



SELF-HELP BOOK FOR **DUPUYTREN'S DISEASE**

NO06 THE ESSENTIAL GUIDE
TO A QUICK RECOVERY

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SELF-HELP BOOK
DUPUYTREN'S
DISEASE!
**THE ESSENTIAL GUIDE
TO A QUICK RECOVERY**



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THE ESSENTIAL GUIDE TO A QUICK RECOVERY

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Dupuytren's disease is a common condition that is often overlooked and restricts mobility of the hand if not treated promptly. It was described by a French surgeon in 1831, the Baron Guillaume Dupuytren. This practical guide, written by specialists in hand surgery and therapy, will help you understand the condition and how to adopt effective measures to relieve your symptoms.

By reading this, in only a few minutes you will find the answers to all the must-ask questions you might have about Dupuytren's disease!

You will be thoroughly informed regarding the latest knowledge about this disease and you will learn how to treat yourself effectively so that you can resume your personal, professional and leisure activities.

At the end of this book, you will know how and when to consult a hand surgeon should it become necessary.

Stop enduring pain and especially do not ignore the pathology you suffer from anymore: your hands are unique and precious!

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THE ESSENTIAL GUIDE TO A QUICK RECOVERY



1 /

WHAT IS DUPUYTREN'S DISEASE?

Dupuytren's disease is a common progressive fibrotic condition affecting the palmar and digital fascia of the hand. It results in thickening and shortening of the fascia, causing a contracture.



A contracture is a condition when one or more finger is in a fixed bent position. This condition typically starts as a hard nodule under the skin on the palm.

This nodule is due to formation of abnormal connective tissue causing thickening of the connective tissue in the palm or finger. Dupuytren's disease is one of the most common hand problems, especially in the elderly population. Dupuytren's disease can affect many everyday tasks such as writing, cooking and driving as it can limit the opening of the hand.

2 /

WHY IS IT CALLED DUPUYTREN'S DISEASE?

The disease was described by Guillaume Dupuytren, a French surgeon born in 1777. The famous physician was made a baron by king Louis XVIII. Dupuytren described his surgical technique (open fasciotomy) on June 12th, 1831.

3 /

WHAT IS A FIBROMATOSIS

Dupuytren's disease belongs to a group of diseases causing tumour-like proliferation of fibrous tissues called fibromatoses. These include plantar (foot) fibromatosis (Ledderhose's disease) and penile fibromatosis (Peyronie's disease). The back of the fingers can be affected by Dupuytren's disease. Thickening of the back of the interphalangeal joints is known as knuckle pads or Garrod's nodules.



Frozen shoulder is a condition that causes pain and stiffness in the shoulder. It is frequently associated with Dupuytren's disease.

4 /

WHO IS AFFECTED AND WHY IS IT CALLED VIKING'S DISEASE?

Dupuytren's contracture affects about 5 % of the population in North America. It is most commonly observed in persons of Northern European descent. In Northern Europe, the prevalence can go as high as almost 40%. Sporadic cases are reported in Africans, Asians and Indians people.

A family history is often present. Males are three times as likely to develop disease and are more likely to have higher disease severity. Male predominance may be related to expression of androgen receptors in Dupuytren fascia. The disease onset in males tends to occur in the fifth to sixth decade. Men tend to present a decade earlier than females. The disease tends to be more aggressive in male patients.

5 /

WHICH FINGERS ARE MOST COMMONLY AFFECTED?

Dupuytren's disease most commonly affects the ring and the small fingers. The thumb and the index fingers are less commonly affected.



6 /

HOW DOES DUPUYTREN'S DISEASE DEVELOP? WHAT ARE OTHER CONDITIONS/CAUSES THAT ARE RELATED WITH DUPUYTREN'S DISEASE?

There is no known cause for Dupuytren's disease but there are many risk factors that could increase the chances of having Dupuytren's disease. The risk factors that are involved with the disease are family history, alcoholism, smoking, liver disease, diabetes, previous hand trauma, HIV and epilepsy.

a. Epilepsy

It has been shown that people that are chronic epileptics have a greater chance of having Dupuytren's disease. Most of the time, the patients will have symmetrical bilateral Dupuytren's disease. This increase chance of having Dupuytren's disease is probably caused by anti-seizure medication like barbiturates. A genetic link between the two diseases could be present.

b. Diabetes

Diabetes mellitus severely increases the likelihood of developing Dupuytren's disease and the use of insulin and oral hypoglycemics are associated with contractures. The disease seems to occur at a younger age and tends to be more severe in those with type 1 diabetes.

c. HIV

It is also suggested that patients infected by HIV are more at risk of developing Dupuytren's disease.

d. Trauma and Occupational stresses

Case reports of Dupuytren's disease occurring after surgical injury to the hand have been identified, suggesting that injury can trigger the onset of Dupuytren's disease. A history of manual labour with vibration exposure or recurrent trauma has been found to result in an increase in the incidence of Dupuytren's disease. The literature regarding occupation and Dupuytren's disease fails to identify a link between trauma and the development of the disease, but suggests an association between occupational exposure to vibration and Dupuytren's disease. At this point in time, there is no evidence of an association between Dupuytren's disease and highly repetitive or forceful work.

e. Family History

Dupuytren's contracture is usually passed down in families and is the most common inherited disorder of connective tissue. The inheritance pattern is often unclear.

The population with the greatest chance of having Dupuytren's disease are people with family links to northern Europe (Northern Scotland, Iceland, Norway). In some cases, Dupuytren's contracture is not inherited and occurs in people with no history of the condition in their family. These sporadic cases tend to begin later and be less severe than familial cases.

f. Alcoholism and Liver disease

There is a scientific debate on the association between alcohol consumption and the incidence of Dupuytren's contracture. Alcohol cannot be strictly proven to be a cause or a precipitant of the disease but there remains a possibility that its consumption may increase the risk of developing a contracture. Smoking is often associated with drinking and is a confounding factor. If alcohol does indeed precipitates the disease, perhaps in genetically predisposed patients, the mechanism is unknown.

g. Smoking

Cigarette smoking is linked statistically to Dupuytren's disease and may be involved in its pathogenesis by producing micro vascular occlusion and subsequent fibrosis and contracture or by some other mechanism. Smoking significantly (3X) increases the chances of developing Dupuytren's disease. Smoking also increases the chances of complications after treatment with worse outcomes.

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CAN DUPUYTREN'S DISEASE BE CURED?

Since the cause for the disease is still unknown there is still no cure for Dupuytren's disease. The current treatments for Dupuytren's disease are used either to slow down the progression for the disease or to help improve hand mobility and function.

8 /

IS DUPUYTREN'S DISEASE PAINFUL?

Dupuytren's disease is mostly classified as a painless disease. In most cases, Dupuytren's disease is more of an inconvenient disease than painful disease. Dupuytren's disease can prevent many individuals from doing everyday task caused by the lost in mobility of one or more fingers.

9 /

WHAT ARE THE SIGNS AND SYMPTOMS?

Fibromatosis

Palmar Fibromatosis is when the tissue from the palm of the hand starts to cover the tendon of the affected finger. This causes the finger tendon to thicken and becomes scared forming nodules on the palm of the hand. This will cause the affected tissue called palmar fascia to tighten pulling the finger towards the palm.

Nodules

Nodules are thickening of the fascia in the palm. These are painless, unless nerve compression or tenosynovitis is present.

Cords

For a progressive disease like Dupuytren's disease, a cord like structure appears from the nodules and causes a flexion deformity making it difficult to straighten the finger(s). The cords are painless.

Knuckle Pads

Knuckles pads are nodules that are typically found on the dorsal side of the hand (backside of the hand). They are found on the middle joint of the affected finger (PIP joint). Knuckle pads are not painful and cause more of a cosmetic problem. Knuckle pads that are found in Dupuytren's disease are solid-tumour like masses the lay over the joint. They are also known as Garrod's nodes.



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HOW IS THE DIAGNOSIS MADE AND WHAT TYPES OF TESTS SHOULD I TAKE IF I AM AFFECTED?

It is very rare for diagnoses test to be done when diagnosing Dupuytren's disease. Physician will diagnose Dupuytren's disease through feel and look of the hands. The Physician will press on the hand and fingers to check for knots or toughened tissues.

Ultrasound examination is not required but will demonstrate thickening of the palmar fascia, the presence of nodules or of a cord.

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WHAT DOES THE DOCTOR LOOK FOR DURING A CLINICAL EXAMINATION FOR DUPUYTREN'S CONTRACTURE?

- Firm nodules that can be tender, painful or either. These are made of fibrous tissues, are hard upon palpation and firmly adherent to the skin. These nodules do not move with tendons.
- Painless cords in the palm
- Skin blanching with active finger extension
- Atrophic grooves or pitting of the skin due to adhesions to the underlying fascia
- Knuckle pads on the back of the fingers. Their presence suggests a more aggressive disease (Fig 2: knuckle pads of the back of the middle joints, next to the dot)
- Metacarpo-phalangeal joint and inter-phalangeal joint contractures
- Hueston's table top test
- Presence of disease in the sole of feet (Ledderhose) or penis (Peryonie's disease)



ARE THERE DIFFERENT TYPES OF DUPUYTREN'S DISEASE?

A classification has been described by Eaton to factor in the variability of the disease. Not every diseased patient will develop a contracture.

a. Type A

This is the most aggressive form of Dupuytren's disease. This only occurs to 3% of people that have Dupuytren's disease. It mostly occurs to men that are under the age of 50 that have family history of Dupuytren's disease. Frequent association with knuckle pads and Ledderhose disease. This had been referred to as Dupuytren's diathesis.

b. Type B

This is the more common type. It is mostly found in the palm of the hand only and progresses less frequently to contractures. Family history is less common. Recurrences are slower. This is typically found in men above the age of 50. This type can become more severe when an individual possesses other risk factors such as diabetes, alcoholism or epilepsy.

c. Type C

This is a milder form of Dupuytren's disease that is typically found in diabetic or can be caused by certain medication like anticonvulsants that are used to treat epilepsy. This type of Dupuytren's disease is mostly not inherited genetically and will not be passed on to generations. It typically does not lead to severe contracture of the finger.

13 /

WHEN DO I NEED TO BE TREATED? WHAT IS THE TABLETOP TEST?

Put your hand flat on a table.



If you are not able to lay the hand flat on the tabletop, it is likely that you need treatment. This test along with measurements will assess the degree of contracture and monitor your condition over time.

14 /

HOW FAST WILL THE DISEASE PROGRESS?

The rate at which the disease will progress is highly variable and unpredictable. In most cases, it develops slowly over months or years. You should self-monitor using the tabletop test and check in regularly with your specialist.

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WHAT CAN I DO TO PREVENT DUPUYTREN'S DISEASE?

Unfortunately, nothing can be done to prevent the disease from developing or progressing. Seek specialized help early to make sure you get the best treatment in a timely manner to optimize the outcome.

WHAT CAN I DO TO RELIEVE THE PAIN?

Dupuytren's disease can give some discomfort in the early stages, especially when palmar nodules appear or grow. It is not that painful once the cords are fully developed. This pain is often related to the local compression of small nerve fibers by nodules. The pain can also be related to inflammation.

The treatments that you can apply yourself are:

- Applying cold can help you to relieve the pain associated with inflammation. You can use a bag of frozen peas that can serve as a bag of ice. Bags of peas have the advantage of conforming well to the contours of the hand and fingers. Also, these bags can be easily reused. You can also buy reusable cold packs and keep them in the freezer or make them yourself by placing ice cubes in a bag.

In all cases, be sure to protect the skin from cold burns by placing a towel between the skin and the cold source. Apply ice for intervals of ten to fifteen minutes each time.

- The local application of heat can help reduce pain and stiffness while soothing muscle spasms. You can use local heat application before engaging in hands-on activities such as cooking or gardening. Heat-resistant bags in the microwave or in hot water can be used as heat sources. You can also make your own heat bag by filling a sock with uncooked rice. Close the sock tightly and place the sock with the rice into the microwave. You can then wrap it around painful joints or simply let it rest in the palm of your hand.

Always remember to protect your skin from heat to avoid thermal burns and do not overheat the bag. Apply heat for ten to twenty-minute intervals.

A paraffin bath is also a great way to apply heat to your aching hand. The moist heat created by the wax offers a soothing feeling as the heat seems to penetrate your joints. The container sold in the stores contains a mixture of paraffin and mineral oil. You can then dip your hand several times by letting the wax dry in contact with the air, between each layer. You will then put 3 to 5 layers of hot wax on the hand then wrap it in plastic wrap and then wrap it with a towel to keep the heat.

A homemade recipe that also brings comparable benefits is as follows:

- Coat the hand with an oil such as vegetable, baby, mineral, sweet almond, or other.
- Slide your hand into a glove that is used to wash the dishes. This glove should only be used for the treatment described.
- Fill the lavatory bowl with lukewarm, or warm water, as tolerated.
- Put the gloved hand in the water for 10 to 15 minutes.

- Quilted gloves: Cyclist gloves have small foam or gel cushions that can protect the palm during certain manual activities such as gardening or driving and can significantly relieve pain. Putting on a glove can be difficult depending on the degree of retraction of the fingers.
- Medications: It would be better to consult a pharmacist or a doctor before taking any medication.
 - Anti-pain such as acetaminophen or paracetamol are the first drugs to try because of their low toxicity and their effectiveness in controlling pain.
 - Anti-inflammatories gel or tablets can also be used effectively to relieve pain and reduce inflammation of the damaged joints. These may have side effects such as gastritis or stomach ulcer and preventive measures may need to be taken. In particular, taking non-steroidal anti-inflammatory drugs for a long period of time should be avoided.

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WHAT ARE THE DIFFERENT TREATMENTS FOR DUPUYTREN'S DISEASE?

Dupuytren's disease is a medical disease of the connective tissue. Surgery cannot cure Dupuytren's disease.

Many medications, including allopurinol, colchicine, tamoxifen, ACE inhibitors, 5 fluoro-uracil, interferon and calcium channel blockers have been tried but at this time, none can be recommended to treat Dupuytren's disease based on scientific evidence.

A successful medical treatment will be most likely developed in the future.

Non-surgical treatment:

Cortison injection...

A cortisone injection may have a specific effect on nodules and can soften them. It may also slow down the disease. It does not affect contractures.

Radiation therapy...

Radiation therapy is recommended to prevent contractures before they appear. Radiotherapy could reduce itching, tenderness and firmness of nodules. There is insufficient evidence on the usefulness of radiotherapy for Dupuytren's disease and a recommendation for its use for prophylaxis (prevention) cannot be made.

Surgery...

Response of the body to surgery:

The hand affected by Dupuytren's disease forms fibrotic tissue almost exactly as if it was responding to trauma by forming scar tissue. When surgery is performed in a hand affected by Dupuytren's, the healing and scar tissue formation response can be excessive and result in swelling, stiffness, tenderness and difficulty using the hand.

The body's reaction to surgery can result in permanent complications and impairment even if the surgery is perfectly executed.

i. Limited or segmental Fasciectomy

Limited Fasciectomy is one of the most common approaches to treat Dupuytren's contracture. This surgery removes the diseased tissue and fascia. The skin is open by using a zigzag incision or straight incision. After limited fasciectomy the patient's hand is wrapped with compressive bandages for approximately one to two weeks. Therapy is started as soon as possible after surgery.

ii. Radical or complete fasciectomy

This procedure requires removal of the whole fascia. Complications rates are high.

iii. Dermofasciectomy

This is normally a procedure that is used for people that have a greater chance of recurrences. This procedure is similar to limited fasciectomy since it removes the diseased tissues. The skin is also removed and replaced with a skin graft that is taken from the elbow or the inside of the arm. After surgery, the hand must be protected by a dressing. Once the dressing is removed, mobilization can be started. This procedure has a lower recurrence rate but is associated with a higher complication rate. Therapy is started as soon as the graft has taken.

iv. Segmental Fasciectomy

This is a procedure when the parts of the abnormal tissues are removed to release the contracted fingers. This procedure is less invasive as it removes less tissue (segments) and the incisions are smaller. After the procedure, the patients can start moving as of the next day. Complication rates are lower but recurrence rates are higher.

Types of closures:

- Open palm: The fascia is removed by transverse incisions. The wounds are left open to heal secondarily in a few weeks. This type of technique allows for less hematomas, infections or skin necrosis. The healing time is longer.
- Simple closure: The edges of the wounds are approximated with sutures to facilitate healing. The wounds closed in about two weeks.
- Skin grafts and skin flaps: Skin defects are closed with a skin transfer or flap from another area.

Less Invasive Treatments

v. Percutaneous Needle Aponeurotomy (PNA)

The abnormal tissue (cord) is cut at as many levels as possible through the skin. The surgeon used the tip of a fine needle to weaken the cords. The physician is then able to extend the finger(s) by stretching the cords.

After the procedure, the patients will have to wear a dressing on the hand for about 24 to 72 hours and will be able to use the hand immediately after the bandage is removed. The skin heals very quickly. The fast recovery makes the procedure very appealing to many patients.

vi. Extensive percutaneous aponeurotomy and lipografting

This procedure is basically an extensive percutaneous needle aponeurotomy followed by fat tissue grafting harvested from the patient's abdomen.

This lipograft is injected under the skin of the hand after the abnormal tissue has been cut and separated.

vii. Enzymatic fasciotomy with Collagenase injection

This is a procedure where the abnormal tissue is weakened through the injections of an enzyme called clostridial collagenase. The procedure requires two stages.

Stage one: Collagenase injection under local anaesthesia.

Stage two: The patient returns after 24 to 72 hours later and is injected with a local anaesthetic. The physician will then stretch the affected fingers to straighten them out.

After the procedure, the patient's hand will be wrapped up in bulky gauze for 24 hours. The patient should wear a splint at night for about 2 to 4 months and should seek occupational or physical therapy for digital extension and flexion exercises.

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WHAT TYPE OF ANAESTHESIA IS USED FOR DUPUYTREN'S SURGERY?

Percutaneous Needle Aponeurotomy and collagenase injections are performed under local anaesthesia.

Segmental fasciectomy and more radical procedures are performed under local or regional block according to the surgeon and patient's preferences.

There is no need for general anaesthesia for Dupuytren's surgery. As a result, complications associated with general anaesthesia are avoided.

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DO I NEED TO WEAR A SPLINT AFTER SURGERY? HOW ABOUT HAND THERAPY?

Wearing a custom-made extension splint is often recommended after surgery even if the exact benefit of splinting is controversial. Splinting should be performed by a hand therapist or a splint specialist. The goal is to maintain extension of the fingers while the soft tissues are healing. Splints are often worn at night only to prevent stiffness.



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ARE THESE TREATMENTS PAINFUL? WILL I NEED PAIN MEDICATION?

Dupuytren's release surgery will cause some discomfort or minor to moderate pain. Postoperative pain is usually well controlled by prescription for a narcotic pain medication. After 24 to 48 hours, hand elevation and minor painkillers should be enough to control pain.

Anti-inflammatories can help as well. The patients should not drive if they are taking the narcotic pain medication.

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WHAT ARE THE POSSIBLE COMPLICATIONS OF TREATMENT?

- Bleeding and hematoma
- Skin loss from necrosis
- Infection
- Damage to a digital artery
- Damage to a digital nerve with loss of sensation
- Stiffness and loss of range of motion
- Regional pain syndrome (Complex regional pain syndrome)
- Pain due to small nerve injury
- Tendon rupture (from Collagenase)
- Pain in hand, forearm and elbow, swollen lymph nodes (Collagenase)
- Tendon laceration (Needle aponeurotomy)

22 /

HOW COMMON IS RECURRENCE AFTER TREATMENT?

Recurrence is when the disease recurs in a treated area. Surgery cannot cure Dupuytren's disease so a recurrence is to be expected. More aggressive surgical procedures have lower recurrence rates but higher rates of complications (dermofasciectomy with skin grafting).

A recurrence is more likely in a patient with bilateral disease, a family history or when knuckle pads are present.

An extension is when the disease spreads to an untreated area.

23 /

HOW LONG IS RECOVERY AFTER SURGICAL TREATMENT?

Therapy is not required after percutaneous needle aponeurotomy and unrestricted return to normal activities is possible after a few days.

Collagenase treatment triggers an inflammatory reaction that settles in a few days. Return to most activities takes about three to four weeks.

Recovery after surgical treatment can require up to six months.

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HOW SHOULD I CHOOSE MY SURGEON?

Dupuytren's contracture is a recurring disease and treatment options are numerous. It is advisable to choose a very experienced and certified hand surgeon to treat your hand. Your hand surgeon is qualified to help you make the best choice for your individual situation. Complications are not infrequent after surgery for Dupuytren's disease and treatment should be personalized.

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WHERE CAN I FIND MORE INFORMATION ON DUPUYTREN'S DISEASE?

The following websites are very useful for patients and families interested in Dupuytren's disease.

The Dupuytren's foundation: www.dupuytren.org

The International Dupuytren Society: dupuytren-online.info

The Canadian Dupuytren Society: <http://www.dupuytrenCanada.ca>

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