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Finger contractions (Morbus Dupuytren)

Minimal invasive treatment of Dupuytren´s contracture without skin incisions.

Finger contractions due to fibrous formations of the palmar with fixed flexion deformity of one ore more fingers at the metacarpophalangeal (MCP) and proximal interphalangeal joint (PIP), (Dupuytren´s disease) can be treated without skin incisions.

About 1.9 million people in Germany are suffering from Dupuytren´s disease. For nine years we have been offering the technique of percutaneous needle fasciotomie:

After local anaesthesia, a needle is moved against the fibrous band which becomes weakened and separated from the skin. Then the fibrous band is broken by a short and sharp extension of the finger. If nevertheless skin splittings or lesions occur, wound healing processes quickly and uncomplicated because skin of the palm side of the hand and fingers regenerates without problems. No other complications have been noticed. In cases of disease recurrence percutaneous needle fasciotomie can be repeated without traumatic consequences for the patient.

One day after needle fasciotomie the patient can use his hand without problems. Not even wound dressings are necessary. During two or three weeks he should use a fixed two finger bandage but only at night.

Percutaneous needle fasciotomie can produce lasting improvement in eight out of ten patients suffering from Dupuytren´s contracture. The ordinary open operative method of treatment is done by zig zag cutaneous incisions of the palmar and palmar finger skin: The fibrous material is removed. The procedure is made under loco-regional anaesthesia or general anaesthesia. In many cases the procedure is done in hospitals as a one or more day treatment.

Complications of the ordinary open operative methods are documented: Infections, nerve injuries, haematomata, skin circulation troubles, finger swellings at least reflex sympathetic dystrophy of the hand. Generally, a long time treatment after the operation is necessary, a difficult period for the patient and the doctor.

Percutaneous needle fasciotomie for Dupuytren´s contracture is a quasi closed method avoiding cutaneous incisions. It is a minimal invasive treatment for the patient. The patient gets benefit within short time.

In cases of recurrence it can be repeated without major disability for the patient. It is a real alternative to open surgery.

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Historic overview of the development of percutaneous needle fasciotomy (PNF) as a treatment for Morbus Dupuytren

During the 19th century Dupuytren contracture was treated by subcutaneous fasciotomy. During the 20th century the treatment of Morbus Dupuytren by open wound was the method of choice.

In 1959 J. Vernon Luck introduced PNF as an alternative to the operative method to treat Morbus Dupuytren(1). Luck considered the radical excision of fibrous cords as superfluous. He was, however, of the opinion that PNF was not recommendable „in fingers or thumb“ and stated „PNF is unnecessary when the nodules of the palm are in the proliferate stage“.

PNF wasn't acknowledged but forgotten for the following 30 years.

It was not until 1993 when Jean-Francois Badois and his Team re-focused on PNF(2). But they believed that PNF was only applicable in the early stage of Morbus Dupuytren.

In 1993 this treatment was first published in Germany by Kurt Groeben(3). But also for Groeben PNF was only seen as an alternative to the operative treatment and he was of the opinion that a contracture of the proximal interphalangeal joint of the fingers cannot be solved by the use of PNF.

Duthie and Chesney underlined in 1997 in a ten-year-report that PNF is only recommendable for those patients who cannot be treated with the operative method including incisions of the skin(4).

In 1997 Jean-Luc Lermusiaux and his Team considered PNF as the method of choice in regard to the treatment of Morbus Dupuytren(5). Thus, the operative treatment should be only considered for those patients who are not satisfied after a PNF treatment. It was for the first time that Lermusiaux and his Team mentioned that PNF in combination with skin graft decreases the chance of recurrence of the finger curvature.

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In 1993 Kurt Groeben introduced PNF to our office in Bielefeld. At that time, doctor Groeben and our office were the first ones to practice PNF in Germany. Since 1993, we have further developed PNF. Thus, it has become possible to use PNF in all stages of Morbus Dupuytren without restriction of implementation of any kind.

As a consequence, PNF has become our method of choice as the results are more than satisfying even as far as the contracture of the proximal interphalangeal joint of the fingers is concerned. In addition, PNF can also be repeated in case of recurrence. Thus, the operative treatment is only taken into consideration if there are single nodules that are painful.

Our experience was contributed at the congress for hand surgery in Nuernberg, Germany, in October 2010. As long as there is no method which avoids 100 % a recurrence we believe that there is no better alternative than PNF.

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