



SELF-HELP BOOK FOR **TRIGGER FINGER**

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THE ESSENTIAL GUIDE TO A
QUICK RECOVERY

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STOP ENDURING PAIN AND
ESPECIALLY DO NOT IGNORE
THE PATHOLOGY YOU
SUFFER FROM ANY MORE
**YOUR HANDS ARE
UNIQUE AND PRECIOUS!**



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Trigger finger (stenotic tenosynovitis) is a common condition, often neglected, causing a painful blockage of finger flexion and can lead to irreversible damage if not treated effectively. This practical handbook written by specialists in finger flexion helps you to recognize your condition and will confer on you the ability to heal yourself by immediately adopting effective measures to relieve your symptoms. In most instances, trigger finger can be relieved without surgery!

Find the answers to your questions about trigger finger here in a few minutes:

You will be informed of the latest knowledge about this disease and will know exactly how to most effectively manage your condition and get back to your business and leisure activities in the shortest possible time.

You will be assured of knowing when to consult a hand surgeon if that became necessary.

You will know the spectacular progress made by modern minimally invasive techniques to decompress your tendons in minutes virtually without pain under local anesthesia. Endoscopy often lets you get back to your activities in just days and represents real progress.

Stop enduring pain and especially do not ignore the pathology you suffer from any more; your hands are unique and precious!

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THE ESSENTIAL GUIDE TO A QUICK RECOVERY



1 /

STENOTIC TENOSYNOVITIS (TRIGGER FINGER) IS VERY COMMON. WHO CAN BE AFFECTED?

Stenosing tenosynovitis is a very common disease that primarily affects men and women over fifty years of age. Its frequency is six times greater in women than in men. It is known as trigger finger.

Trigger finger afflicts otherwise healthy people but also has risk factors that predispose it such as:

- Diabetes (five times higher risk than normal population)
- Hypothyroidism
- Excess weight
- Menopause
- Rheumatoid arthritis
- Amyloidosis
- Carpal tunnel syndrom
- De Quervain's tendonitis
- The congenital form occurs in very young children and involves the thumb

Occupational factors could explain a relative statistical association between this condition and the seamstress, maintenance technician and secretarial professions. However, this is not universally demonstrated by science and the causal relationship is difficult to establish. In most cases, there is no causal relationship between work and this pathology.

2 /

WHAT ARE THE SYMPTOMS OF TRIGGER FINGER?

The affected patient will experience pain at the palm side of the hand at the base of the affected finger. The gradual emergence of this pain may be accompanied by slight swelling. Stenosing tenosynovitis is evolutionary in nature; it usually starts with a difficulty associated with the finger extension (opening the hand) being done with a projection or a click. Over time, the situation deteriorates and the finger becomes stuck in flexion. The affected person must use his other hand to release the finger manually, often with pain. When the situation deteriorates, the finger becomes permanently stuck in this position and is not possible to extend, even passively. Ankylosis of the finger joint will then follow.

3 /

WHAT IS THE CAUSE OF THE PROBLEM?

The flexor tendons which serve to bend the finger joints normally slide in a narrow channel of the palmar surface of the hand and the finger which is known as «digital channel».

Sometimes the tendons become the seat of inflammation and an increase in size. Then a palpable thickening of the tendon called a «nodule» often appears.

The flexor tendons of the finger can no longer slide normally in the digital channel and a block and a restriction of mobility appear. This is commonly the cause of painful trigger finger.

However, the sliding of the tendons may also be restricted by inflammation and thickening of the connective tissue, called synovium, overlying the finger joint in question; this is called synovitis.



The most frequently affected finger is the ring finger, followed by the thumb, middle then the index finger and little finger respectively.

4 /

HOW IS IT DIAGNOSED AND WHAT KINDS OF TESTS DO I NEED?

In general, trigger finger is easily recognized by the history and chronology of the symptoms. Clinical examination is easy enough and sufficient to identify the problem. In rare cases, it may be useful to obtain confirmation of the disease by further investigation.

5 /

IS ULTRASOUND HELPFUL?

Ultrasound is a test that can be offered to identify and assess the state of the flexor tendons as well as the presence of a nodule or inflammation.

Ultrasound can detect the causative agents of the condition, or the expansion of the tendon or the presence of synovitis. This dynamic examination can also view the blocking

phenomenon during the flexion-extension of the finger. This exam requires a referral from a medical practitioner.

6 /

DO I NEED AN X-RAY?

An X-ray examination is of little use for the diagnosis of trigger finger, because it only shows the bone and omits soft tissues such as tendons or synovial membranes.

This exam requires a referral from a medical practitioner.

7 /

DO I NEED AN MRI?

Nuclear magnetic resonance (NMR or MRI) is a sophisticated review which allows soft tissue to be better seen, meaning the tendons inside the channel. It will highlight if there is an abnormal inflammation thereof. However, this review is not required in most cases and are often difficult to access and expensive enough. The MRI should be used judiciously and reserved for situations that warrant it, only. For example, it is useful for unusual clinical presentations.

This exam requires a referral from a medical practitioner.

8 /

DO I NEED AN EMG?

Electromyography and the measurement of nerve conduction velocities assess the function and performance of the nerves but are of no use for the diagnosis of trigger finger.

These tests can, however, be useful if there is carpal tunnel syndrome in combination with trigger finger.

9 /

CAN TRIGGER FINGER BE ASSOCIATED WITH WORK OR REPETITIVE MOVEMENTS?

Frequent repetition and long periods of holding or gripping without resting may trigger or worsen the symptoms of tenosynovitis but the scientific evidence for a possible link to work remains low in medical literature.

Prolonged work with a computer keyboard or mouse is not recognized as a causal factor of trigger finger.

10 /

WHAT CAN I DO TO EASE MY PAIN?

It is important to understand that the pain is mainly caused when the nodule formed on

the tendon rubs against the pulley located at the section of the palm of the hand that is near the base of the affected finger. Based on this knowledge, the first goal is to limit this friction to allow the nodule resolve or at least to reduce the surrounding inflammation. A smaller nodule rubs less on the pulley and thus will not cause as much discomfort and hooking. Any exercise where repetitive movements of the fingers are solicited to tighten/loosen is prescribed, such as a stress ball or a tennis ball.

The following measures should be adopted immediately :

- Identify activities that trigger symptoms and avoid them for a few days. An occupational therapist can help you change your posture or your workplace and encourage you to take regular breaks. It is also important to alternate tasks to save the affected fingers. Holding small tools tightly and for a long period of time should also be avoided.
- Obtain an orthosis to rest the affected finger. This orthosis must substantially limit the full flexion of the metacarpophalangeal joint of the finger, which is located at the base joint of the finger where the finger is attached to the hand. The orthosis must position the joint only in neutral or straight. It should also allow the rest of the finger to move and should in no way limit the movements of the wrist and fingers. Such an orthosis is available from specialized occupational therapists or in some orthotists. By avoiding movement in this portion of the finger, the friction of the tendon on the pulley is avoided. These orthotics are mainly custom made (thermoplastic molded orthotics) although some prefabricated models exist. The brace should be worn during waking hours, when the finger is stimulated, but it can also be worn at night for three to six weeks. Then stop wearing the orthosis and see if the symptoms reappear or increase in intensity. If this is the case, it is not recommended to continue wearing the orthosis without consulting a doctor because it means that the nodule is large enough that it can limit the active movements of the affected finger and it is important to consult a hand surgeon.
- Change the tools or work equipment you use that are associated with the onset of symptoms. Increase the diameter (size) of grips and handles on frequently used tools. Avoid using tools or instruments that apply pressure locally where pain is experienced, such as using scissors if the finger trigger is in the thumb.
- Avoid using tools with vibrations or choose tools that cause less vibration. Wearing anti-vibration gloves may be beneficial.
- Apply ice locally on the affected fingers and in the palm of the hand if you notice benefits. Ice can be applied for periods of 10 minutes, waiting a minimum of 2 hours before reapplying. Use a towel soaked in cold water, a bottle of cold water, or ice applied directly in the palm of the hand for comfort.
- Use «contrast» baths : To reduce the swelling sensation you can feel in your hand and fingers, or visible swelling there, you can try to «contrast» baths. These baths will create an artificial «pumping» in your hand.

Instructions:

1. Take 2 containers that allow you to completely immerse your hand in water. If your kitchen sink is 2 basins, it can be easily used.

2. Fill one container with warm water, hot enough to be easily tolerable, but not too hot, to avoid burns.
3. Fill the other container with cold tap water.
4. Place the hand, including the wrist, in one container and stay 1 full minute, minute as counted with a timer.
5. Alternate from one container to the other every minute, for a total of 10 minutes.

You can feel relief following these baths. They can then be carried out 2 times a day, once early in the day and once in the afternoon. If you are not experiencing any relief or positive effect on the swelling of your hand or fingers after making these baths for 1 week, you can stop doing them.

11 /

WHAT ABOUT THE USEFULNESS OF A CORTISONE INJECTION INTO THE CARPAL TUNNEL?

Cortisone injections into the digital channel, when properly performed by a specialist, are not very painful and can improve symptoms. However, it is not advisable to repeat more than two to four times because they lose their effectiveness and involve risks of local complications.

A variety of complications have been described after cortisone injection, including: weakening of the tissues (in particular, skin atrophy), discoloration or regional depigmentation of the skin, the sometimes irreversible melting of the soft tissues and the rupture of flexor tendons. Risk of infection is also associated, as cortisone reduces the local capacity of defense against infections.

Injected cortisone does not cause weight gain, as can the cortisone tablets taken by mouth.

If no improvement, even temporarily, is noted, another treatment must be looked for.

12 /

HOW DOES CORTISONE WORK?

Cortisone is an extremely powerful anti-inflammatory that, when injected in the canal, will essentially deflate the flexor tendons therein which serve to bend your fingers.

This effect is temporary and relief is, unfortunately, short-lived; ranging from a few weeks to a few months.

13 /

CAN THE INJECTION OF HYALURONIC ACID BE USEFUL FOR IMPROVING THE SLIDING OF THE FLEXOR TENDONS?

Only one comparative study published in 2015 suggests that the injection of hyaluronic

acid in the flexor sheath could improve the symptoms of trigger finger. However, this study demonstrated that cortisone injections had superior efficacy to those of hyaluronic acid to control these symptoms.

14 /

IS IT ABSOLUTELY NECESSARY TO TREAT TRIGGER FINGER?

It is important not to ignore the problem and to treat this disease quickly. There is indeed a risk of irreversible stiffness of the joints of the finger by ankylosis.

If treatment is too late, the mobility of the finger could be permanently compromised.

To avoid such consequences, it is not recommended to delay treatment.

15 /

I TRIED ALL THE MEASURES SUGGESTED ABOVE AND NOTHING WORKS. WHAT SHOULD I DO?

The failure of conservative treatment indicates that compression is severe enough that the problems persist and a consultation with a hand surgeon is essential. A decompression intervention of the flexor tendons of the finger is indicated to reduce the pressure in the canal and restore the normal sliding of tendons. This will prevent further degradation of these that can lead to irreversible damage.

16 /

GIVEN THIS SITUATION, IS SURGERY ESSENTIAL?

In a situation where the actual medical or conservative treatment fails, there is a formal indication for surgery and the principle of surgery is quite simple:

The digital canal is a rigid structure that becomes too narrow for the content (both flexor tendons for the fingers and thumb flexor for the thumb). The floor of the canal is formed by the finger bone and the roof of the canal is formed by a thick ligament called the annular A1 pulley.

The goal of surgery is to reduce the pressure in the canal and to allow the normal slip of the tendon, thus leading to the resorption of inflammation caused by mechanical friction.

The solution is to incise the annular A1 pulley forming the roof of the canal, so that the latter opens and the volume of the canal is increased. The pressure therefore decreases immediately and the tendon or tendons are decompressed.

The sectioned ligament heals in its new position and will therefore, once healed, be longer than it was before; thus increasing the size of the permanent canal.

17 /

WHAT TYPE OF ANESTHESIA IS REQUIRED FOR THIS PROCEDURE?

Today, this procedure is performed most commonly under local anesthesia in a very comfortable and very safe manner, so there are no medical reasons, under normal circumstances, to practice this surgery under regional anesthesia (complete anesthesia of the arm) and even less under general anesthesia. Risks related to anesthesia are particularly reduced.

18 /

HOW IS THIS SURGERY CURRENTLY DONE?

Conventional surgery was an open surgery; the principle is to make a long incision of two centimeters in the palm of the hand, to achieve the annular pulley. The goal is to cut it to enlarge the digital canal; however, this technique involves sacrifice and the cutting of the structures located above the ligament to be sectioned, including :

- The skin
- Subcutaneous fatty tissue that often contains small nerve fibers responsible for the sometimes scarring postoperative scarring

This conventional technique gives good results but has many disadvantages:

- It unnecessarily sacrifices important structures
- The healing period is thereby lengthened very considerably
- The risk of reopening wounds and infection are more significant, especially in diabetics
- The risks of adhesion and postoperative stiffness increase
- The scar in the palm of the hand often remains hypersensitive for months and can be unsightly
- Loss of postoperative strength endures about three to six months
- The treatment of multiple fingers increases the convalescence
- The treatment of both hands must often be separated by a period of two to three weeks



19 /

ARE THERE MORE MODERN AND LESS INVASIVE ALTERNATIVE ENDOSCOPIC TECHNIQUES?

There are indeed other techniques, much more recent, sophisticated and which are less invasive to the sectioning of the annular pulley only, without any incisions in the palm. The skin, the delicate subcutaneous fatty tissue and palm muscles are left intact and surgical trauma is thus very limited.

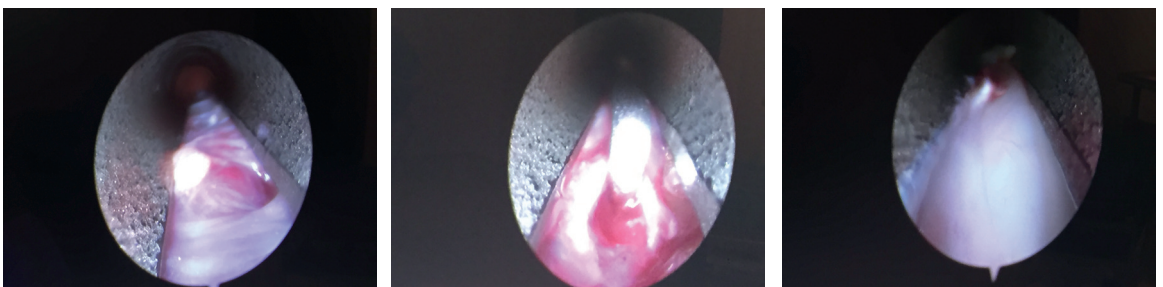
This is done by two very tiny orifices at the level of the palm and at the base of the finger, into which a small high-definition camera is introduced inside the canal to completely visualize the annular pulley and cut with a retrograde blade under continuous direct vision.

Endoscopy is a very safe procedure that allows for a much faster recovery involving less pain and stiffness. It also minimizes the sensitivity associated with the scar.

The consequences of the procedure are so small that modern technology can even operate on several fingers and even both hands simultaneously, thus shortening all the recovery period compared to older techniques.

Its advantages are:

- No incisions and scars
- Perfect visualization of anatomical structures
- Precise and selective incision of the annular pulley under direct vision
- Immediate verification of the effectiveness of the procedure by directly observing the sliding of the tendons and the disappearance of the jump



20 /

ARE THERE OTHER MINIMALLY INVASIVE SURGICAL TECHNIQUES FOR TRIGGER FINGER?

Yes, the percutaneous needle is an alternative and can be done under local anesthesia, using the bevel of a needle as blade for cutting the annular pulley, through the skin without incision and scar-free. However, this is a technique that is blind, ie without seeing what is cut.

For this reason, studies have shown that traumatic lesions to the flexor tendon immediately below the pulley are very common. These are partial lacerations that do not necessarily have clinical impact, but may, however, cause scar adhesions in injured tendons and restrict some mobility of the fingers.

This technique is a good option but less accurate and more risky than endoscopic surgery.

21 /

ARE THESE TREATMENTS PAINFUL?

All these procedures are carried out under local anesthesia and are not painful.

After the effects of local anesthesia wears off, the least painful procedure is the treatment by endoscopy, which provides the most mild discomfort for 24 hours.

Postoperatively, most patients take light painkillers for less than a twenty-four hour period (paracetamol or acetaminophen and nonsteroidal anti-inflammatory drugs).

Patients can recover the function of their hands immediately with less invasive techniques like endoscopic or percutaneous treatment.

24 hours after endoscopic decompression, it is recommended to remove the bandage and wash the hands. Free use is then cleared. No stitches are required and therefore none need to be removed.

Patients can dress, eat, drink, drive, and immediately enjoy the ease of recovery, which is extremely fast. This is a great advantage compared to conventional surgery, which involves waiting for the healing of the wound in the palm of the hand, and carries the risk of wound reopening, infection and stiffness.

22 /

WHAT ARE THE REAL CHANCES OF SUCCESS WITH THIS SURGERY?

Endoscopic trigger finger surgery has a success rate of 98 to 99%. Other techniques also have a high success rate but recovery is longer.

Like all endoscopic techniques, this specialized technique requires special skills and should be performed by an experienced endoscopic surgeon's hand.

23 /

WE OFTEN HEAR HORROR STORIES IN CONNECTION WITH TRIGGER FINGER. ARE THESE REAL STORIES?

Horror stories are rare but we hear a lot about them, which is true for all surgeries. This is a surgery that is highly secure having a proven reliable record in medical literature, provided

it is performed by a hand surgeon; that is to say, a plastic surgeon or orthopedist who has additional training and expertise in endoscopic surgery of the hand.

Under these conditions, there are fewer horror stories following this operation; the complication rate is minimized by the fact that it is less aggressive and neater than open surgery.

24 /

WHAT ARE POSSIBLE COMPLICATIONS FROM THIS TYPE OF SURGERY?

Infection is rare but can be caused by the fact that bacteria traverses the skin and pro-life-rates under the latter, as soon as a skin incision is made. The infection rate after this kind of surgery is less than 1% and even lower with laparoscopic surgery which is less invasive by nature. Problems with wound healing and postoperative pain associated therein are also rare.

25 /

IS THERE A RISK OF NERVE LACERATIONS?

Nerve laceration, ie accidental section of a nerve is a rare complication. It is essential to choose a surgeon who is very experienced in this technique.

The prudent surgeon will not hesitate to convert to open surgery in patients for whom endoscopic surgery is not possible.

26 /

I'VE HEARD OF REFLEX DYSTROPHY SYNDROME OR «CRPS»? WHAT DOES THAT MEAN?

C.R.P.S. «Complex Regional Pain Syndrome» is amplified and overreaction of the body to a painful trauma such as surgical trauma. This is a very rare complication of surgery with trigger finger and even rarer with endoscopic surgery since it is neater and less aggressive. It is important for your hand specialist to quickly recognize and treat properly.

27 /

WHAT ABOUT STIFFNESS? I HEARD IT WAS NECESSARY TO HAVE REHABILITATION AFTER SURGERY.

Stiffness after surgery is primarily due to the healing process, the scarring. It can be quite considerable, depending on the type of surgery performed and the personal propensity of the operated person.

Stiffness is very rare after endoscopic surgery as the patient moves immediately without waiting for the wound to heal.

It hurts less so it moves earlier and more completely. Less scarring therefore involves less fibrosis and stiffness is the exception.

It is rare for rehabilitation to be needed after endoscopic surgery, which is not true with open surgery which can be followed by several weeks of rehabilitation.

28 /

AND PAINFUL SCARS WITHIN THE HAND?

Conventional open surgery often leaves a scar that remains hypersensitive for weeks in a very exposed area, the palm of the hand. Endoscopic surgery eliminates it completely.

29 /

WHAT KIND OF RECOVERY PLAN MUST I PREPARE FOR?

According to the operative technique chosen and the number of operated fingers, recovery time varies from a few days to weeks and months.

Following conventional surgery, you should elevate your hand for several days and perform finger motion exercises, but the use of the hand will be limited for the first two to three weeks. The wounds must be protected to avoid excessive stress, which may lead to reopening a wound or infection.

After endoscopic decompression, patients can carry on as usual, dressing, eating, drinking very quickly, meaning immediately after the surgery, as soon as the local anesthesia wears off.

Sports will be delayed, depending on the type of activity. Regarding biking or golf, it takes about two weeks after endoscopy and about six to eight weeks after conventional surgery.

For what is the heavy physical activities such as push-ups or doing a heavy physical work (a mechanic using a pneumatic hammer etc.), it takes four to six weeks with endoscopic surgery and three to four months with conventional surgery.

30 /

IS IT POSSIBLE TO RETURN TO WORK THE WEEK AFTER SURGERY?

People with relatively light work on the physical plane will be able to resume very quickly, after 48 hours. Regarding heavy physical labor, recovery time is between two and three weeks. For conventional surgery, associated recovery time is significantly longer, from two to three months.

31 /

IS IT NECESSARY TO WEAR A BRACE AFTER SURGERY?

In some cases it may be necessary to use an orthotic brace at night for two to three weeks if there is a finger flexion contracture. This is more common after conventional surgery because it is more invasive and thus leads to more swelling and scarring.

The surgery, in fact, created an internal wound in the ligament that must heal. This healing is done through fibrosis and tendons may tend to catch the scar, limiting their mobility and sliding.

To avoid this, it is important to move the joint quickly and therefore to not wear an orthotic.

32 /

WHAT ARE YOUR SUGGESTIONS FOR CHOOSING THE BEST DOCTOR AND WHAT QUESTIONS SHOULD A PATIENT BE SURE TO ASK?

First, it is very important that the patient has a comfortable and trusting relationship with the surgeon, who should ideally be a hand surgeon. He can be either an orthopedic surgeon or plastic surgeon who received special training in hand surgery after general surgical training. To optimize results, the practice of the surgeon should be devoted primarily to hand surgery, bringing expertise into this field.

As shown by numerous studies, this approach guarantees the best results with the risk of complications minimized.

33 /

WHAT IS THE AGE LIMIT FOR A PATIENT WHO WISHES TO UNDERGO SURGERY?

There is no age limit. The patient should be able to undergo a brief procedure in a few minutes under local anesthesia.

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