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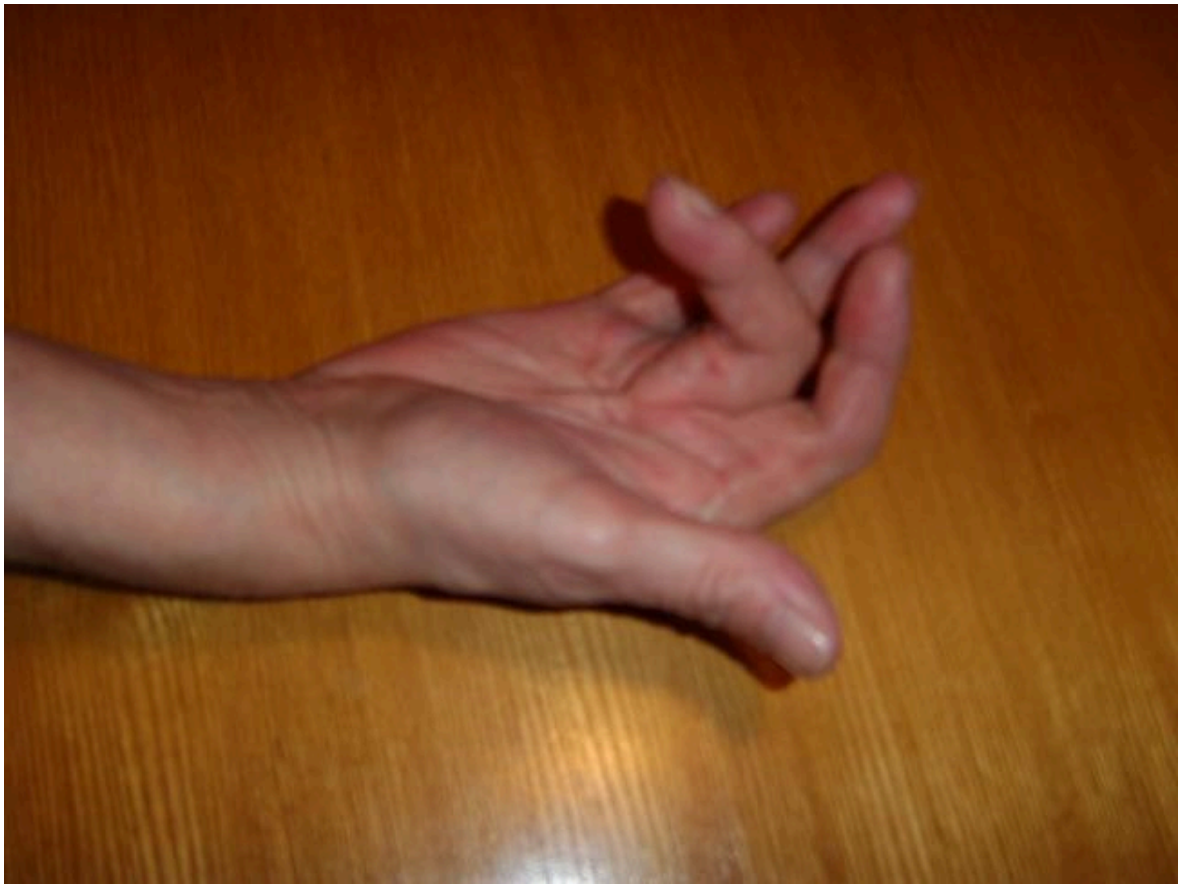
Dupuytren's contracture

Dupuytren's contracture causes thickening of tissues (fascia) in the palm. A fascia is a band or sheet of tissue beneath the skin.

If Dupuytren's contracture progresses, one or more fingers bend (contract) into the palm and you cannot straighten the finger/s. The cause is not known. In many cases it remains mild and does not require treatment. If the condition becomes more severe or the function of the hand becomes affected then a specialist may recommend treatment.

Dupuytren's contracture is named after Baron Dupuytren who described the condition (and invented an operation for it) in 1831.

What is Dupuytren's contracture?



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Dupuytren's contracture is a condition of the hands and fingers. It is sometimes called Dupuytren's disease because not everyone with this condition develops contractures.

At first, there is a thickening of some tissues under the skin in the palm. If the disease progresses you may develop a contracture of one or more fingers. When you have a contracture, affected fingers bend (contract) towards the palm and you cannot straighten them fully. Typically, the ring finger is usually affected first. Then the little finger and then the middle finger. It takes months or years for the condition to develop and progress to a contracture.

Dupuytren's contracture is not usually painful. The main problem is that if one or more contractures develop, you cannot use the affected fingers properly. The extent of a contracture varies greatly from mild to severe. Sometimes just one hand is affected. Commonly, it affects both hands.

Some people with Dupuytren's contracture have some thickened tissue under the skin in other parts of their body. For example, a thickening on the knuckles, on the soles of the feet, or on the penis.

The picture shows a severe contracture of the little finger and a mild contracture of the ring finger. You can also see some thickening of the tissues under the skin in the palm.

What causes Dupuytren's contracture?

The tissue called the connective tissue in the affected palm becomes thick and abnormal. This is the tissue just under the skin but above the tendons. This forms into bands of thick tissue which, when it becomes worse, pulls the fingers towards the palm. The abnormal tissue that forms is similar to scar tissue that forms following a wound.

The reason why this tissue becomes thickened is not known. There seems to be a genetic factor as it has a tendency to run in some families. It is more common in some countries - mainly Northern European. It is more common in people with diabetes, epilepsy, and alcohol dependence. However, most people with Dupuytren's contracture do not have any of these other conditions. It is more common in people who smoke. It is more common in people who use vibrating tools and may also be more common in those who do heavy manual work. In some cases it is thought that an injury to the hand may trigger the condition to start in someone who is genetically prone to develop the condition.

However, in most people with Dupuytren's contracture, there is no known cause or associated illness or injury.

Who develops Dupuytren's contracture?

Most cases occur in middle-aged or older people; however, it sometimes develops in younger adults. It is much more common in men than in women. It is most commonly found in people of Northern European descent. It is thought about 4 of every 100 people in the UK have some degree of Dupuytren's contracture. In Northern Europe where it is more common, one quarter of men over the age of 60 have Dupuytren's contracture.

Do I need treatment?

Treatment is needed only if the fingers have started to bend (if there is contracture) or if the normal function of the hand is affected.

Many people with Dupuytren's contracture do not need any treatment. In many cases the condition remains mild and causes little interference with the use of the hand. There may be just thickened tissue, or thickened tissue with a mild contracture. In these situations no treatment is usually advised. Also, in some cases the condition improves without any treatment. However, the condition does tend to worsen over time in some cases. The need for treatment can be reviewed from time to time. If you have been told you do not need treatment, but the condition has changed or become worse, you should contact your GP again. If you DO need treatment, this is best done earlier rather than later.

As a general rule, your GP will refer you to a hand specialist for assessment if you are not able to place your hand flat on a table top or if your hand function is significantly affected. The specialist may consider non-surgical or surgical options for treatment. The aims of treatment are to improve hand function and stop the condition becoming worse.

Non-surgical treatment options

Traditionally, Dupuytren's contracture is treated with an operation to straighten the fingers. Recently some new treatments which do not involve an operation have been used. This includes radiation therapy (radiotherapy). Non-surgical treatments are best used for people with early stages of the condition, not when it is severe. Splinting or stretching are not recommended.

Injection treatment

Steroid injections may be beneficial for some people with painful nodules, but only if there is no contracture or loss of function.

Radiation therapy (radiotherapy)

Radiotherapy for Dupuytren's contracture consists of having several low doses of radiation to the affected hand. Evidence suggests this can be effective to slow the progression of the condition in the early stages. Current guidelines from the National Institute for Health and Care Excellence (NICE) advise radiotherapy should only be used under certain circumstances in the UK. NICE guidelines advise that radiotherapy in this situation seems to be a safe treatment.

Some people develop side-effects following treatment, such as dry skin on the hands. Also, as with any type of radiation therapy, there is a theoretical risk that cancer might develop in the treated tissue in the long term (although this is thought to be very unlikely). Your specialist will be able to advise on the pros and cons of trying this treatment.

Surgical treatments for Dupuytren's contracture

As a general rule, a specialist may recommend a treatment to straighten out the affected finger or fingers if:

- One of the knuckle joints (a metacarpophalangeal (MCP) joint) is stuck at an angle of 30-40° or more.
- There is a bend (contracture) of 10-20° or more between one of the small joints in a finger. Surgery 'earlier rather than later' may be recommended if the contracture is affecting the first joint within the finger itself, as it is more difficult to correct this with the passing of time.

Surgical procedures include:

Needle fasciotomy

This is sometimes called needle aponeurotomy, or closed fasciotomy. During the operation, the specialist pushes a fine needle through the skin over the contracture. They then use the sharp bevel of the needle to cut the thickened tissue under the skin. In effect, the needle acts like a saw as the specialist moves the needle to and fro to saw through the thickened tissue. The procedure is done under local anaesthetic and can be done in an outpatient clinic.

Needle fasciotomy sounds like an easy, quick procedure with minimal cutting. However, it is not always suitable. This is because:

- It is mainly suitable where the contracture is away from important nerves in the hand.
- It tends not to be suitable for severe contractures.
- There is a good chance it will not be of benefit in the long term. The contracture returns in more than half of cases within 3-5 years following this procedure. (But, if it does return, the procedure may be able to be repeated.)
- As the specialist cannot see the end of the needle once it is inserted, there is a risk of damage to nearby tendons, blood vessels and nerves, which can cause long-term problems.

Needle fasciotomy tends to be mainly suitable for older patients who are unsuitable for more extensive surgery, and for some cases where the contracture is in certain sites. Your specialist will advise if it is an option for you.

Open fasciectomy

This means removing the abnormal thickened tissue. (In a fasciotomy the tissue is cut; in a fasciectomy the tissue is removed.) There are a number of variations on this operation (surgical procedure). It is a more extensive hand operation. However, it gives the best chance of a long-term cure. It is the most commonly done procedure to treat Dupuytren's contracture. Even with this treatment, however, the chances of the condition coming back (recurring) are quite high. How likely it is to recur depend on the operation done and how bad the condition was before the operation, as well as other factors.

Dermofasciectomy
This means surgical removal of the involved skin as well as the fascia. As skin is removed in addition to fascia, a skin graft from the upper arm or groin is necessary. This option may be considered when there is skin involvement, aggressive or rapid recurrence, or for extensive disease in younger people.

Remember, all surgical procedures carry a risk. There is a small risk of damage to nearby tendons, blood vessels and nerves during any of the above procedures, and of infection developing in the hand.

What is the outlook (prognosis)?

Dupuytren's is usually progressive and incurable, but does improve without treatment in about 1 in 10 people affected. The rate of progression is variable but tends to be more rapid in men and younger age groups.

Hand function is significantly improved in most people after surgery. However there is a risk of recurrence after surgery or needle fasciotomy.

Further reading

- Needle fasciotomy for Dupuytren's contracture; NICE Interventional Procedure Guidance, February 2004
- Rodrigues JN, Becker GW, Ball C, et al; Surgery for Dupuytren's contracture of the fingers. Cochrane Database Syst Rev. 2015 Dec 9;(12):CD010143. doi: 10.1002/14651858.CD010143.pub2.
- Radiation therapy for early Dupuytren's disease; NICE Interventional Procedure Guidance, December 2016

- Dupuytren's disease; NICE CKS, November 2020 (UK access only)

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