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# *A Patient's Guide to* **Trigger Finger and Trigger Thumb**



Iain is a specialist in musculoskeletal imaging and the diagnosis of musculoskeletal pain. This information is provided with the hope that you can better understand and manage your condition. The information is not specific to your condition and is meant as a general guide only. Iain has added some information at the end of each booklet which might help add some context in regard to assessment and management from a local perspective.

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**Trigger Digit**

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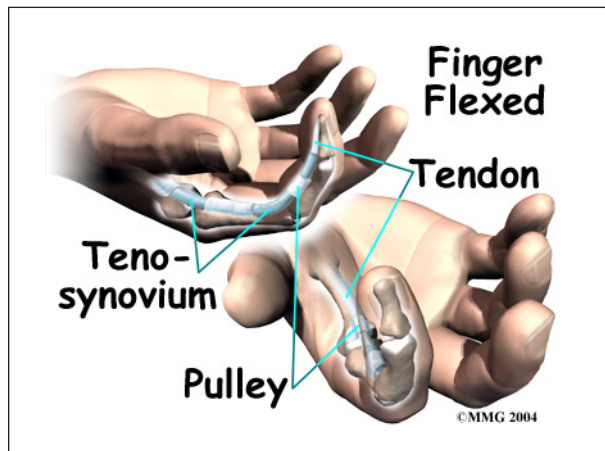
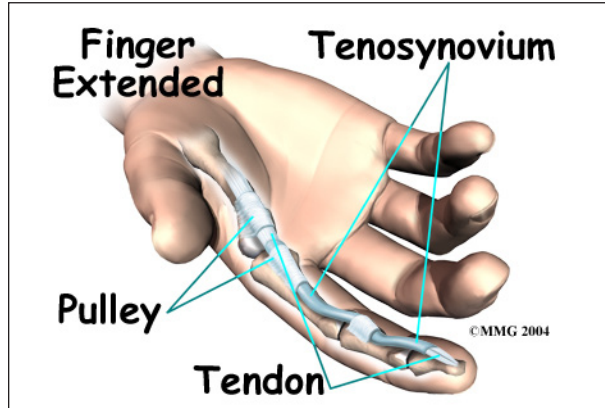
**Introduction**

*Trigger finger and trigger thumb* are conditions affecting the movement of the tendons as they bend the fingers or thumb toward the palm of the hand. This movement is called *flexion*.

**This guide will help you understand**

- how trigger finger and trigger thumb develop
- how doctors diagnose the condition
- what can be done for the problem

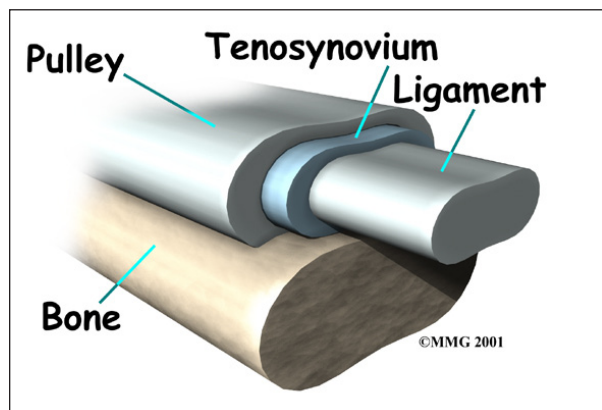
under the ligaments, the tendons are wrapped in a slippery coating called *tenosynovium*. The tenosynovium reduces the friction and allows the flexor tendons to glide through the tunnel formed by the pulleys as the hand is used to grasp objects.



**Anatomy**

Where does the condition develop?

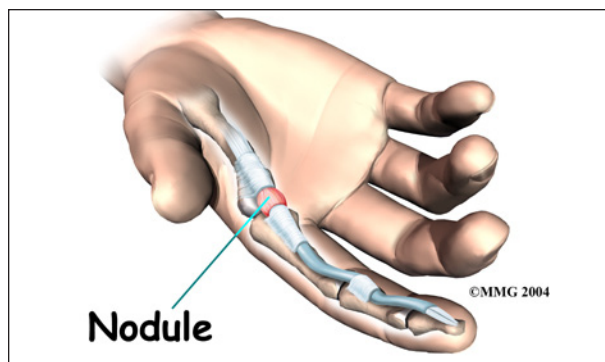
The tendons that move the fingers are held in place on the bones by a series of ligaments called *pulleys*. These ligaments form an arch on the surface of the bone that creates a sort of tunnel for the tendon to run in along the bone. To keep the tendons moving smoothly



**Causes**

Why do I have this problem?

Triggering is usually the result of a thickening in the tendon that forms a *nodule*, or knob. The pulley ligament may thicken as



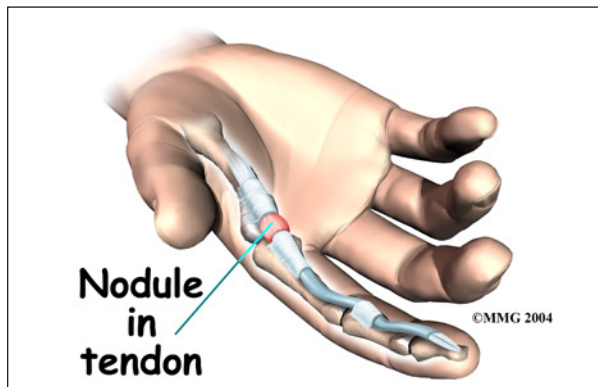
well. The constant irritation from the tendon repeatedly sliding through the pulley causes the tendon to swell in this area and create the nodule. Rheumatoid arthritis, partial tendon lacerations, repeated trauma from pistol-gripped power tools, or long hours grasping a steering wheel can cause triggering. Infection or damage to the synovium causes a rounded swelling (nodule) to form in the tendon.

Triggering can also be caused by a congenital defect that forms a nodule in the tendon. The condition is not usually noticeable until infants begin to use their hands.

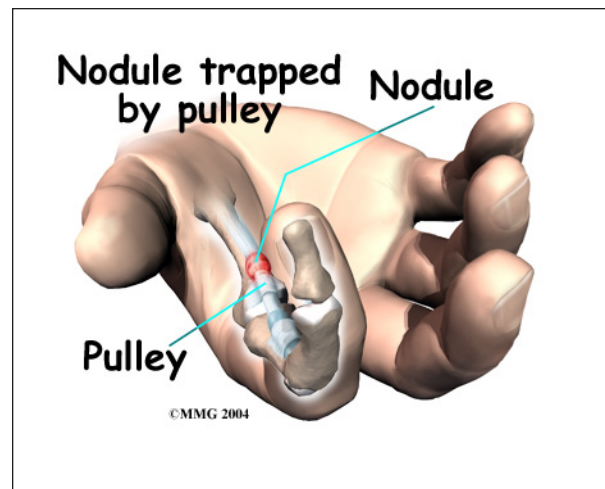
## Symptoms

What does a trigger finger or thumb feel like?

The symptoms of trigger finger or thumb include pain and a funny clicking sensation when the finger or thumb is bent. Pain usually occurs when the finger or thumb is bent and straightened. Tenderness usually occurs over the **area of the nodule**, at the bottom of the finger or thumb. The clicking sensation occurs



when the nodule moves through the tunnel formed by the pulley ligaments. With the finger straight, the nodule is at the far edge of the surrounding ligament. When the finger is flexed, the nodule passes under the ligament and causes the clicking sensation. If the nodule becomes too large it may pass under the ligament, but it gets stuck at the near edge. The nodule cannot move back through the tunnel, and the finger is locked in the **flexed trigger position**.



## Diagnosis

How do doctors identify the condition?

The diagnosis of trigger finger and thumb is usually quite obvious on physical examination. Usually a palpable click can be felt as the nodule snaps under the first finger pulley. If the condition is allowed to progress, the nodule may swell to the point where it gets caught and the finger is locked in a bent, or flexed, position. No special tests or X-rays are required.

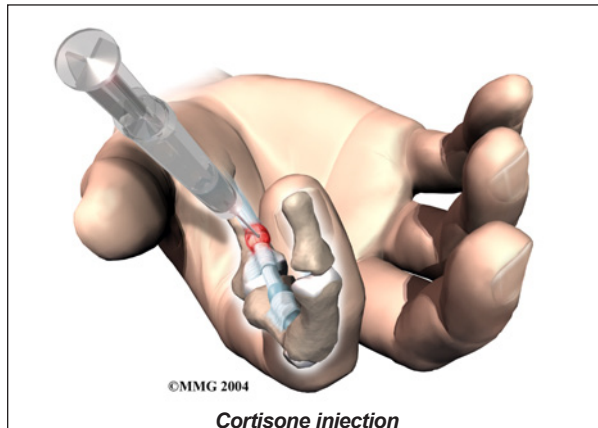
## Treatment

What can be done for the condition?

### Nonsurgical Treatment

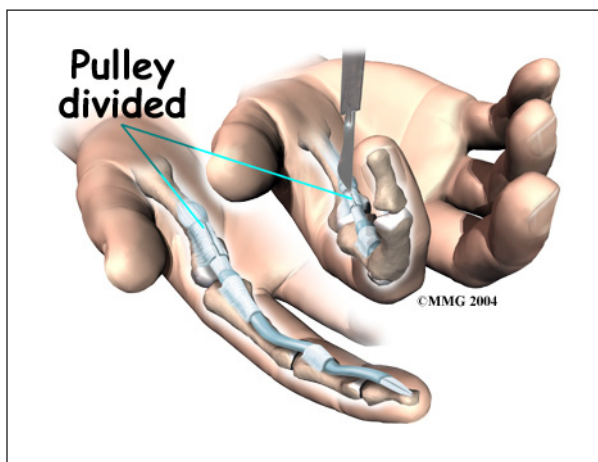
Treatments provided by a physical or occupational therapist may be effective when triggering has been present for less than four months. Therapists often build a splint to hold and rest the inflamed area. Special exercises are used to encourage normal gliding of the tendon. You might be shown ways to change your activities to prevent triggering and to give the inflamed area a chance to heal. Therapy sessions sometimes include *iontophoresis*, which uses a mild electrical current to push anti-inflammatory medicine to the sore area. This treatment is especially helpful for patients who can't tolerate injections.

A **cortisone injection** into the tendon sheath may be needed to decrease the inflammation and shrink the nodule. This can help relieve the triggering, but the results may be short lived. A splint may be used after the injection to rest the tendon and help decrease the inflammation and shrink the nodule.



### Surgery

The usual solution for treating a trigger digit is surgery to open the pulley that is obstructing the nodule and keeping the tendon from sliding smoothly. This surgery can usually be done as an outpatient procedure, meaning you can leave the hospital the same day.



The surgery can be done using a *general anesthetic* (one that puts you to sleep) or a *regional anesthetic*. A regional anesthetic blocks the nerves going to only a portion of the body. Injection of medications similar to lidocaine are used to block the nerves for several hours.

This type of anesthesia could be an *axillary block* (only the arm is asleep) or a *wrist block* (only the hand is asleep). The surgery can also be performed by simply injecting lidocaine around the area of the incision.

Once you have anesthesia, your surgeon will make sure the skin of your palm is free of infection by cleaning the skin with a germ-killing solution. An incision will be made in the skin. There are several types of incisions that can be made, but most are made along the natural creases and lines in the hand. This will help make the scar less noticeable once the hand is healed.

The skin and fascia are separated so the doctor can see the tendon pulley. Special care is taken not to damage the nearby nerves and blood vessels.

Next, your surgeon carefully divides the tendon pulley. Once the tendon pulley has been separated, the skin is sewn together with fine stitches.

### Rehabilitation

What should I expect following treatment?

#### Nonsurgical Rehabilitation

When triggering has been present for more than four months, nonsurgical treatment is usually short-lived. You may get some relief of symptoms with a cortisone injection. If you wear a splint, the nodule may shrink temporarily, but patients often end up needing surgery for this problem.

#### After Surgery

You'll wear a bandage over the area after surgery until the stitches are removed. You will probably have a fairly large padded bandage on your hand when you return from surgery. This is to provide gentle compression and reduce the bleeding and swelling that occurs immediately after surgery. This can be removed fairly quickly, and usually only a bandage is required after the first 24 to 48

hours. You'll begin gentle range-of-motion exercises a few days after surgery.

Most patients won't need to participate in a formal rehabilitation program unless the finger or thumb was locked for a while before surgery. In these cases, the finger or thumb may not straighten out right away after the surgery. A physical or occupational therapist may apply a special brace to get the finger or thumb to straighten. The therapist may also apply heat treatments, soft-tissue massage, and hands-on stretching to help with the range of

motion.

Some of the exercises you'll begin to do are to help strengthen and stabilize the muscles and joints in the hand. Other exercises are used to improve fine motor control and dexterity. You'll be given tips on ways to do your activities while avoiding extra strain on the healing tendon. You may need to return to therapy two to three sessions each week for up to six weeks.

## Notes

## More about the role of ultrasound and injections for this condition

### About ultrasound

1. Ultrasound can resolve finer details than MRI and has a more flexible field-of-view
2. The ultrasound probe can be placed exactly where it hurts and focus on sorting out your symptoms
3. Doppler ultrasound gives important information about the blood flow
4. Ultrasound is best for guiding therapeutic interventions

Perhaps one of the biggest advantages of MSK ultrasound is its use to help guide targeted injections. Ultrasound guided injections of corticosteroid into the tendon sheath are usually helpful for this condition.

### About Corticosteroid injections

**Corticosteroid** (cortisone) injections are often part of the management of this condition and Dr Duncan or your physician can advise you whether this might be appropriate. Sometimes the injection will need to be repeated.