Bicondylar Tibial Plateau Fractures: When Is More than One Approach Needed?

David Shearer, MD, MPH
Associate Professor
Dept. of Orthopaedic Surgery
University of California, San Francisco

Orthopaedic Trauma Institute
UCSF + SAN FRANCISCO GENERAL HOSPITAL

Disclosures

- None

Why two approaches?

- To Obtain Reduction

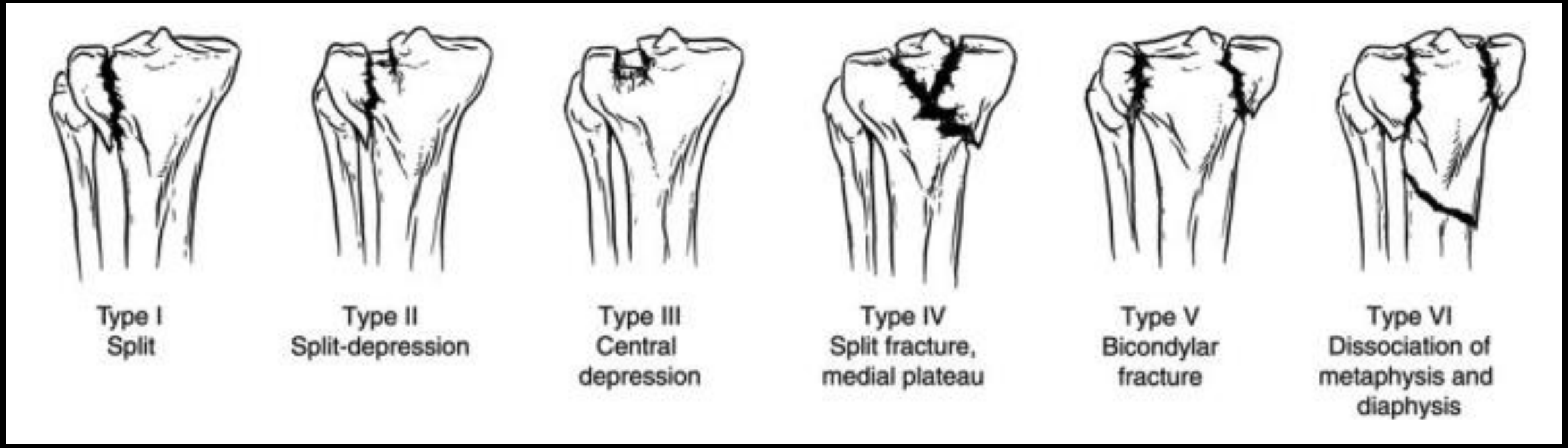
- To Maintain Reduction (i.e. Fixation)

Why not two approaches?

- Wound healing and infection

- Faster and easier

Classification - Shatzker



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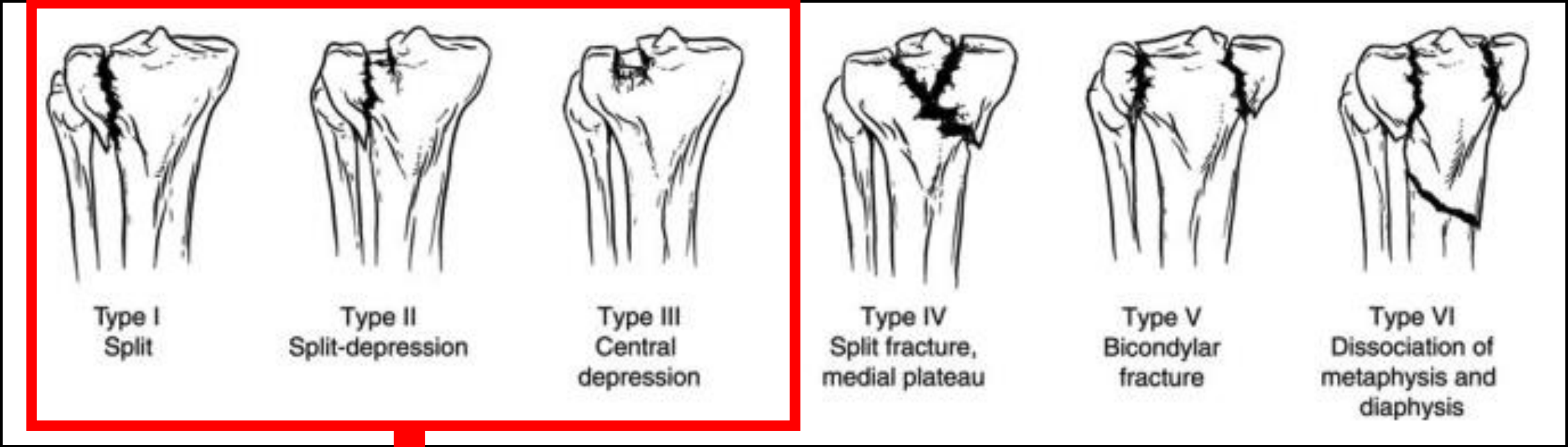
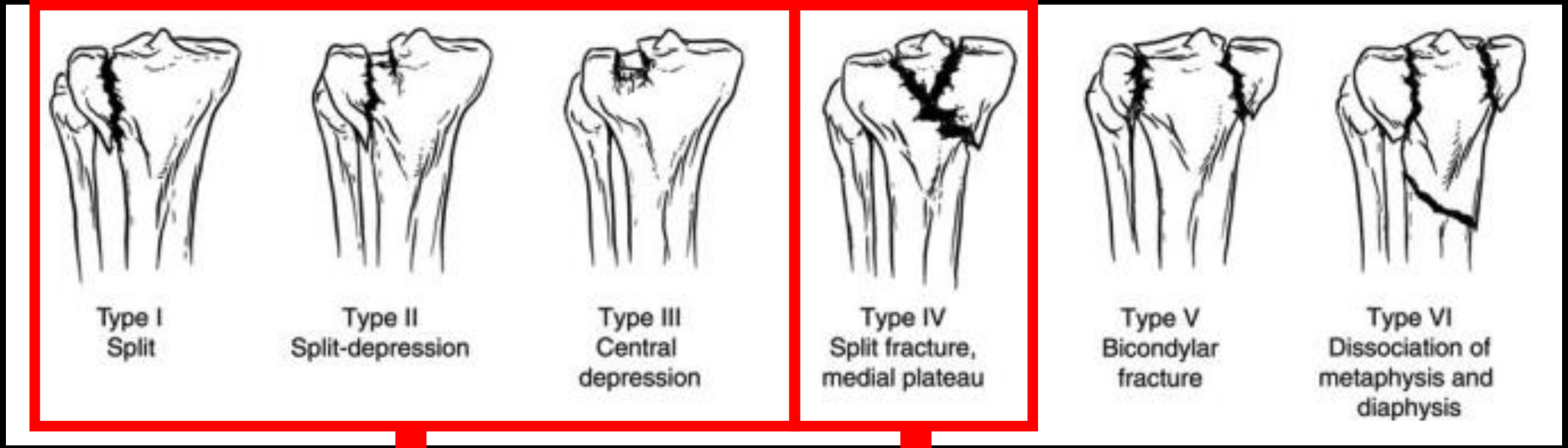


Lateral approach

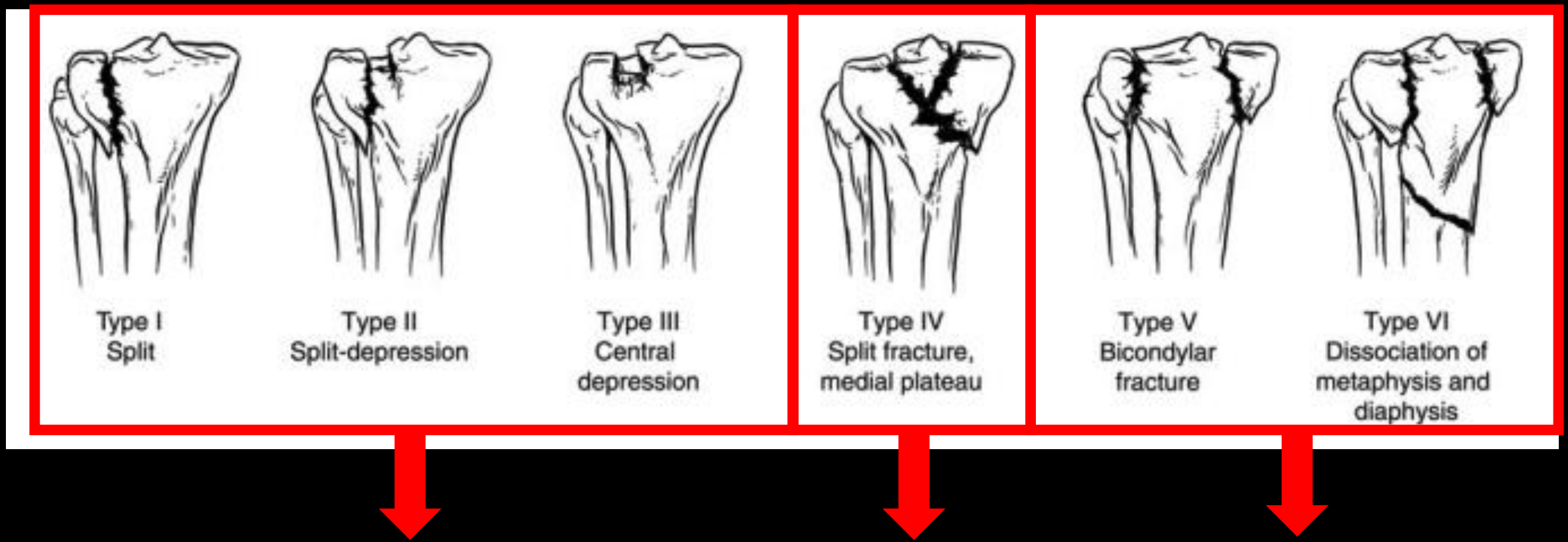
Classification - Shatzker



Lateral approach

Medial approach*

Classification - Shatzker



Lateral approach

Medial approach*

Dual approach*

Case – 65yo F Schatzker 2

Case – 65yo F Schatzker 2 - Intraop

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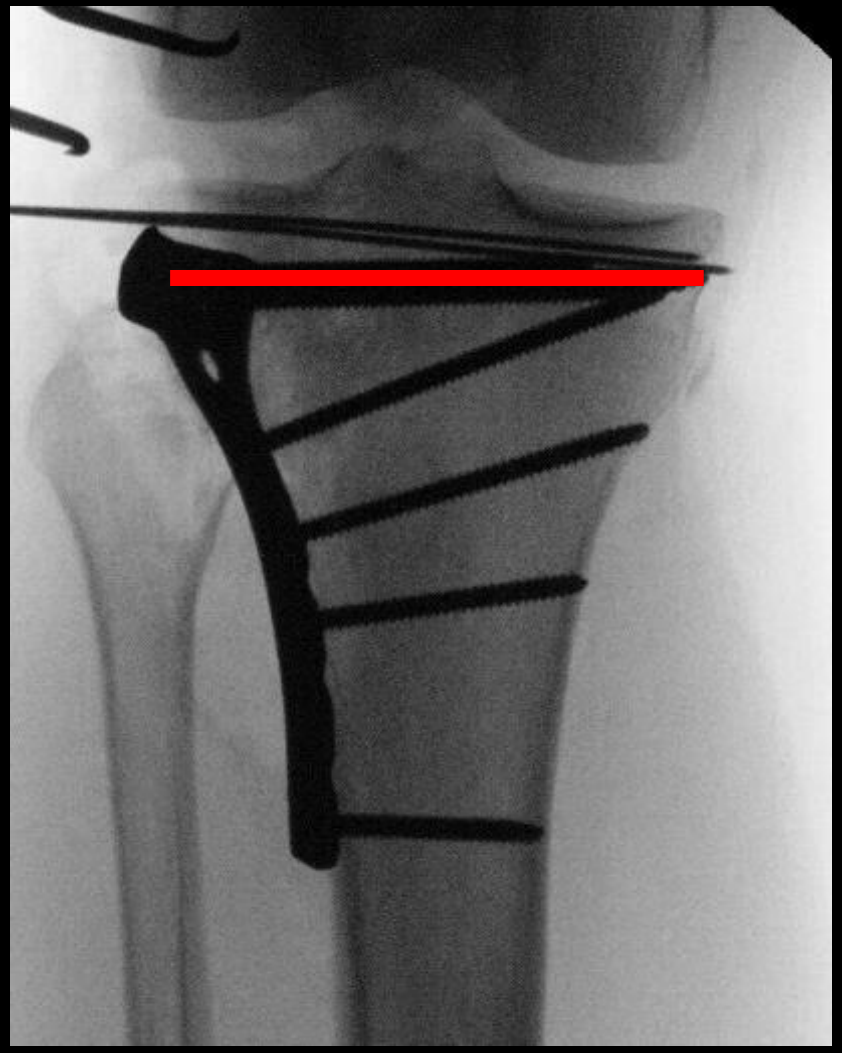

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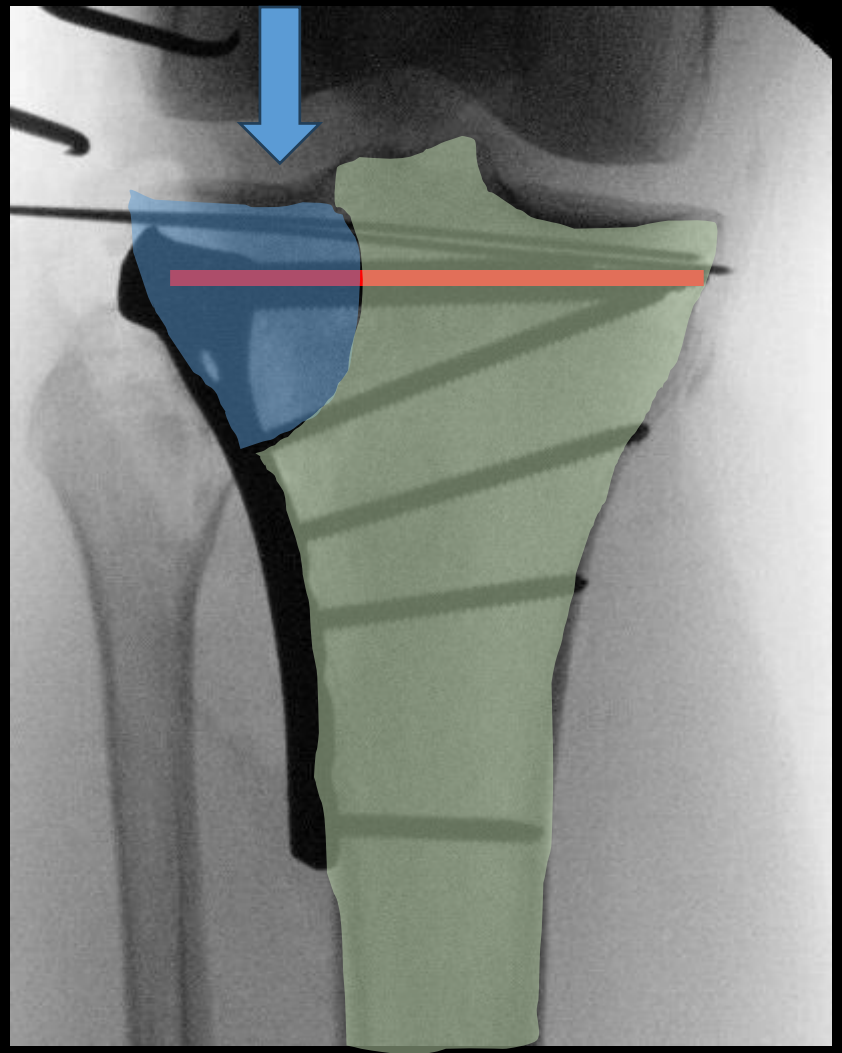

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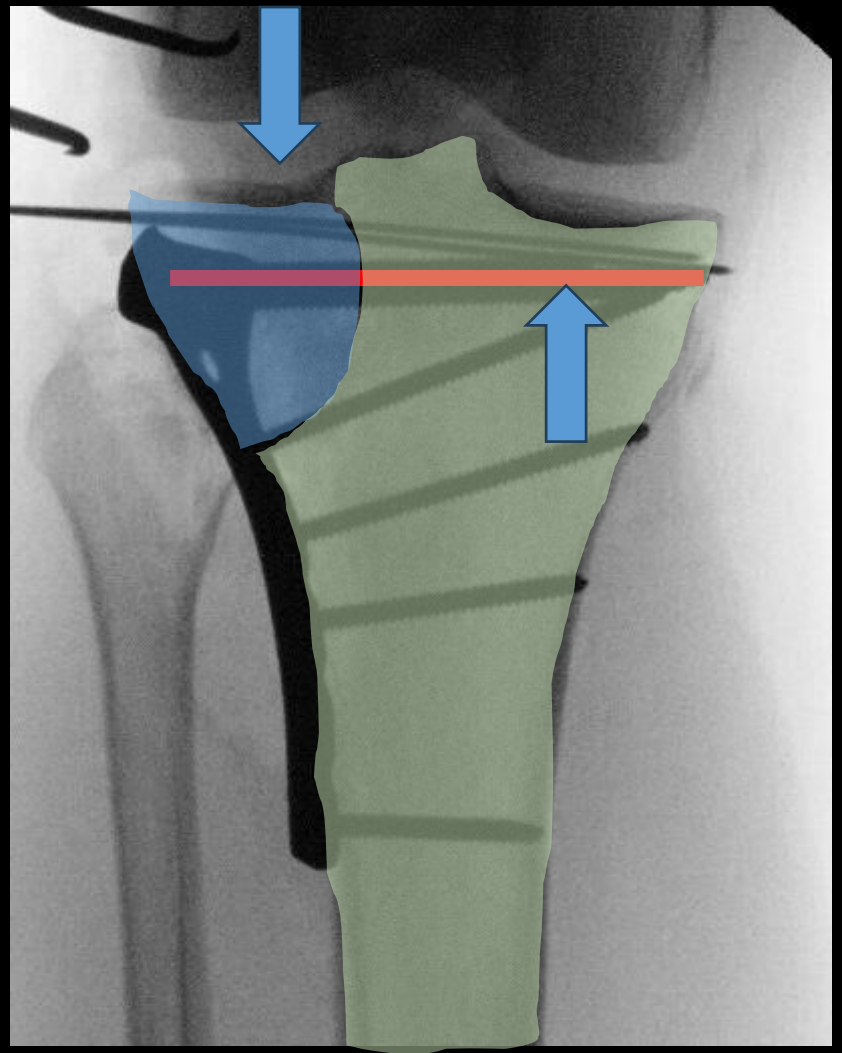

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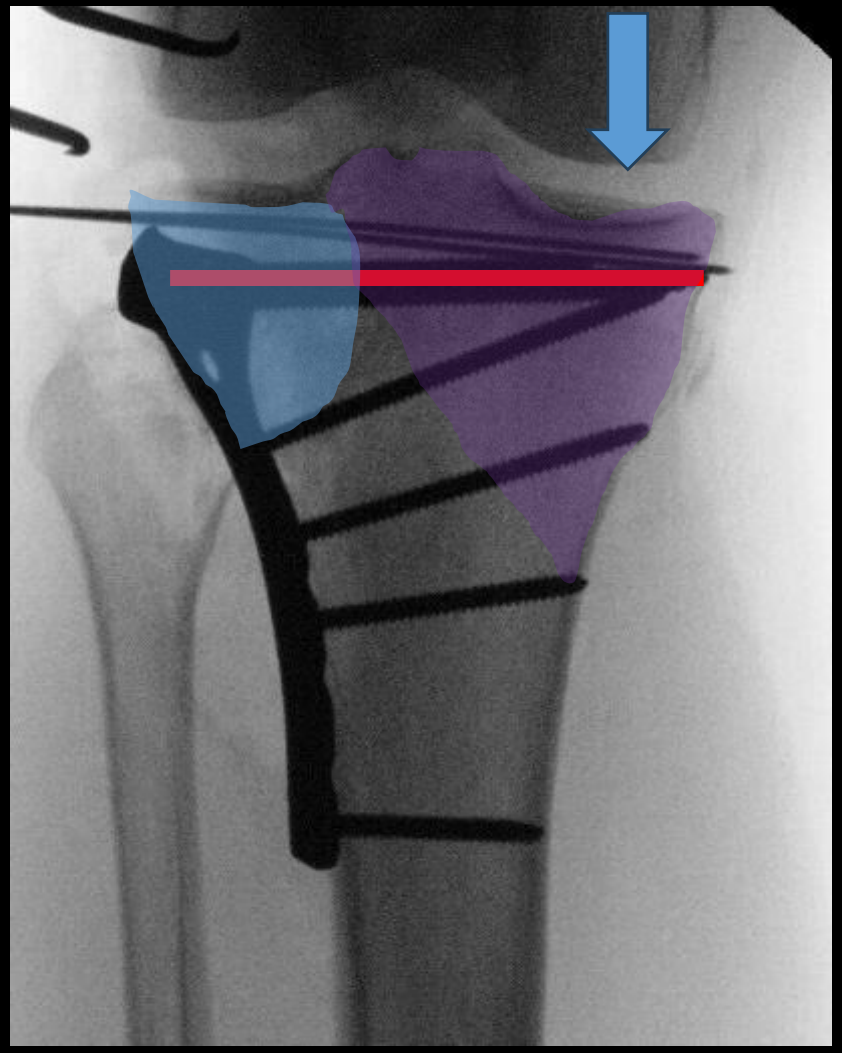

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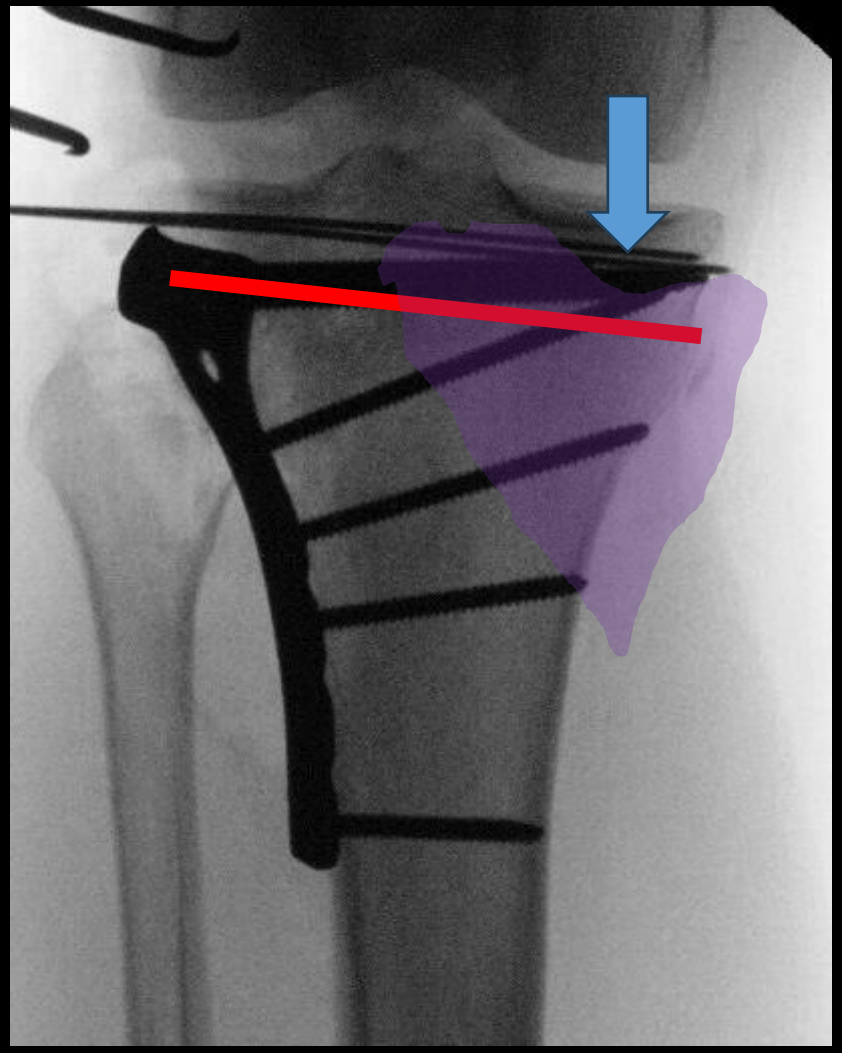

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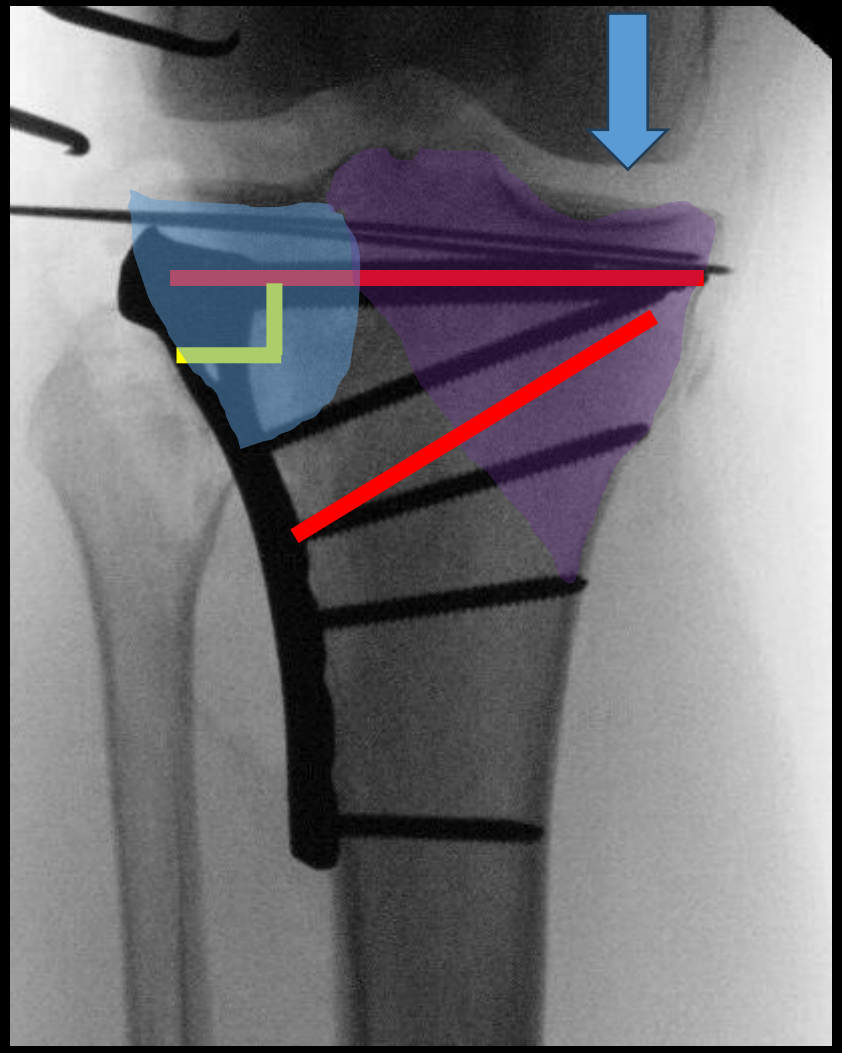

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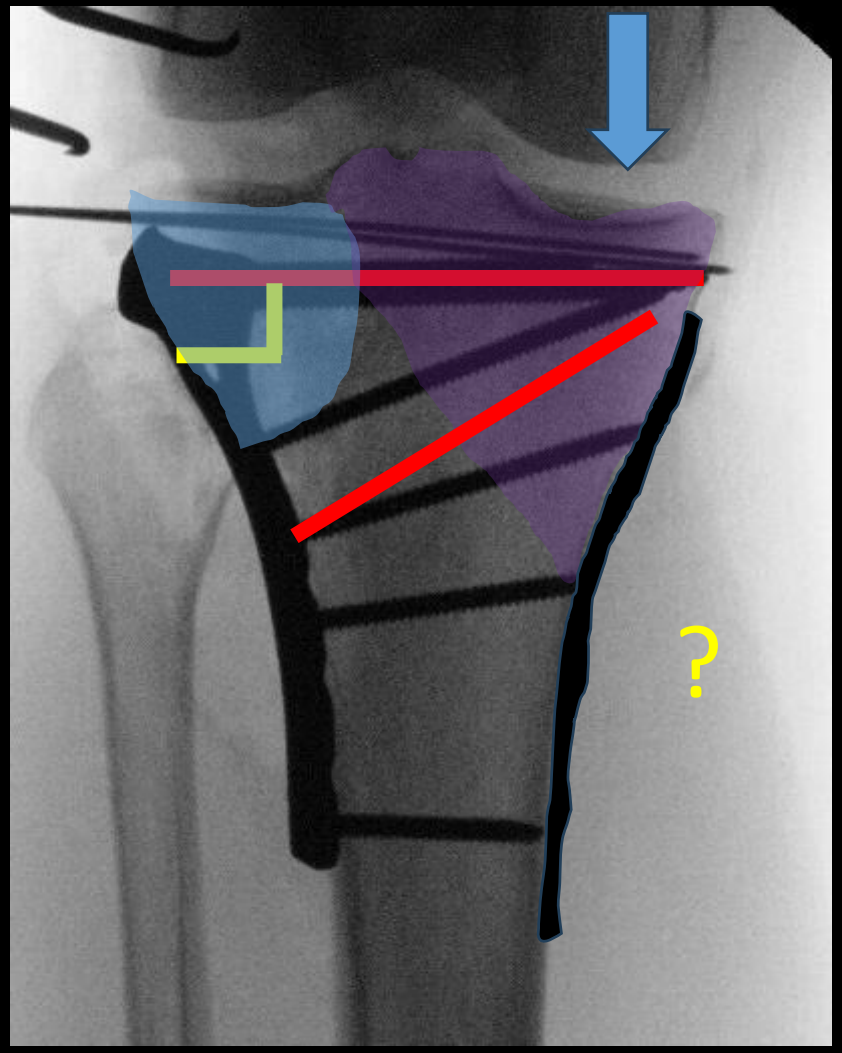
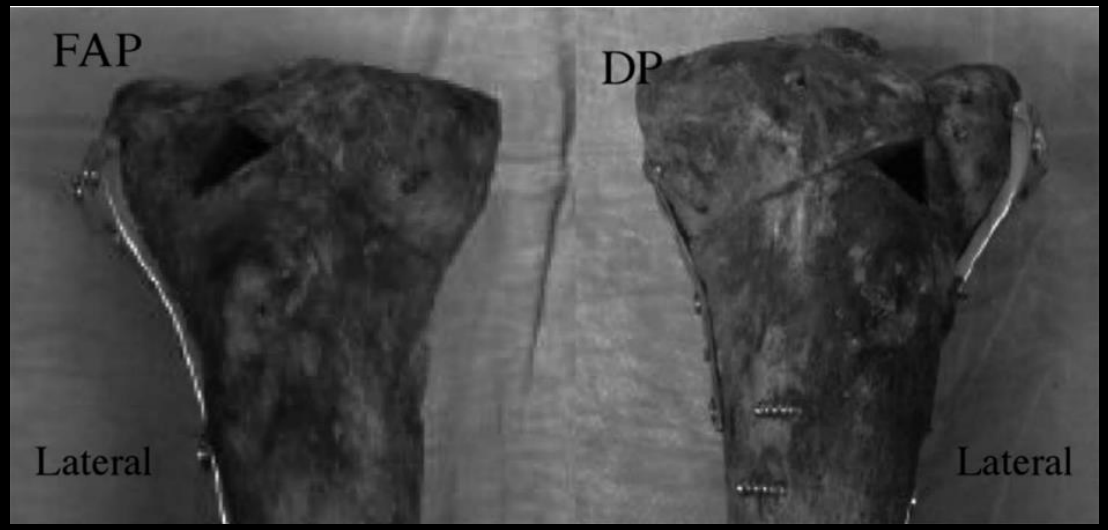


Biomechanical Analysis of Bicondylar Tibial Plateau Fixation: How Does Lateral Locking Plate Fixation Compare to Dual Plate Fixation?

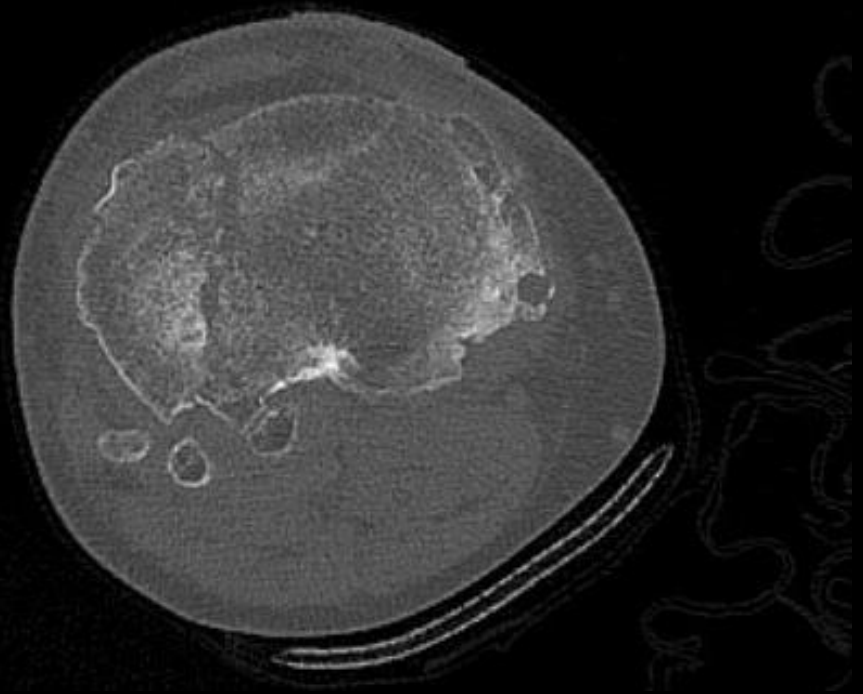
Thomas F. Higgins, MD, Joshua Klatt, MD, and Kent N. Bachus, PhD

J Orthop Trauma • Volume 21, Number 5, May 2007

- Biomechanical study with ten matched cadavers
- More subsidence with lateral locked plate vs dual plating
  - 0.78 vs 1.51mm (p =0.045)



Case: 43yo M OUD, scooter crash

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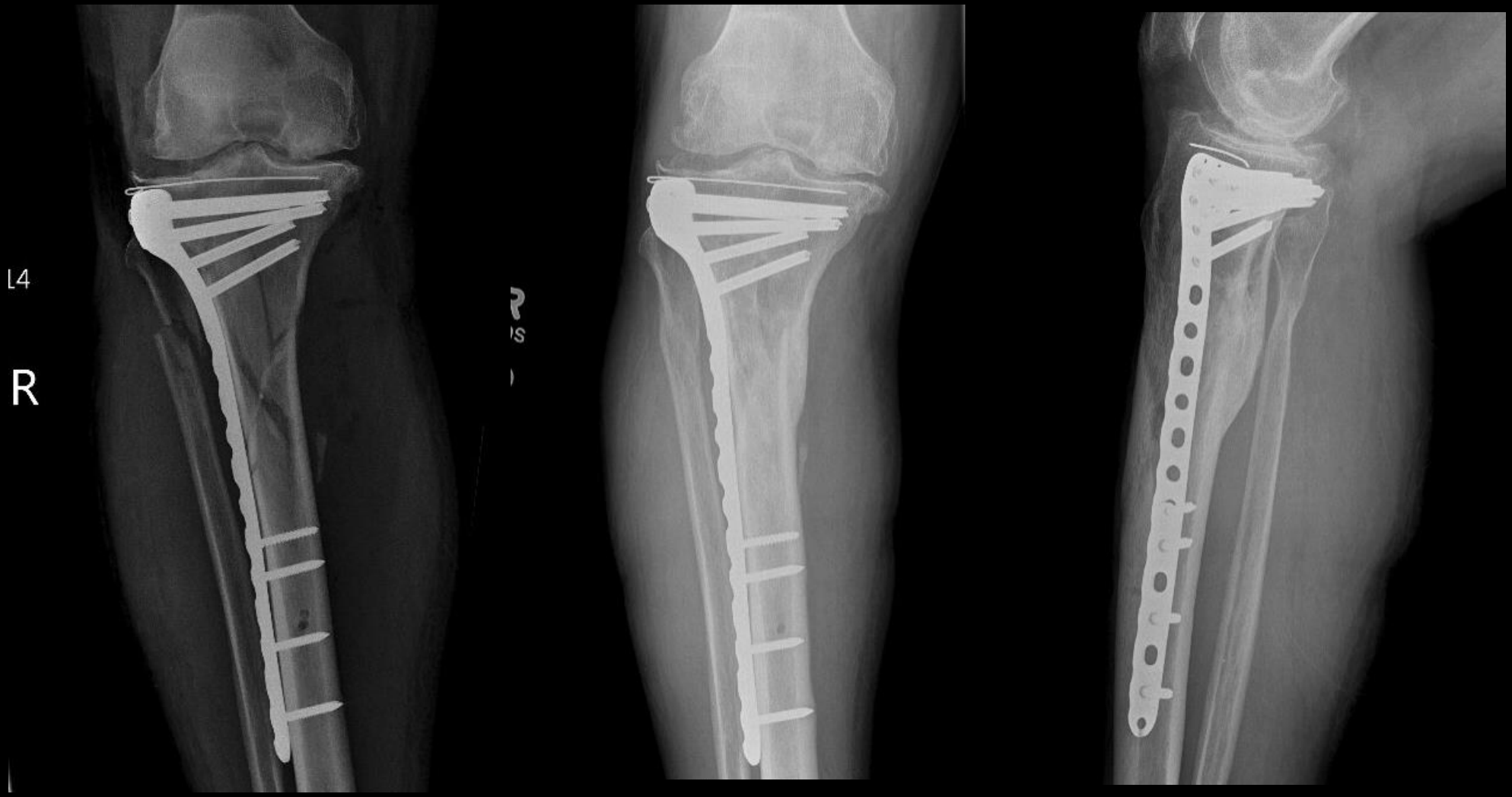
L4
R


R
1 of 2
OR 14



Immediate Postop

1 Year Follow-up ☹

Case: 45yo M Vespa crash, fixed in Rome

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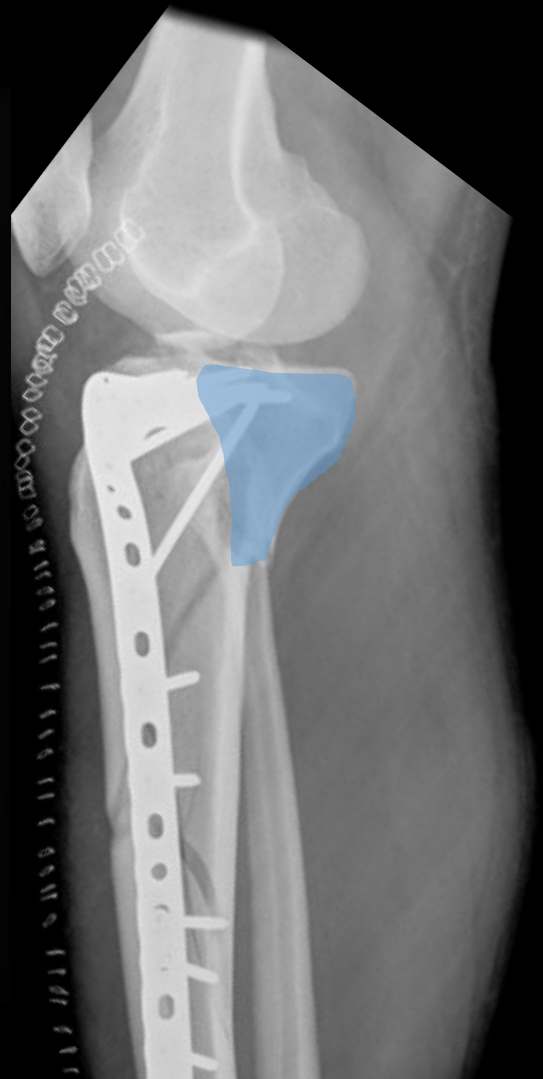

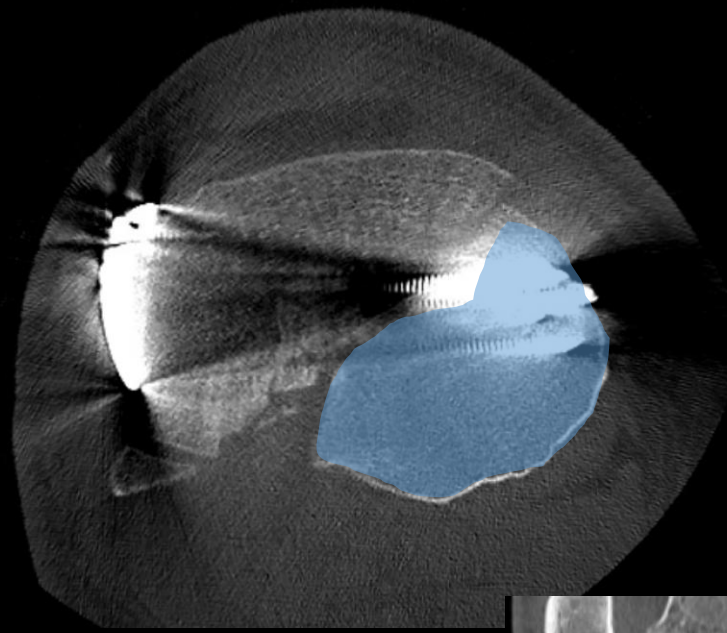

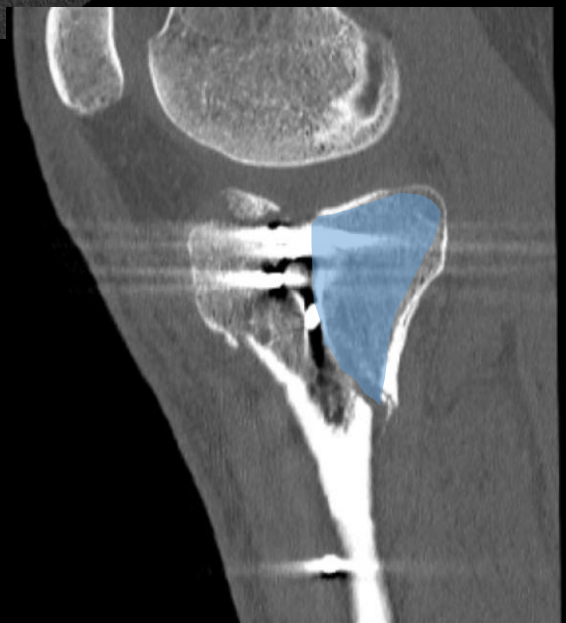

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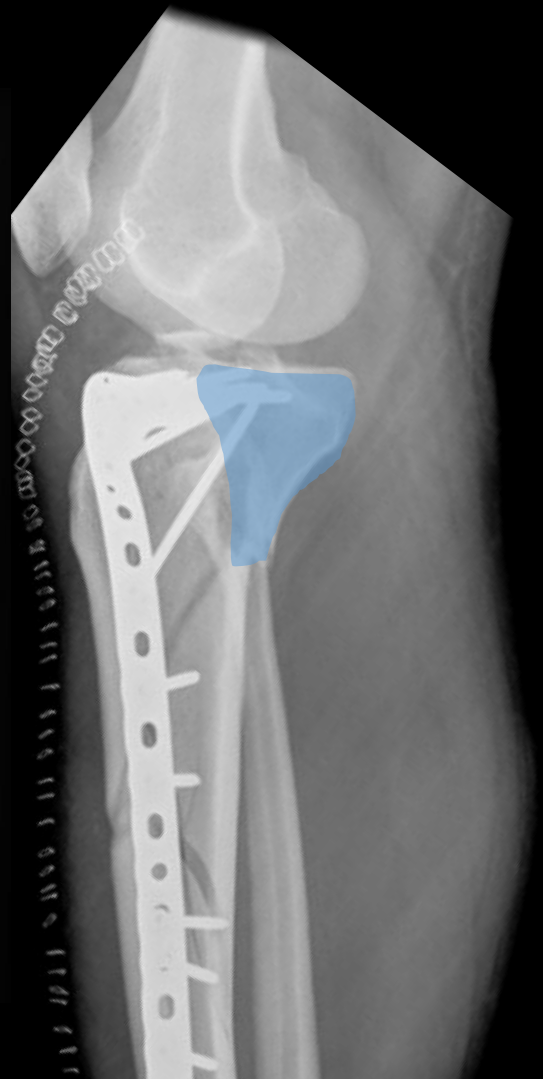

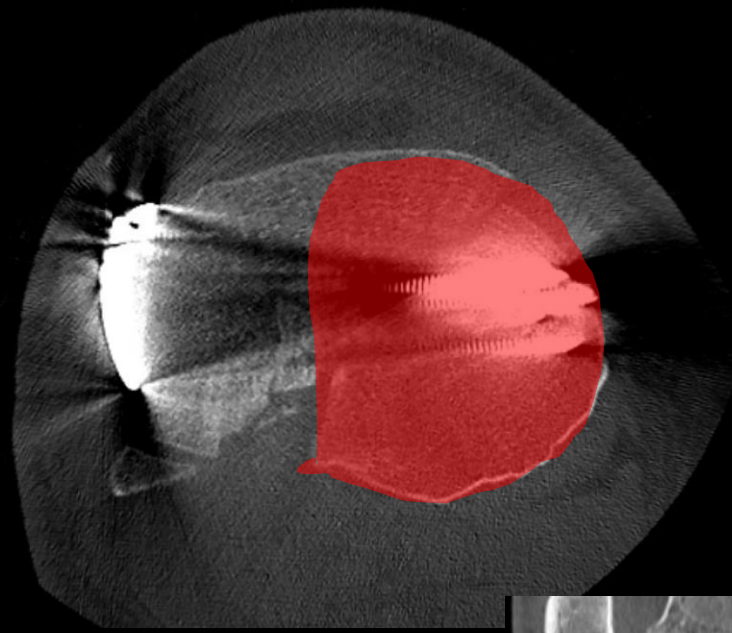

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Why two approaches?

- To Obtain Reduction

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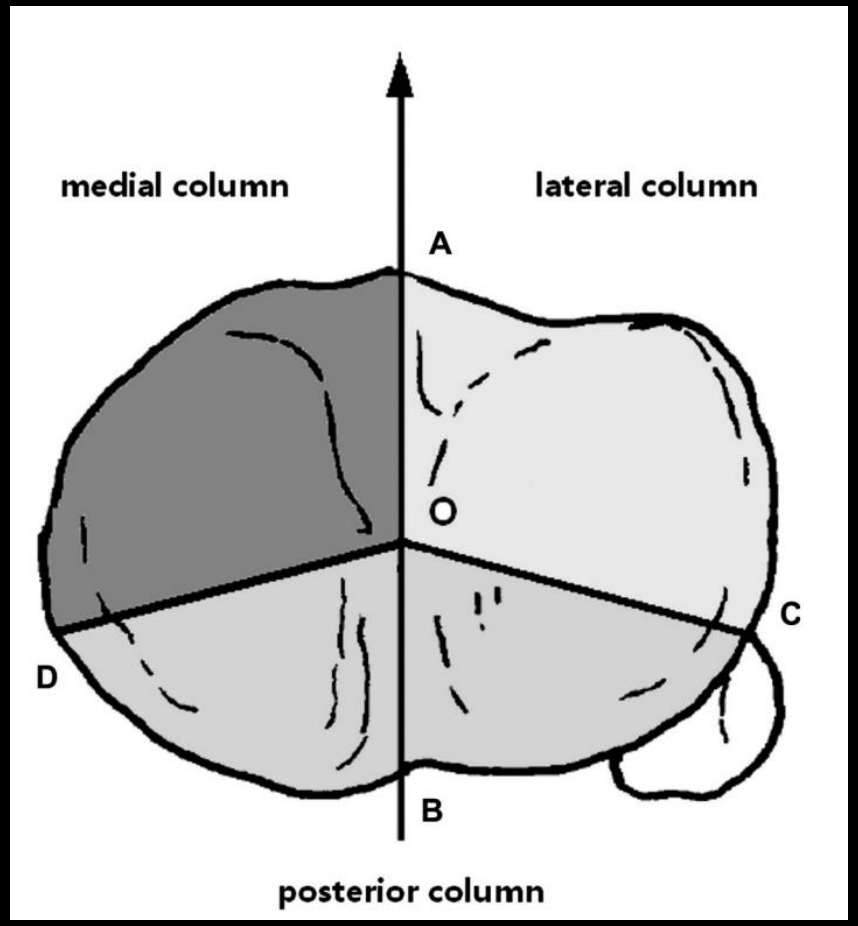
→ Dual Approaches for most bicondylar fractures

But are there exceptions

- **<u>Large medial plateau fragment</u>**
  - No coronal plane fracture
  - Multiple locking screws
- Medial metaphysis can load share
  - Not too comminuted
- Approach not required for reduction



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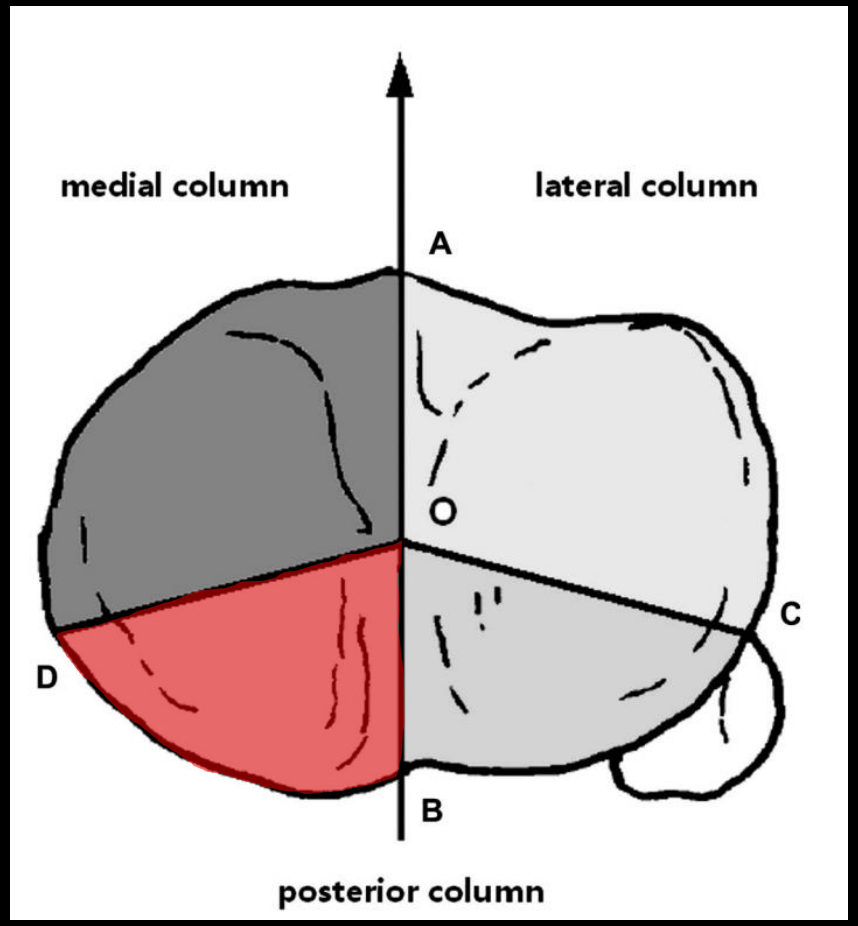

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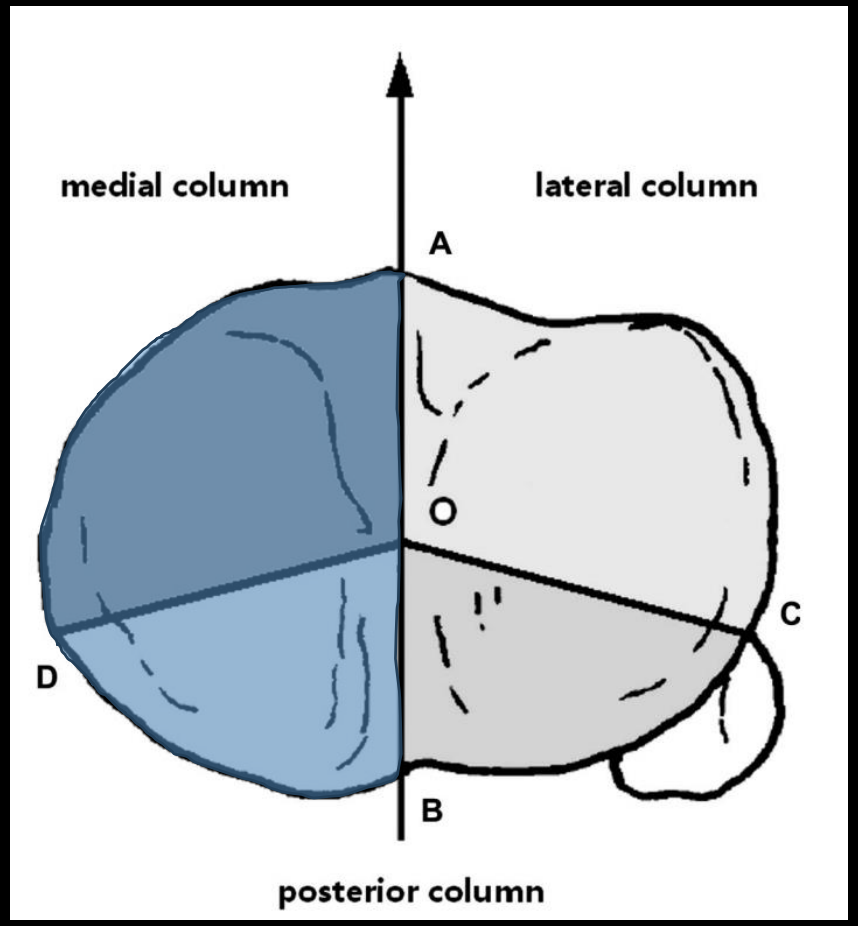

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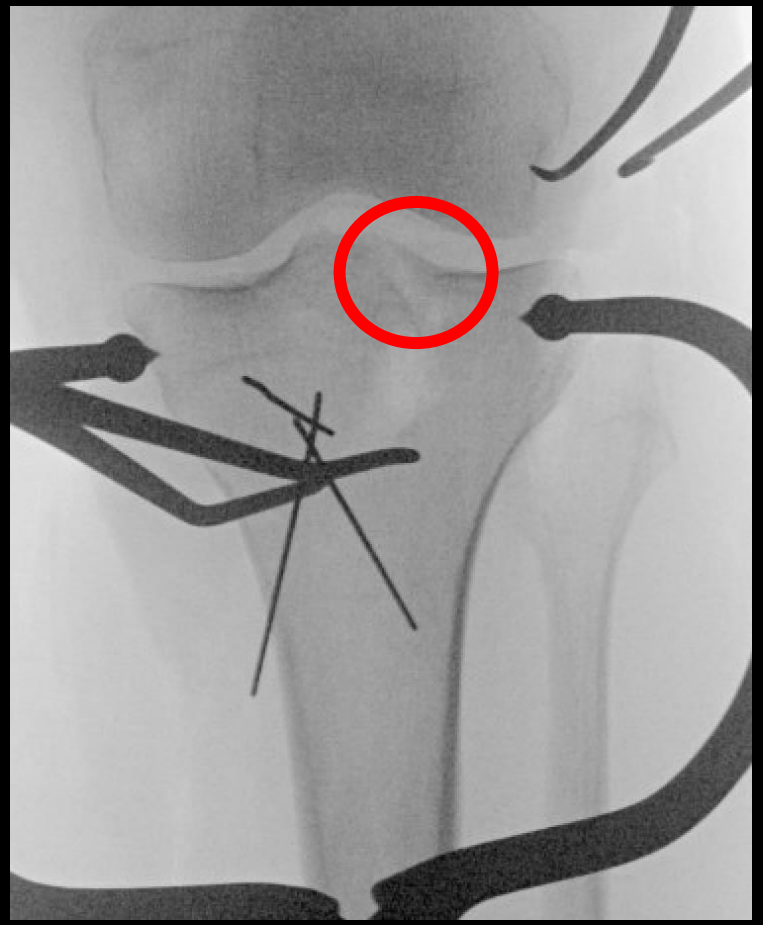

Case- Schatzker 4 37yo F

Take home messages

- Lateral plateau fractures→1 approach + non-locking plate
- Bicondylar fractures→2 approaches
- Consider 1 approach + lateral locking if:
  - Large medial plateau fragment
  - Easily reduced
  - Stable metaphyseal fracture
- Schatzker 4 →Medial approach +/- lateral

Thank you!

- David.Shearer@ucsf.edu

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