Aldo G. Beltrán P, MD, MSc

Profesor

Servicio de Cirugía Plástica, Reconstructiva y Estética

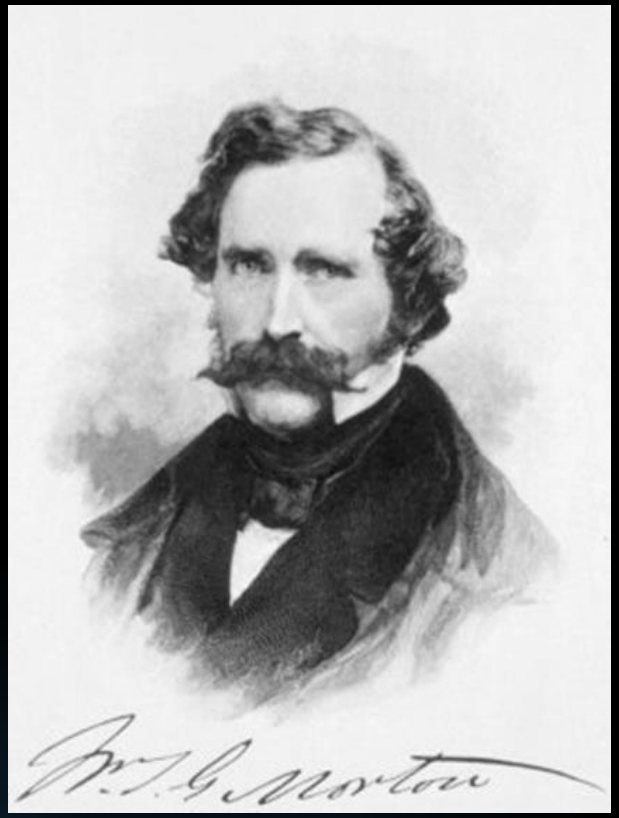
Curso de Alta Especialidad en Cirugía de Mano y Microcirugía

Hospital Universitario José Eleuterio González

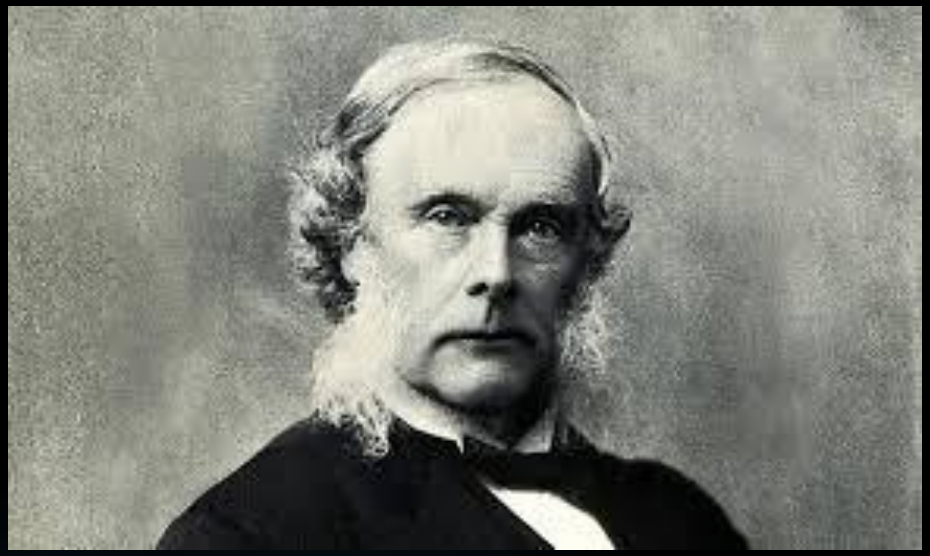
Mano Quemada: Secuelas y Manejo

La historia de la cirugía es la historia de los últimos cien años. Se inicia en 1846 con el descubrimiento de la anestesia y, por tanto, con la posibilidad de operar sin dolor. Todo lo anterior a tal fecha no pasa de ser una noche de ignorancia, sufrimiento y estéril tanteo en la oscuridad. En cambio la "historia de los cien años" ofrece el panorama más grandioso que conoce la humanidad.

BERTRAND GOSSET



- Edward Morton
  - Éter
  - Anestesia General
  - 1846
- Albert Niemann
  - Cocaína
  - Anestesia Local
  - 1860

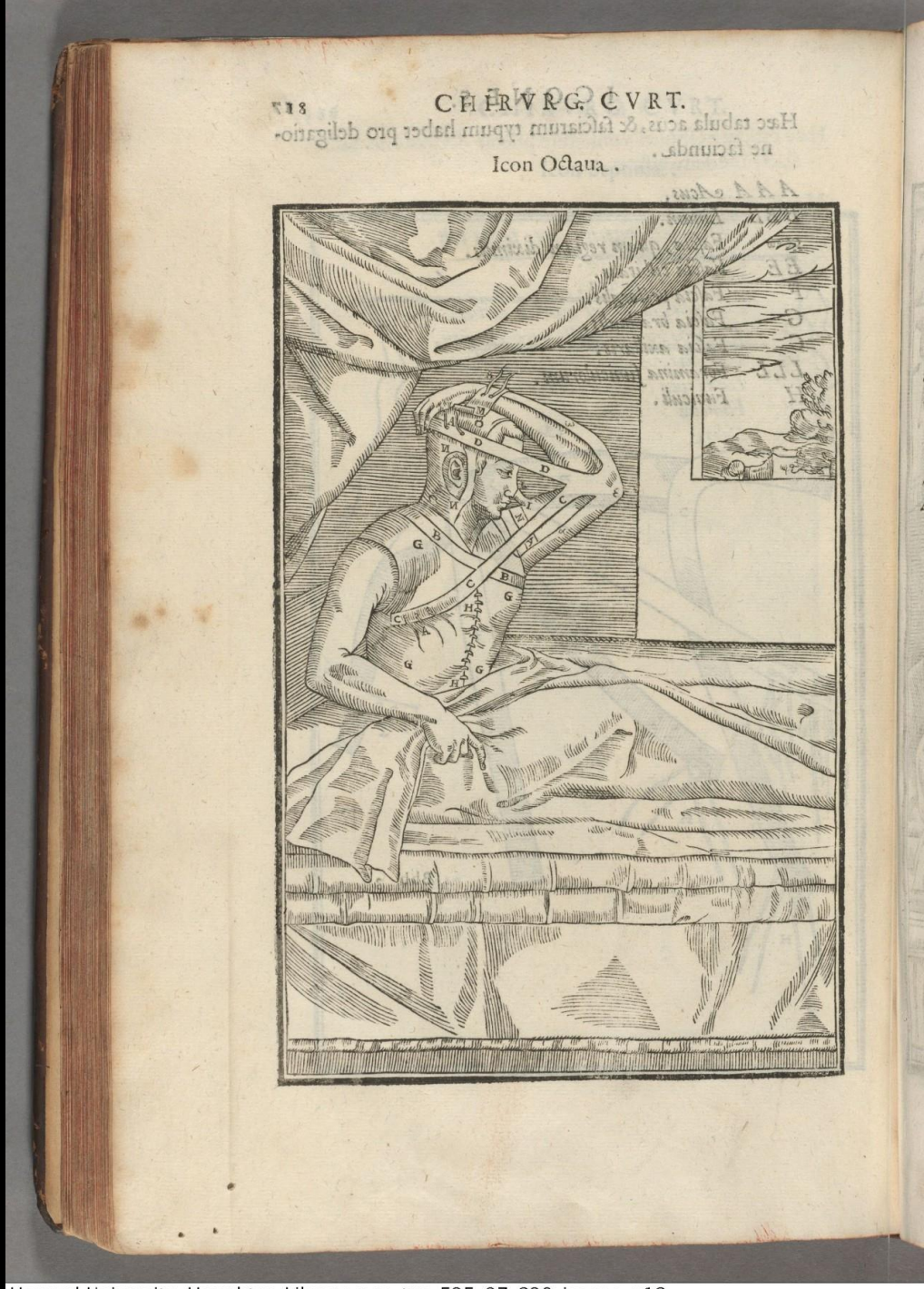


- Joseph Lister
  - Ácido fánico
  - Antiséptico
  - 1857

- 1857 *Nuevo tratamiento de las fracturas abiertas y de los abcesos; observaciones sobre las causas de la supuración*
- 1867 *On the Antiseptic Principle in the Practice of the Surgery*.

Historia

- 1597 Gaspare Tagliacozzi
  - De Curtorum Chirurgia per Insitionem
- 1862, Wood
  - Colgajo inguinal para cicatriz postquemadura en niña de 8 años

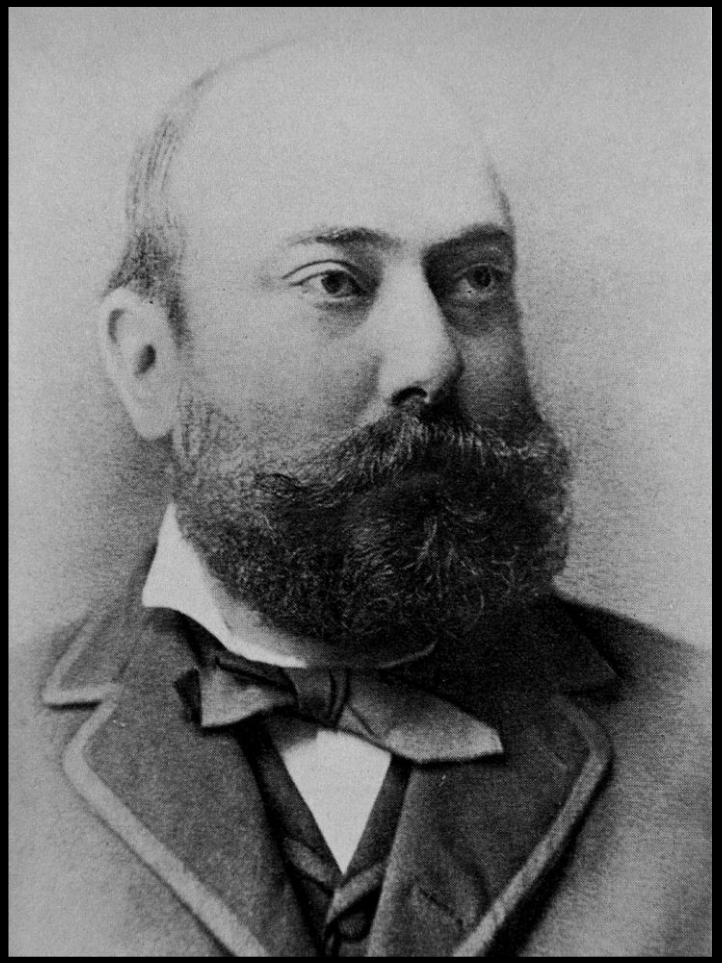


Harvard University, Houghton Library, pga_typ_525_97_820_icones_p18

An Evolutionary Perspective on the History of Flap Reconstruction in the Upper Extremity
Frank Fang, MD, Kevin C. Chung
Hand Clin 30 (2014) 109–122

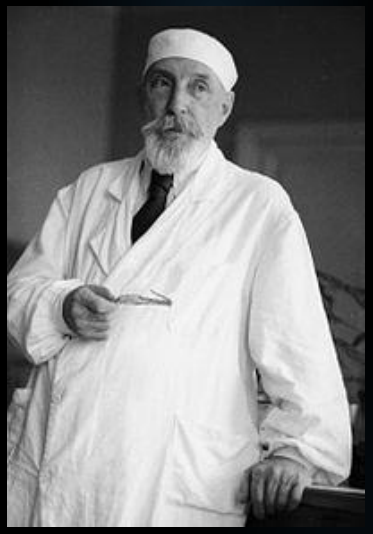
Historia

- Carl Nicoladoni
  - 1891 Pulgar osteoplástico en colgajo pectoral
  - 1891 Colgajo en dos tiempos para axila
  - 1898 Segundo artejo pediculado para pulgar



Carl Nicoladoni 1847- 1902

Sir Harold Gillies



Vladimir Petrovic Iliatov

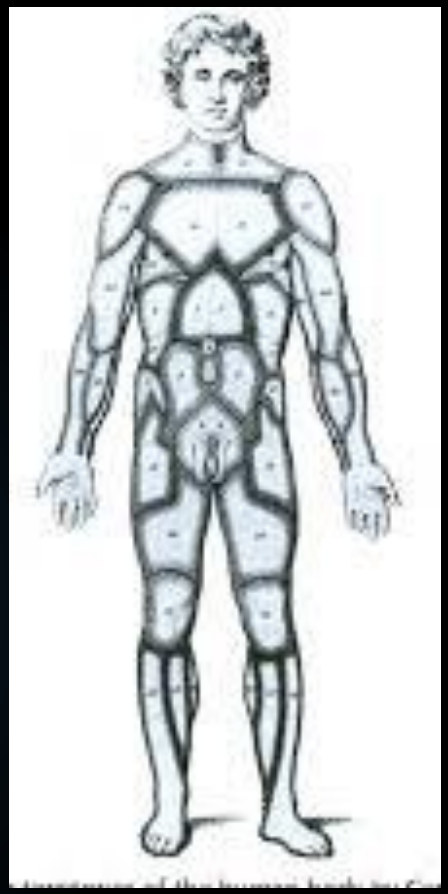
- 1916
- Colgajos tubulizados

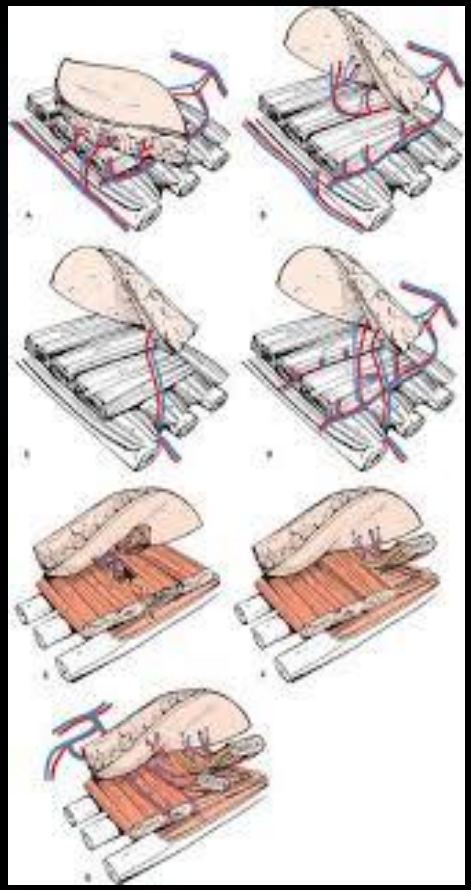
Un hombre con una mano no funcional es equivalente a un hombre sin mano

Sterling Bunnell

An Evolutionary Perspective on the History of Flap Reconstruction in the Upper Extremity Frank Fang, MD, Kevin C. Chung
Hand Clin 30 (2014) 109–122

Revoluciones Anatómicas





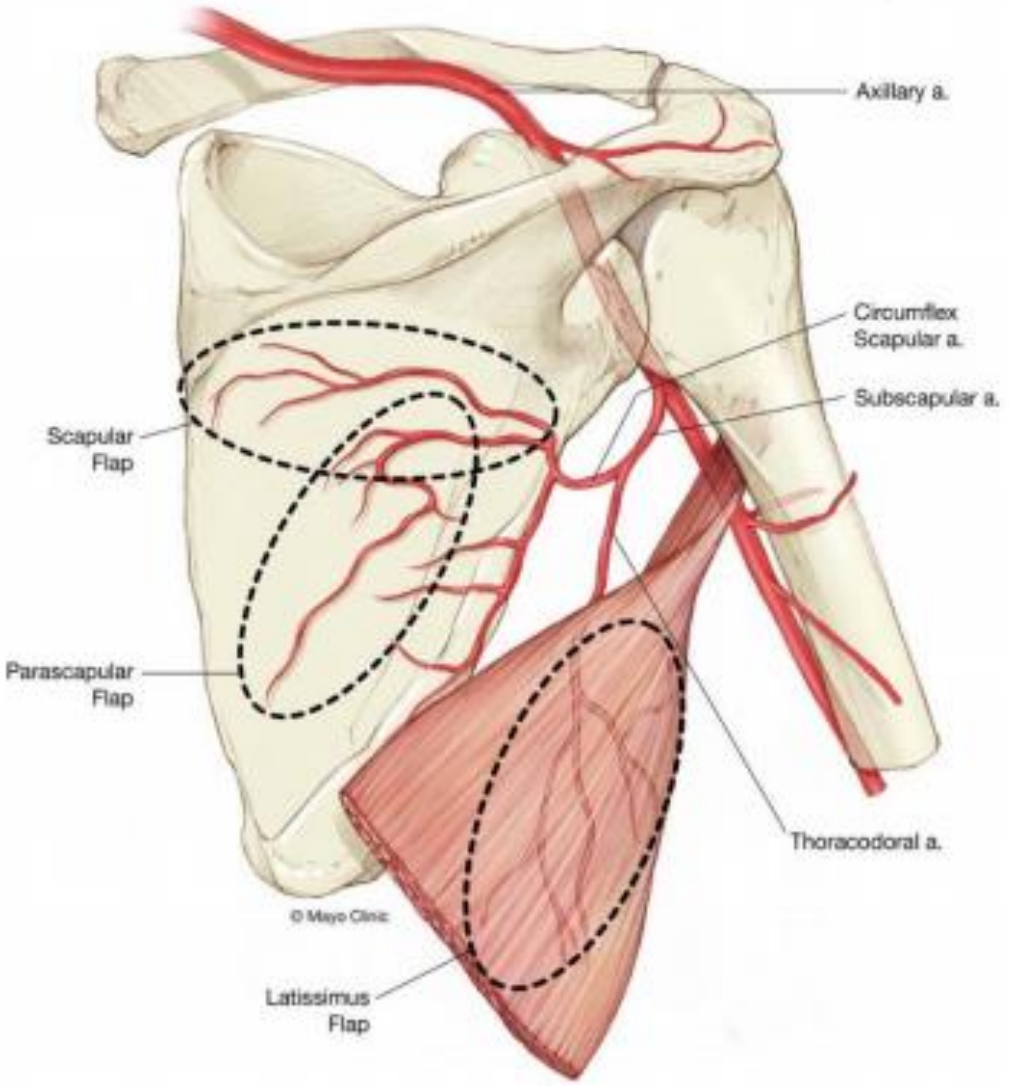
Liberación de contracturas

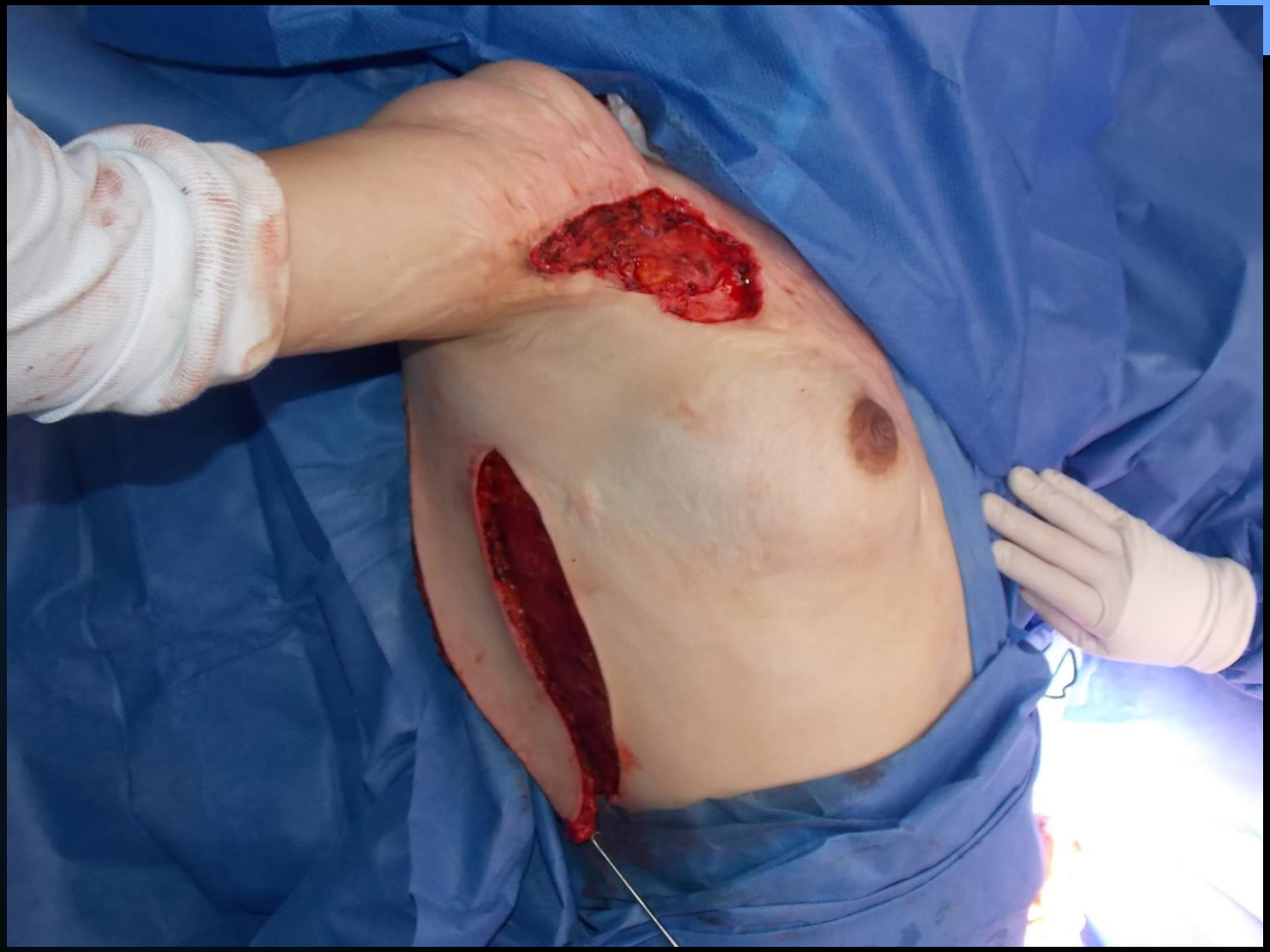
- Calcular déficit
  - Extensión
  - Tejidos subyacentes
  - Dinámico
- Desbridamiento completo
- Remplazo por / Interposición de tejido sano
- Compromiso osteoarticular – tendinoso - neurológico
- Movilidad temprana
- Tejidos disponibles
- Técnicas reproducibles
- Recursos cirugía - rehabilitación

Axila

Colgajo Paraescapular

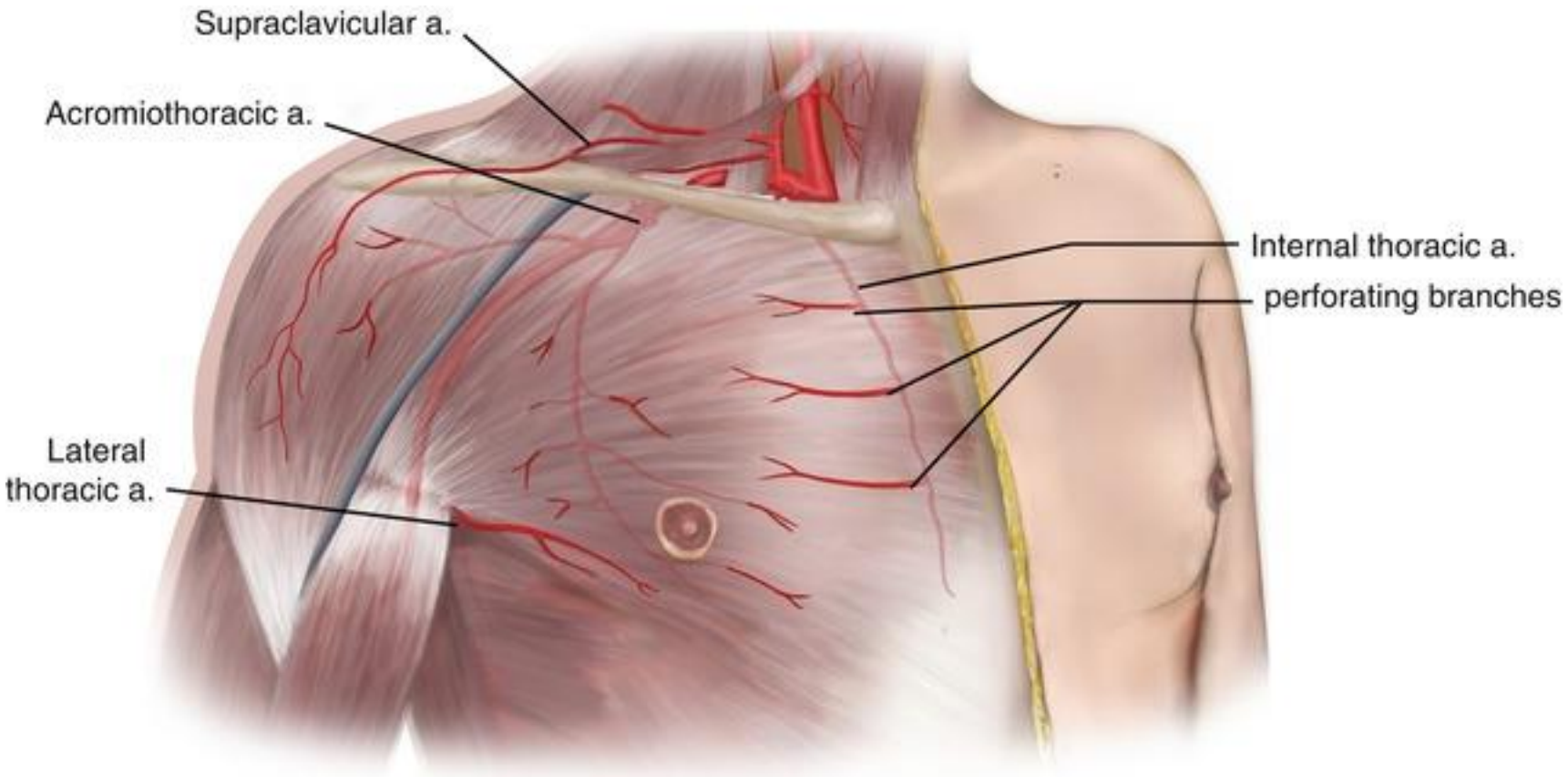
- **1978, Saijo**



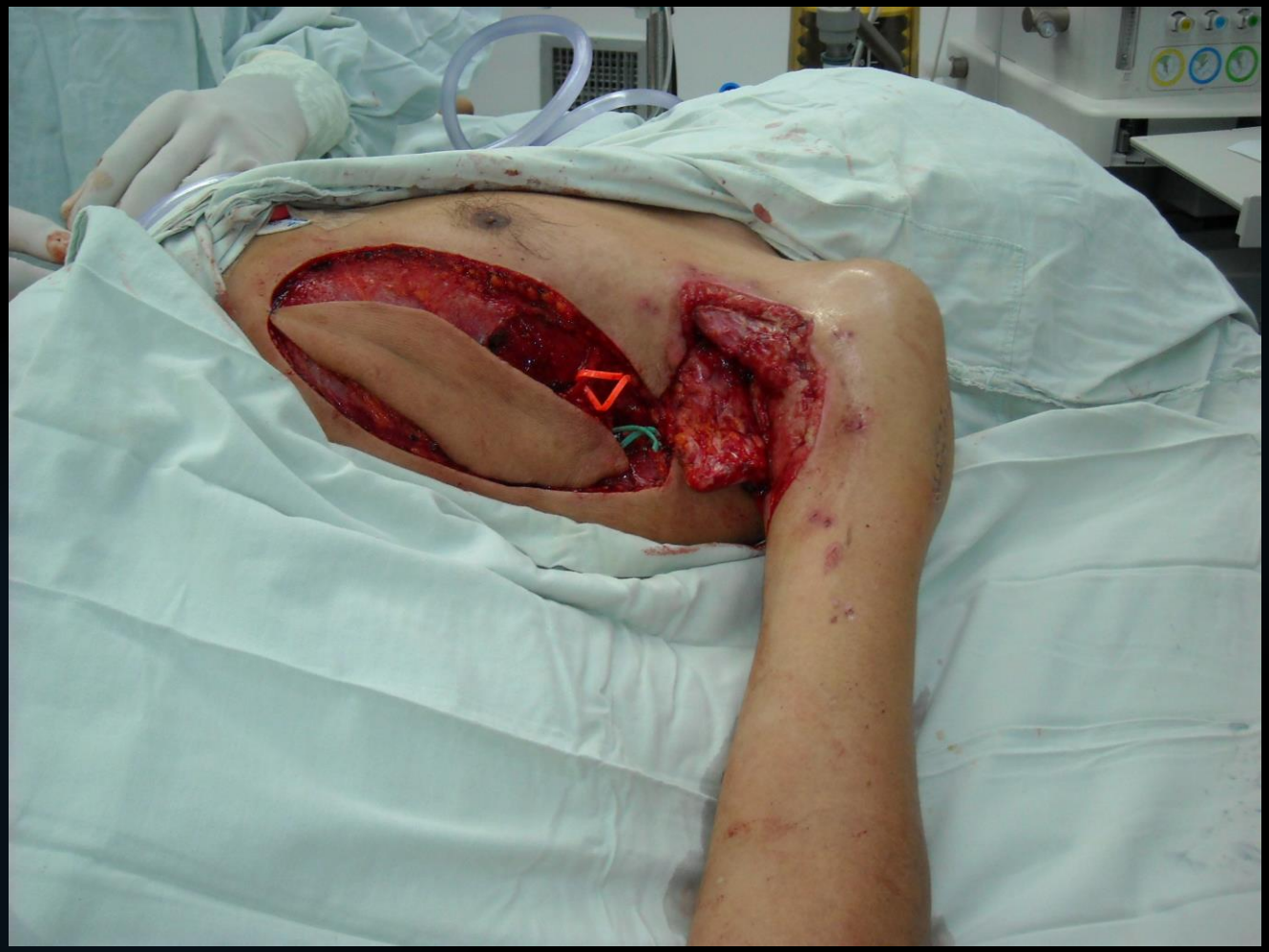


Colgajo Arteria Torácica Lateral

- **2009, Hamdi, Van Ludyt**



10-02-2018



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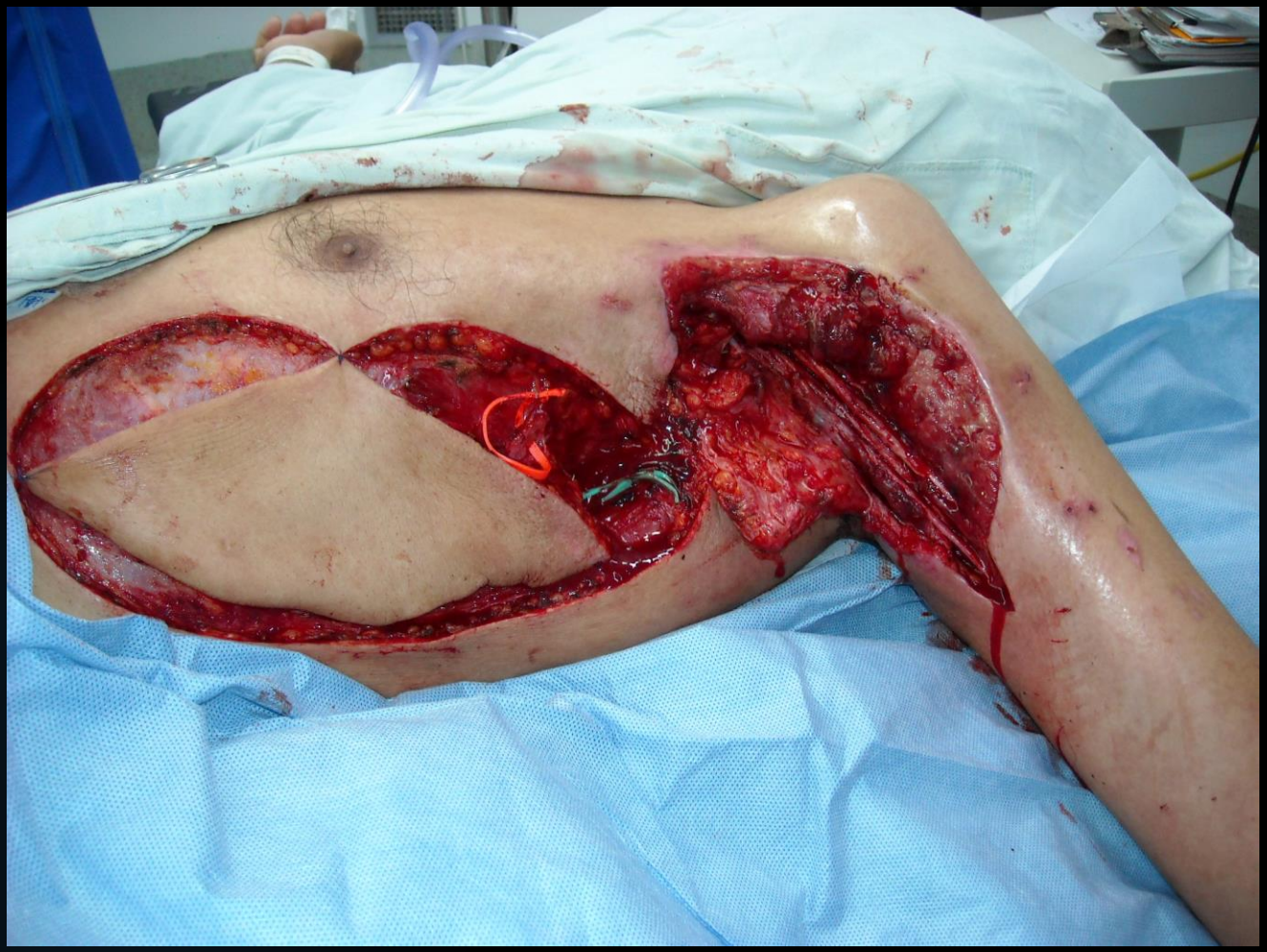


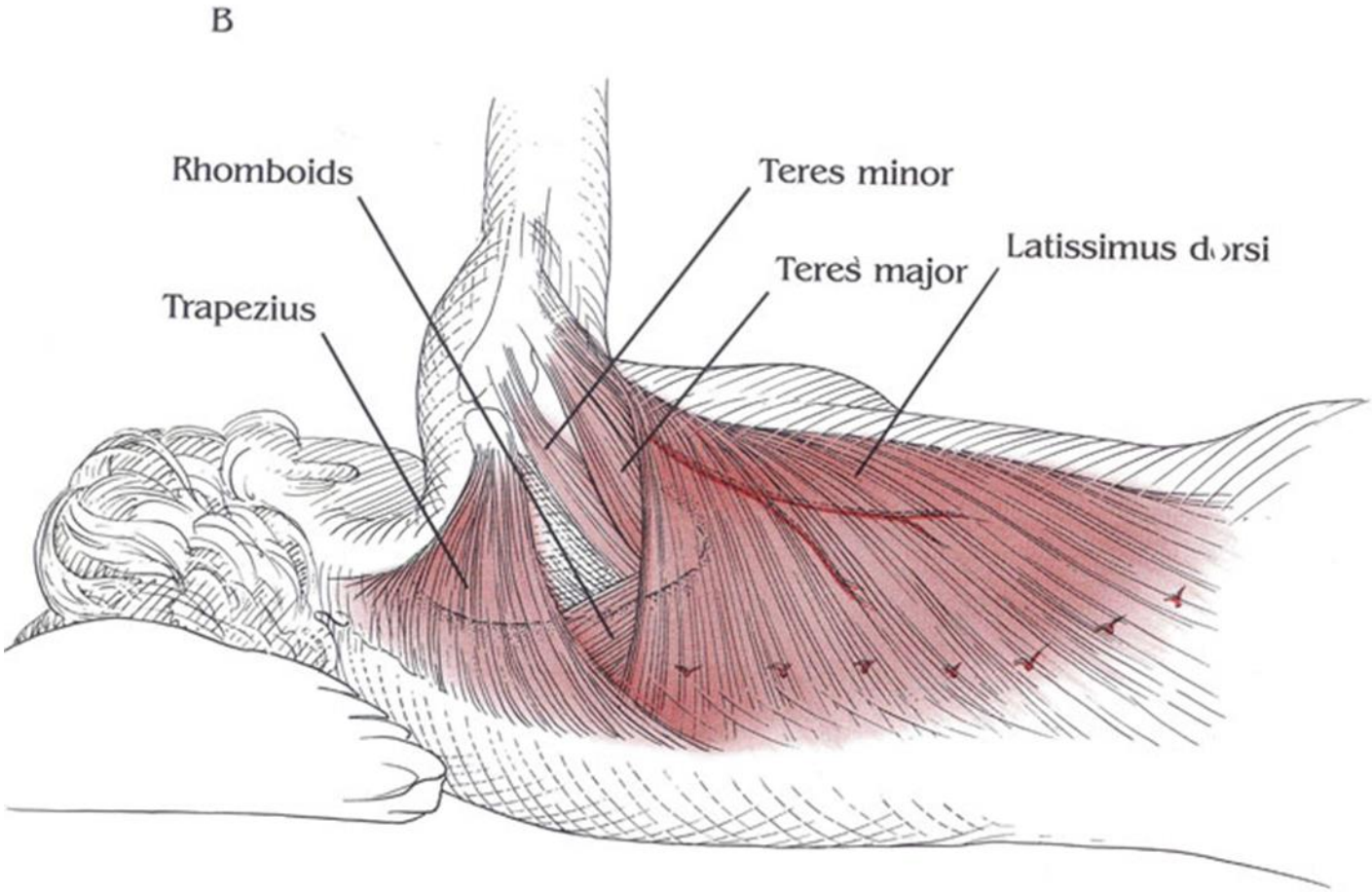
02-03-2018

20-03-2018

Codo

Colgajo Dorsal Ancho

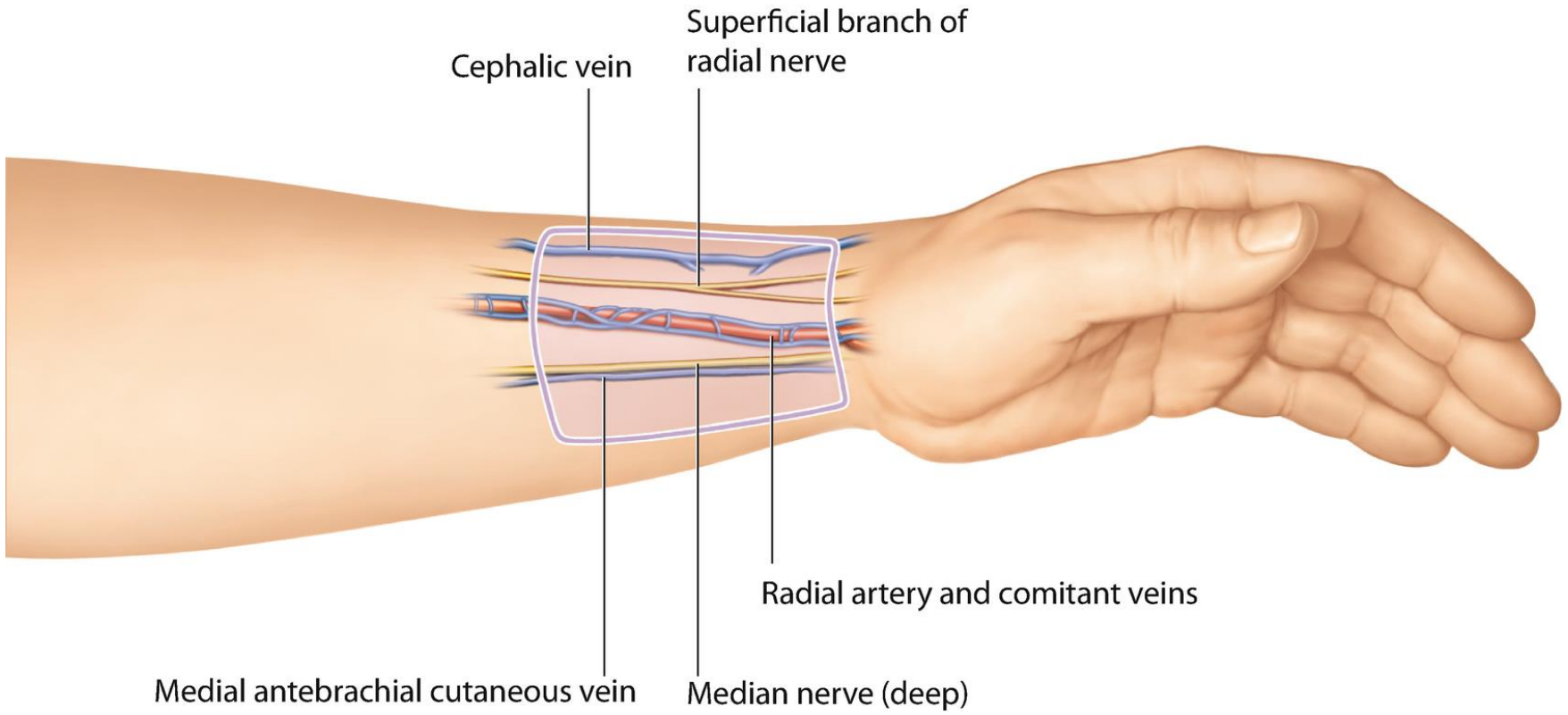
- **1896, Tansini y Ombredanne**




UTILICE ELEMENTOS DE
PROTECCION PERSONAL

Colgajo Radial

- **1970, Yang (Libre)**
- **1982, Lu (Pediculado)**



Articulaciones interfalángicas

17-06-2011

Colgajo Lateral de la Falange Proximal

- **2017, Beltrán - Romero**

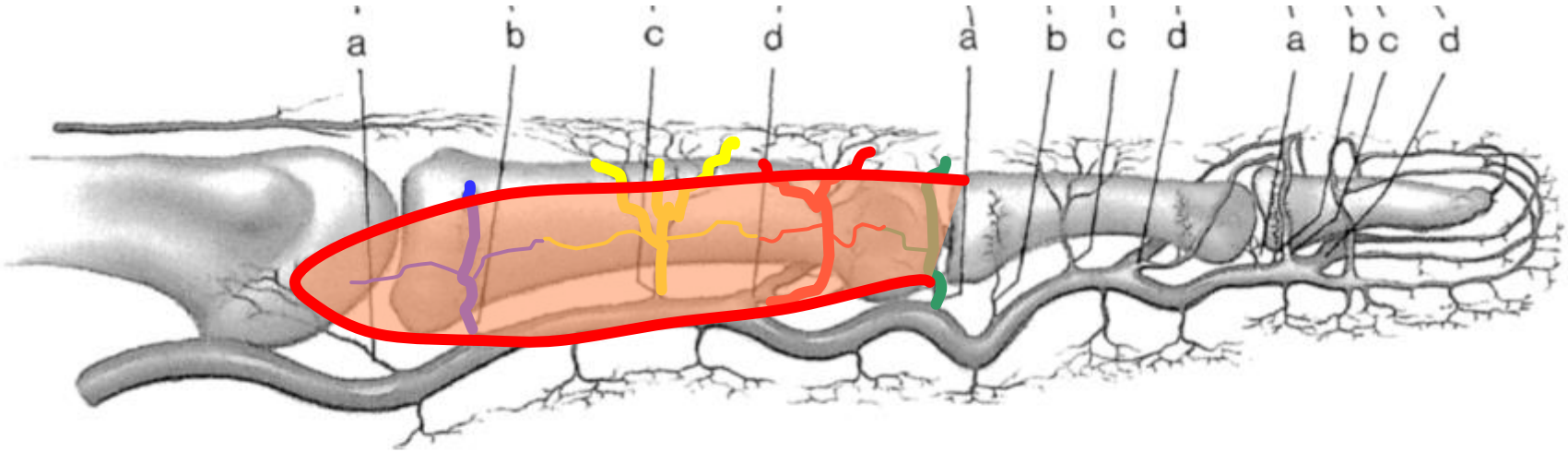
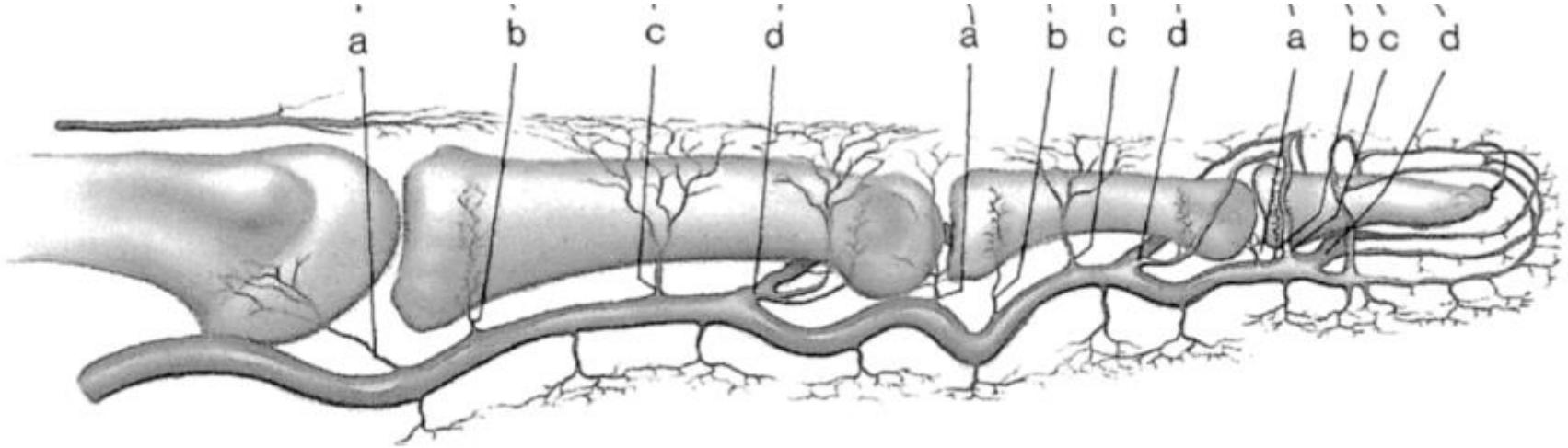


Fig. 3. The dorsal branches of the paired digital vessels in each phalanx are more consistently 4, and show a regular repetitive distribution: a, condylar vessel; b, metaphyseal vessel; c, dorsal skin vessel; d, transverse palmar arch.

Arterial system of the fingers

The arterial system in 141 fresh human cadavers was studied under the operating microscope using magnifications of 8 to 25 times. The vascular system was injected with latex material alone for identification of the vessels during dissection, and with latex and lead for x-ray contrast studies. An overall repetitive pattern in size, location, and distribution of the vessels was noted. The dorsal branches of the paired digital vessels in each phalanx were generally 4 and demonstrated a regular, repetitive distribution corresponding to: a, condylar vessel; b, metaphyseal vessel; c, dorsal skin vessel; and d, tranverse palmar arch. Proximal and middle transverse palmar arches were found always in relation to the cruciate ligaments. The distal transverse palmar arch lay just distal to the insertion of the profundus. (J HAND SURG 1990;15A:148-54.)

Berish Strauch, MD, *and* Wilson de Moura, MD, *Bronx, N.Y.*



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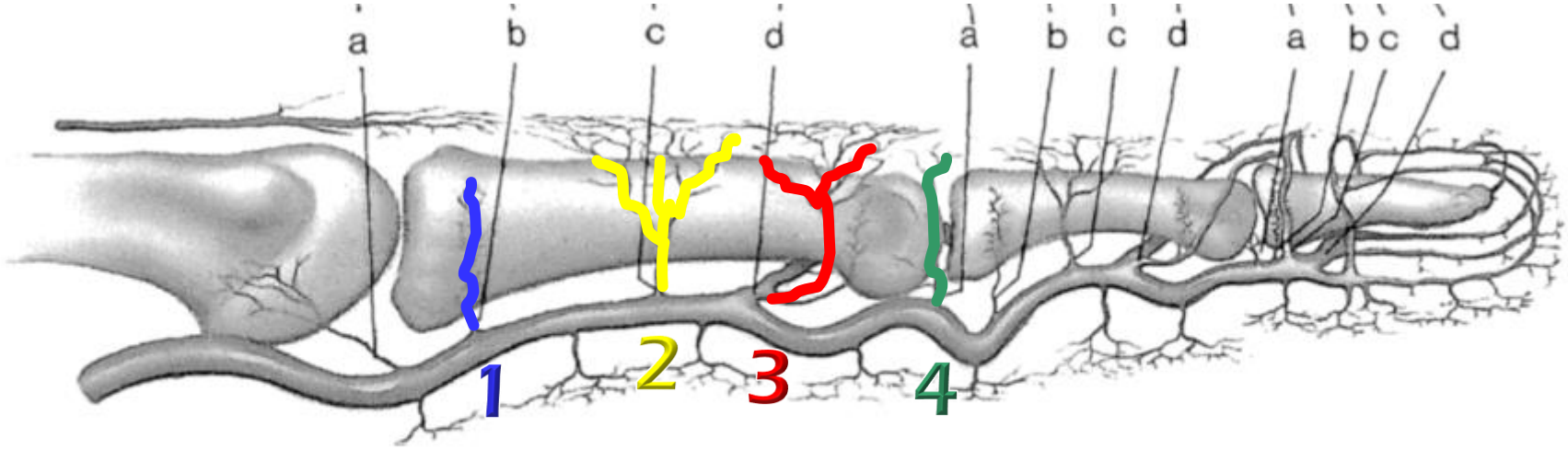

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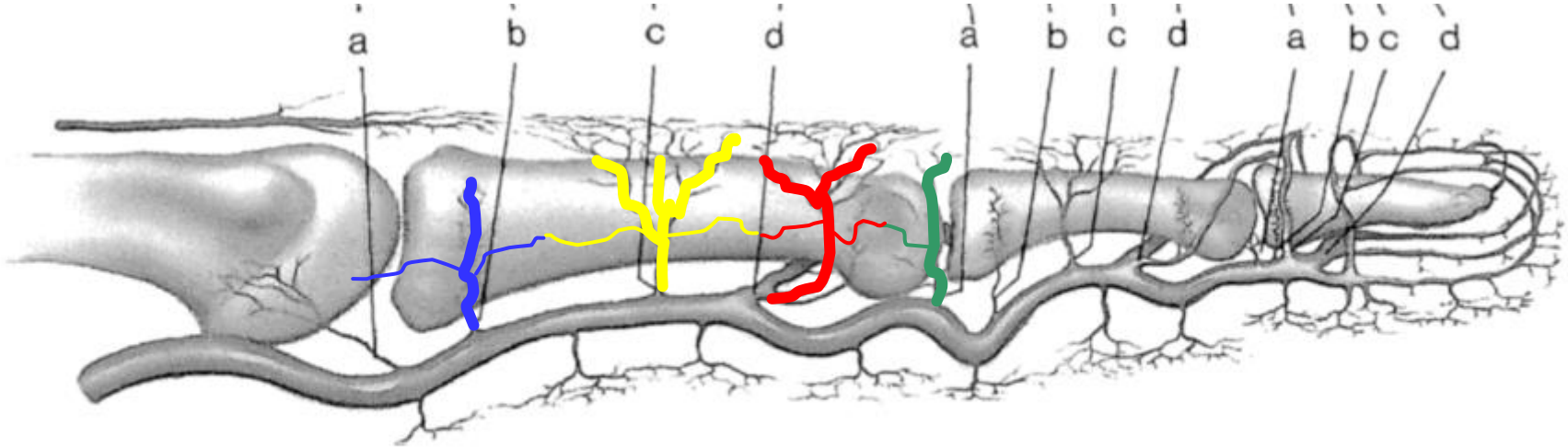

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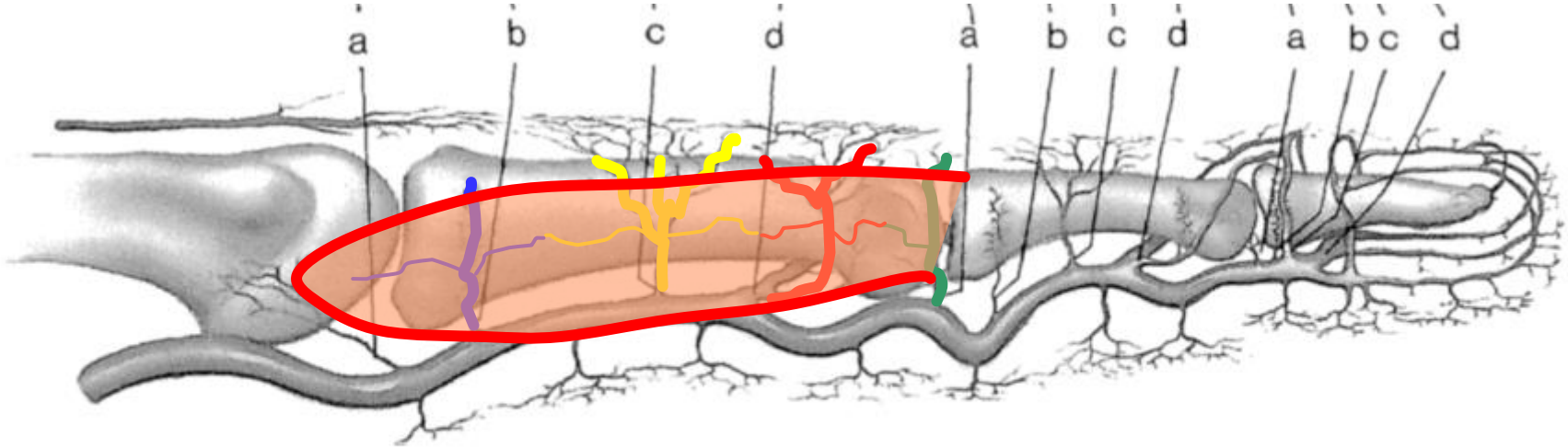

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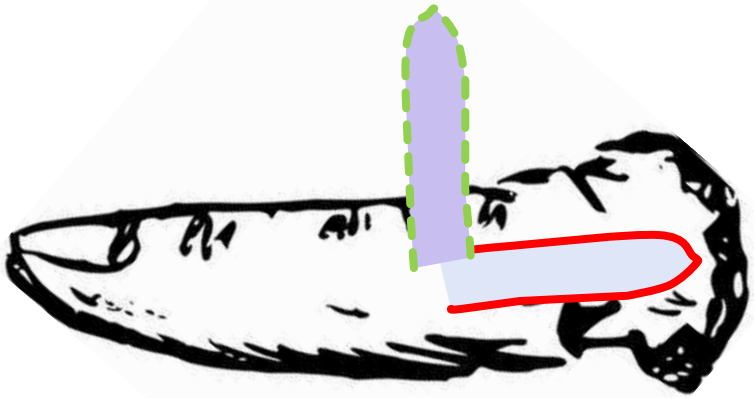
Colgajo Lateral de la Falange Proximal

- Cara lateral de la Falange Proximal
  - Tejido redundante – cierre primario
  - Protegida en la mayoría de quemaduras
  - Perforantes cutáneas, ramas de la arteria colateral
    - Número y anatomía constantes
  - Pivote en IFP
    - Permite transposición hacia dorsal o palmar

Colgajo Lateral de la Falange Proximal



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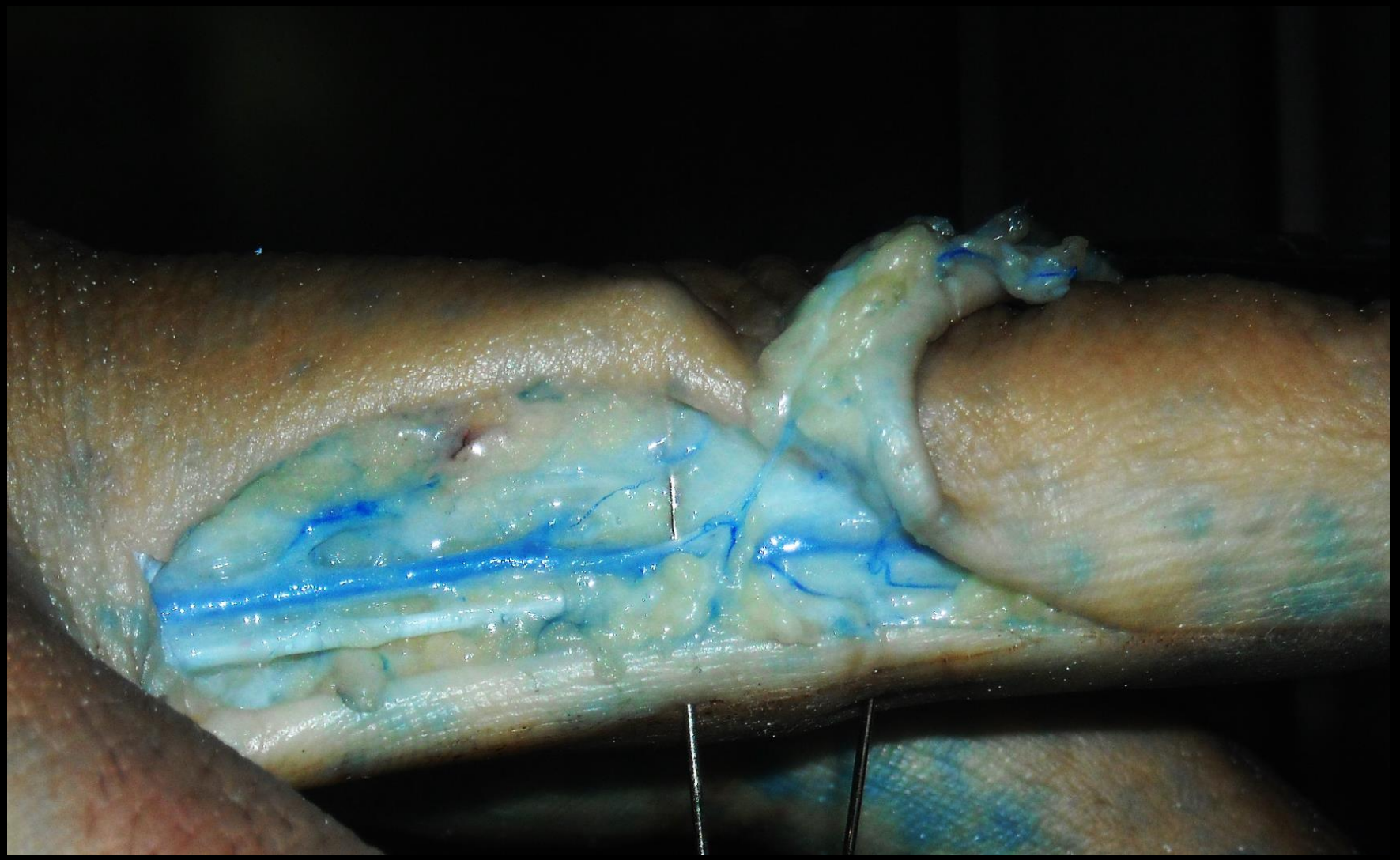
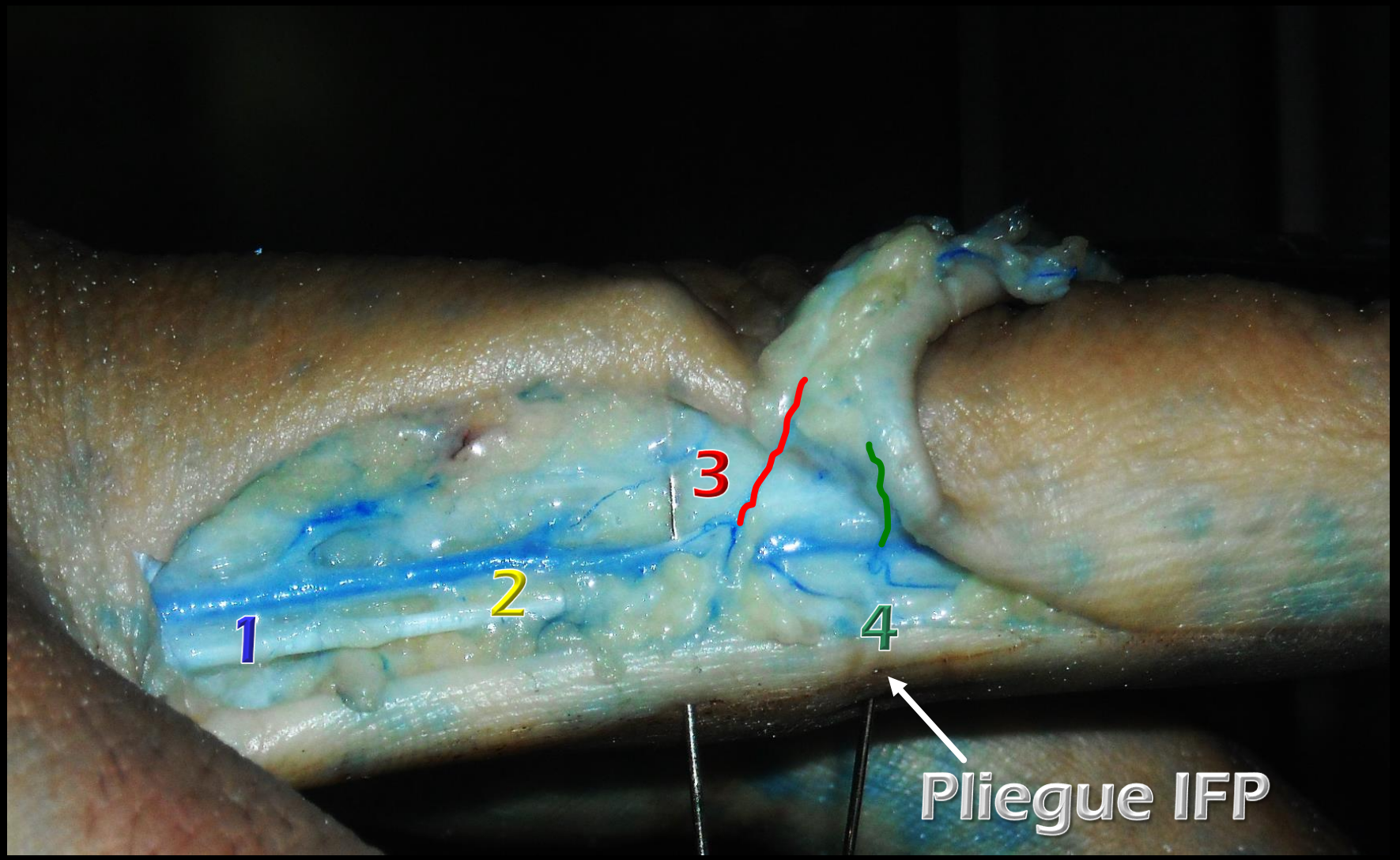
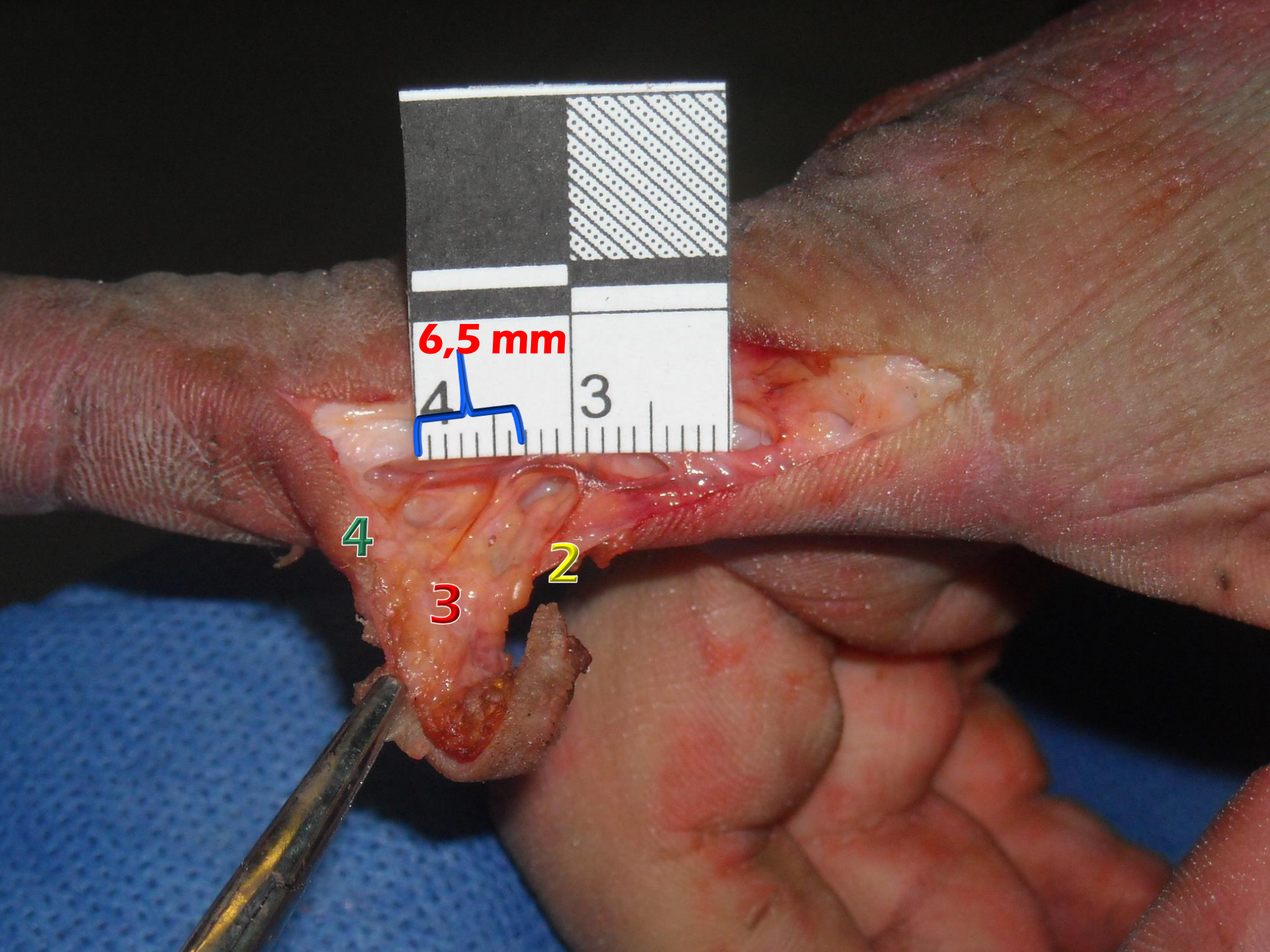



1
2
3
4
Pliegue IFP


4
3


6,5 mm
4
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4
3
2

Article

HAND
1–7

DOI: 10.1177/1558944716646781
hand.sagepub.com

The Lateral Proximal Phalanx Flap for Contractures and Soft Tissue Defects in the Proximal Interphalangeal Joint: An Anatomical and Clinical Study

Aldo G. Beltrán[1,2,3] and Camilo J. Romero[4,5]

Abstract

Background: The management of contractures and soft tissue defects in the proximal interphalangeal (PIP) finger joint remains a challenge. We report a transposition flap from the lateral skin of the proximal phalanx that is based on perforating branches of the digital arteries and can be used safely for both palmar and dorsal cover defects. **Methods:** We first completed an anatomic study, dissecting 20 fingers in fresh cadavers with arterial injections and made the new flap in patients with dorsal or palmar defects in PIP joints. **Results:** In cadavers, we can reveal 4 constant branches from each digital artery in the proximal phalanx, with the more distal just in the PIP joint constituting the flap pedicle. Between February 2010 and February 2015, we designed 33 flaps in 29 patients, 7 for dorsal and 26 for palmar defects, with no instances of flap necrosis and 4 distal epidermolysis. The patients were between 4 and 69 years with no major complications, and all of the skin defects in the PIP joint were resolved satisfactorily without any relevant sequelae at the donor site. **Conclusions:** This flap procedure is an easy, reliable, versatile, and safe technique, and could be an important tool for the management of difficult skin defects and contractures at the PIP joint level.

Keywords: flap, proximal interphalangeal joint, proximal phalanx, perforator, contracture, digital artery, joint coverage

Introduction

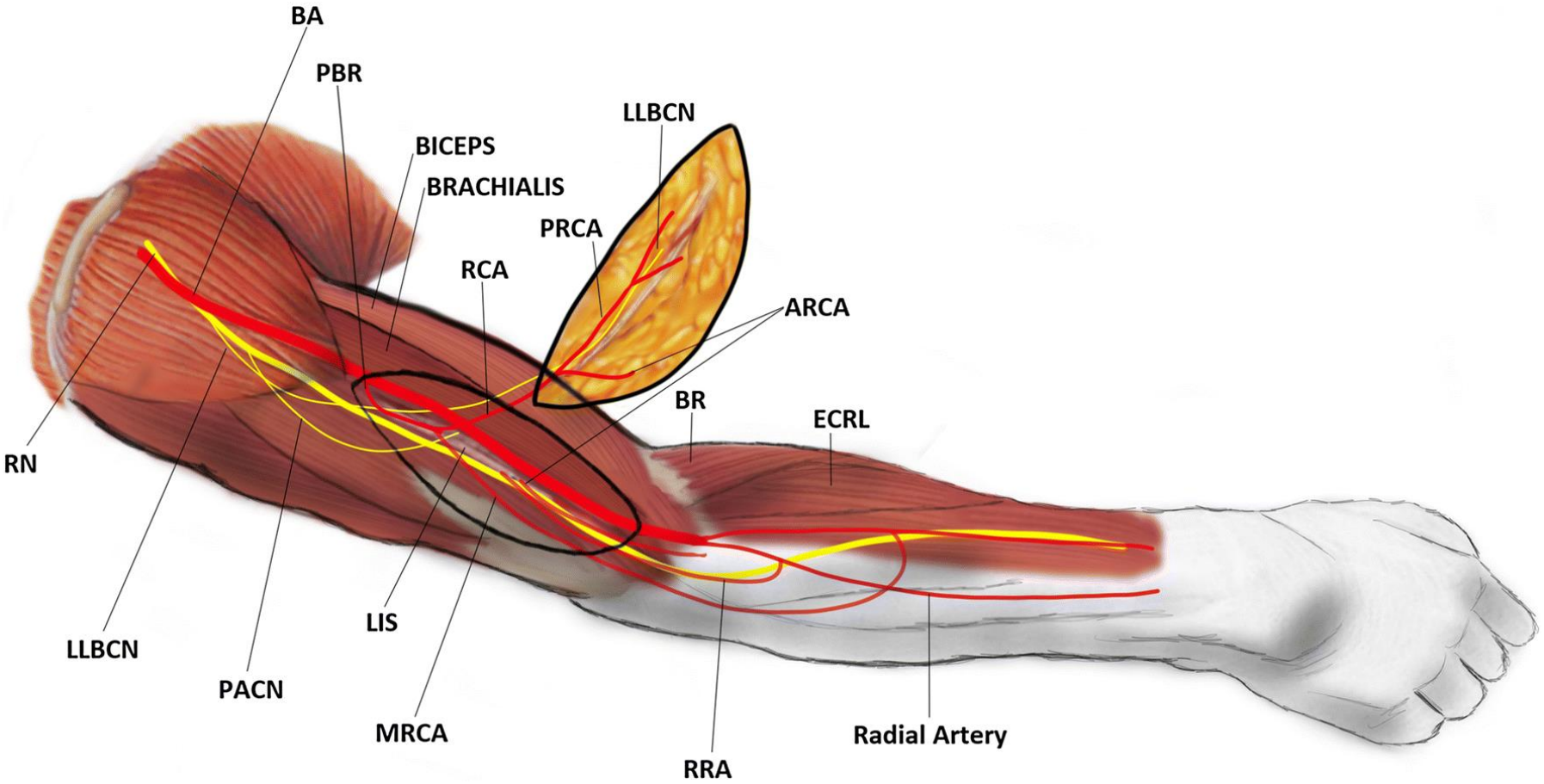
Skin contractures in fingers can cause significant skin shortening, leading to major defects at contracture release. This problem often affects the proximal interphalangeal (PIP) joints in both the dorsal and palmar skin, and at present, there is no ideal method to replace the lost skin. The same and able to retain healthy skin and subcutaneous tissues. Furthermore, the relative skin excess in this area allows for primary closure if used as a donor site.[1,5,7] With this in mind, we have designed a new surgical technique calling for a flap to be taken from the lateral side of the proximal phalanx with a distal pivot point in the PIP joint. This approach can

Primera comisura

23-02-2016

Colgajo Braquial Lateral

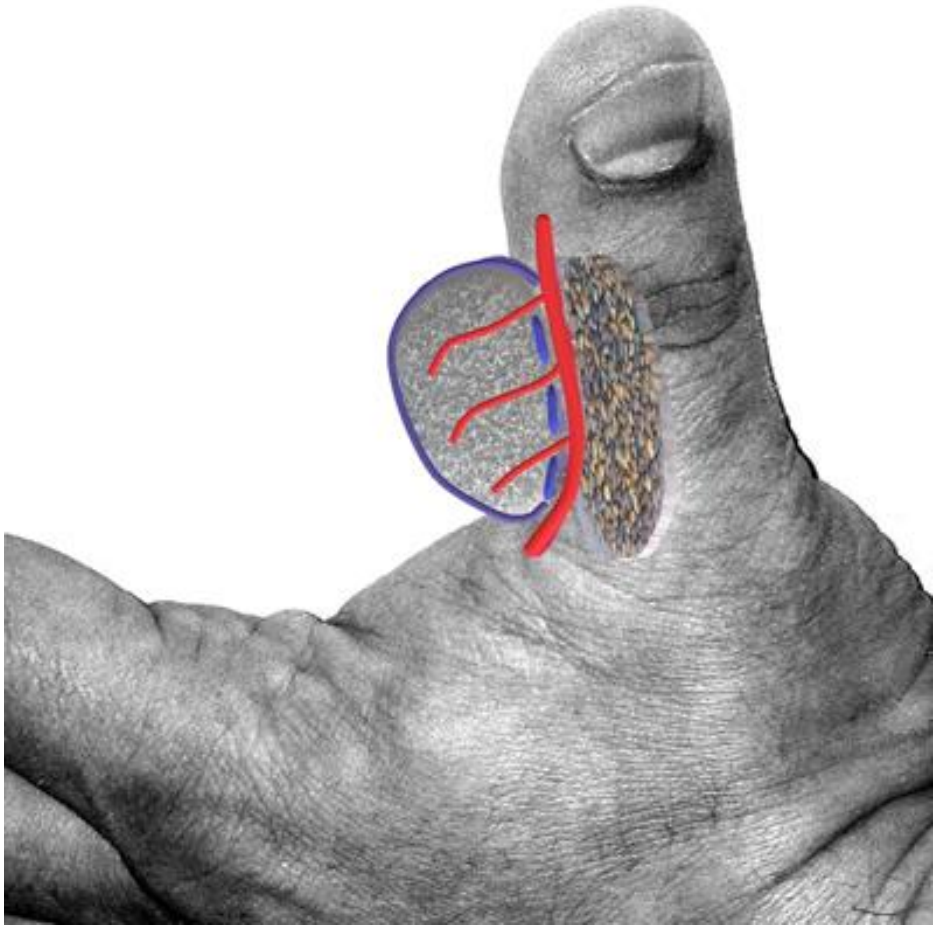
- **1982, Song**

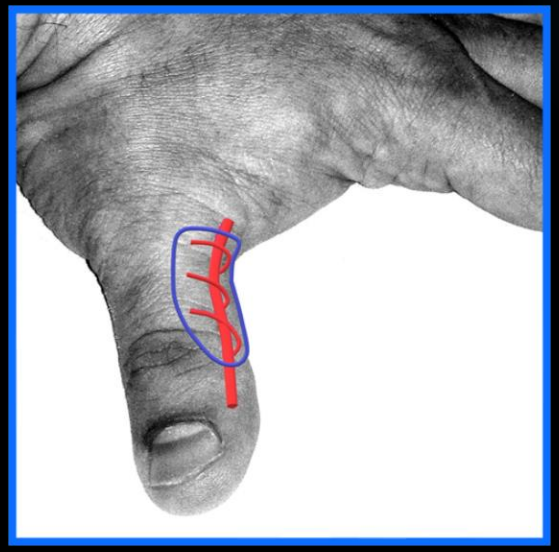


28-04-2016

Colgajo Perforantes Arteria Colateral Ulnar del Pulgar

- **2019, Beltran et als.**

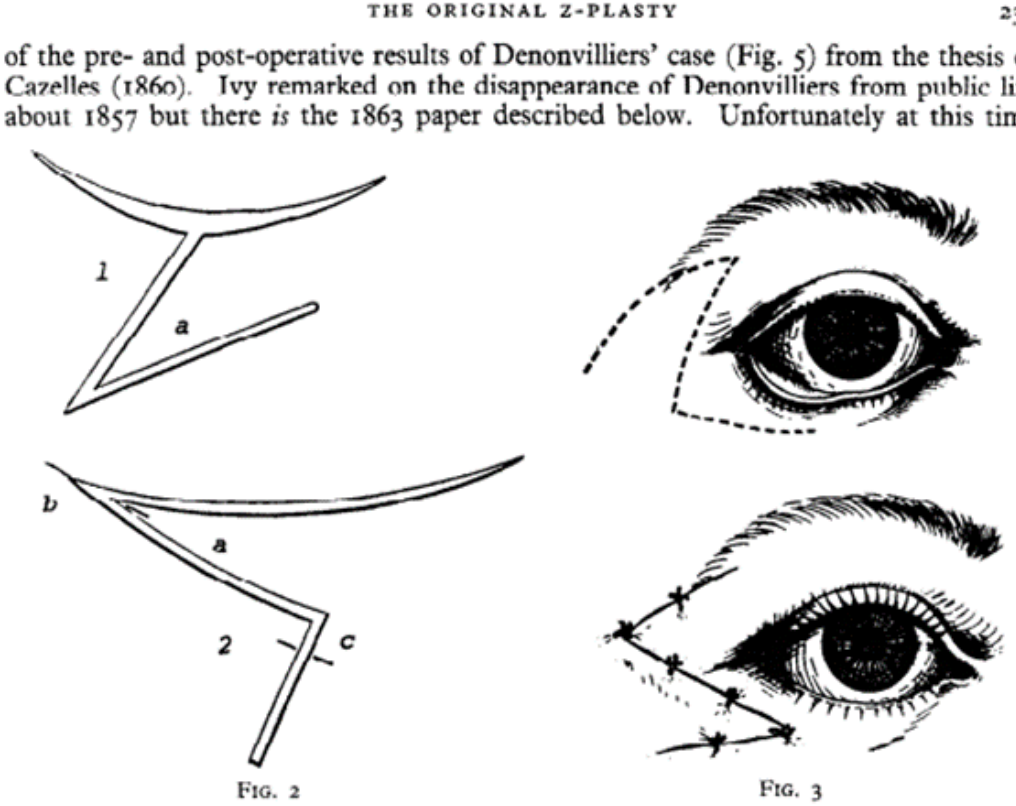




Comisuras

Plastias en Z y derivadas

- **1837, Horner**
- **1854, Denonviliers**
- **1913, McCurdy**



THE ORIGINAL Z-PLASTY 239

of the pre- and post-operative results of Denonvilliers' case (Fig. 5) from the thesis of Cazelles (1860). Ivy remarked on the disappearance of Denonvilliers from public life about 1857 but there *is* the 1863 paper described below. Unfortunately at this time

FIG. 2 FIG. 3

FIG. 2. Horner's figures 1 and 2 of his operation to correct ectropium (1837).
FIG. 3. Alleged original Z-plasty of Denonvilliers published by Beard (1911).

THE ORIGINAL Z-PLASTY
By A. F. BORGES, M.D., F.A.C.S.
Br Jour Plast Surg, 1973. 26, 237 - 246

Plastias en Z y derivadas

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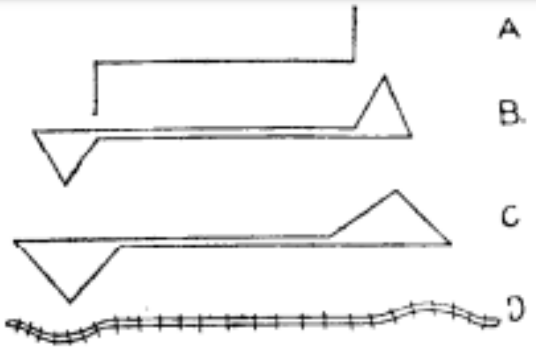


FIG. 8. McCurdy's first published (1898) zig-zag incision to elongate a scar.

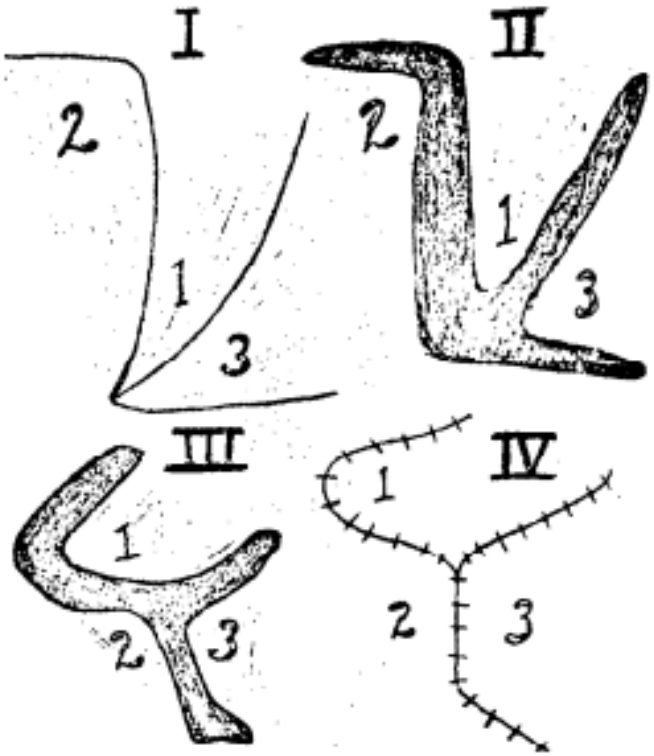
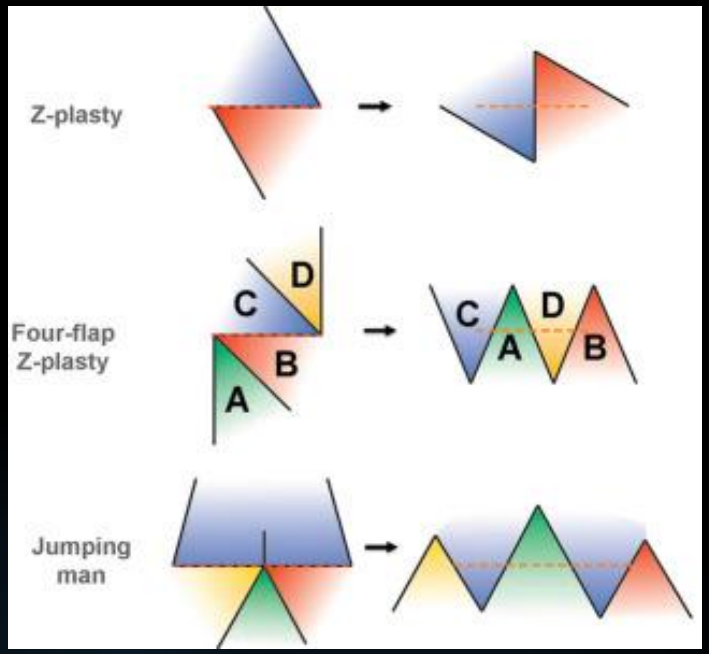
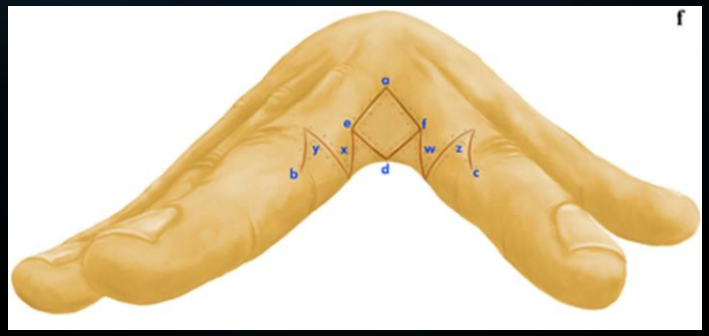


FIG. 9. McCurdy's second (1904) "Z-incision" which created rotation advancement flaps. Subsequently (1913) he published a number of typical "Z-plastic operations" for burns scars.

THE ORIGINAL Z-PLASTY
By A. F. BORGES, M.D., F.A.C.S.
Br Jour Plast Surg, 1973. 26, 237 - 246


Z-plasty
Four-flap
Z-plasty
C
D
B
A
C
A
D
B
Jumping
man


A
B
C
D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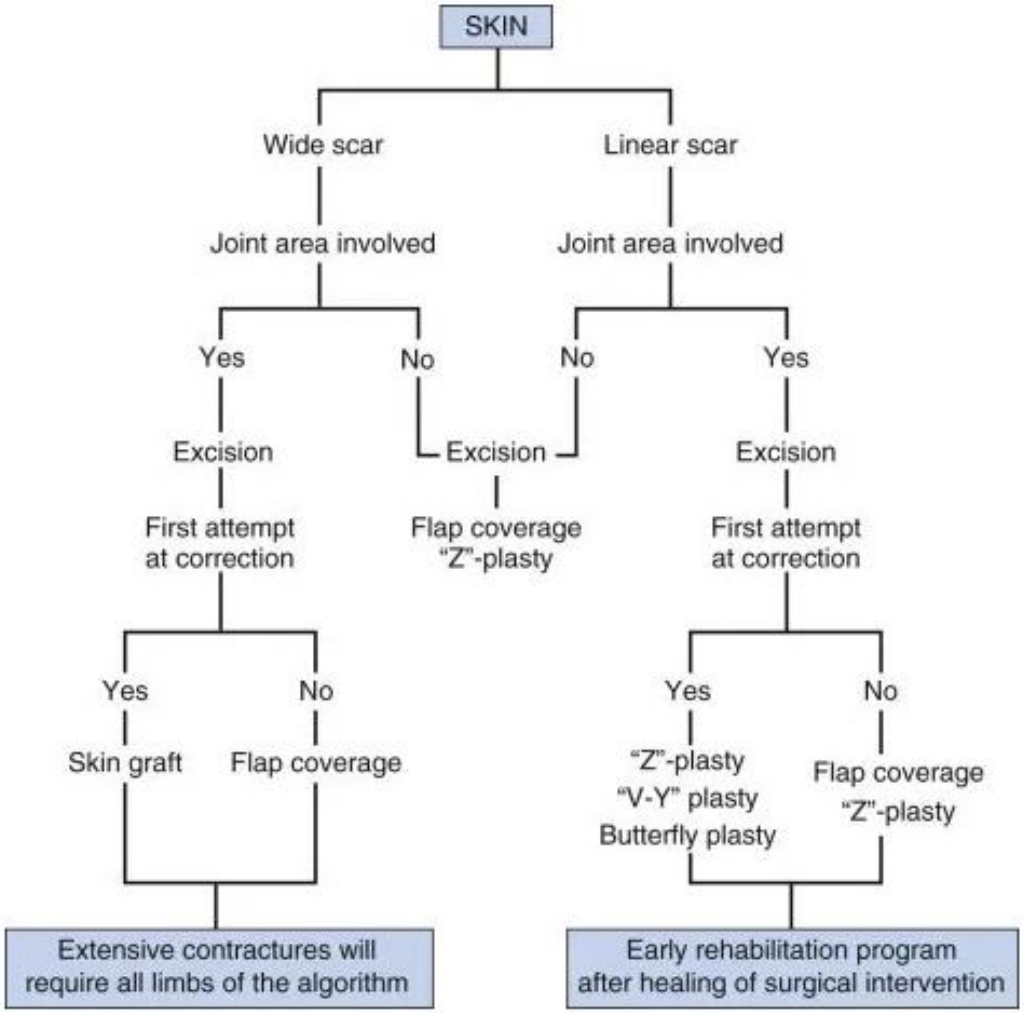
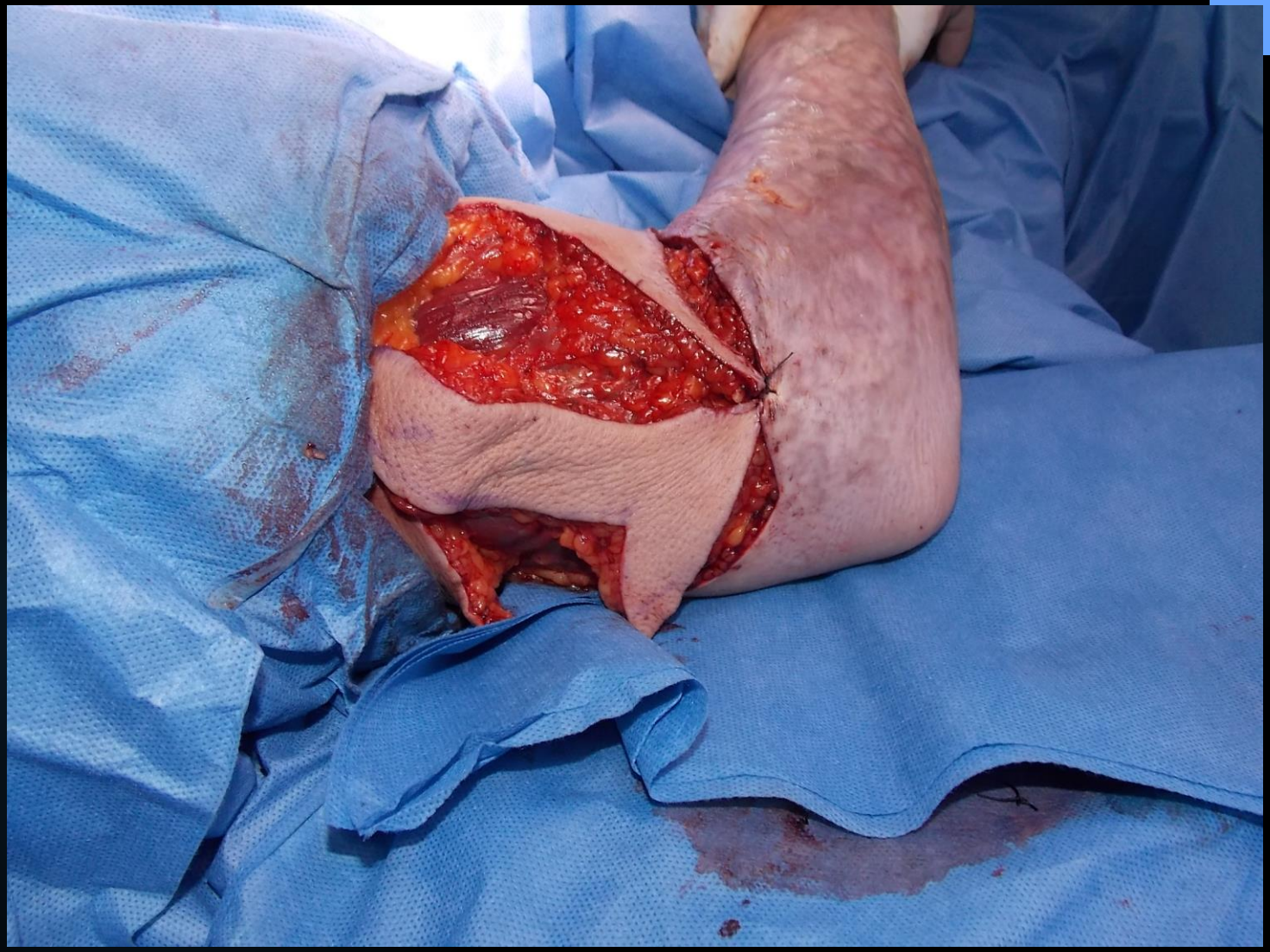


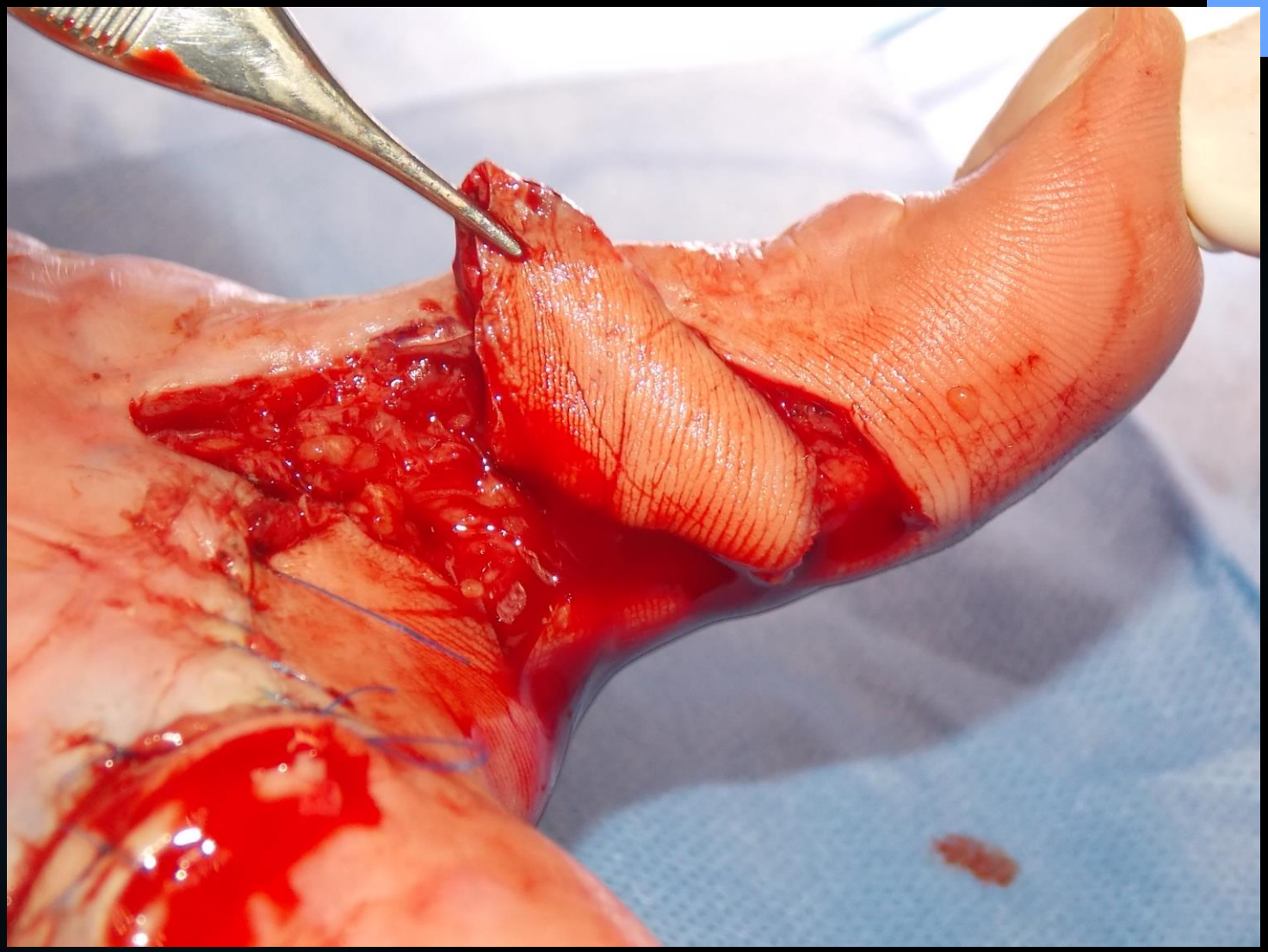
FIGURE 57.16

Decision-making algorithm for skin contractures.

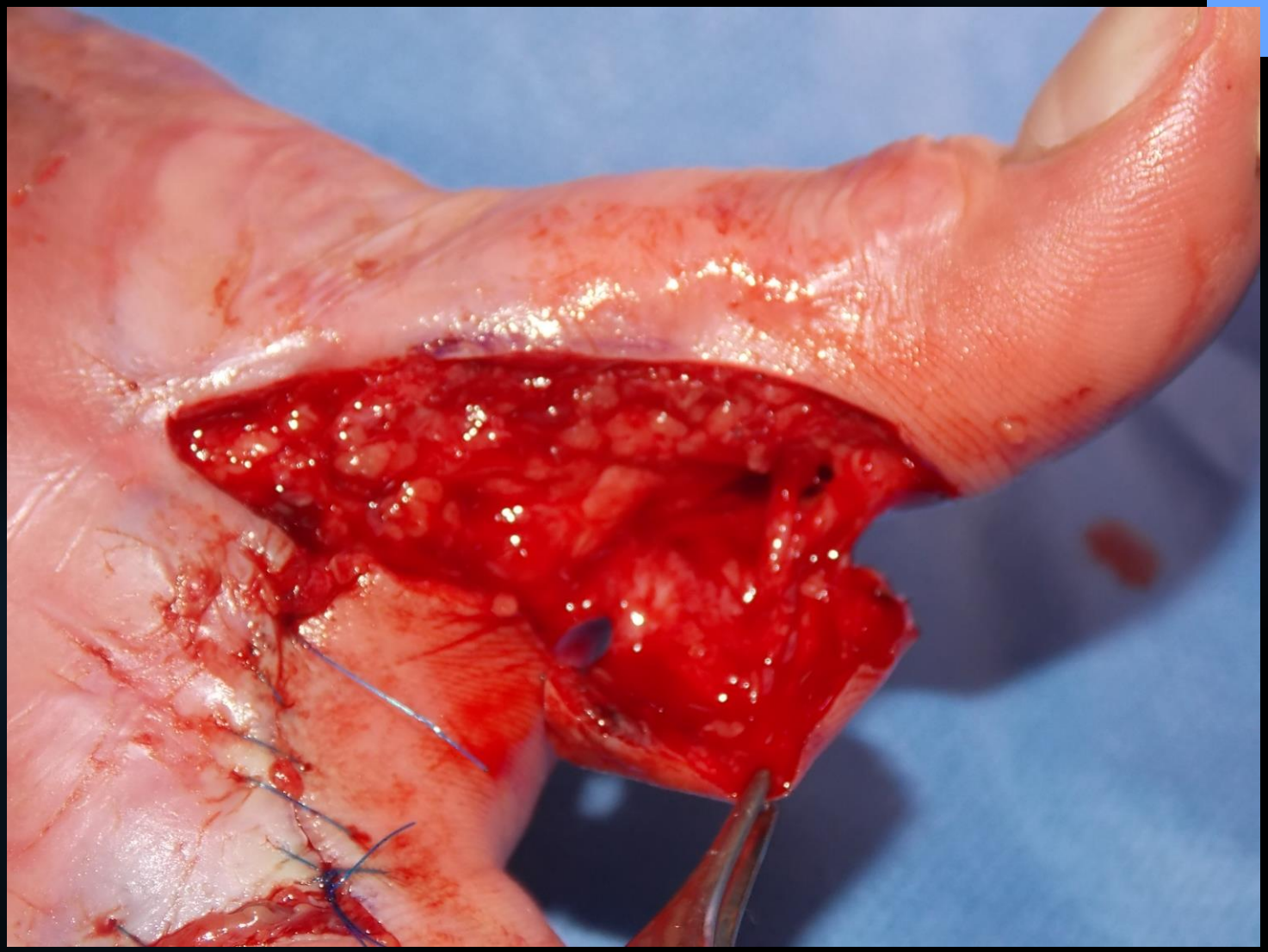
(With permission from Germann G, Sherman R, Levin SL: *Decision making in reconstructive surgery on the upper extremity* , New York, 1999, Springer-Verlag.)

04-10-2013





15-11-2013

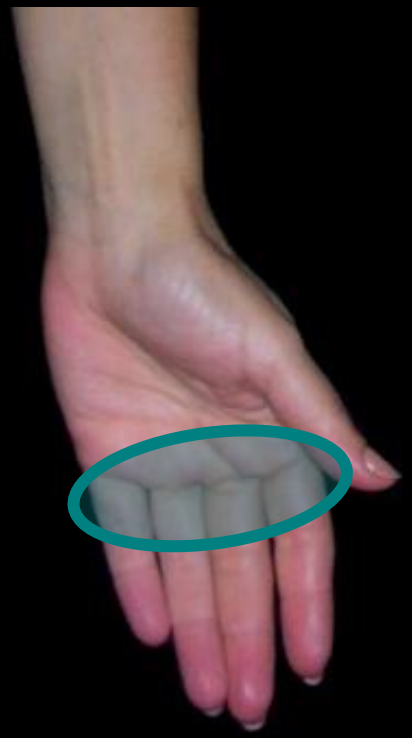


29-11-2013

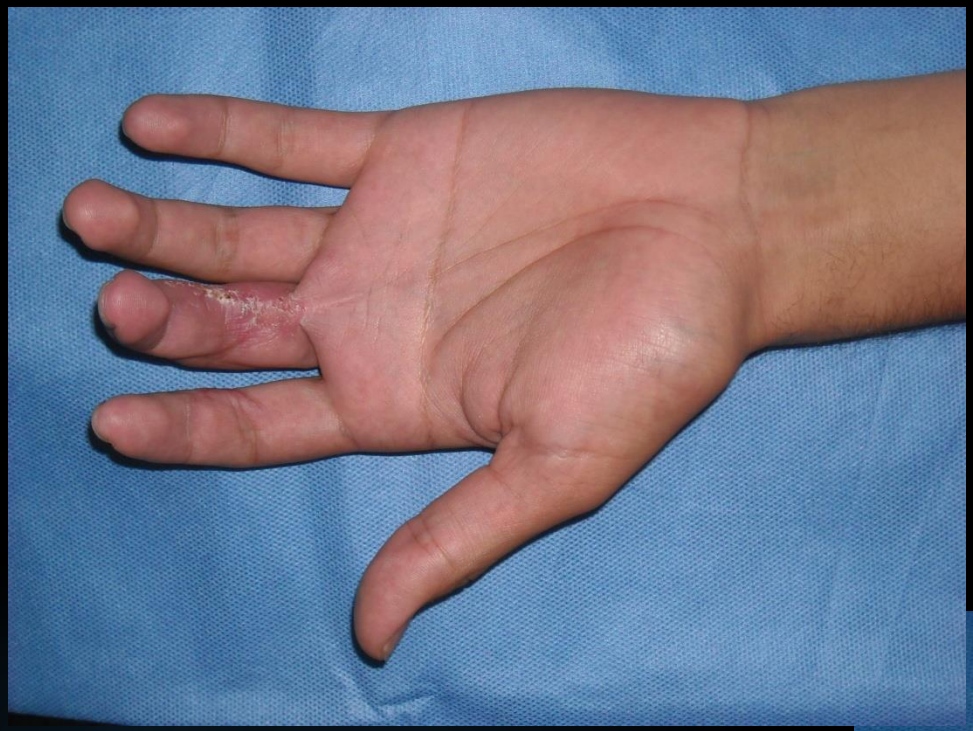
03-02-2014


Coca-Cola

12-02-2016

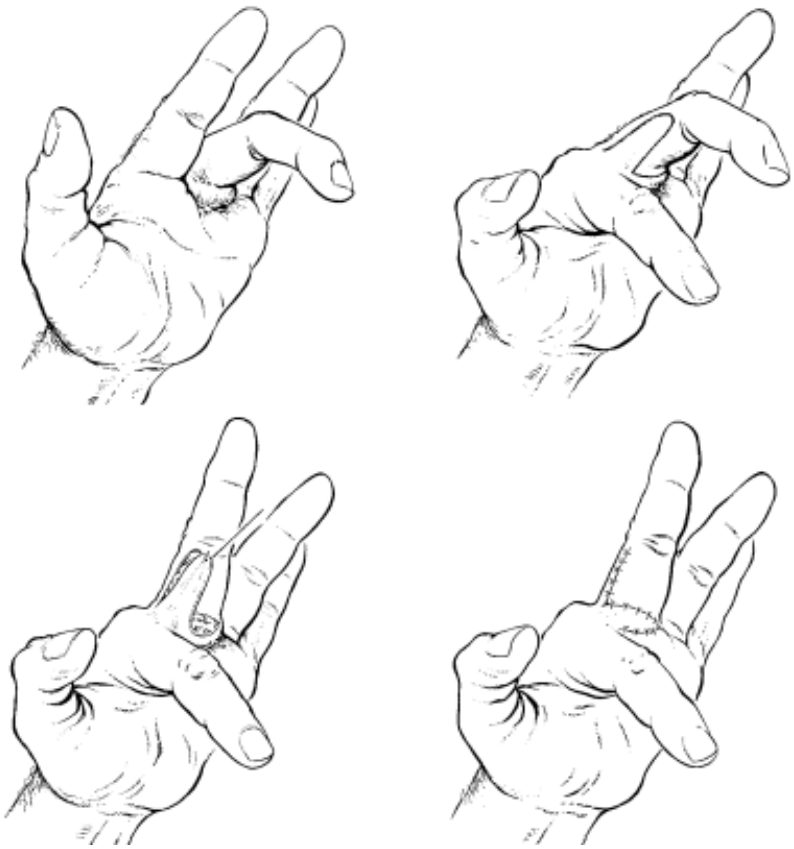


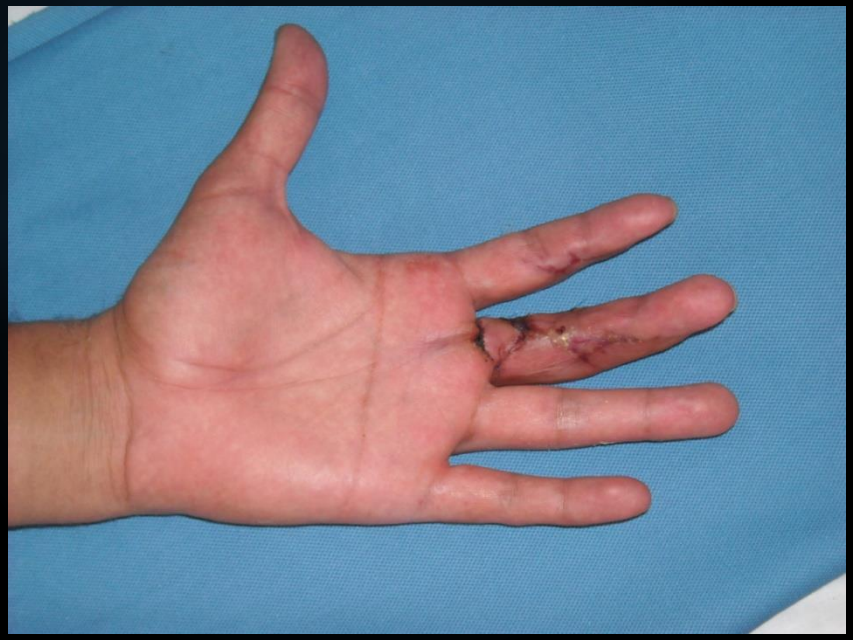
Articulaciones metacarpofalángicas



Colgajo Falange Proximal

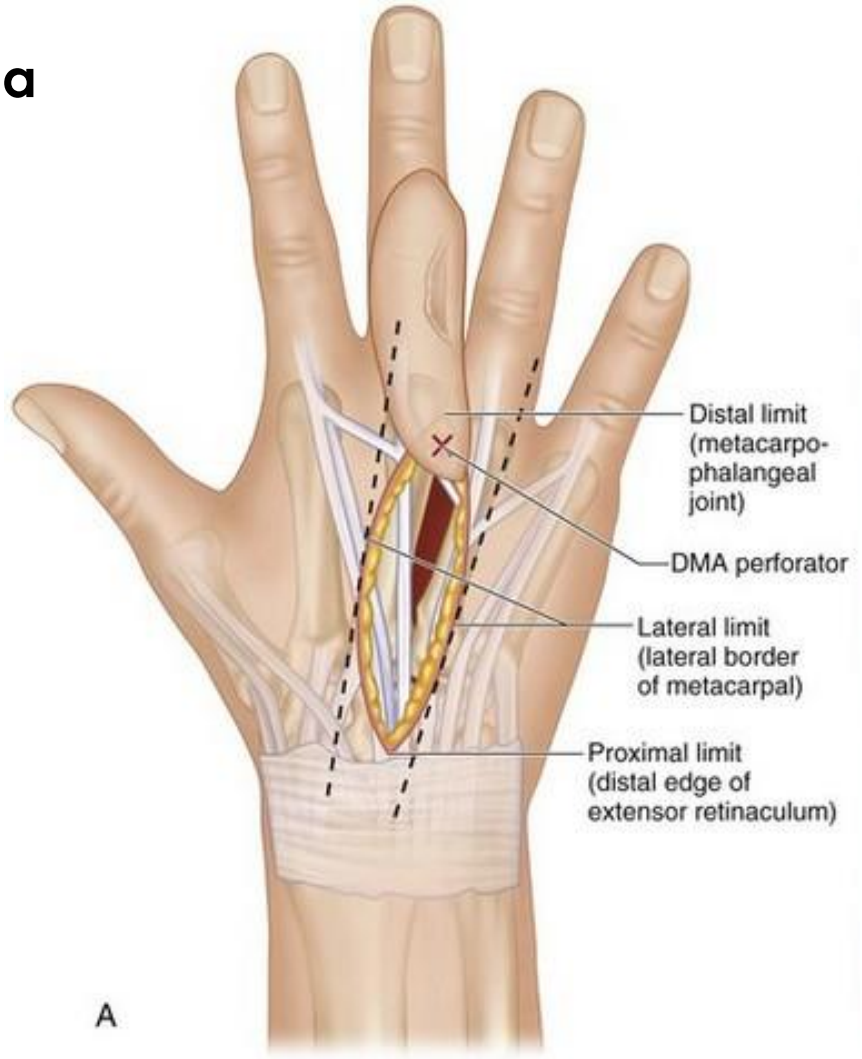
- **1979, Green - Domínguez**





Colgajo Arteria Metacarpiana Dorsal

- **1990, Maruyama - Quaba**



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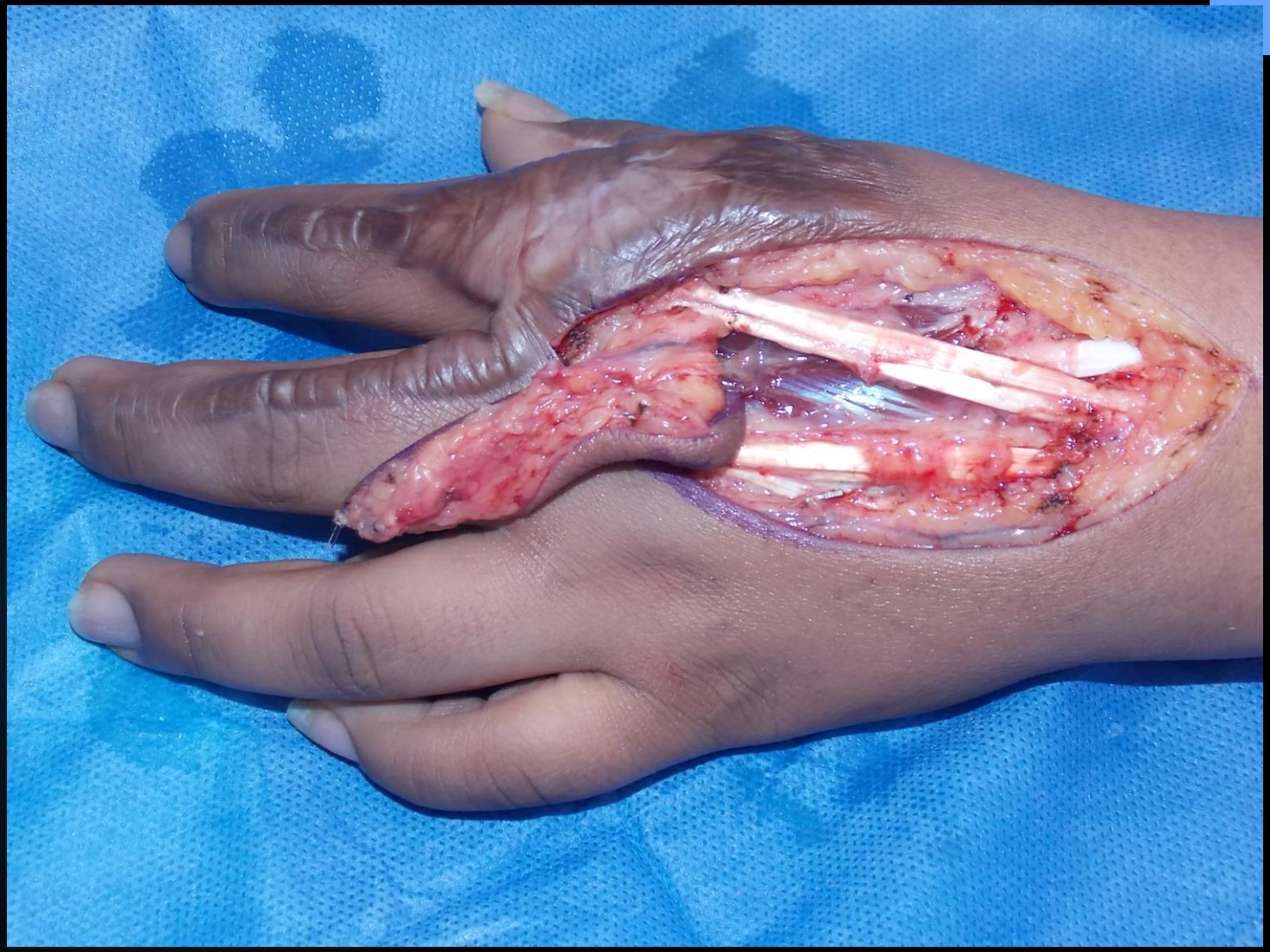

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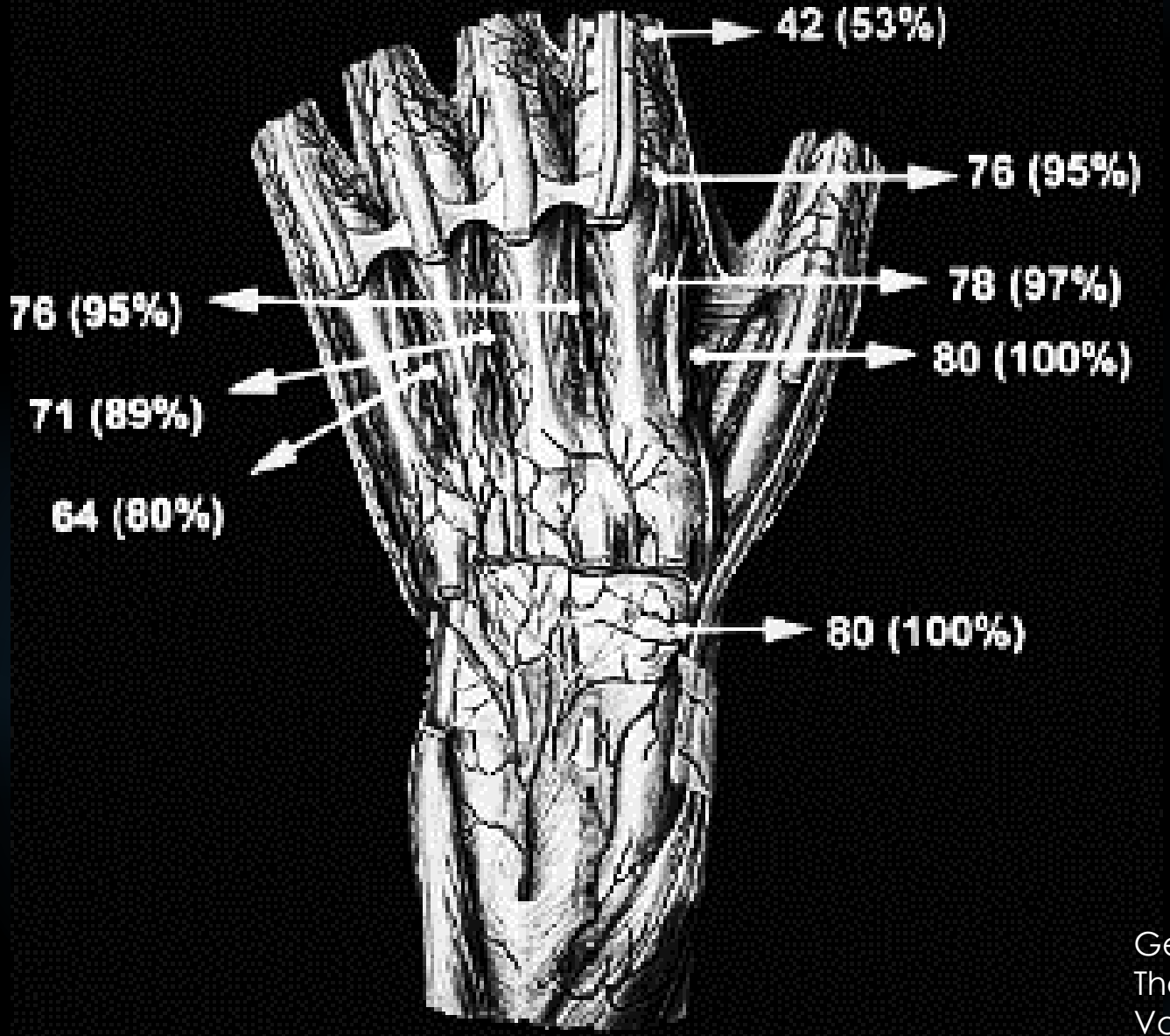

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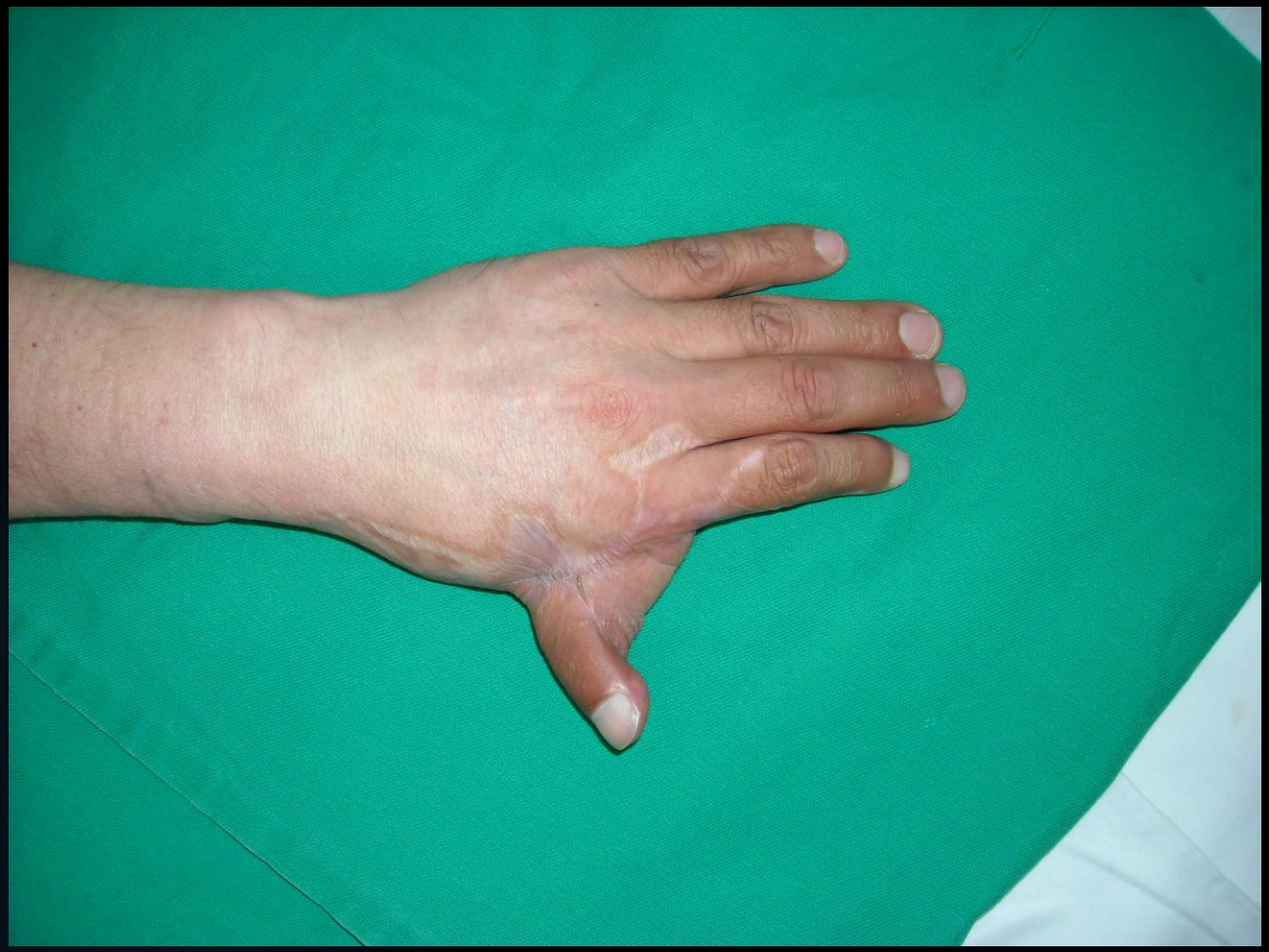

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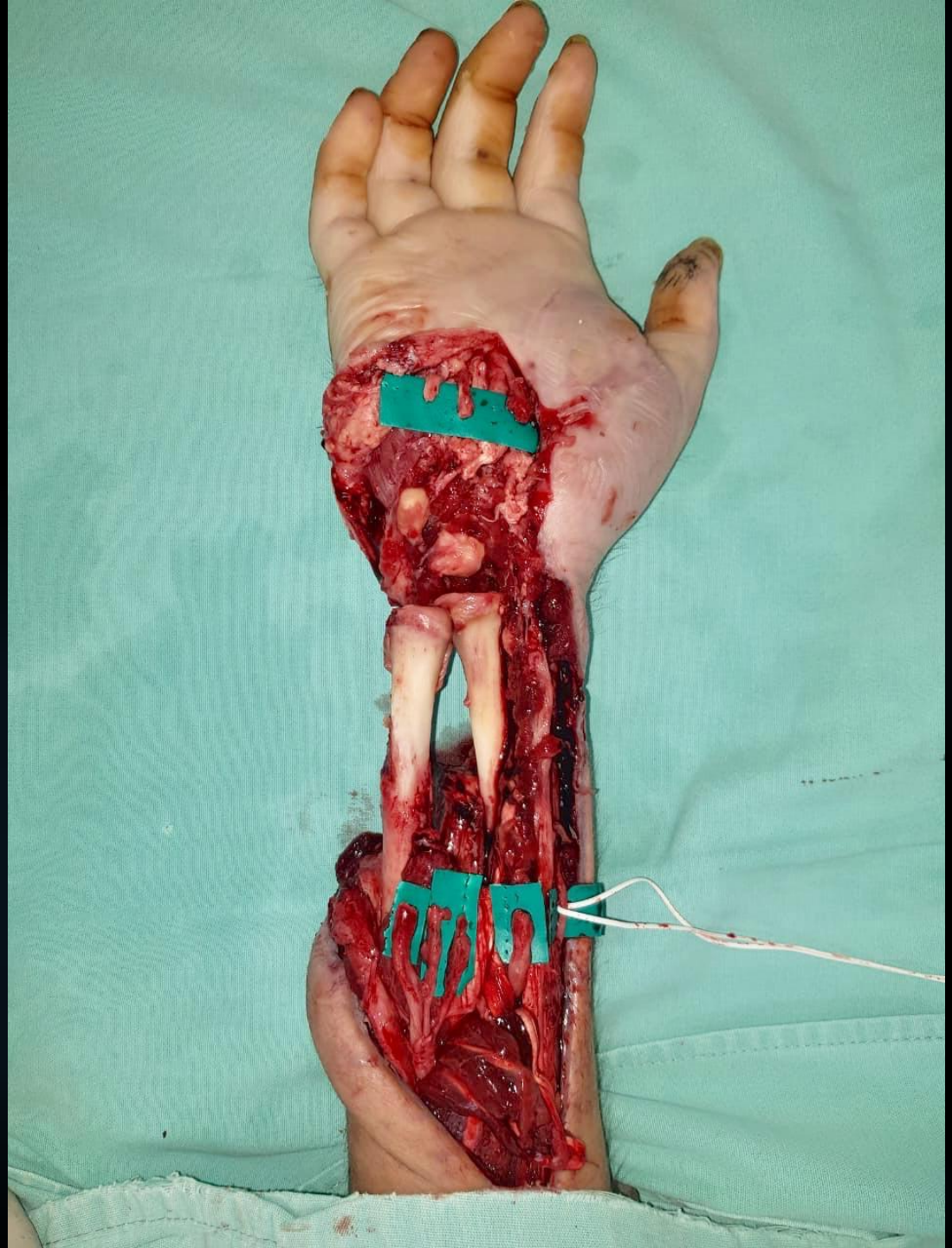

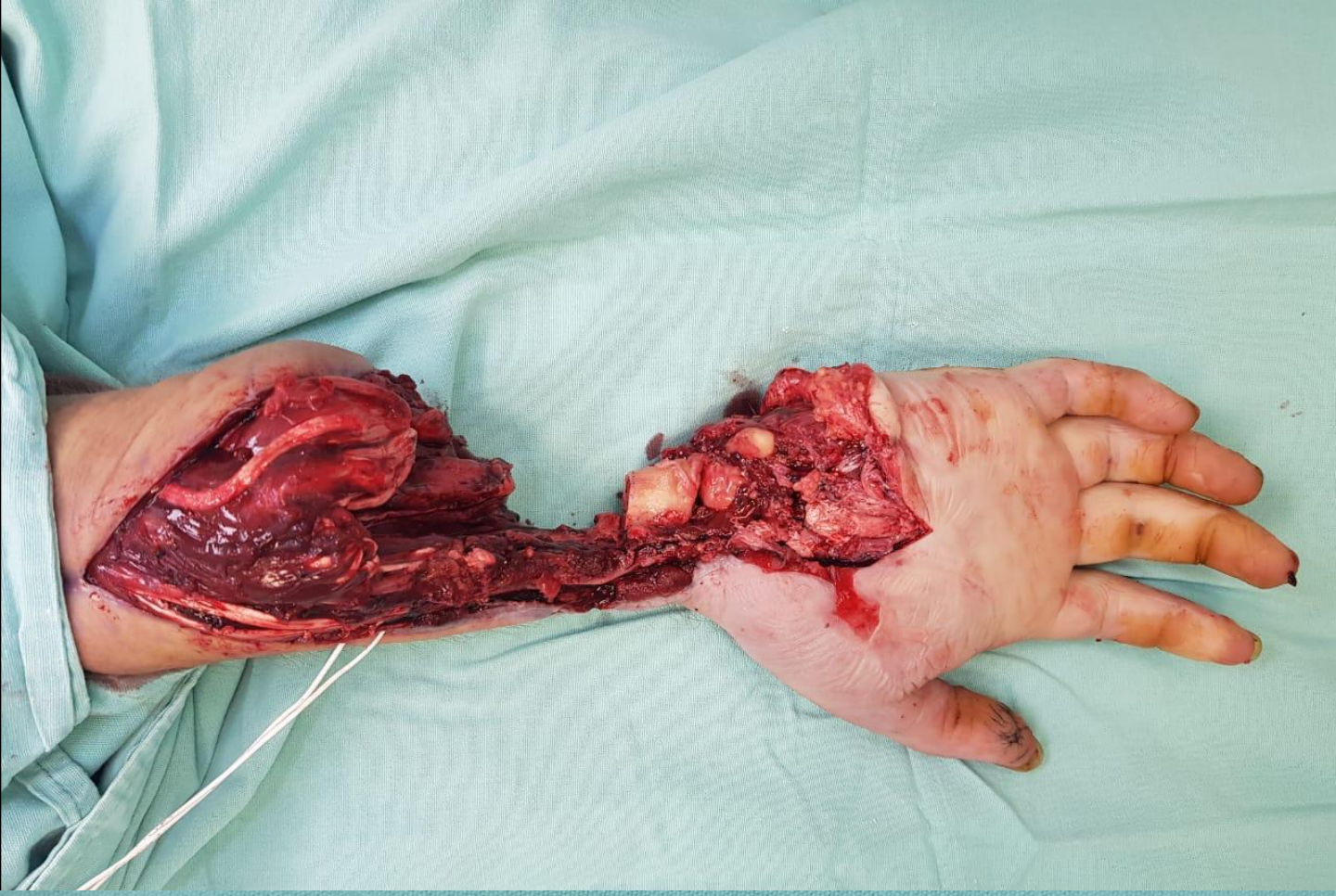


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Conclusiones

- Planeamiento incluye cálculo de defectos en extensión, profundidad y composición
  - Desbridamiento oportuno – suficiente – "SIN CULPA"
- Predicción funcional sitios receptor y donante
- Conocimiento anatómico
- Familiarización con algunas técnicas versátiles
- Riesgos responsables
- Recursos quirúrgicos, seguimiento y rehabilitación


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