



What is Dupuytren's Contracture?

Dupuytren's contracture is a harmless, genetic condition that affects the fibrous tissue in the hand. There are ~ 20 genes known to cause Dupuytren's contracture. It was named after Baron Guillaume Dupuytren, a French surgeon in 1831.

In Dupuytren's contracture, the normal fascia (fibrous tissue) becomes thickened with cells that are a combination of fibrous & muscle tissue. Slowly a contracture of the finger can develop. Most often the ring and small fingers are affected. It occurs in people of northern European ancestry and is more common in men than women. The average age that people seek medical advice for this condition is approximately 60 years for men and 70 years for women. Occasionally it can occur in younger people.



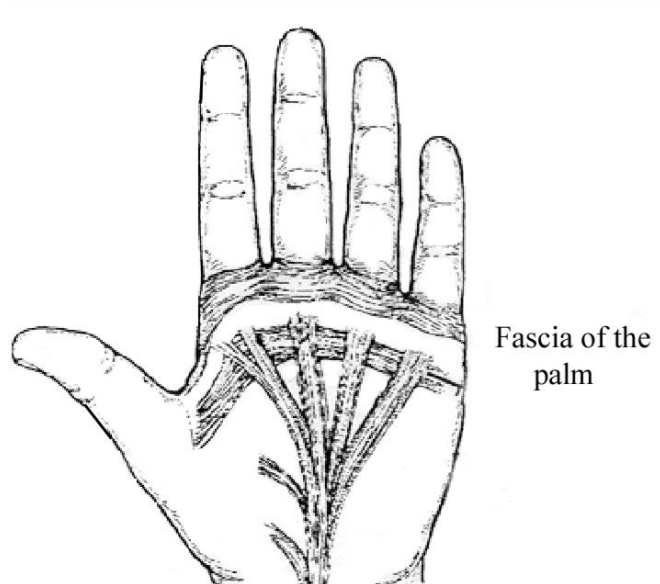
What causes Dupuytren's contracture?

Dupuytren's contracture does not develop unless you have one of the genes known to cause it. Conditions that can promote the disease in people with one of the genes include diabetes, smoking, use of some anti-epileptic medications, high alcohol intake, high cholesterol and injury. There is no known method of prevention.

What are the Features?

The first sign is usually a tender nodule in the palm. The nodules can be tender while growing but gradually become painless. The nodule may gradually form a thickened cord under the skin and extend along the palm into the finger.

The rate at which the contracture develops varies enormously from person to person. When it develops late in life it tends to progress slowly and may never be a problem. In younger people, particularly in those in which the disease runs in the family, it may grow quickly. A very small percentage of people with Dupuytren's contracture develop painless nodules on the back of the knuckles of the small joints of the fingers called Garrod's knuckle pads. On rare occasions it may affect the soles of the feet with thickened painless nodules called "Lederhosen's Disease". In less than 1% of men it may affect the penis with a contracture called "Peyronie's Disease", which can be corrected with surgery.



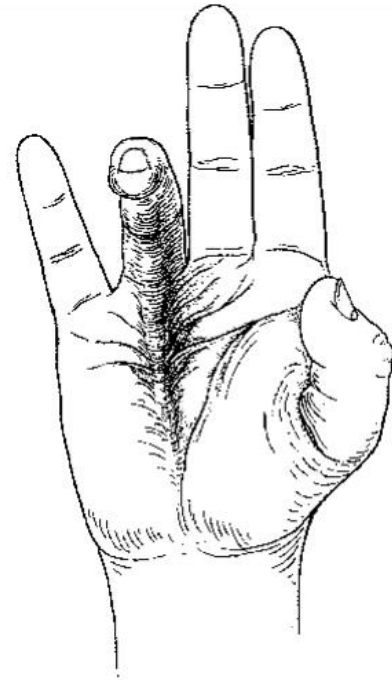


How is it Treated?

No treatment is advised until a contracture develops which prevents the palm being placed flat on a table or other flat surface (Hueston's tabletop test). This usually occurs when there is a 30-40° contracture. It is not recommended that nodules without a contracture be removed because surgery can stimulate the formation of contractures.

Percutaneous Needle Aponeurotomy (PNA)

In contractures affecting only the first knuckle (metacarpophalangeal joint) a minor procedure under local anaesthetic can be performed in the office to correct the contracture. Following the procedure, the hand must be kept dry for 48hrs, and a splint worn at night and stretching exercises performed for approximately 6 weeks. In elderly patients this may be the only treatment required, but in younger patients it is expected that the disease will slowly progress, and surgery may be required in 3-5 years.



Xiaflex/Collagenase

This is an enzyme that can be injected into the Dupuytren's tissue to dissolve small areas, as an alternative to PNA (above). In 2020 the cost of this enzyme increased from ~\$1200 to ~\$10,000 for a single injection. Like PNA, this is a temporary treatment in younger patients and recurrence of the contracture is to be expected in 3-5 years. The recent marked increase in price has made its use prohibitive as very little is covered by health funds.

Fasciectomy Surgery (Removal of the affected fascia/fibrous tissue)

In many patients surgery is required. This is usually a day surgery procedure under general anaesthetic. The surgery involves removing the diseased tissue from the hand with multiple zig-zag incisions. The hand is bandaged, and a temporary splint applied to keep the finger/s in the straightened position for 2-3 days. A small drain may be used to prevent blood collecting under the skin. The drain is removed before leaving the hospital while the hand is still numb from long-acting anaesthetic.

Recovery

An appointment with the hand therapist 2-3 days after surgery is pre-arranged where the bandages and splint will be removed. A lighter dressing will be applied, and exercises started to prevent the fingers from becoming stiff. A splint will be worn at night for approximately 6 weeks. The sutures are removed 12-14 days after surgery. A light compressive wrap or a neoprene sleeve will be worn for 2-3 months to control swelling. The rehabilitation is easier in the warmer months due to less stiffness of the fingers. Applying a heat pack to your hand before exercises and regular paracetamol (2 tablets, 3 times daily) are very helpful in overcoming stiffness. You will be required to do exercises several times each day for 3-4 months. It will take 4-6 months for all the swelling and stiffness to resolve.





Fasciectomy & Full-Thickness Skin Grafting

In severe Dupuytren's disease, particularly when surgery has been performed previously in the same area, skin grafts may be required. In this situation, therapy will be delayed two weeks until the grafts have healed. The skin graft is taken from the groin area and the skin closed with dissolving sutures and a waterproof dressing. Very rarely a 3-4 cm incision across the palm may be left open to heal by itself when the skin is too tight following release of the contracture (McCash technique). This will require twice weekly dressings and usually takes 4 weeks to completely heal. If either skin grafts or the open palm technique is likely to be needed, the surgeon will discuss this prior to your operation.

Results & Risks

Despite surgery, the Dupuytren's tissue can reappear in the same place (recurrence) or form in other parts of the hand (extension of the disease). Unfortunately, trauma such as injury to the hand or surgery to treat the condition itself, may lead to increased activity and progression of the disease. This is particularly common in those with an aggressive form of the disease known as Dupuytren's diathesis (young age at onset, strong family history, rapid progress of the contracture, involvement of soles of the feet, presence of Garrod's knuckle pads).

Problems that can occur with surgery include difficulty with wound healing and small areas of skin loss where the diseased tissue has been removed and left a very thin area of skin. Blood clots (haematoma) can collect under the skin and on rare occasion these may become infected. In less than 1% of surgeries, nerves or arteries can be injured as they may be trapped or tethered by the Dupuytren's tissue. The use of a tourniquet and 4X magnification operating glasses minimise this risk. Nerve or artery injury is rare in first time surgery but more likely in revision surgery to due extensive scar tissue.

In most cases it is possible to completely straighten the "first knuckle" or metacarpophalangeal joint. Full correction of the contracture of the smaller joints of the fingers is not always possible, but the degree of contracture can be improved in most cases with an expected result of proximal interphalangeal joint contracture of about 40°. This sometimes requires more extensive surgery to release the joint. One of the main risks of surgery is stiffness of the fingers and loss of the ability to make a full fist. This is more likely to occur in women who have been shown in many research papers to not respond to surgery as well as men. Many months of therapy and splinting may be required in such cases.

