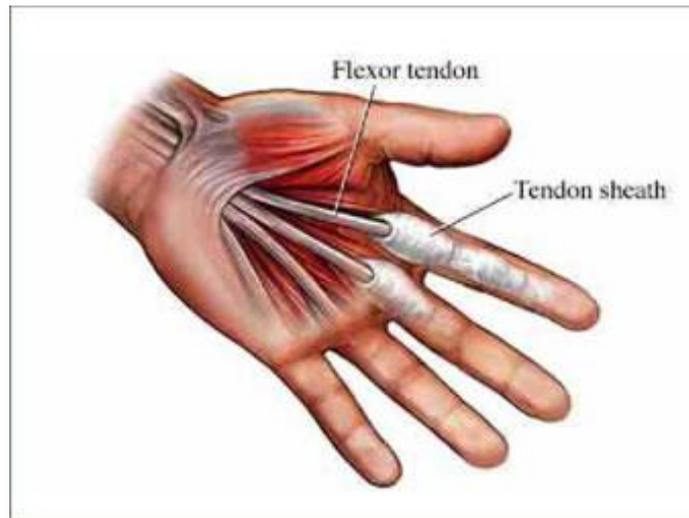


## **FLEXOR TENDON INJURY**



Illustration

### **Anatomy and Injury**

The flexor tendons in the hand are a continuation of the muscles in the forearm. The flexor tendons lie parallel to the bones of the fingers and are held in place by fibrous bands. The tendons are also enveloped in a tendon sheath, which contains synovial fluid. This enables smooth gliding of the tendons against each other and against surrounding structures. Flexor tendons can be injured in an open or closed manner. Open injuries (eg: cuts or crush injuries) are frequently associated with damage to surrounding blood vessels and nerves. Closed injuries are those that most often occur as a result of wear and tear of the tendon (often seen in rheumatoid arthritis or where old fractures of the wrist or forearm bones are present.)

### **Surgery**

The aim of surgery is to join the ends of the tendon with as much strength and as little potential to stretch as possible. In addition to this, the tendon repair should not interfere with tendon gliding and blood supply as far as possible. In addition to repairing the tendons, severed blood vessels and in some cases severed nerves are also repaired as far as possible.

In the initial stages following surgery there will be a lot of swelling. While this is a necessary part of healing, it may lead to a larger amount of scar tissue and adhesions in the future which can affect tendon gliding. Initially the tendon repair is held together by the sutures and thus is very weak. From about 1 to 4 weeks after the surgery the tendon repair, as well as those of the blood vessels and nerves begin to heal and strengthen.

### **Therapy**

Therapy can commence immediately after the surgery. Initially, therapy will focus on wound care and management of the swelling. The hand will be placed in a splint, which protects the tendons from both external forces as well as internal forces created by movement. This allows the affected tendons to heal. However, during the first 4 weeks when the splint is worn full time, a supervised graded exercise program will be started to ensure that joint flexibility is maintained and that gentle gliding of the tendons is initiated. When the wound has healed sufficiently, scar management techniques will be initiated to reduce scar tissue formation.

From about week 5-6, more extensive exercises are initiated and the splint is slowly and gradually discontinued. As the strength of the tendon repair increases, gentle muscle strengthening and stretching exercises can commence. The ultimate goal of therapy is to restore range of motion and muscle strength to the affected finger/s. The result of therapy is dependent on the extent of the injury, quality of the repair as well as the individual's compliance with the home therapy program.