

# Shaft Reduction Techniques

# Disclosure

- Research Support
  - Depuy Synthes
- Consultant/Speakers Bureau
  - Zimmer, Depuy Synthes, AO North America, AOTrauma

# Techniques

- Clamps
- Plates
- Half pins
- Screws and cables

Clamp reduction

# Clamps

- Oblique tibial shaft
- Regular or modified
- Acute reductions = pointed clamps
- Delayed reductions = larger bone clamps















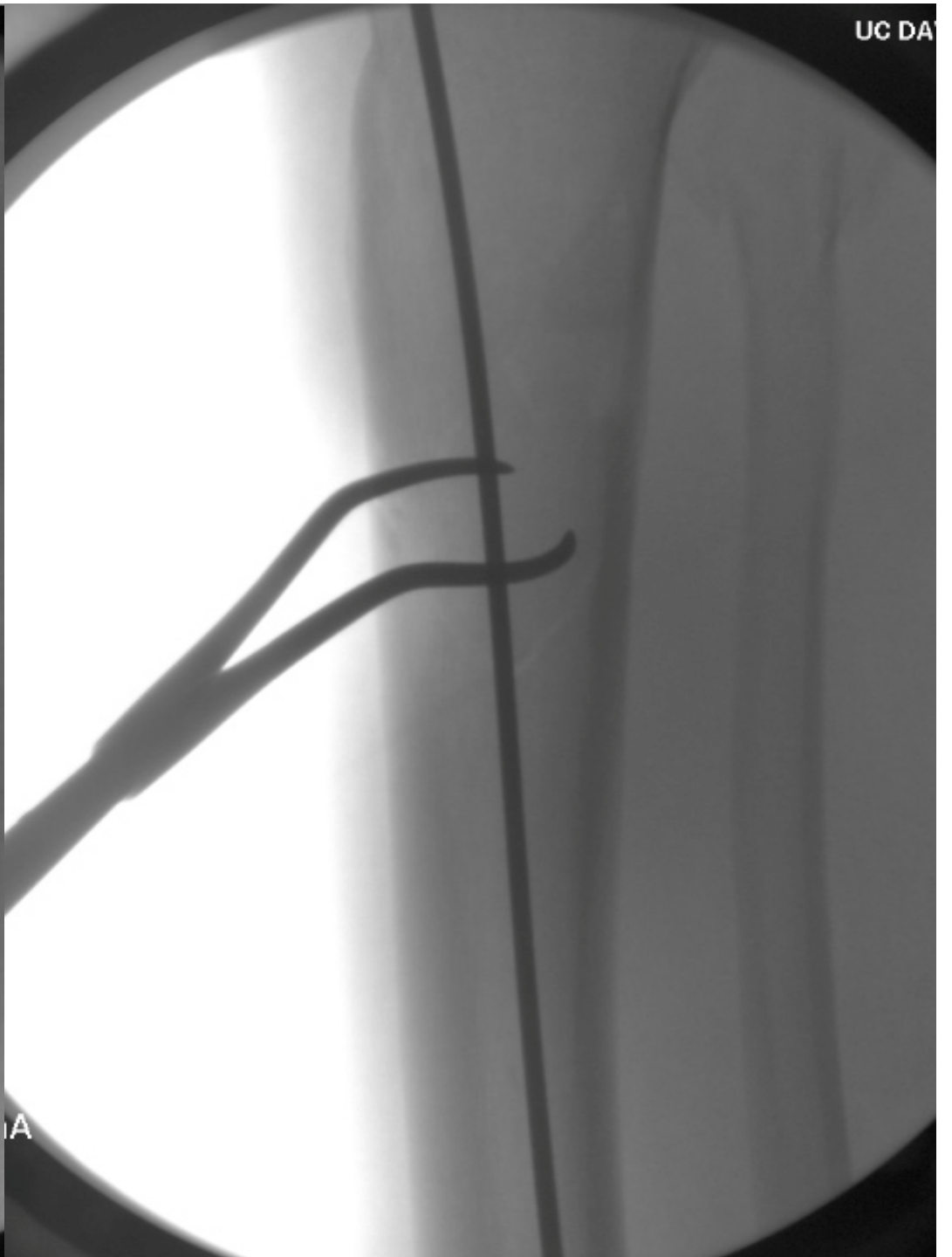
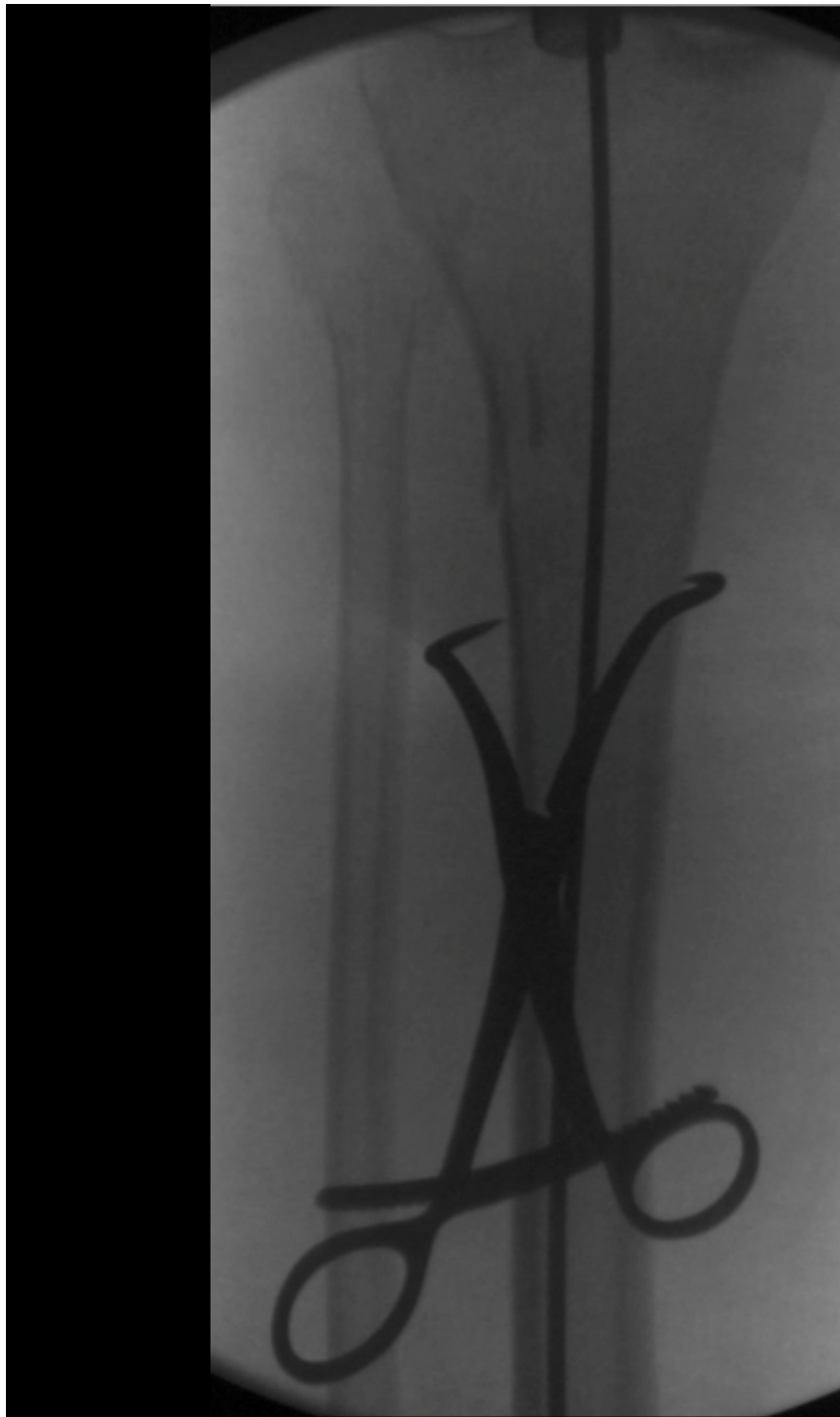


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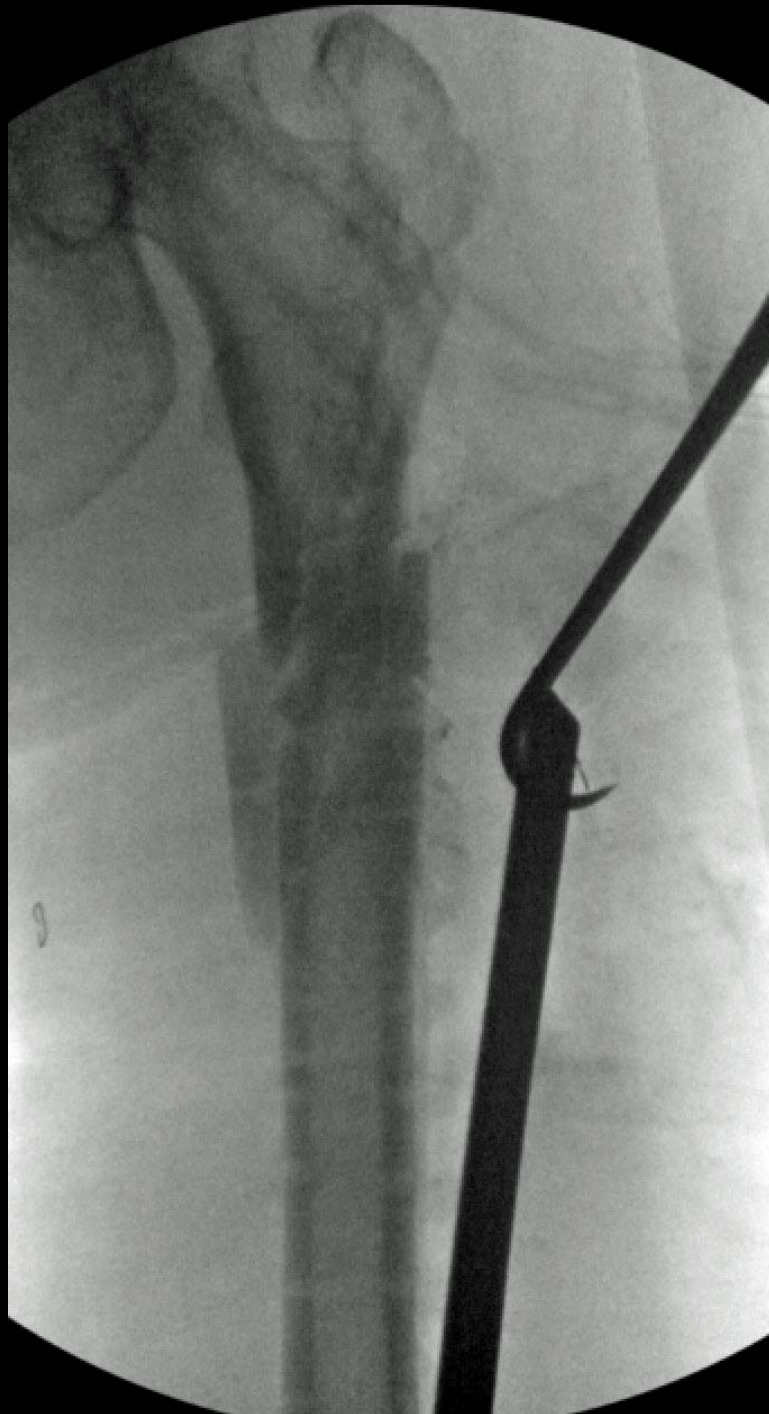


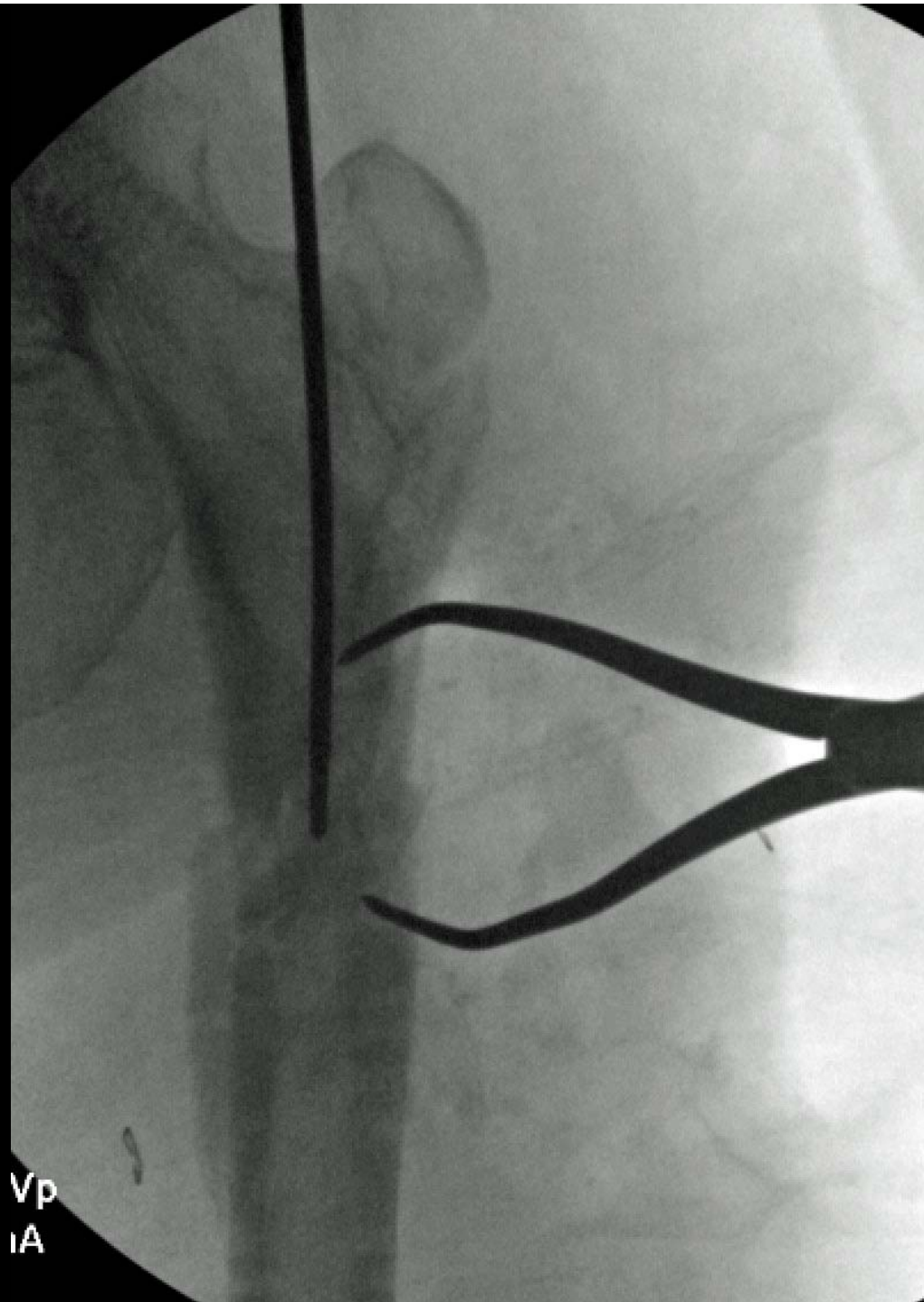












Vp  
IA







# Plates

- Open shaft plating
- Plate as reduction tool
  - Contour
  - Shape



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FIGURE

800

EMUR

21 D

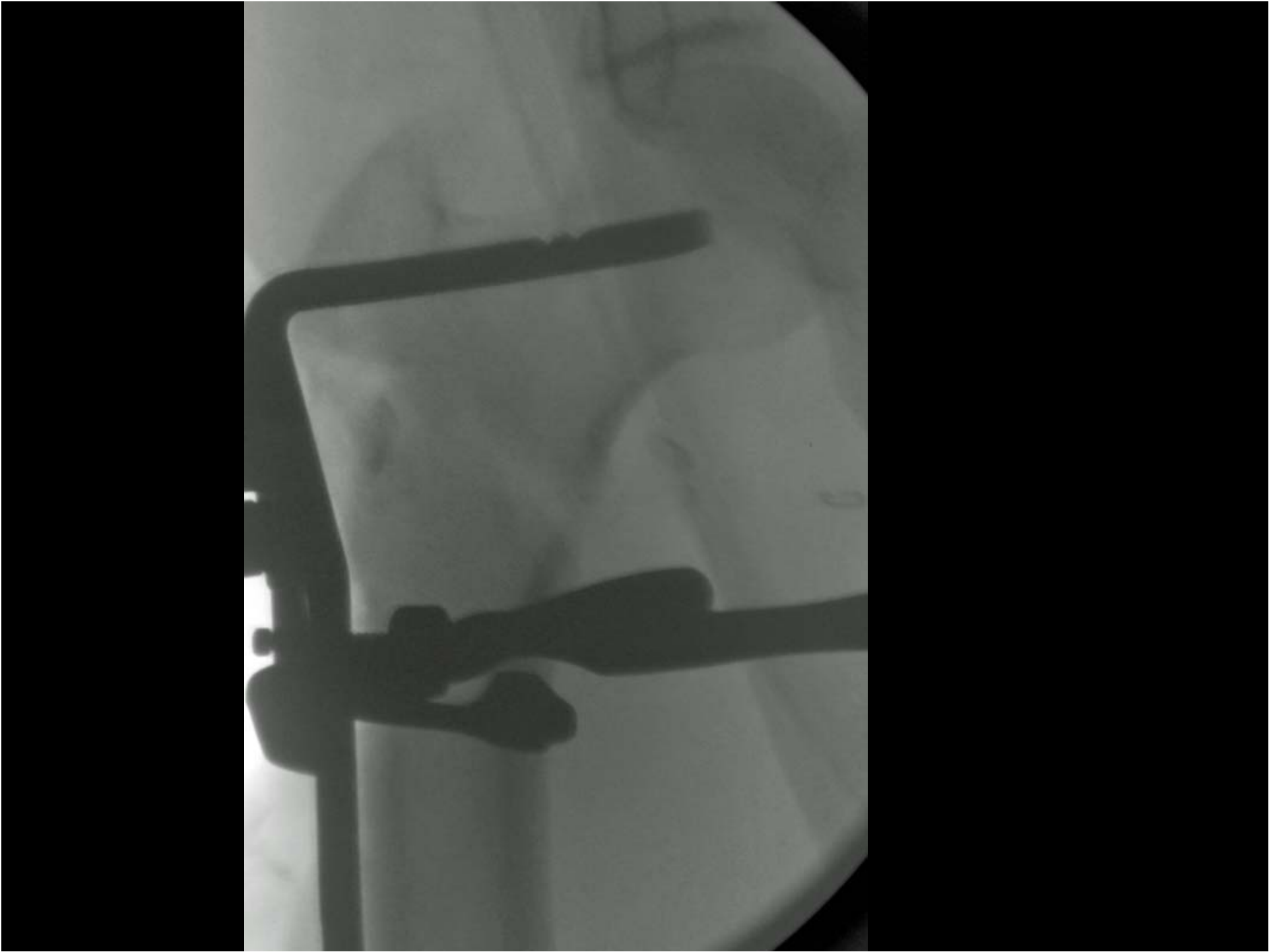
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2 kVp

1 mA





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82

OR  
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123

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ARK  
PROX FEMUR

kVp  
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ORIF R PROX HUM

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4

79  
2.09 mA  
10









T1B/F1B















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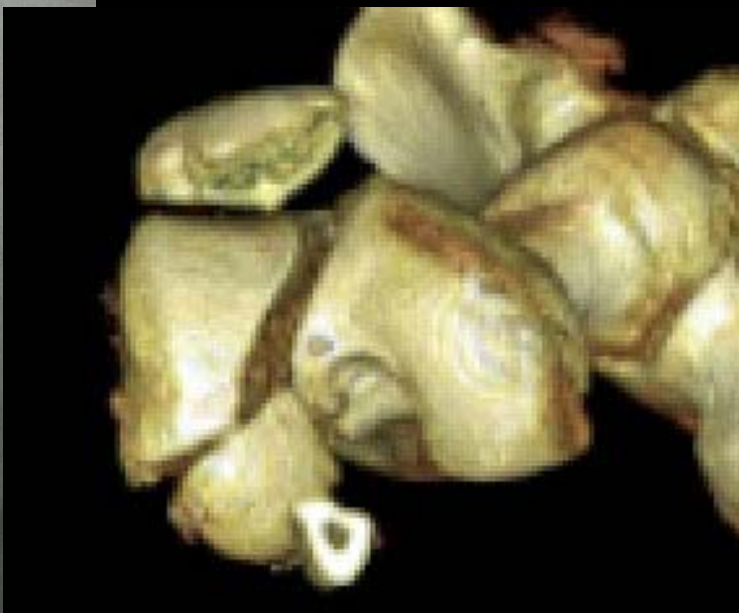


Vp  
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1983



5 kVp



OEC



Half pins

# Half pins

- 4.0 and 5.0 mm external fixation pins
- External fixation or distractor
- Femur



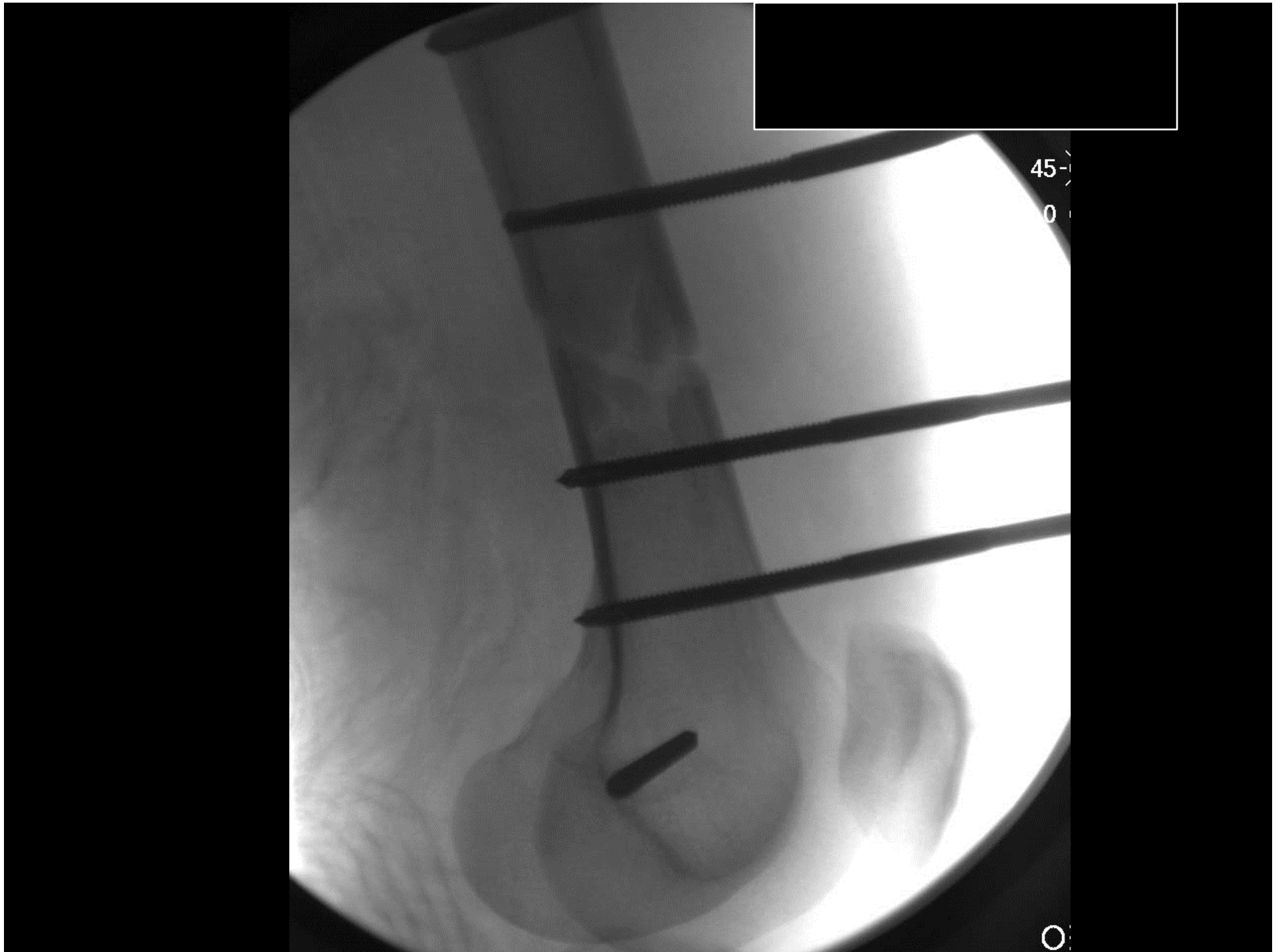


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Cables and screws(simplification)

# Cerclage

- Technique critical
- Braided cables vs wires
- Long oblique (femur)

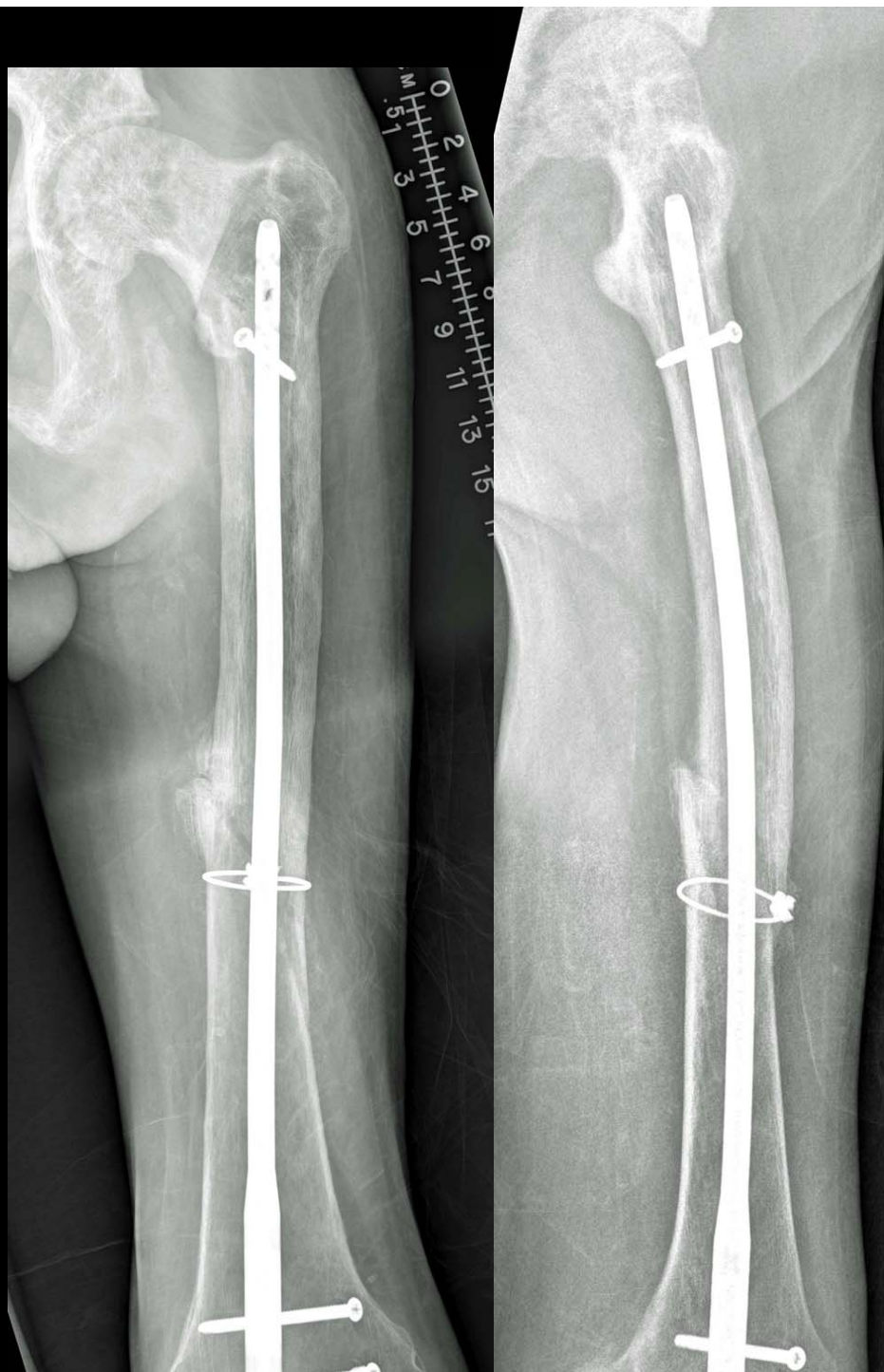










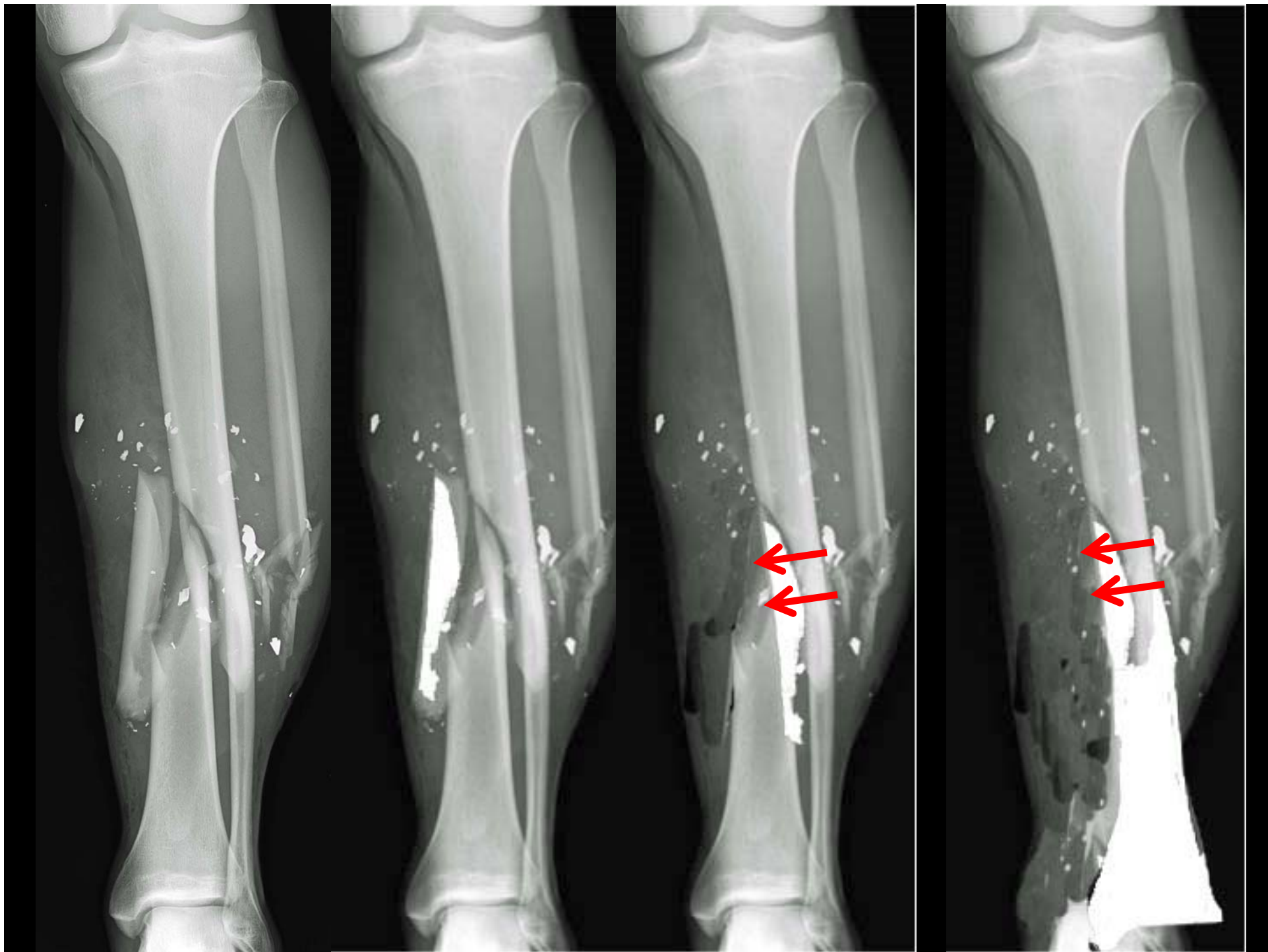


# Screws

- Small and mini fragment sizes
- Careful technique (intracortical)
  - Cooling
  - Drill sharpness
- Simplification







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End