

Dupuytren's Contracture

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Dupuytren's contracture, a contracture of the palmar fascia that usually causes the ring and little fingers to bend into the palm so they cannot be extended (**Sidebar**), has been described in medical literature for more than 700 years. Cases of Dupuytren's contracture were recorded in the Orkney Islands and Iceland as early as the 12th century¹ and folklore sagas tell of miraculous cures of hands so crippled that all the fingers pulled into the palm.² Today, Dupuytren's contracture is commonly described in association with such etiologies as chronic alcoholism, diabetes mellitus, phenytoin therapy, chronic vibration exposure (eg, work with a jackhammer),³ polyvinyl chloride bagging and packing, trauma, HIV,⁴ and hemodialysis.⁵

HISTORIC PERSPECTIVE

Guillaume Dupuytren was born in 1777 in Pierre-Buffiere, a small village in west central France. Dupuytren's family was extremely poor. When Dupuytren was 12 years old, his parents arranged for their son to travel to Paris with a cavalry officer who financed Dupuytren's education.⁶ In 1803, Dupuytren was awarded a doctorate from the University of Paris (Paris, France).

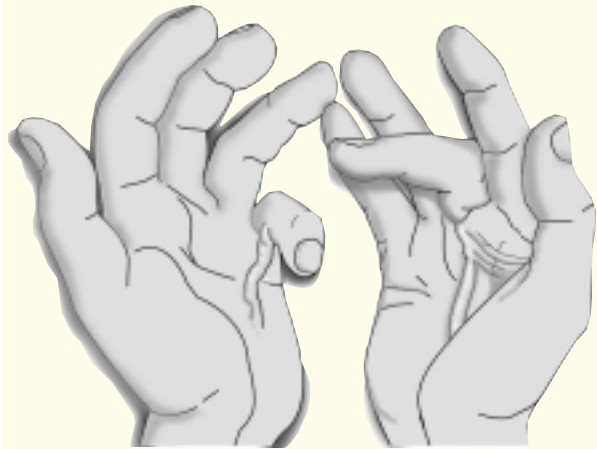
Although controversial and not well-liked on a personal level, Dupuytren quickly gained the respect of the Parisian medical community. As an instructor of anatomy, Dupuytren's lectures attracted students from all over the world, including such legendary figures as René Laënnec (1781–1826), French physician and inventor of the stethoscope, and French physiologist Claude Bernard (1813–1878). Dupuytren's private practice was lucrative and he was created a baron while serving as surgeon to King Louis XVII (1755–1824) and King Charles X (1757–1836).

Dupuytren's medical contributions were varied. He was the first surgeon to excise the lower mandible, he developed a six-category burn classification system, and he first described a bimalleolar ankle fracture. In 1833, Dupuytren described a case of fibrosis of the palmar fascia and developed a corrective surgical technique.⁶

DUPUYTREN'S CONTRACTURE

Definition: Painless thickening and contracture of the palmar fascia because of fibrous proliferation, which results in flexion deformities and loss of function of the fingers.

Illustration: Dupuytren's contracture is shown affecting the left little finger and right middle finger.



Contracture of the fingers and palm had been first clearly described by a professor at Basel University in France early in the 17th century.⁷ English medic Sir Astley Paston Cooper (1768–1841) also recognized the deformity prior to 1832 and a variety of surgical interventions

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had been developed in the preceding 100 years.⁶ Regardless, the condition retains the name of Dupuytren.

EPIDEMIOLOGY

Dupuytren's contracture most commonly affects men older than age 60 years who are of Scandinavian, Irish, or eastern European descent.² The disorder develops as either an inherited autosomal dominant trait or an acquired disease.

Historically, Dupuytren's disease, also known as *Viking's disease*, was most common among the peoples of northern Europe and was rare in other races. Dupuytren's disease is believed to have originated in the Nordic race, whose migration patterns might explain the variable distribution of Dupuytren's disease in other parts of the world. The Viking invasions during the Dark Ages are also a possible explanation of this geographic distribution.

Sporadic cases of Dupuytren's contracture have been found in association with alcohol, diabetes mellitus, and manual labor. As many as 14% of patients with long-term diabetes may have Dupuytren's contracture. Smoking increases the risk of developing Dupuytren's contracture and may contribute to the prevalence of this disorder in alcoholic patients, who tend to smoke heavily.

PATHOPHYSIOLOGY

The pathophysiologic basis of Dupuytren's contracture is believed to be local microvessel ischemia and platelet-

and fibroblast-derived growth factors that promote myofibroblast populations with altered collagen profiles.

TREATMENT

No surgical or nonoperative therapy has proven effective against Dupuytren's disease. Local corticosteroid and collagenase injections; radiotherapy; treatment with calcium channel blockers, prostaglandin E₁, and prostaglandin E₂; and surgical release of contracture have all been used with varying degrees of success. Recurrence is common and therapy is mostly empirical. **HP**

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