

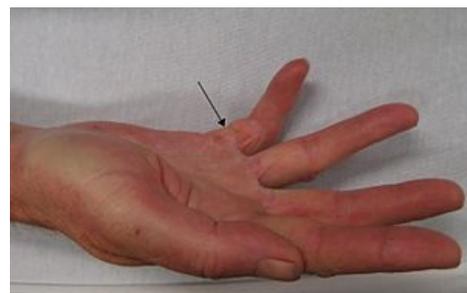
# Dupuytren's contracture

This article has been translated from WikiSkripta; ready for the **editor's review**.

**Dupuytren's contracture** (*DK, palmar fascia fibromatosis, Dupuytren's disease or benign neoplastic fibromatosis*) is a disease of the hand, characterized by the formation of knots and contracting bands in the palm and fingers, which then cause joint contractures and progressive functional impairment of the hand.

This disease was already described by Plater (1614), Cline (1777) and Cooper (1822), but it was not until Baron **Guillaume Dupuytren (1832)** that credit was given for the "discovery" of this disease. He was the first to lecture about the disease and try to operate on it.

In the palm we find the fibers of the palmar aponeurosis, which are arranged in longitudinal strips that pass to the fingers (digital fascia). Transverse fibers are located in the palm at the level of the heads of the metacarpals and at the level between the fingers (the so-called ligamenta natatoria). Affected palmar fascia tissue contains up to 40% collagen III type. The cells that mainly form the contracture mass are myofibroblasts.



Dupuytren's contracture affecting the little finger

## Etiology, epidemiology

Dupuytren's contracture most often occurs in men around the age of fifty and in women approximately ten years later. Men are affected more often in a ratio of about 6:1. The disease is known to occur more frequently in the Northern European region ("Viking disease") and the disease mainly affects the white race. Dupuytren's contracture can be considered a hereditary disease, but this disposition has incomplete penetration in the population. Diabetes mellitus, epilepsy, smoking or alcoholism are mentioned as risk factors, but the correlation is not clearly proven. However, the cause of this disease has not yet been identified.

## Clinical feature

It is usually typical, so the diagnosis is not difficult. We find subcutaneous nodules or streaks in the palm and fingers. It is not a tendon injury. The ulnar half of the hand is most often affected. In approximately half of the patients, the impairment is bilateral, with unilateral impairment, the right hand is more affected. Contracture bands limit the extension of the fingers or narrow the interdigits between them, they occur most often at the metacarpophalangeal and proximal interphalangeal joints. Fibromatosis tissue can occur ectopically on the dorsum of the proximal interphalangeal or metacarpophalangeal joints (so-called knuckle pads, Garrod's nodes), on the penis (Peyronie's disease) and on the soles of the feet (Ledderhose disease). Different degrees of disease course can be observed.

## Classification

### According to localization

1. **palm type** - no fingers affected,
2. **finger type** - with finger impairment,
3. **palmoid type** - combined disability.

### By progression

1. degree - knots in the palm, skin deformities,
2. degree - beginning metacarpophalangeal joint contracture,
3. degree - contracture of the fingers in the proximal interphalangeal joints,
4. degree - compensatory hyperextension of the distal joint is developed

## Conservative therapy

Since we don't know the cause → there is no causal therapy. In the initial stages, splinting can be used to prevent contracture formation, but the success rate is low. Injection of corticoids has been described, but effectiveness is questionable.

Another option for conservative treatment is the use of *Clostridium histolyticum* collagenase enzyme. It is a substance that preferentially cleaves type I and III collagen. This substance is injected into the contracting band of fibromatosis and after 24 hours a correction is performed, during which the band is interrupted and the contracture is released. This procedure is sometimes called enzymatic fasciotomy. A lower risk of complications and a lower percentage of disease recurrence is considered an advantage over surgical methods. The disadvantage is the

financial complexity of the method. Collagenase application can be used in all patients with a band of contracture and limited range of motion of the fingers, but it is most beneficial in patients with an aggressive form of the disease or in patients who cannot be treated surgically for medical or social reasons.

## Surgical treatment

In most cases, the disease is treated surgically. The indication for surgical treatment is clinical, most often a positive so-called "table top" test. This is considered positive if it is not possible to place the affected hand with the palm on the table top so that the entire surface of the palm touches the mat. The reason for the operation may also be other functional or subjective difficulties. The operation should be performed before the emergence of a significant flexion contracture, the operative solution of which is burdened with a higher percentage of complications.



Dupuytren's contracture after surgical treatment

Surgical treatment options for Dupuytren's contracture:

1. **fasciotomy** - cutting the bands without removing them
2. **limited or radical aponeurectomy**, - more or less radical removal of bands and knots
3. **dermofasciectomy** - removal of bands and knots including the skin
4. **additional procedures** - release of joint contractures, flap plastic surgery, skin transplantation, arthrodesis, arthroplasty, exceptionally amputation

Recurrence (recurrence or new occurrence) of Dupuytren's contracture after surgery varies between 20-70% according to various sources.

Postoperative care after the procedure is very important. It includes anti-swelling measures, adequate analgesia and early rehabilitation (including static or dynamic splinting) to prevent toe stiffness. The result of Dupuytren's contracture treatment should be not only a hand without the affected aponeurosis, but also a fully functional hand.

## Links

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### Zdroj

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