

Dupuytren's contracture

What is the condition?

The French surgeon Baron Dupuytren put his name to this condition in the early part of the 19th century, but it had been known for longer.

The condition typically presents starts with a firm lump (nodule) in the skin of the palm. The initial nodule can be painful, but later there is usually no pain. This may stay the same for months or years, or may progress to the next stage in which cords of fibrous tissue form in the palm and run into the fingers (usually ring and little fingers), pulling them into a bent position over time. The structure in which the fibrous tissue forms is called the palmar fascia. Palmar fascia stabilizes the skin of the palm during grasping and gripping, so that it does not slide around like the skin on the back of the hand. Fibres of palmar fascia run in all directions, but the fibres that form cords are longitudinal, and as they have the capacity to shorten, they pull the affected finger(s) into a flexed position. It is important to appreciate that the abnormal tissue does not involve the tendons that bend the fingers, and they can function normally once the contracting bands are removed as long as the joints are still mobile.



In some patients the finger contracture develops without the condition in the palm. However, the contractures may seriously interfere with function. There is great variation in the rate of progress, but it is usually possible to distinguish the more aggressive form of the disease early on. In severe cases it can produce uncomfortable lumps on the soles of the feet.

Dupuytren's contracture is caused by a combination of factors including genetic predisposition (condition runs in the family) and some external stimuli such as injury or other surgery to the hand that tends to accelerate a contracture that was going to occur anyway. Some other medical conditions are associated with Dupuytren's contracture including diabetes, epilepsy (possible due to the drugs that are used), and liver disease. The condition is said in some medical textbooks to be associated with high alcohol intake but proper investigation has never shown any truth in this 'old chestnut'.



Non-surgical treatment

Treatment of the early "nodule" phase (without contraction) has not proved very helpful. Some have used steroid injections into the nodule, but without any dramatic effect.

Injection of Collagenase has stimulated recent interest as a way of 'dissolving' the nodule. However, there have been some untoward side effects and there are some clinical studies under way to look at this further before it can be brought into wider clinical use.

Surgical treatment

Surgical treatment is normally recommended once the hand cannot be put totally flat on the table because of contractures developing in one or more of the small joints.

Selective fasciectomy involves careful removal of the cord-like tissue out of the hand using magnification to aid precision. This can usually be done under regional (local) anaesthetic technique with the patient awake, as a day case. Incisions are designed according to the position of the cords, but usually take a zig-zag line to avoid straight-line scars which can themselves contract. The abnormal tissue is removed taking care to avoid damage to nerves and arteries running into the fingers. This can be very difficult especially when there has been a previous operation, but every effort is made to protect them. Division of a nerve results in loss of feeling on one side of a digit. It is not always possible to completely straighten finger joints, because of tight ligaments around the joints. Part of the incision may be deliberately left open in a crease in the palm - this avoids blood collecting in the palm. It heals as well as if it had been stitched.

Dermofasciectomy is similar in principle to the selective fasciectomy but also involves placing a full thickness skin graft to replace skin that has become involved in the Dupuytren's disease process. This graft is taken from the front of the elbow crease. This operation is typically recommended in younger patients with more severe disease and in redo surgery.

Needle fasciotomy has gained some popularity because of its simplicity and the lack of a wound to heal, with rapid recovery. However it is important to appreciate its limitations. The technique is indicated typically in the older patient with disease involving the palm but not the small interphalangeal joints of the fingers. The procedure involves nicking one or more tight cords of Dupuytren's tissue with a needle passed through the skin of the palm. This only works if there is an isolated cord without deep attachments. A few days splintage is advised to discourage early recurrence of the contracture. Disease usually recurs within 18 months to 2 years.

Downtime and Recovery

Following surgery for Dupuytren's contracture the hand / wrist is bandaged and a splint applied for 1-2 weeks. This bandage should be kept dry.

Elevation of the hand within a sling reduces swelling. The first dressing change is undertaken at 1 week and a thermoplastic splint fitted for night time use.

- Splint – 1 week (selective fasciectomy) 2 weeks (dermofasciectomy)
- Return to work – 2 ½ weeks for office based work, 4-6 weeks manual work
- Driving – approximately 3-4 weeks. Ensure that you feel you are safely in control of your vehicle before driving.
- Time to full recovery – 2-3 months as the scar is tender initially and grip strength takes some weeks to come back.
- Night splint – continue to wear at night for 6 months

Hand Therapy is an essential part of regaining movement after surgery. Once the wound is healed, physiotherapy may be required once a week for up to two months. Final function depends to some extent on how severe the disease is prior to surgery and whether or not this is a revision procedure. Some fingers are already too bent to be fully straightened out.

Untoward effects from surgical correction of Dupuytren's contracture are unusual but can include:

- Delayed healing of the wound including skin graft loss
- Stiffness. CRPS is an unpredictable condition characterised by sweating, stiffness or sensitivity to cold. When this occurs extended treatment including drugs and physiotherapy may be required.
- Injury to the small nerves and blood vessels in the finger leading to some permanent numbness
- Recurrence of the contracture is likely in some form but can be operated on again as needed. Recurrence rate for an operated finger is 40% after 5 years for selective fasciectomy and 10% after 5 years for dermofasciectomy