

Dupuytren's disease

Dupuytren's disease is an abnormal thickening of the tissue just beneath the skin known as fascia. This thickening occurs in the palm and can extend into the fingers. Firm cords and lumps may develop that can cause the fingers to bend into the palm, in which case it is described as Dupuytren's contracture. Although the skin may become involved in the process, the deeper structures—such as the tendons—are not directly involved. Occasionally, the disease will cause thickening on top of the finger knuckles (knuckle pads), or nodules or cords within the soles of the feet (plantar fibromatosis).

The **cause of Dupuytren's disease** is unknown but may be associated with certain biochemical factors within the involved fascia. The problem is more common in men over age 40 and in people of northern European descent. There is no proven evidence that hand injuries or specific occupational exposures lead to a higher risk of developing Dupuytren's disease. It does seem to run in families.

Symptoms of Dupuytren's disease usually include lumps and pits within the palm. The lumps are generally firm and adherent to the skin. Thick cords may develop, extending from the palm into one or more fingers, with the ring and little fingers most commonly affected. These cords may be mistaken for tendons, but they actually lie between the skin and the tendons. These cords cause bending or contractures of the fingers. In many cases, both hands are affected, although the degree of involvement may vary. The initial nodules may produce discomfort that usually resolves. Pain is not typical of Dupuytren's disease. The disease may first be noticed because of difficulty placing the hand flat on an even surface, such as a tabletop. As the fingers are drawn into the palm, one may notice increasing difficulty with activities such as washing, wearing gloves, shaking hands, and putting hands into pockets. Progression is unpredictable. Some individuals will have only small lumps or cords while others will develop severely bent fingers. More severe disease often occurs with an earlier age of onset. The progression of Dupuytren's is extremely variable.

Treatment options for Dupuytren's disease

There is no cure for Dupuytren's. Recurrence is common and it may or may not need treatment. The goal of treatment is to allow improved straightening (extension) of the finger. In mild cases, especially if hand function is not affected, only observation is needed. For more severe cases, various treatment options are available in order to straighten the finger(s). These options may include open surgery, needle aponeurotomy or collagenase injection (XIAFLEX®). Your treating surgeon will discuss the method most appropriate for your condition based upon the stage and pattern of the disease and the joints involved. The goal of treatment is to improve finger position and thereby hand function. Despite treatment, the disease process may recur. Before treatment, your treating surgeon will discuss realistic goals, possible risks and results. Other causes of a bent finger include trigger digits, boutonniere deformity, sagittal band rupture, mallet fingers and these must be evaluated. Occasionally these can occur with Dupuytren's disease and may alter the treatment.

Specific surgical considerations:

1. The presence of a lump in the palm does not mean that surgery is required or that the disease will progress.
2. The indication for surgery varies and includes the degree of contracture, the rapidity of increase of contracture, the joints involved and the functional impairment.
3. Recurrence is common and further treatment or surgery may be needed.
4. Correction of finger position is best accomplished with milder contractures or contractures that affect the base of the finger (MP joint).
5. Complete correction often cannot be attained, especially of the middle (PIP joint) and end (DIP joint) joints in the finger.
6. Skin grafts are sometimes required to cover open areas in fingers if the skin is deficient.
7. The nerves that provide feeling to the fingertips are often intertwined with the cords. Nerve injury can occur resulting in permanent loss of sensation.
8. Splinting and hand therapy are often required after surgery in order to maximize and maintain the improvement in finger position and function.
9. **Open surgery** has been the gold standard for treatment. It may allow for better correction and slower recurrence than less invasive treatments. The recovery is longer and there are more complications including nerve and vascular injury, infection, inflammation and something called a flare reaction (in which the hand gets very swollen, red and stiff) and complex regional pain syndrome.
10. **Less invasive procedures** (faster recovery, less complications, sooner recurrence, office procedure)
 - a. **Needle aponeurotomy (NA)** (percutaneous fasciotomy) A needle is used to cut the "cord" (fascia not tendons). The cut ends of the cord then can separate which helps to improve the straightening (extension) of the finger. Complications may occur including tendon injury, ligament injury, and nerve injury. Skin injuries including tearing (due to stretching the skin at the contracture) may occur and can usually be treated with local wound care.
 - b. **Collagenase injection (XIAFLEX®)** (www.xiaflex.com) is a prescription medication that is injected into a palpable "cord". It helps to break down the cord that is causing the finger to be bent. This allows the cord to rupture and to improve the straightening of the finger. Only one injection can be given at a time. You would need to be seen the next day when the finger is straightened and hopefully the cord will rupture. You could need further injections. Complications may occur including tendon injury, ligament injury, nerve injury and allergic reactions. Skin injuries including blistering and tearing (due to stretching the skin at the contracture) may occur.

