

# Flexor Tendon Injuries



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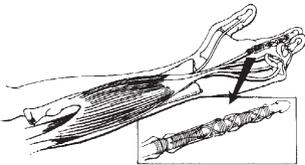


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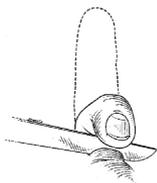
## What is it?

The muscles that bend or flex the fingers are found in the forearm and are called flexor muscles. The flexor muscles are able to move the fingers through rope-like extensions called tendons, which attach the muscle to bone in the fingers. The tendons of the flexor muscles that lead to the fingers and thumb begin just beyond the middle of the forearm. The thumb has one long flexor muscle while each of the fingers has two. One tendon attaches to the middle bone of each finger on the palm side of the hand and bends the fingers at the base and second joints. The other tendon attaches to the bone at the tip of each finger on the palm side and bends all three finger joints.

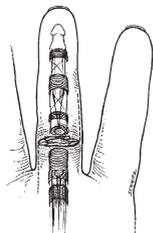
Deep cuts on the palmar side of the wrist, hand, or fingers can injure the flexor tendons and nearby nerves and blood vessels. When a tendon is cut, it acts like a rubber band and its cut ends move away from each other. Because many cuts happen while the fingers are bent and gripping sharp objects, the cut ends of the tendon move even further apart as the fingers are straightened. A tendon that has not been cut completely through may still allow the fingers to bend, but will usually cause pain and may cause a catching of the finger with movement. When a tendon is cut completely through, the finger cannot bend on its own, (see diagrams 2 and 3).



**Diagram 1**  
*The tendons of the hand extend from the flexor muscle in the forearm.*



**Diagram 2**  
*Deep cuts on the palm side of the wrist and/or fingers can injure the flexor tendon.*



**Diagram 3**  
*When a flexor tendon is completely cut, the affected finger cannot bend on its own power.*

## How do tendons heal?

Tendons are made of living cells and connective tissue. If the cut ends of the tendon can be brought back together, healing begins through the cells inside as well as the tissue around the tendon. Since the cut ends of a tendon separate after an injury, it is not likely that a lacerated tendon will heal without surgery.

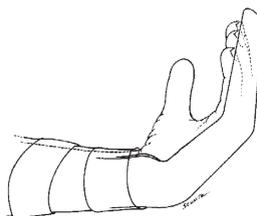
Your surgeon will advise you on how soon surgery is needed after a flexor tendon has been cut. There are many ways to repair a cut tendon, and certain types of cuts require a specific type of repair. After surgery and depending on the type of cut, the injured area can either be protected from movement or started on a very specific limited movement program for three to four weeks. From four to six weeks after the operation, more motion is allowed of the injured finger. After six weeks, the repaired tendon will be increasingly stretched and used more normally. Assuming no problems have developed, usually three months are required for healing to be complete (see diagrams 4 and 5).

In some cases, full movement of the injured finger may not return after surgery and therapy. If it is hard to bend the finger using its own power, it could mean that the tendon has pulled apart or is caught in scar tissue. Scarring of the tendon repair is a normal part of the healing process but can in some cases make bending very difficult.

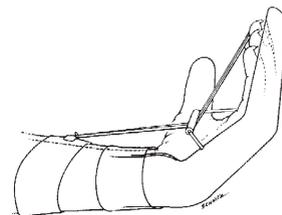
Depending on the injury, your surgeon may prescribe therapy to loosen the scar tissue and prevent it from interfering with the movement of the finger. In this situation, if therapy fails to improve motion, surgery to release the scar tissue around the tendon may be required.

## What therapy is involved?

It is important to work closely with a hand therapist for the first four to six weeks after surgery. Your therapist will set guidelines and help you understand the therapy. In addition to regaining motion of the finger after a tendon injury, therapy can also be helpful in softening scars and the finger after a tendon injury. Therapy can also be helpful for building up grip strength. It is just as important as the surgery to repair the tendon.



**Diagram 4**  
*After surgery, the injured tendon must be splinted to prevent rupture.*



**Diagram 5**  
*Depending on the type of injury, your surgeon may prescribe a very specific program of limited movement.*