Distal Radius Fractures
State of the Art

Current Solutions in Orthopedic Trauma
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Jorge L. Orbay MD.

Disclosure
Skeletal Dynamics
Two Pervasive Problems

- Volar Marginal Fragment
- Tendon Ruptures
1998 - 2013
Volar Plate Evolution

Load Transmission Through the Wrist in the Extended Position
Masataka Majima, MD, Emiko Horii, MD, Hiroshi Matsuki, MD, Hitoshi Hirata, MD, Eiichi Genda, MD
(J Hand Surg 2008;33A:182 – 188.)

Ligament Contribution to Patterns of Articular Fractures of the Distal Radius
Daniel G. Mandziak, MBBS, Adam C. Watts, MBBS, Gregory I. Bain, PhD,
Journal of Hand Surgery. 2011.07.014
Lunate Fossa

Watershed Line
Radiographic Evaluation of Dorsal Screw Penetration After Volar Fixed-Angle Plating of the Distal Radius: A Cadaveric Study

Steven D. Maschke & Peter J. Evans & David Schub & Richard Drake & Jeffrey N. Lawton
Extended Tangential View

Subchondral Support Line

or

Subtract 2mm from DG measurement
Most Frequently Flexor Ruptured Tendons

Watershed Line

Watershed Line
Volar Radial Tubercle

Volar Rim Lunate Fossa

Inter Fossa Sulcus

FPL Tendon Center to Bone 4.5mm
Distal Radius Volar Locking Plate Design and Associated Vulnerability of the Flexor Pollicis Longus

Roongprak Limthongthang, MD, Ahdo Bachoura, MD, Sidney M. Jacoby, MD, A. Lee Osterman, MD
YHHS March 2014
Not Trivial

Two difficult scenarios

- Inveterate fracture
  (> 2 weeks old)

- Complex articular fracture
Removing dorsal hematoma allows reduction
Extended FCR Approach

• Release FCR tendon sheath

• Release the radial septum
Extended FCR Approach

- Release FCR tendon sheath
- Release the radial septum
- Pronate the proximal fragment
- Intrafocal Exposure

[Images of bone structures]
Release the Brachioradialis

Pronate Proximal Fragment

Fracture Debridement
Fracture Debridement

Supinate Radius
1- Reduce and Pin Lunate Fossa
2- Reduce and Pin the Scaphoid Fossa
Thank You!