


**Open Fasciectomy is the Best Way to Treat Dupuytren's**

Mark Rekant MD  
Associate Professor  
Philadelphia Hand Center



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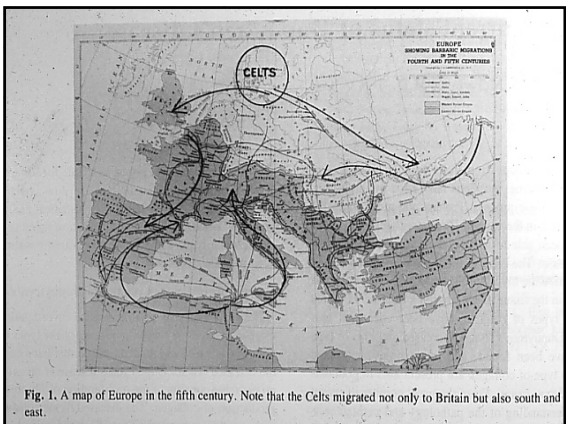


Fig. 1. A map of Europe in the fifth century. Note that the Celts migrated not only to Britain but also south and east.

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Historical

<p>1614 Plater      Tendons</p> <p>1777 Cline      Palmar Fascia</p> <p>1822 Cooper    Fasciectomy</p> <p>1831 Dupuytren The Eponym</p>	
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Elliott, JHS 1988, 13B:246

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“When the Theca is Contracted, **Nothing** Should be Attempted for the Patient’s Relief, as **no** Operation or Other Means Will Succeed; but When the Aponeurosis is the Cause of the Contraction, and the Contracted Band is Narrow, it May be with Advantage Divided by a Pointed Bistoury, Introduced Through a Very Small Wound in the Integument. The Finger is then Extended and a Splint is Applied to Preserve it in the Straight Position”

Sir Astley Cooper, 1822

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June 12, 1833      1st Anniversary  
Dec 5, 1833      3rd Anniversary  
Chief Surgeon Hotel Dieu 1815-1835

Permanent Retraction of the Fingers, Produced by an Affection of the Palmar Fascia

Clinical Lectures on Surgery, Given at the Hotel Dieu, Paris

BY  
**BARON DUPUYTREN\***  
Published in The Lancet, London, 21: 222-225, 1834

RETRACTION of the fingers, Gentlemen, and particularly that of the ring-finger, has been observed for many years, but it was only lately that the cause of this deformity has been

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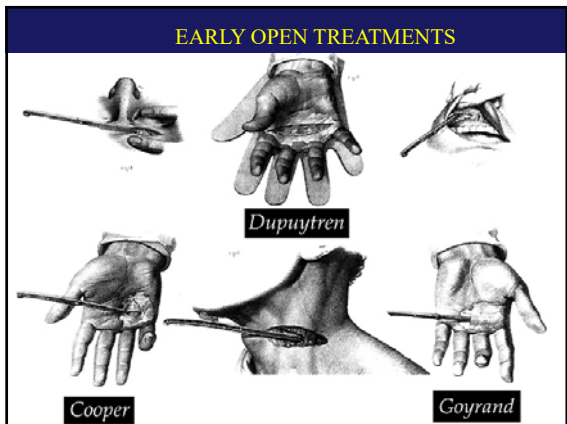
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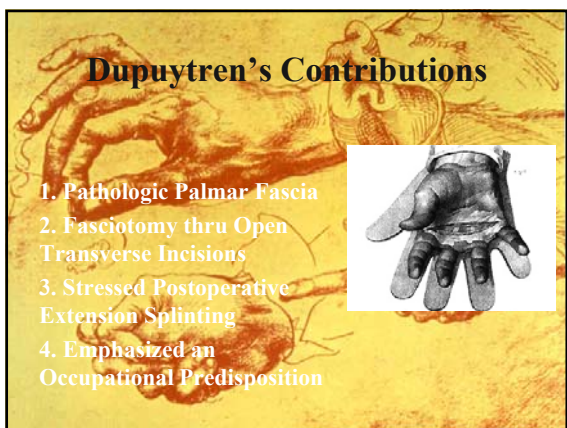
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### Biology of Dupuytren's Disease

Two primary cell types

- Fibroblast
  - Found in the cords of diseased tissue
- Myofibroblast
  - Found in palmar nodules early, intense metabolic activity present
  - Fibronectin plays role in myofibroblast aggregation

**Fibroblast**





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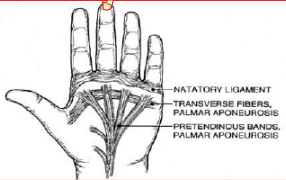
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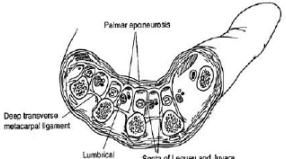
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### Normal Fascia Anatomy

- Palmar aponeurosis
- Pre-tendinous bands
  - Originate from the palmar fascia, travel distal, spiral deep, attach to MCP
- Septa of Legueu and Juvara



NATATORY LIGAMENT  
TRANSVERSE FIBERS,  
PALMAR APONEUROSIS  
PRE-TENDINOUS BANDS,  
PALMAR APONEUROSIS



Palmar aponeurosis  
Deep transverse metacarpal ligament  
Lumbrical  
Septa of Legueu and Juvara

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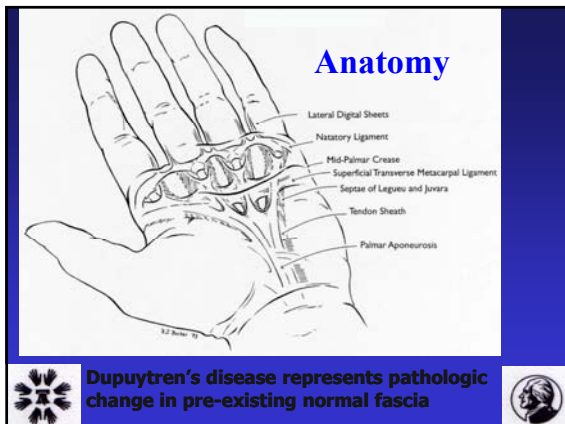
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**Dupuytren's disease represents pathologic change in pre-existing normal fascia**

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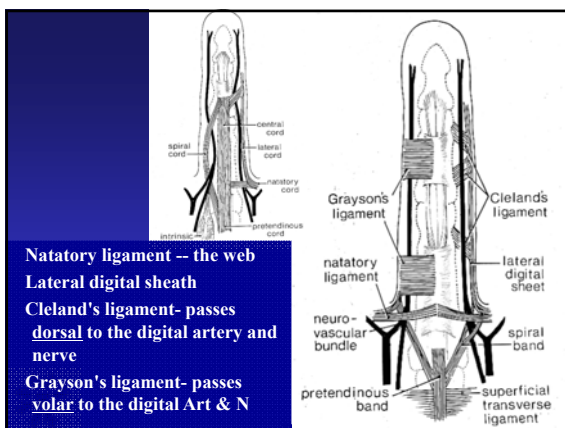
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Natatory ligament -- the web  
 Lateral digital sheath  
 Cleland's ligament- passes dorsal to the digital artery and nerve  
 Grayson's ligament- passes volar to the digital Art & N

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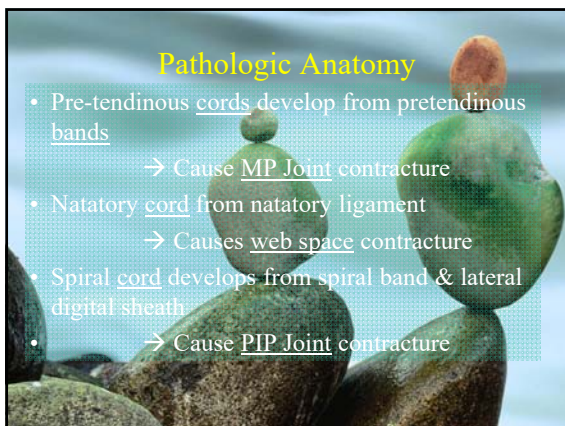
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**Pathologic Anatomy**

- Pre-tendinous cords develop from pretendinous bands  
 → Cause MP Joint contracture
- Natatory cord from natatory ligament  
 → Causes web space contracture
- Spiral cord develops from spiral band & lateral digital sheath
- → Cause PIP Joint contracture

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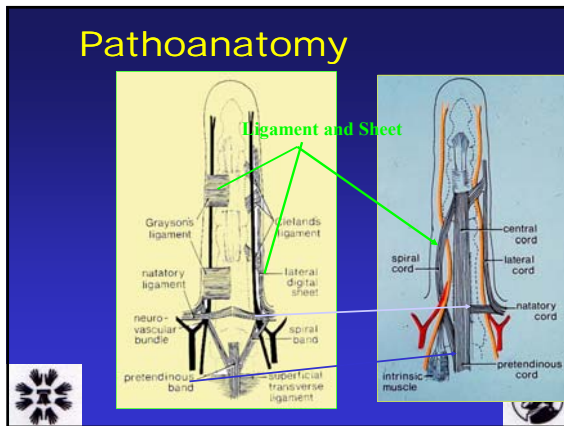
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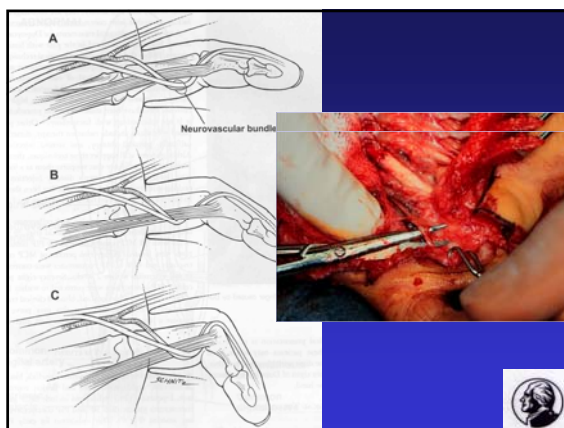
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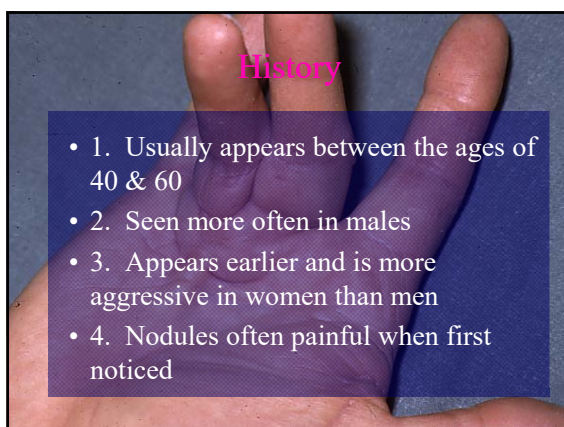
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**DUPUYTREN'S DISEASE**

**TREATMENT-SURGICAL**

- 1. FASCIOTOMY**
- 2. FASCIECTOMY**
  - A. RADICAL**
  - B. LIMITED TO DISEASE**

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**In 20th Century, John Hueston has Set the Ground Rules**



- 1. Limited Fasciectomy**  
*Reaction to Radical Fasciectomy*
- 2. Dissection of the Digital Nerves**
- 3. Dermofasciectomy & Skin Grafting for Recurrence**

Hueston JT. Dupuytren's Contracture. London: Churchill Livingstone; 1963



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**Timing and Surgical Selection Require An Integrated Plan**

- 1. Age**
- 2. Extent Disease**
- 3. Rate of Disease Progression**
- 4. Comorbid Conditions**
- 5. Patient Expectations**
- 6. Postop Rehab Willingness**

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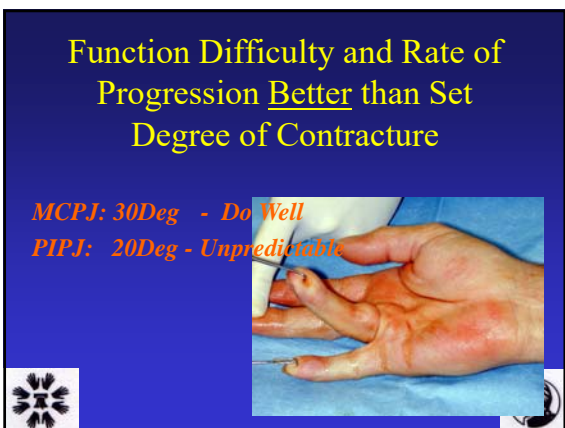
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**Dupuytren's Disease**

**Surgical technique**

- Longitudinal approach
- Transverse approach
- "Z"-plasty
- Skin Grafts

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**DUPUYTREN'S DISEASE**

**THE CHALLENGE TO THE SURGEON IS TO:**

1. REMOVE THE DISEASED TISSUE WHILE LEAVING THE N-V BUNDLES INTACT.
2. ACHIEVE RELEASE AT THE PIP JOINT WHILE MAINTAINING ROM OF THE FINGER

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**Incisions**

1. Brunner (zig-zag)
2. Skoog (straight line with Z-plasty)
3. Zig-zag with V-Y extension



*Schwartz*

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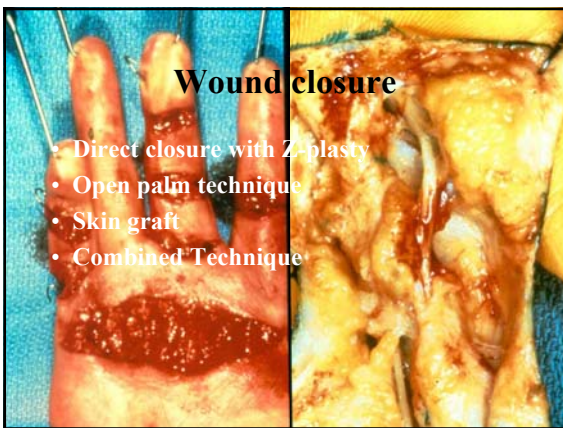
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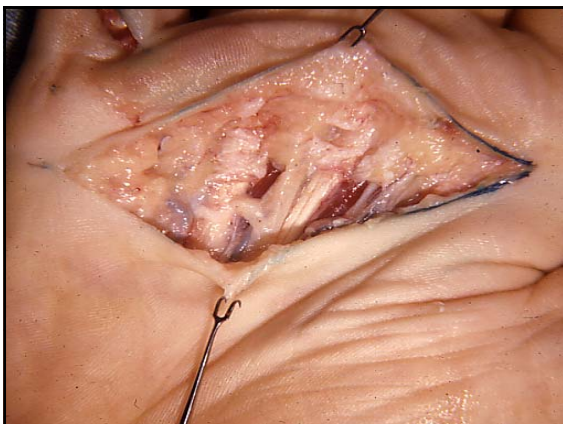
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**DUPUYTREN'S DISEASE**

**OPEN PALM TECHNIQUE**

**McCASH**

**BRIT J PLAST SURG 1964**



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Dupuytren's Disease

**The open palm technique**

Advantages

- Patient comfort
- No wound slough
- No hematoma

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Dupuytren's Disease

**The open palm technique**

Disadvantages

Putting up with the open wound  
(Close within 3-5 weeks)

*Schneider, LH: Hand Clinics 7;723,1991*

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Open Fasciectomy with Z-plasty  
Of course . . .

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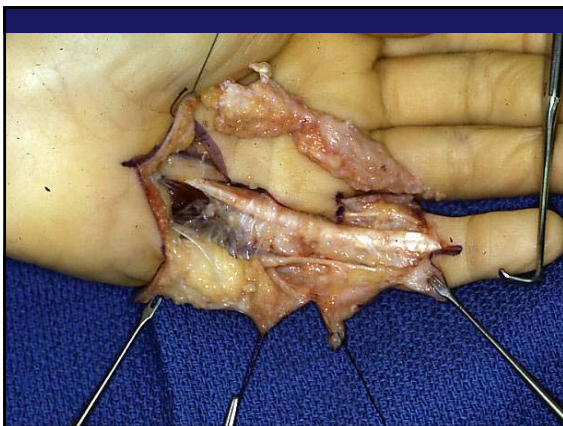
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**COMBINED TECHNIQUE**

Fasciectomy  
Open Palm Technique



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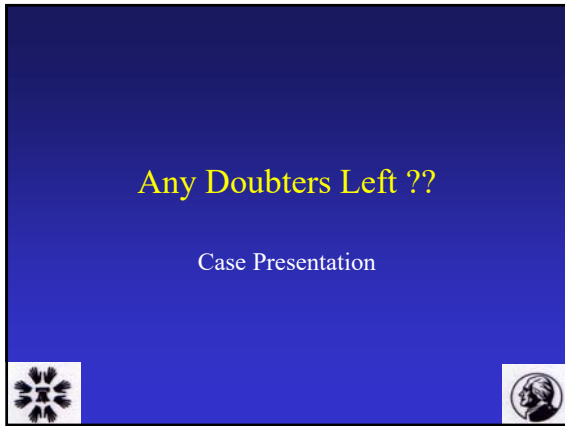
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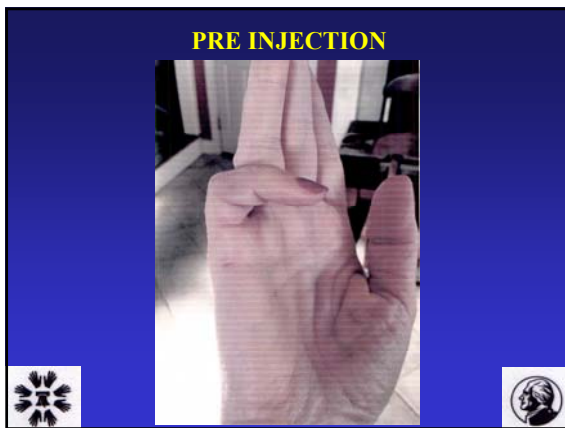
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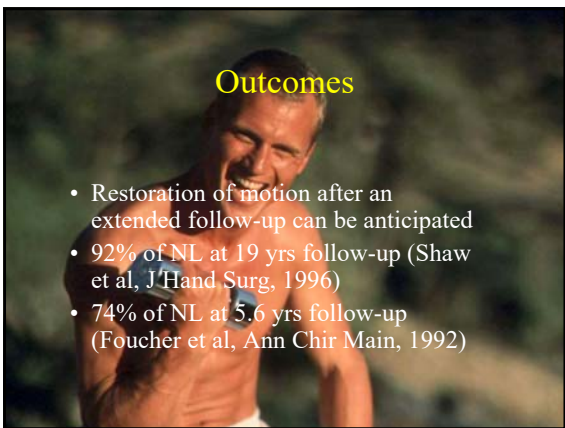
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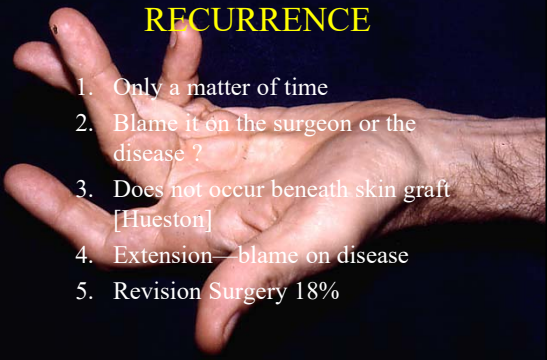
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### RECURRENCE

1. Only a matter of time
2. Blame it on the surgeon or the disease ?
3. Does not occur beneath skin graft [Hueston]
4. Extension—blame on disease
5. Revision Surgery 18%



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### Overall Complication Rate

17 to 20%

Infection	} <i>Common Triad 4 to 8%</i>
Hematoma	
Skin Necrosis	
Nerve Injury	1.5% ( <i>Excludes Numbness &lt; 3Mos.</i> )
Arterial	0.8%
Tip Gangrene	0.1%
Loss of Finger Flexion	5%
"Flare" - RSD	4.2%



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Thank you  
Jason and Michael

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