPJ on movements, and inability to fully straighten the finger.

Treatment When treated early, splints to keep the finger extended for four to six weeks may be adequate. Commonly, patients present late and surgery will be required. 🏥

