



KATARZYNA MACKENZIE

PLASTIC SURGEON

## Dupuytren's Disease

---

Dupuytren's disease, also known as Dupuytren's contracture is an abnormal thickening of the tissue called fascia just beneath the skin. This thickening occurs in the palm and can extend into the fingers pulling on the fingers and causing them to bend toward the palm, resulting in what is known as a Dupuytren's contracture.

Dupuytren's disease may get worse over time and can interfere with hand function, making it difficult to perform daily activities. When this occurs, there are nonsurgical and surgical treatment options available to help slow the progression of the disease and improve motion in the affected fingers.

Length of surgery	1-3 hours
Anaesthesia	General or regional anaesthetic
Hospital stay	Day case
Risks/complications of surgery	Frequent: Swelling, stiffness, discomfort on movement Infrequent: Infection, bleeding (haematoma), delayed wound healing, painful scar, damage to the nerve/vessels, recurrence, complex regional pain syndrome
Recovery	1-2 weeks until return to office work 1 week splint and then night splint 3-6 months 3-16 weeks until swelling disappears 6-8 weeks until return to gym and other strenuous activities 6-10 weeks no heavy lifting 3-6 months until final result
Driving	2-3 weeks
Hand position	Elevation above the heart level
Follow up	1 week, 6 weeks, 3 months, 6 months
Duration of results	Cannot stop the progression of disease

# KATARZYNA MACKENZIE

PLASTIC SURGEON

## Dupuytren's disease information sheet

Any hand surgery procedure is a personal choice and understandably there are a number of questions that arise. This information sheet is a general guide for patients considering Dupuytren's disease treatment under the care of Dr Mackenzie. It should provide the answers to some questions that you may have. There are many factors that can affect your individual operation, your recovery and the long-term result. Some of these factors include your overall health, previous surgery, any bleeding tendencies that you have and your healing capabilities, some of which will be affected by smoking, alcohol and various medications. Such issues that are specific to you need to be discussed with Dr Mackenzie and are not covered here. Please feel free to ask her any further questions before you sign the consent form.

## What is Dupuytren's disease?

Dupuytren's disease is a condition that affects the fascia—the fibrous layer of tissue that lies underneath the skin in the palm and fingers. In patients with Dupuytren's, the fascia thickens, then tightens over time. This causes the fingers to be pulled inward, towards the palm, resulting in what is known as a Dupuytren's contracture.

Firm nodules appear in the ligaments just beneath the skin of the palm of the hand, and in some cases, they extend to form cords that can prevent the finger straightening completely. The nodules and cords may be associated with small pits in the skin. Nodules over the back of the finger knuckles (Garrod's knuckle pads) and lumps on the soles of the feet (plantar fibromatosis) are seen in some people with Dupuytren's disease.

The disease usually progresses slowly, although the rate can vary. In rare situations, rapid progression can occur over a period of weeks or months. The ring and small fingers are most commonly involved. In many cases, both hands are affected, but each hand can be affected differently.

## What are the signs and symptoms of Dupuytren's disease?

Symptoms and signs of Dupuytren's disease may include:

### **Nodules**

- One or more small nodules may develop in the palm of the hand
- These nodules are fixed to the overlying skin
- They may feel tender but, over time, this tenderness usually goes away
- There can be "pitting" or deep indentation of the skin near the nodules

# KATARZYNA MACKENZIE

PLASTIC SURGEON

## Cords

- The nodules may thicken and contract, contributing to the formation of dense cords of tissue under the skin
- These cords can restrict the fingers and thumb from straightening or from spreading apart

## Contractures

- As the tissue under the skin tightens, one or more of fingers may be pulled toward the palm and may be restricted from spreading apart
- The ring and little fingers are most commonly affected, but any or all of the fingers can be involved, including the thumb
- Most commonly, the first joint (knuckle joint) of the finger is affected, but the other joints may also be involved
- As the bend in the finger increases, it may be hard to straighten it fully. It may be difficult to grasp large objects, put the hand in a pocket, or perform other simple activities
- Some patients with Dupuytren's disease may develop thickened tissue on the feet (Ledderhose disease), finger knuckles (Garrod's knuckle pads) or penis (Peyronie's disease)

## What are the risk factors for Dupuytren's disease?

It is not clear why Dupuytren's disease occurs. Several factors may increase the risk for developing the condition. It is often associated with:

- Celtic or Northern European ancestry
- More common in men
- Hereditary-it often runs in families
- Alcohol use and smoking
- Certain medical conditions: diabetes, epilepsy, rheumatoid arthritis

## How is the Dupuytren's disease diagnosed?

Dr Mackenzie will take a detailed history including complete medical history, functional deficit and risk factors.

That will be followed by examination of the hand. Dr Mackenzie will check the hand for stiffness, pain, tenderness, nodules, thickening, joint contracture, sensation, measure the range of motion of fingers and thumb. Photographs will be taken.

# KATARZYNA MACKENZIE

PLASTIC SURGEON

## Why do I need surgery?

Currently, there is no cure for Dupuytren's disease; however, the condition is not dangerous. Although it varies from patient to patient, Dupuytren's disease usually progresses slowly and may not become troublesome for many years. Surgery can make bent fingers straighter, though not always fully straight; it cannot eradicate the disease. Surgery is recommended if:

- Thickening and pulling on the fingers continues to increase
- Painful nodule interferes with grip
- Disease progresses rapidly
- Unable to do some everyday activities such as putting the hand in a pocket, shaking hands or wearing gloves

## What is the treatment?

### Non-surgical treatment

Non-surgical treatments can be tried when the thickening is only minimal:

- Splint
- Steroid can be injected into a painful nodule. In some cases, it may slow the progression of a contracture. The effectiveness of a steroid injection varies from patient to patient
- Radiotherapy is a treatment option that may be suitable if Dupuytren's disease is mild and the contracture is minimal. The treatment aims to prevent the development of contractures. It shows promising results of halting or slowing any progression of the disease, but has some side-effects, such as dry skin and is not always effective. It is only effective during the active or proliferation phase when nodules are growing, and cords may be developing. This is often accompanied by symptoms of soreness, tingling, aches
- Needle aponeurotomy- this treatment is suitable for older people, who are not well enough or want a formal operation. However, the rate of recurrence is very high, and the procedure has increased risk of damage to nerves and vessels
- Collagenase clostridium histolyticum (XIAPEX®)

**XIAPEX®** is a non-surgical treatment indicated for the treatment of Dupuytren's contracture in adult patients with a palpable cord.

- XIAPEX® consists of enzymes called collagenases, which break down this cord allowing the fingers to extend as near to straight as possible
- Treatment with Xiapex® consists of an injection into the cord, followed by a finger extension procedure (usually under local anaesthesia) to disrupt the Dupuytren's cord 24-72 hours later. In some cases, satisfactory outcome can be achieved after just one injection. However, in other

# KATARZYNA MACKENZIE

PLASTIC SURGEON

instances more than one treatment may be required per cord. Up to a maximum of 3 injections can be performed to the same cord at 4 week intervals, if the cord has not ruptured

- It is important to mention that, even with successful disruption of a treated cord, the rate of recurrence after Xiapex® is likely to be about 40% by 10 years
- While Xiapex® is a safe treatment option for many patients, it is not recommended for the following groups:
  - People with blood clotting disorders
  - People on anti-coagulants (aspirin is fine)
  - Pregnant / breastfeeding women
  - Collagenase within 30 days
  - Allergy to collagenase
  - Tetracycline use
- Side effects of XIAPEX® include:
  - Injection site: bleeding, swelling, pain, skin breakdown, tenderness, bruising, itching, pins and needles
  - Swelling of the lymph nodes and arm pain
  - Dizziness, headache, nausea
  - Tendon rupture
  - Allergic reaction
- Benefits of XIAPEX®
  - Dupuytren's contracture is not curable but treatment with Xiapex® is usually very well tolerated, with 92% of patients saying they are either "very satisfied" or "quite satisfied" with the results of the procedure
  - Regarding the chance of the condition coming back, research shows that there is a 27% chance of it recurring at the knuckle, and a 56% chance of it recurring in the first finger joint within three years of treatment. These figures are higher than with open surgery (having an operation), but lower than with a treatment called needle aponeurotomy, which is less invasive

## **Surgical treatment**

When symptoms are severe or do not improve, surgery may be needed. The decision for surgery is based on how much pain or loss of function you have in your hand.

The goal of treatment is to improve finger motion and function. Surgical options are:

# KATARZYNA MACKENZIE

PLASTIC SURGEON

- Fasciectomy-this involves cutting out the nodules or cords from the palm and/or fingers. The size of incision required depends on the severity of the disease, ranging from a small "C" shape in the palm, to longer incisions along the whole length of the finger
- Dermofasciectomy-if the skin overlying the cords is very stuck down, both the skin and the affected fascia need to be removed. The skin is replaced with a small skin graft, usually taken from the forearm or arm. This procedure is usually undertaken for recurrent disease, or for extensive disease in a younger individual and helps prevent recurrence

## What happens during surgery?

Dupuytren's fasciectomy is done as a day case. The anaesthetic may be regional (injected in the armpit to numb the entire arm) or general. Dr Mackenzie will make an incision on the palmar aspect of the hand, and the size of incision required will depend on the severity of the disease. Several types of incisions can be used in a fasciectomy but, often, a "zig-zag" incision is made along the natural creases in the hand. Dr Mackenzie will remove the diseased fascia, protecting the nerves and vessels.

In some situations, skin overlying the cords is very stuck down, therefore the skin and the fascia are removed. This is a more complicated operation. The cord is removed together with the overlying skin and the skin is replaced with a graft taken usually from the upper arm.

Wounds are closed, bulky dressing and splint applied.

The surgery can take from 1-3 hours depending on the severity of the disease.

After surgery, the hand may be fitted with a splint to be worn at night. Hand therapy is important in recovering movement and function, especially for more extensive surgery and skin grafts. The recovery is variable with regard to the degree of improvement achieved and the time to achieve the final position. The final outcome is dependent on many factors including the extent and behavior of the disease itself and the type of surgery required.

## What is the recovery after fasciectomy?

It is very important to elevate your hand as often as possible, following your operation as it helps to reduce the swelling. You may be encouraged to move your fingers to reduce swelling and prevent stiffness.

You can expect some mild pain, swelling, and stiffness after your procedure. It may take from 4 to 9 months for swelling and stiffness in your hand and fingers or thumb to go away completely. If stiffness, swelling, or pain persist after surgery, hand physiotherapy will be recommended.

Night splint will be advised for 3-6 months.

# KATARZYNA MACKENZIE

PLASTIC SURGEON

Although the scar may be red and tender for several weeks, it is seldom troublesome in the longer term.

You can have a bath or shower 24 hours after your operation, but keep your wounds dry until they have healed. It is helpful to wear a large plastic bag over your arm for showering or bathing.

You can drive a car at about 1-2 weeks, provided your wrist is comfortable and you are able to control a motor vehicle safely.

Recovery may take several months.

## When can I return to work?

This will depend on the type of work you do, but it may be one to two weeks after your operation. Office workers may need a few days away from work. Heavier activities with the affected hand are restricted for 4 to 6 weeks.

## What are the risks of surgery?

Complications associated with this surgery are rare, but can include:

- Infection – this can be settled by taking antibiotics
- Swelling-may last for a few months
- Stiffness can last from weeks to 9 months. Hand physiotherapy may be required
- Painful scar
- Scar contracture
- Persistent joint contracture
- Wound healing problems
- Bleeding
- Damage to the nerve, tendon
- Blood vessel injury- damage to the vessel is very rare and can be immediately repaired
- Finger ischemia
- Skin graft necrosis
- Recurrence
- CRPS-complex regional pain syndrome