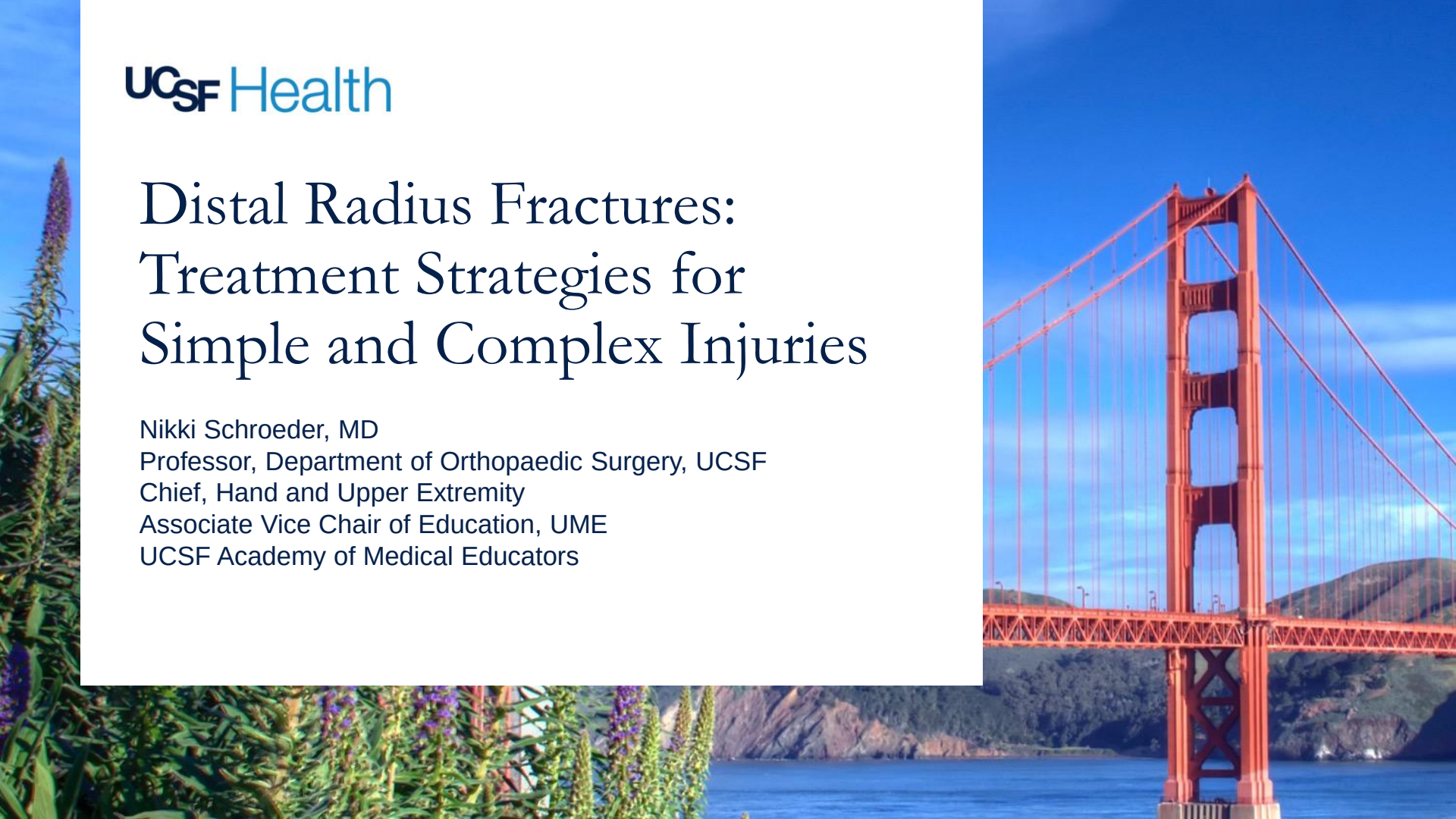


Distal Radius Fractures: Treatment Strategies for Simple and Complex Injuries

Nikki Schroeder, MD
Professor, Department of Orthopaedic Surgery, UCSF
Chief, Hand and Upper Extremity
Associate Vice Chair of Education, UME
UCSF Academy of Medical Educators

n Simple to Complex

How do you move from simple to complex?

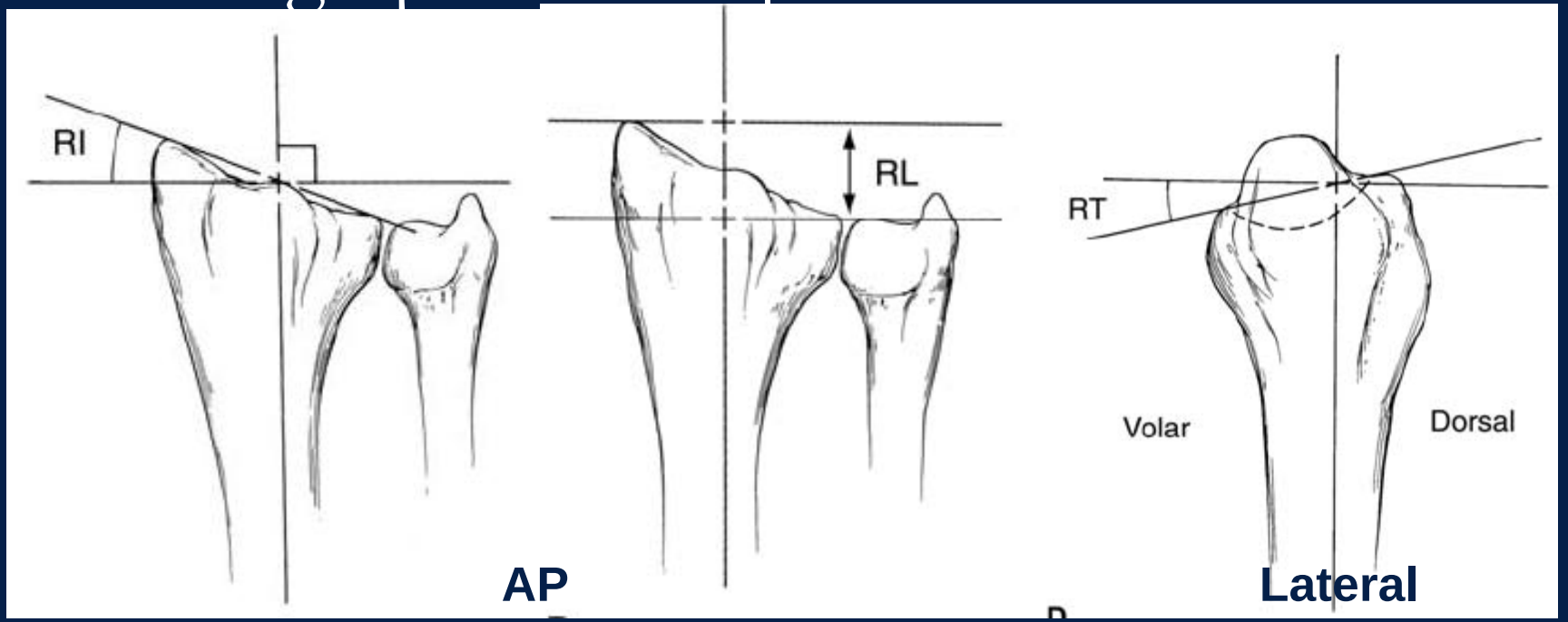
Radiographic principles

Know your approaches

Key players of ALL distal radius fractures

Implant options

Radiographic Principles: Basics



Volar rim is the more proximal line

Pisiform overlaps distal scaphoid

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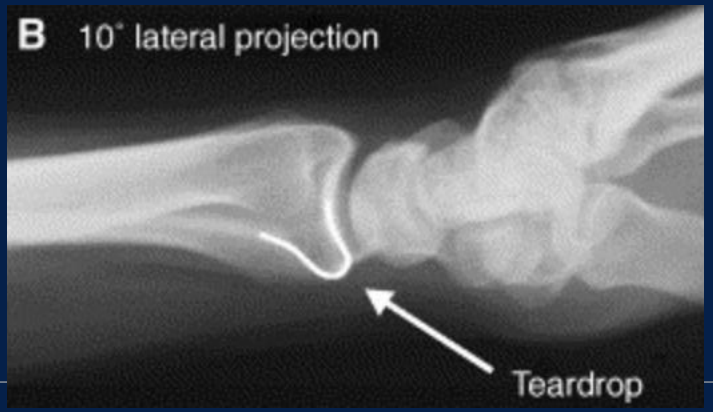
Radiographic Principles: Complex

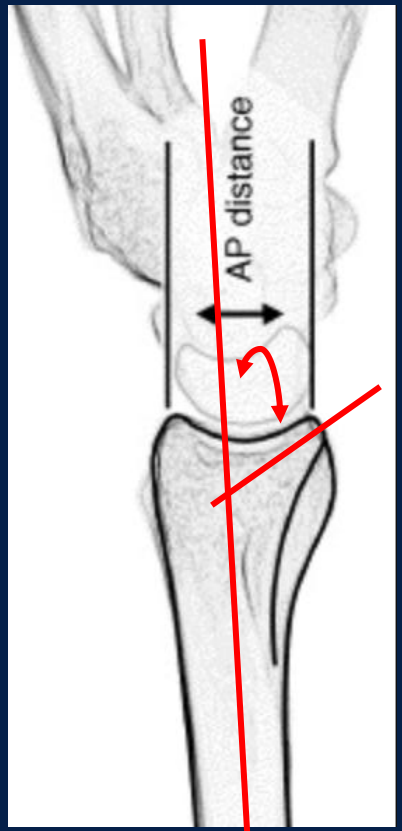
Lunate

Central axis is collinear with the volar cortex of the radial shaft

AP distance= radial width

Teardrop angle (70°)





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Medoff, Hand Clinics 2005

Approaches

Volar (FCR)

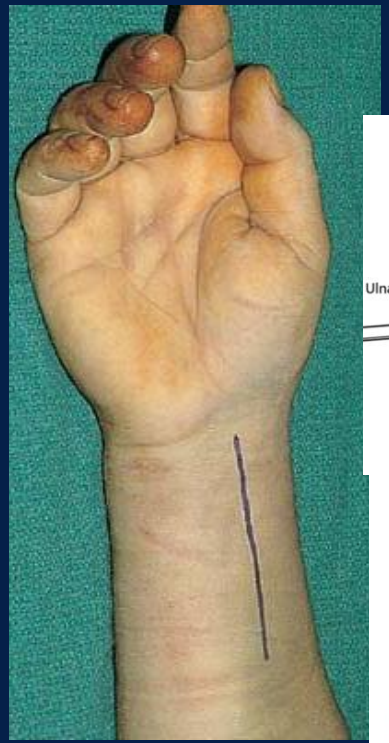
Extended FCR

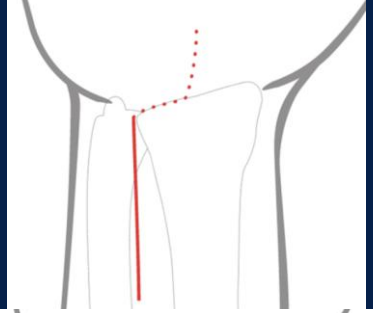
Volar +

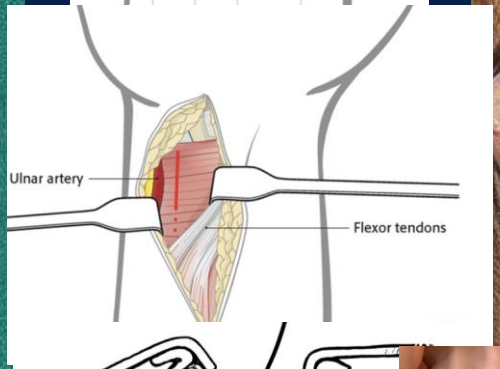
Radial

Extended Carpal tunnel

Dorsal







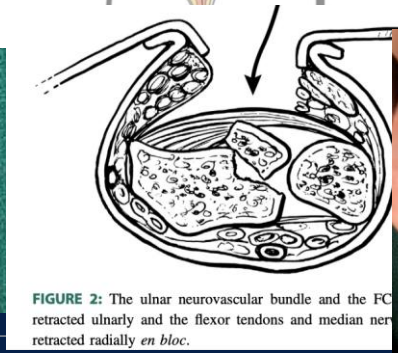
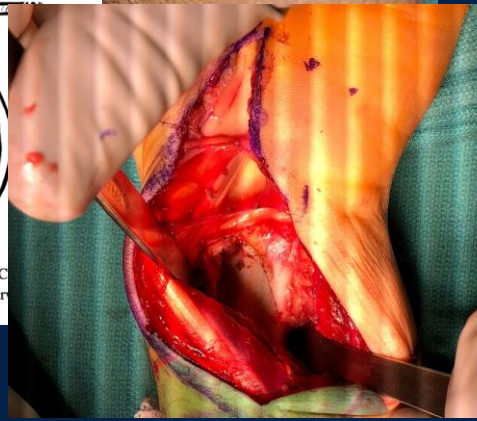


FIGURE 2: The ulnar neurovascular bundle and the FC
retracted ulnarly and the flexor tendons and median ner
retracted radially *en bloc*.



Key Players: Simple

Cortical Fragments

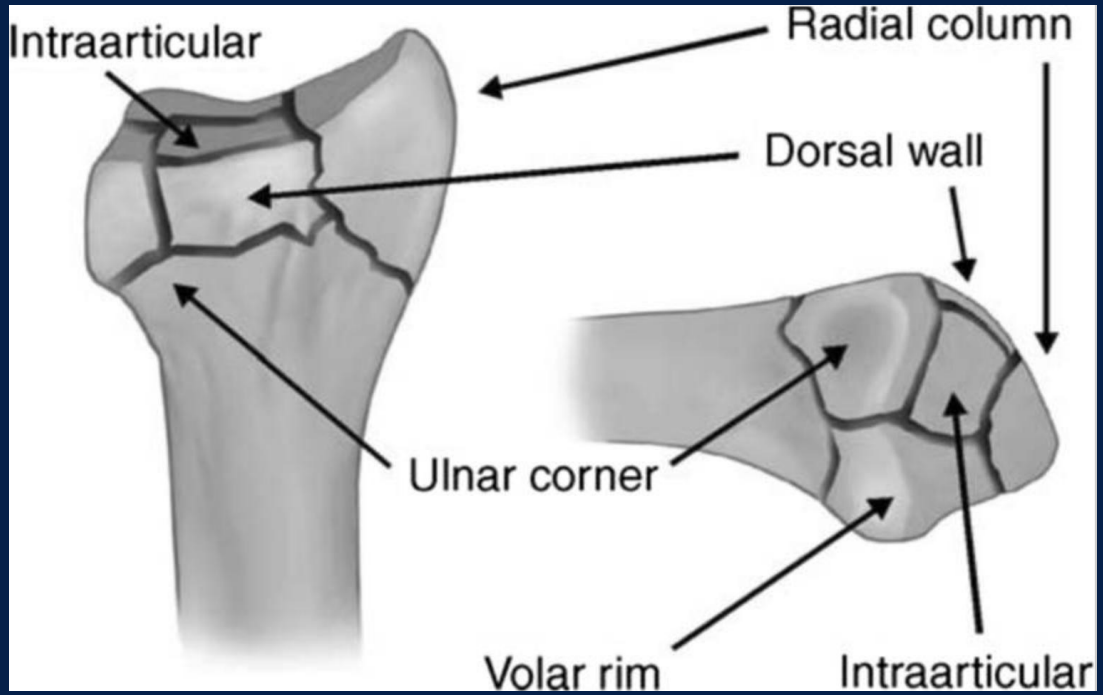
Intraarticular

Radial Column

Dorsal Wall

Volar Rim (Lip), VLF

Ulnar Corner (dorsal)



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Key Players: Complex

Cortical Fragments

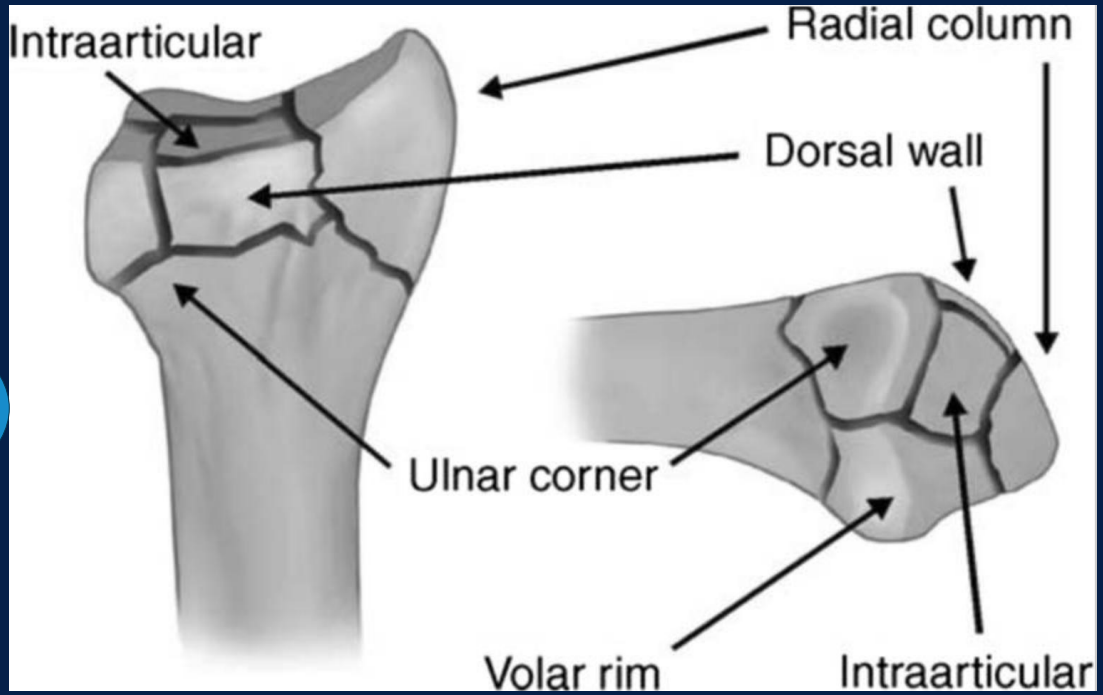
Intraarticular

Radial Column

[redacted]

Volar Rim (Lip)

Ulnar Corner (dorsal)



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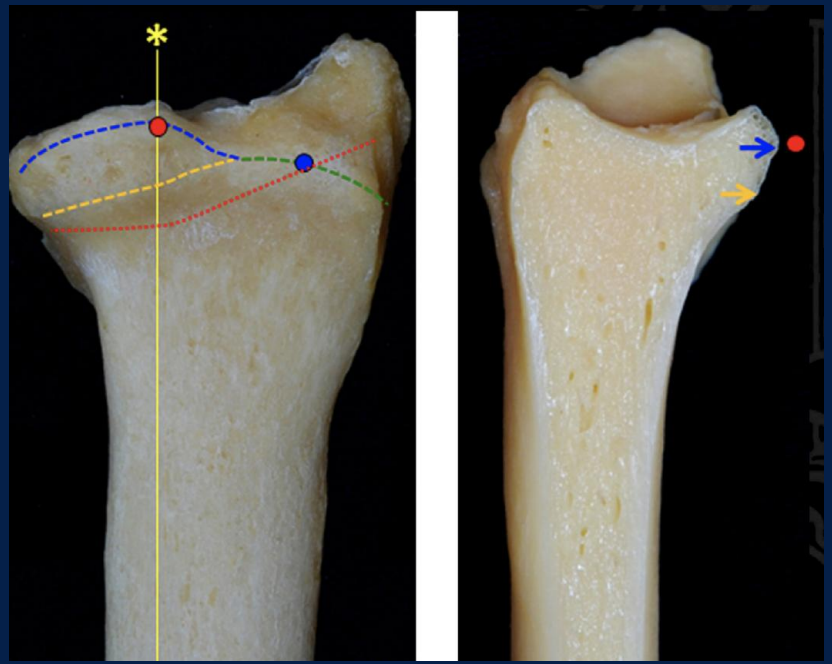
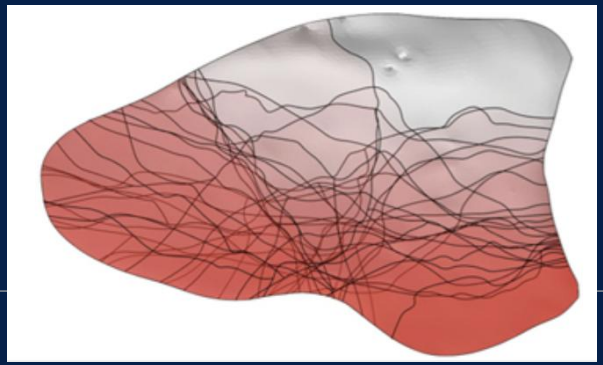
Key Players: Volar Ulnar Corner

Short Radiolunate Ligament attachment

Volar slope in both the proximal to distal direction and the radial to ulnar direction

Lunate facet bears ~53% of load in its functional position





Imantini JHS 2012
Genda JHS 2000
Clarnette JWS 2022

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Key Players: Volar Ulnar Corner

Clarnette JWS 2022

Fracture-mapped 23 consecture DRF involving lunate facet

size, displacement, translation, subsidence, ulnar translocation

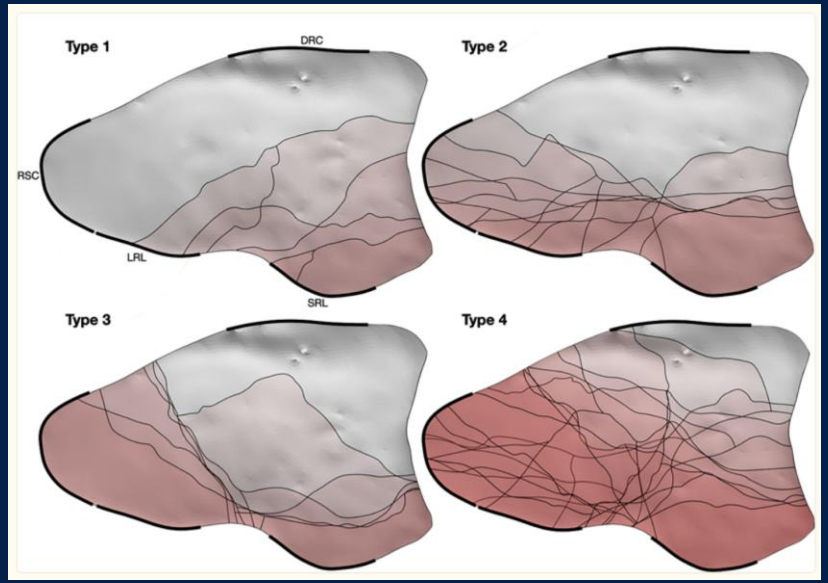
Classified 4 main types

I- SRL Only

II- SRL and LRL

III- SRL, (LRL, RSC)

IV comminuted and dorsal rim



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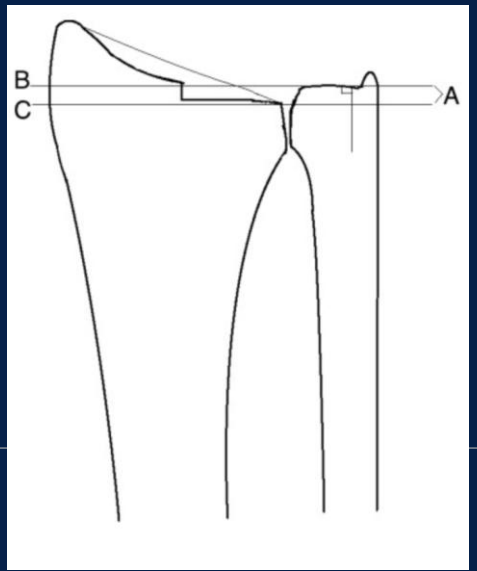
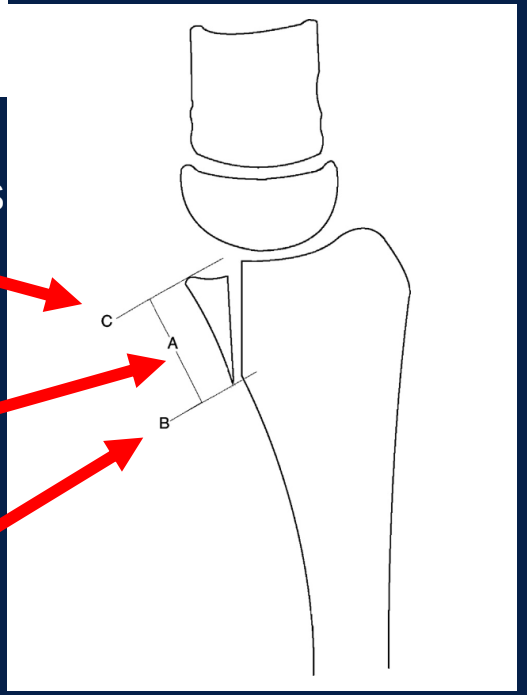
SCIENTIFIC ARTICLE

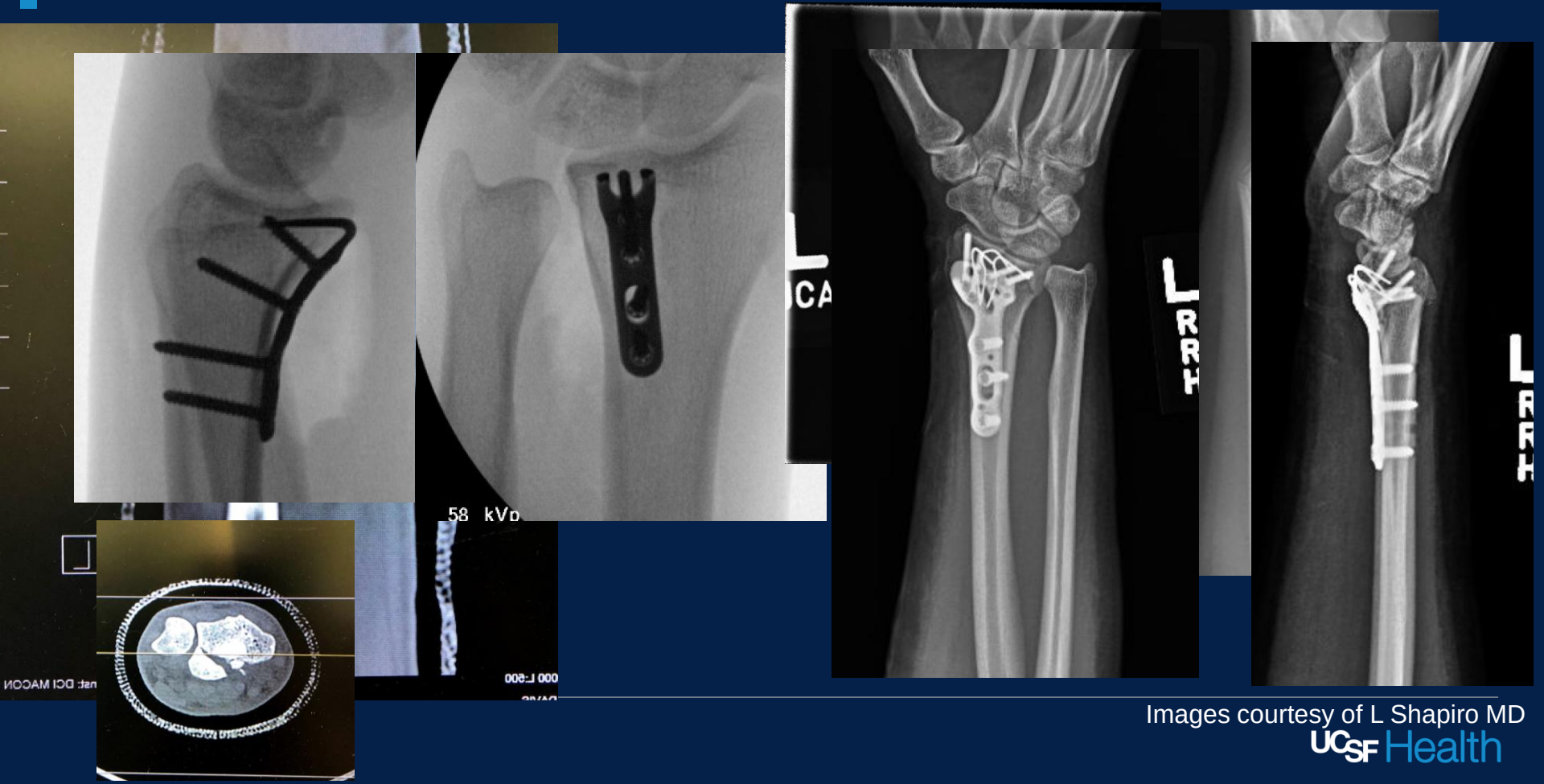
Volar Plate Fixation Failure for Volar Shearing Distal Radius Fractures With Small Lunate Facet Fragments

John D. Beck, MD, Neil G. Harness, MD, Hillard T. Spencer, MD

<15mm of lunate facet available for fixation or >5mm of initial lunate subsidence = at risk for failure even if VLP is properly placed







Images courtesy of L Shapiro MD

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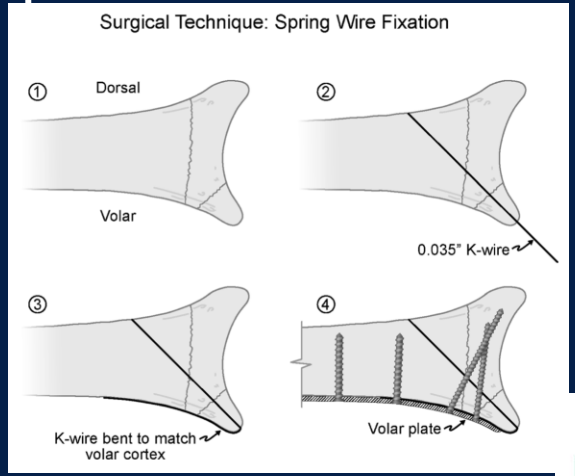
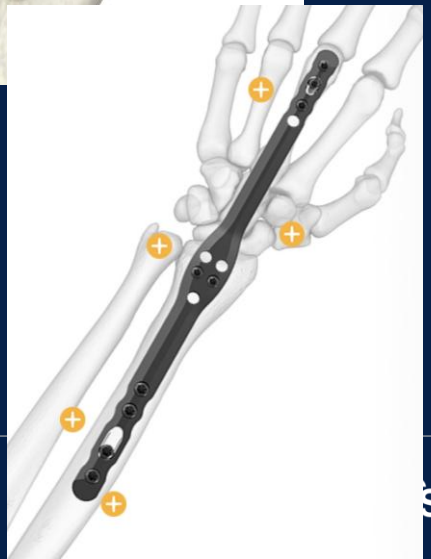
Implant Choice





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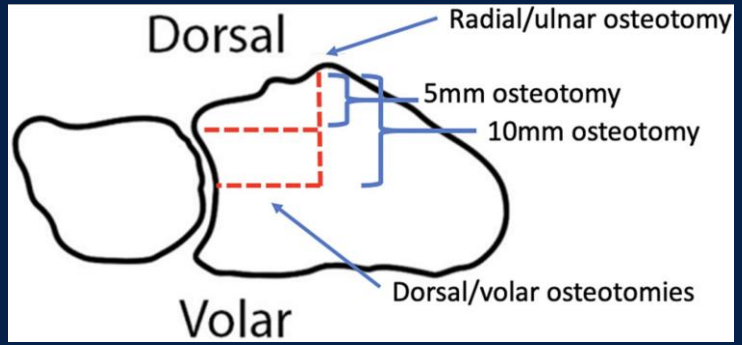
Key Players: Dorsal Ulnar Corner

SCIENTIFIC ARTICLE

Is There a Critical Dorsal Lunate Facet Size in Distal Radius Fractures That Leads to Dorsal Carpal Subluxation? A Biomechanical Study of the Dorsal Critical Corner

- fragment >40% of the dorsal surface of the distal radius in the dorsal/volar plane can lead to radiocarpal instability



Shapiro JHS 202

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Case c/o Dr.Shapiro

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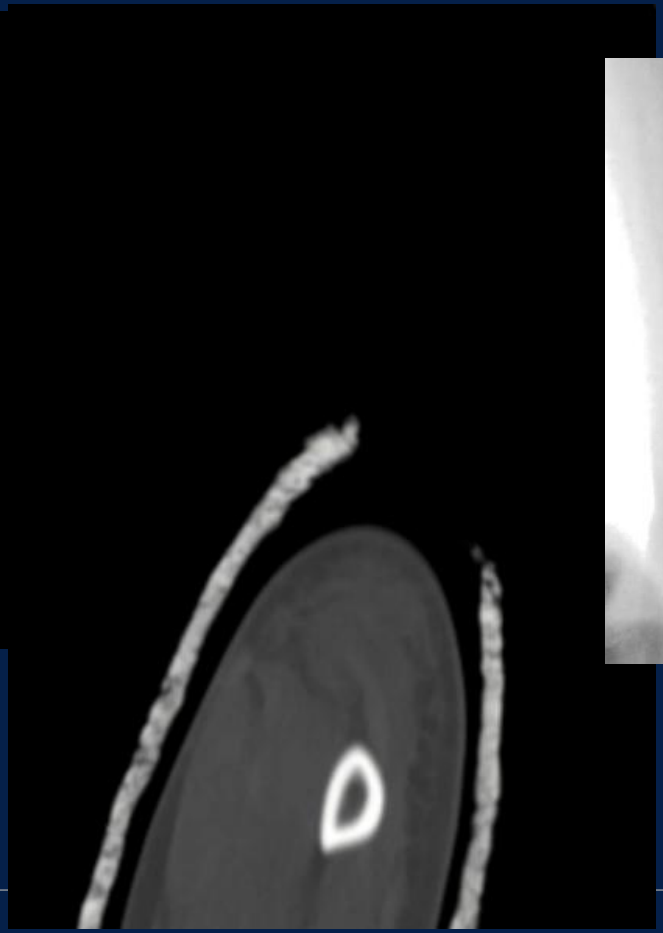
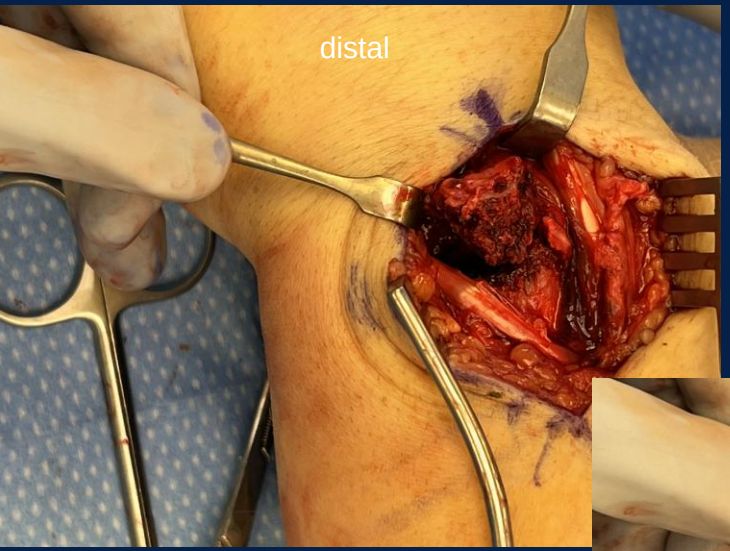
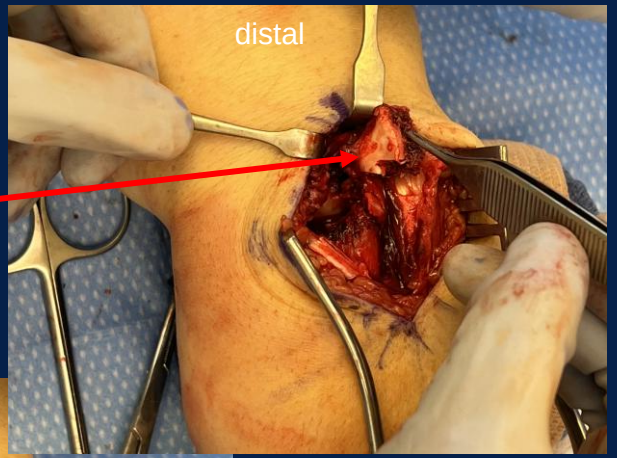



distal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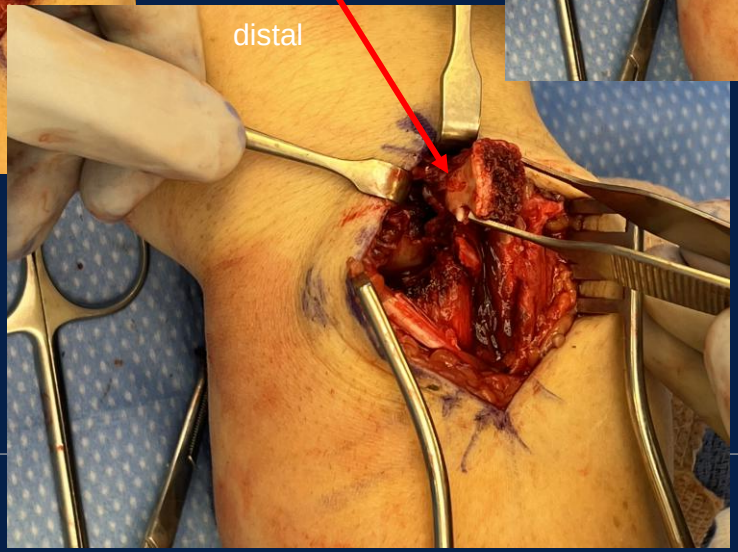
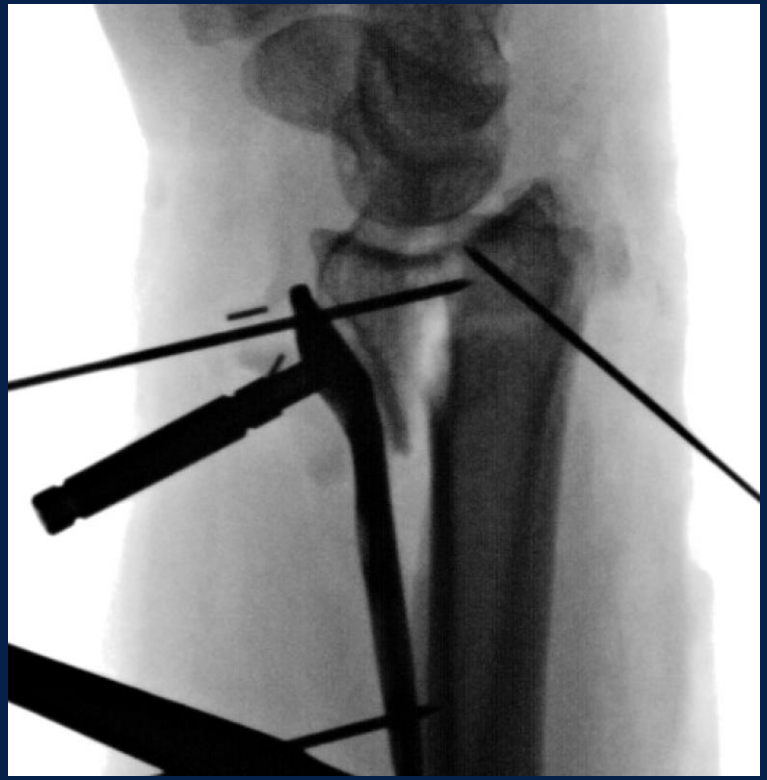
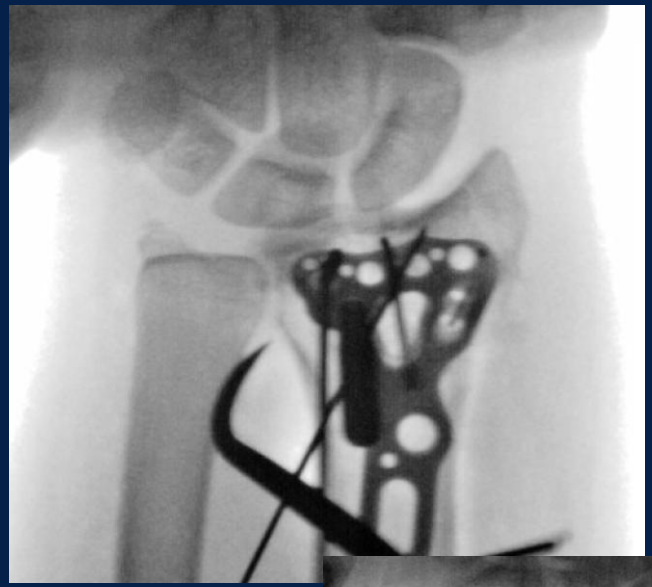
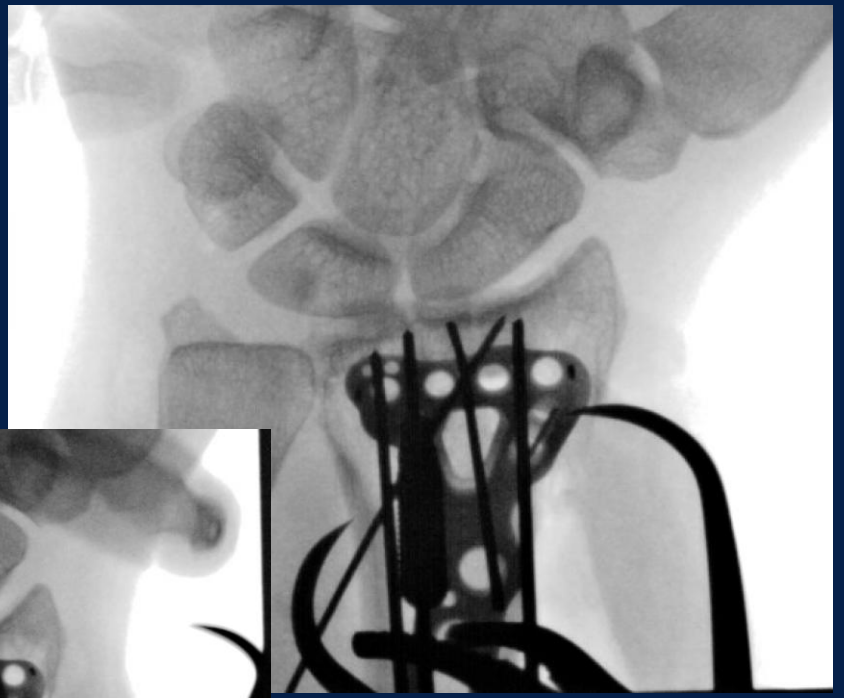

distal







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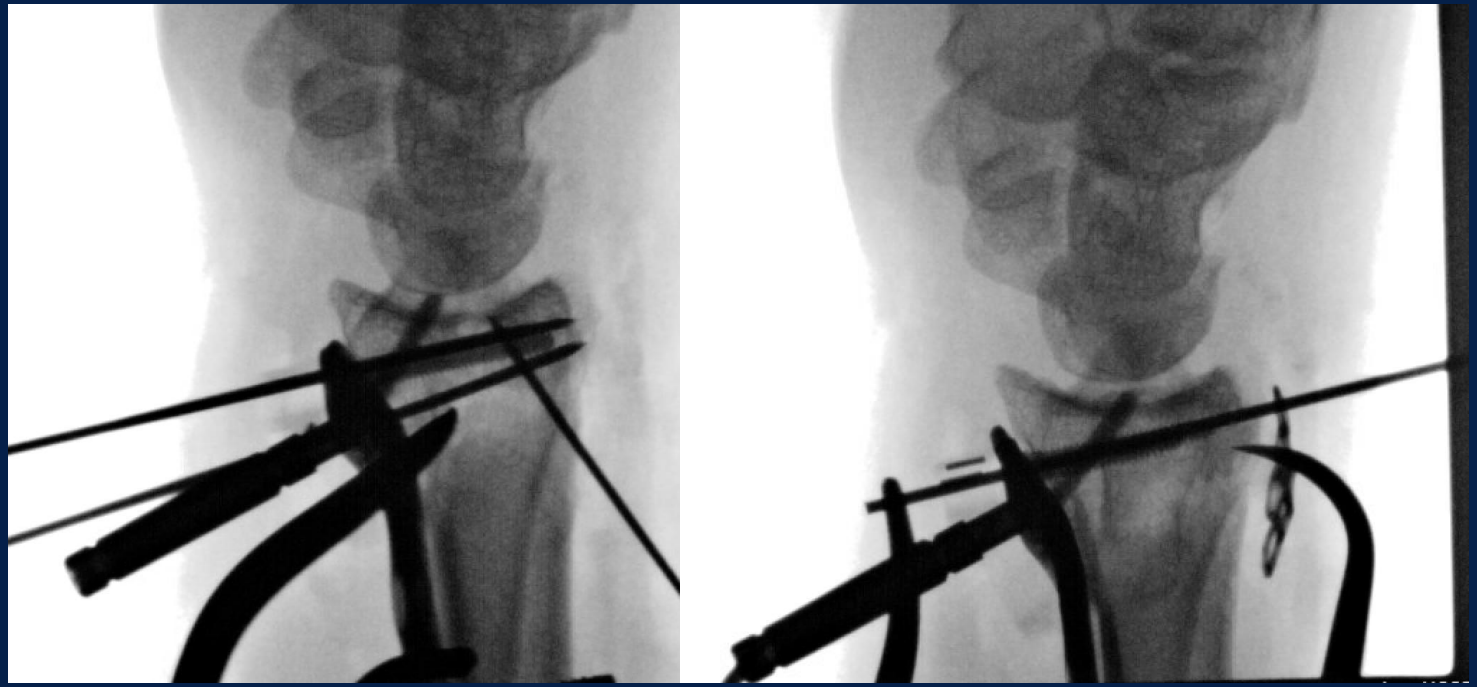
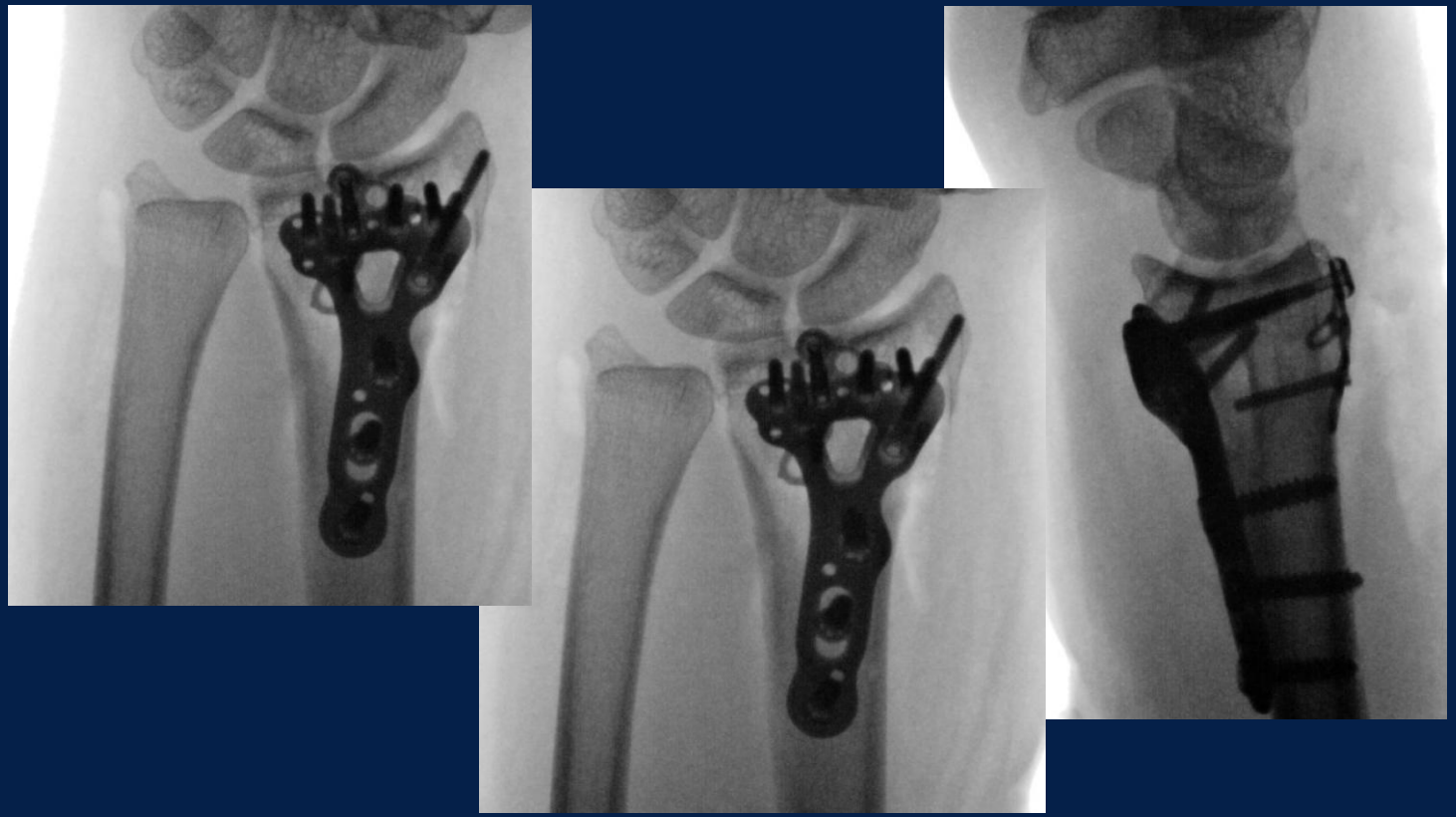
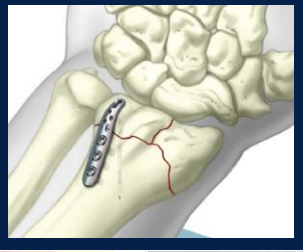
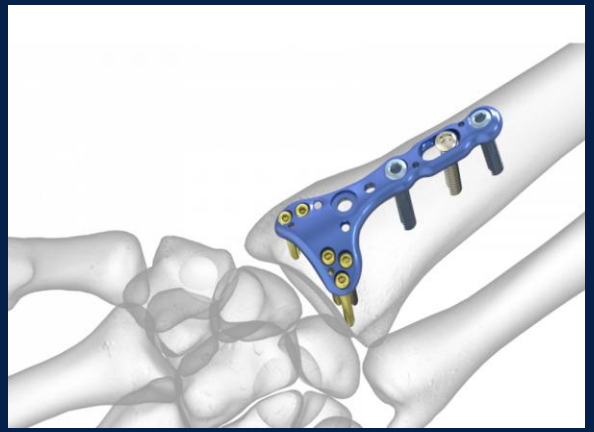
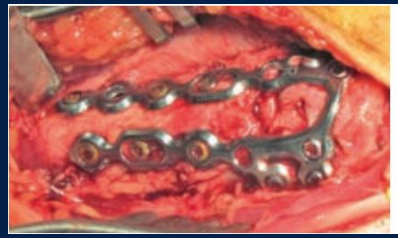
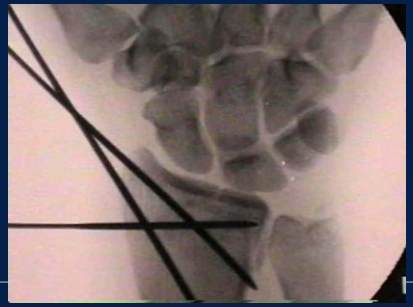




Implant Choice

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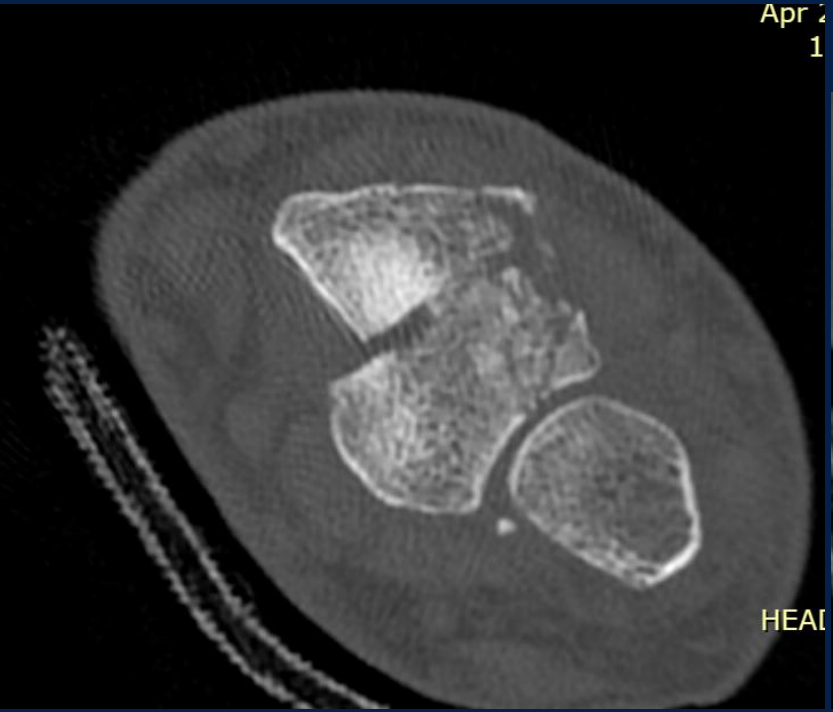
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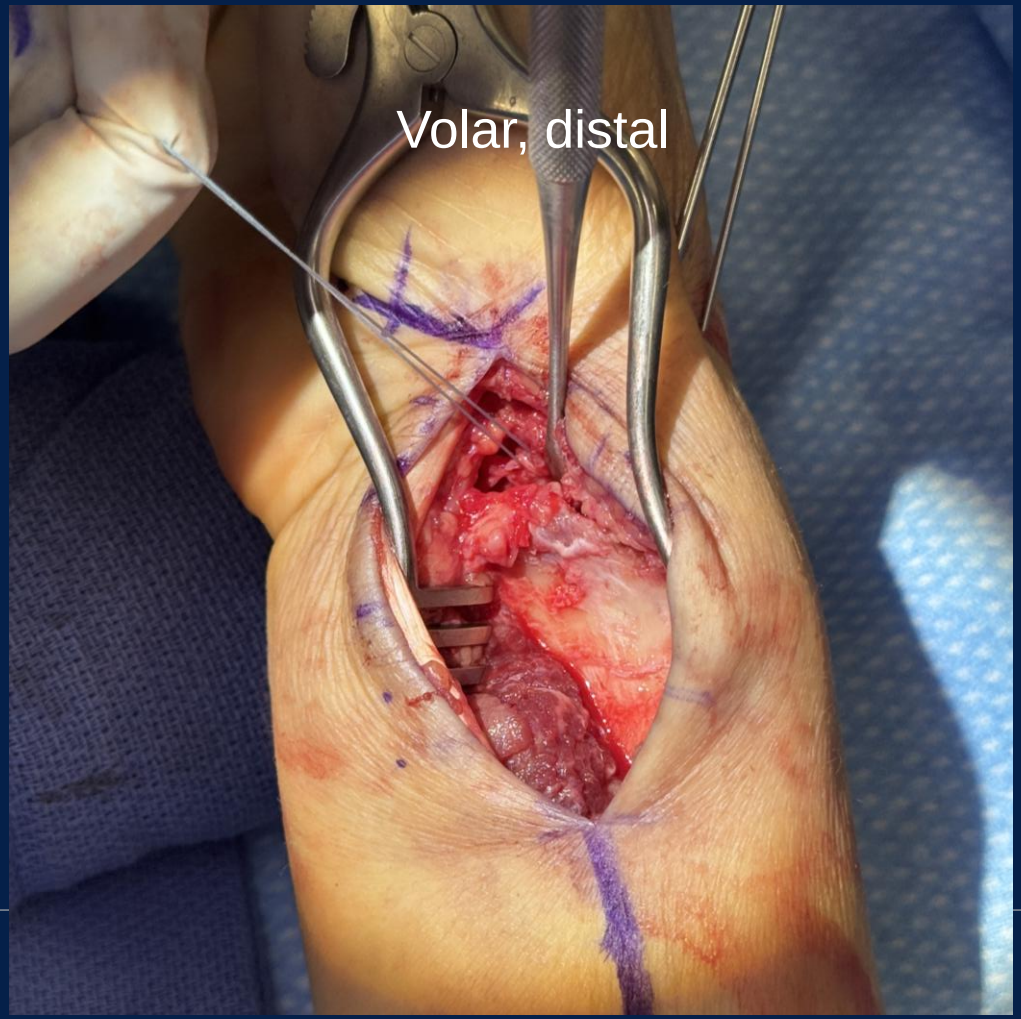

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ntos [05282890]
dt: 4:54
DAP: 64.3417 cGy cm²
NS: Ultra
Full Field
50 / 50
4/25/2025


kV: 54
mA: 0.064
Full Field

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Distal Radius Management

Summary

Critically Assess radiographs and CTs

Know your approaches

Know your fragments

Have what you need available