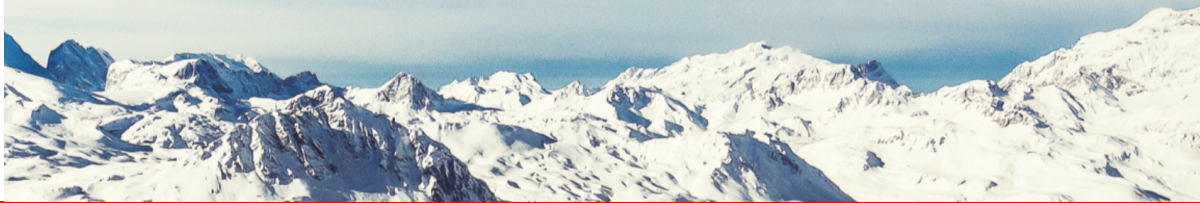




8th Advanced Course on Knee Surgery

January 23rd to 27th - 2022



Distal Femoral Osteotomy : Closing Wedge

A. Amendola MD
Professor of Orthopaedic Surgery
Director of Sports Medicine
CMO Duke Athletics
Duke University



- **Femoral (usually for valgus deformity)**
 - Lateral opening wedge
 - Medial closing wedge
- **Tibial (usually for varus OA)**
 - Medial opening wedge
 - Lateral closing wedge
 - Dome osteotomy
 - Gradual correction (fixator)
- **Tibial (for slope correction)**
 - decrease tibial slope (anterior instability)
 - Increase tibial slope (posterior instability)



- Consider leg lengths

OPEN

- Simple approach
- Single Cut
- accurate correction
- More instability with larger corrections

CLOSING

- Simple approach
- Two cuts
- More stable/ rehab
- Healing Potential



Distal Femoral Osteotomy

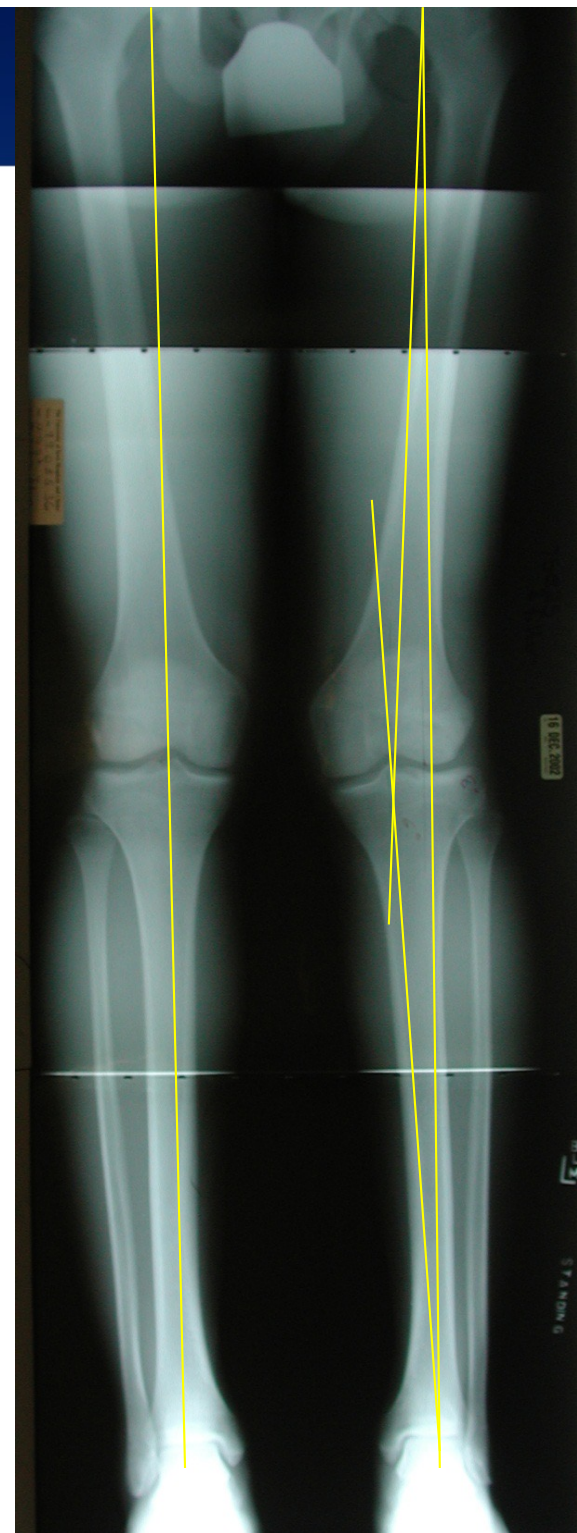
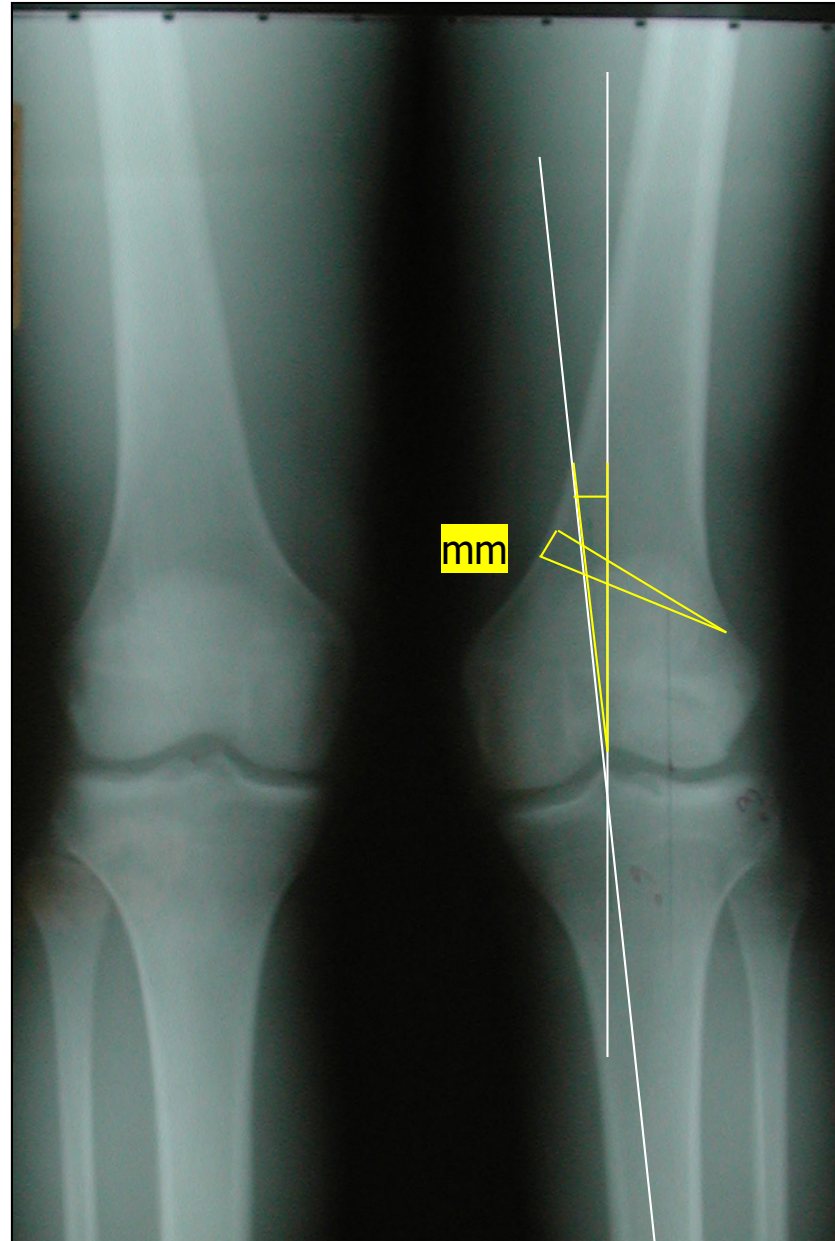
- **Medial closing wedge**

Indications:

- Valgus femoral deformity
 - Large corrections
 - Moderate to severe OA
 - Large Lateral condyle cartilage lesions (OATS)
 - smokers , obese, large corrections

Technique DFO

valgus deformity





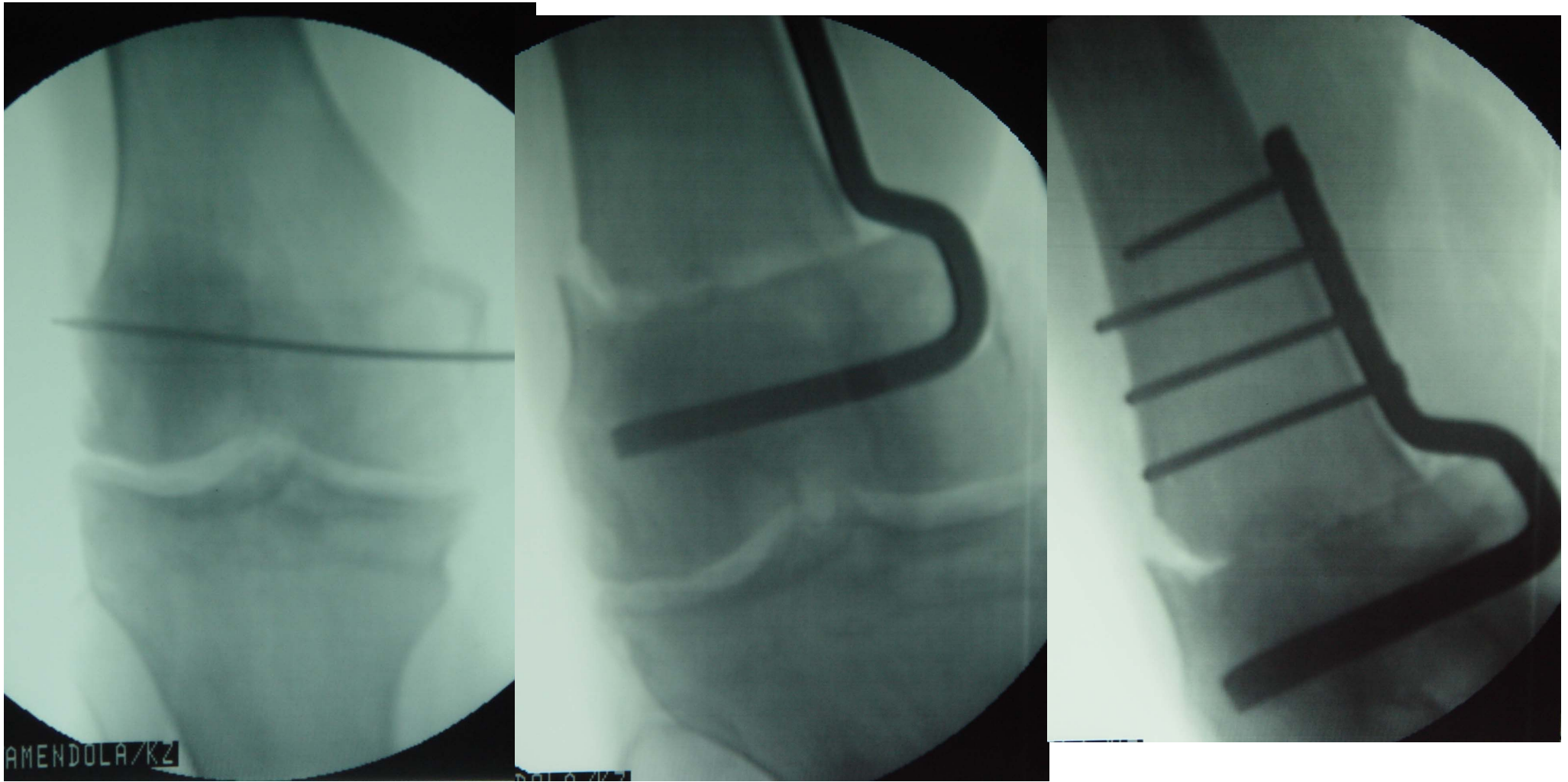
Medial closing DFO



90 deg Blade Plate



Medial CW DFO: Technique





21 yo M , spina bifida, Charcot knee
valgus deformity





45 yo F congenital valgus





45 yo F congenital valgus



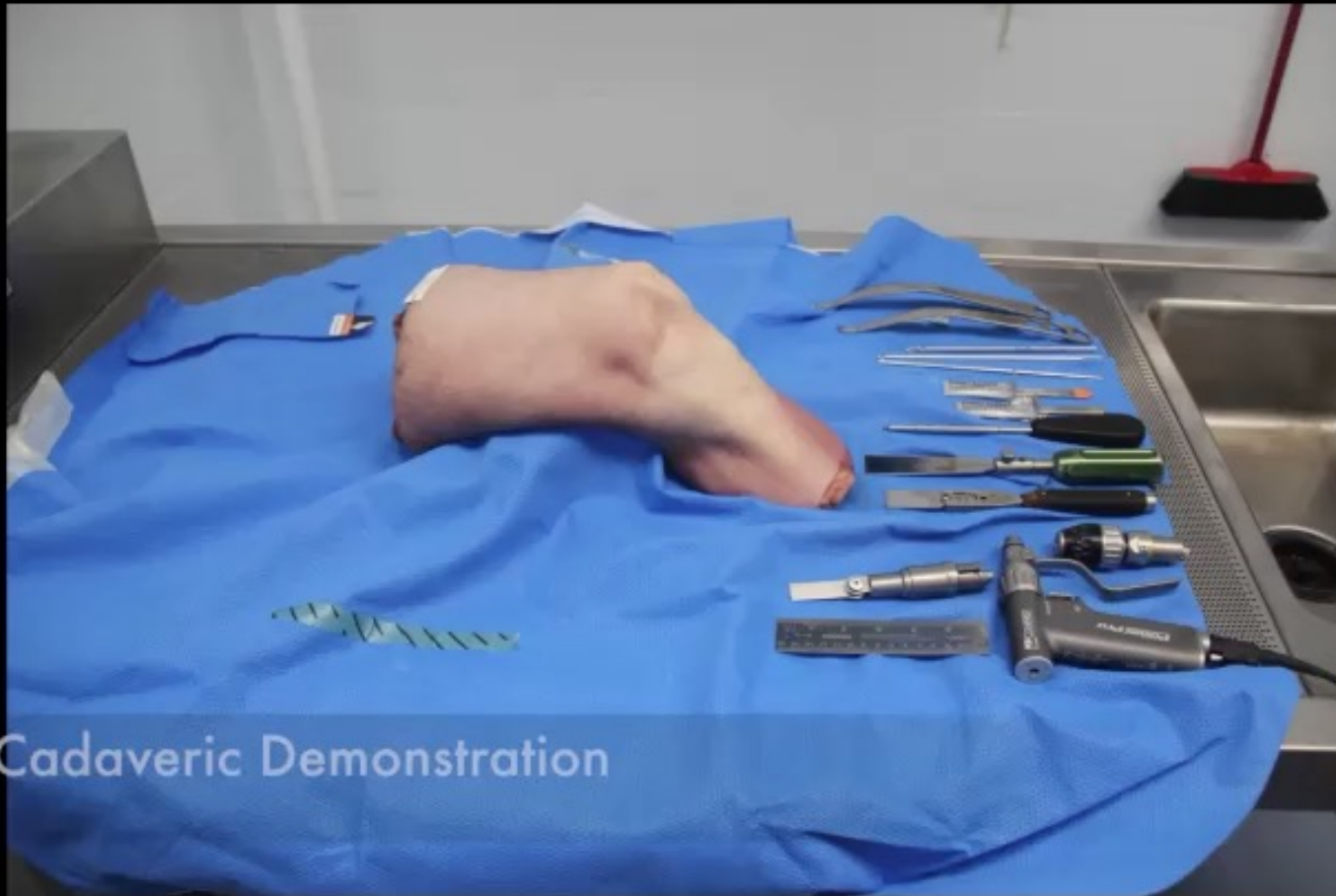


Post op 6 mos




Synthes medial plate

DFO CW Technique



Courtesy of Alan Getgood; R Litchfield

Eight respectively nine out of ten patients return to sport and work after distal femoral osteotomy

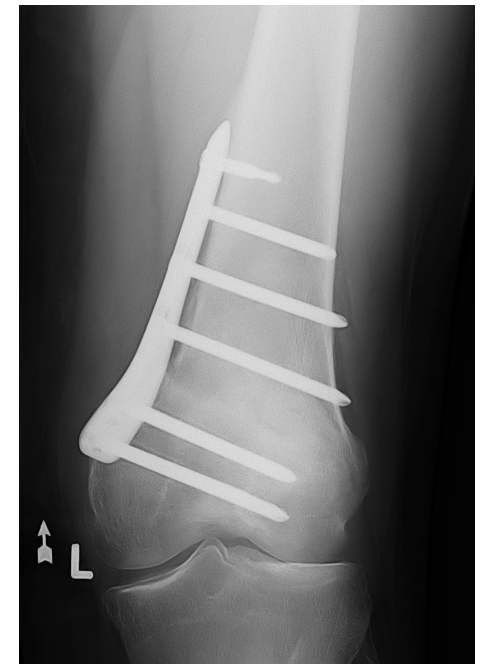
Alexander Hoorntje^{1,2,3}  · Berbke T. van Ginneken⁴ · P. Paul F. M. Kuijer⁵ · Koen L. M. Koenraadt⁶ · Rutger C. I. van Geenen⁶ · Gino M. M. J. Kerkhoffs^{1,2,3} · Ronald J. van Heerwaarden^{4,7}

100 patients

3.4 year follow-up

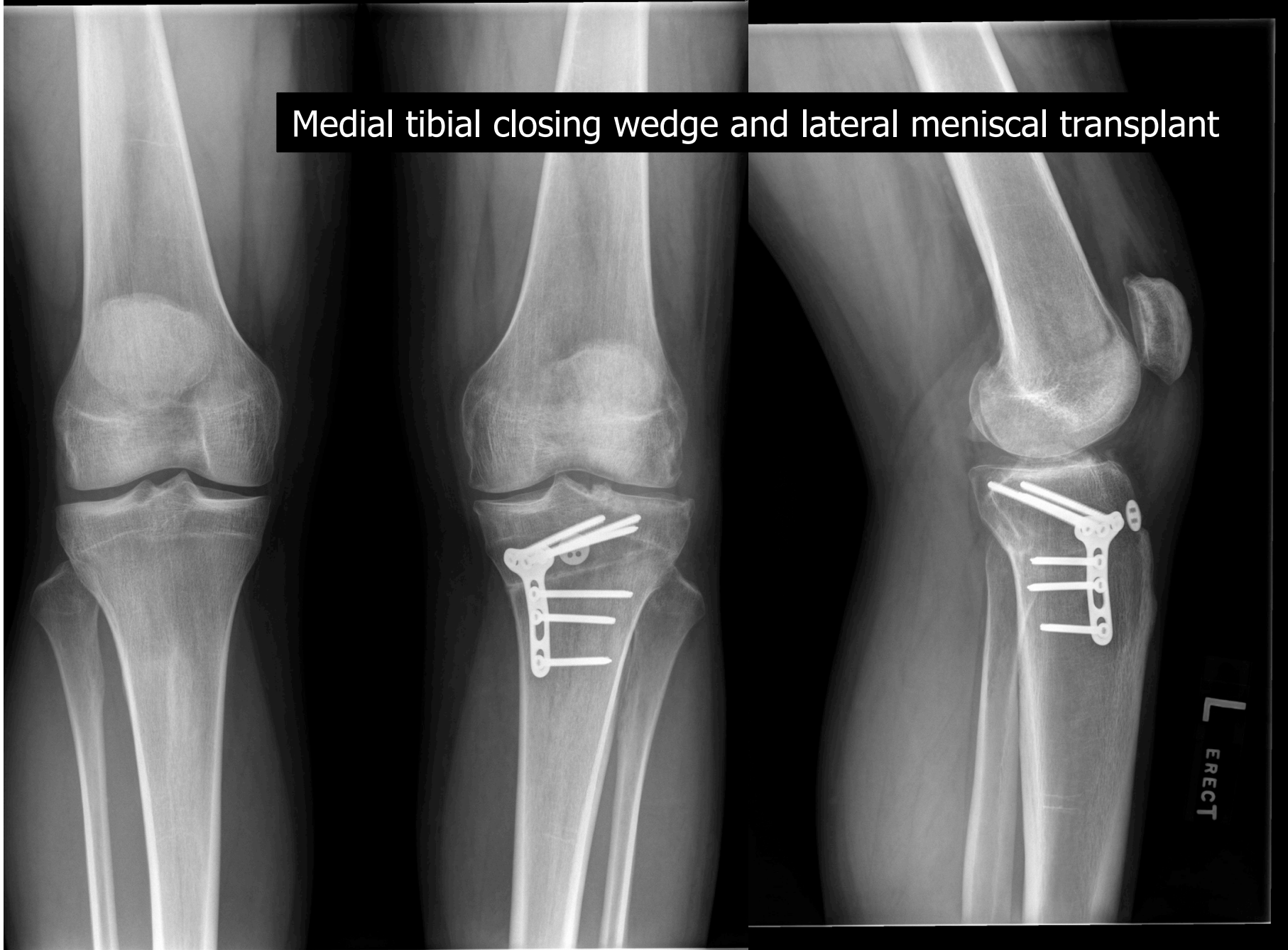
77% return to sport (71% within 6 months)

91% return to work

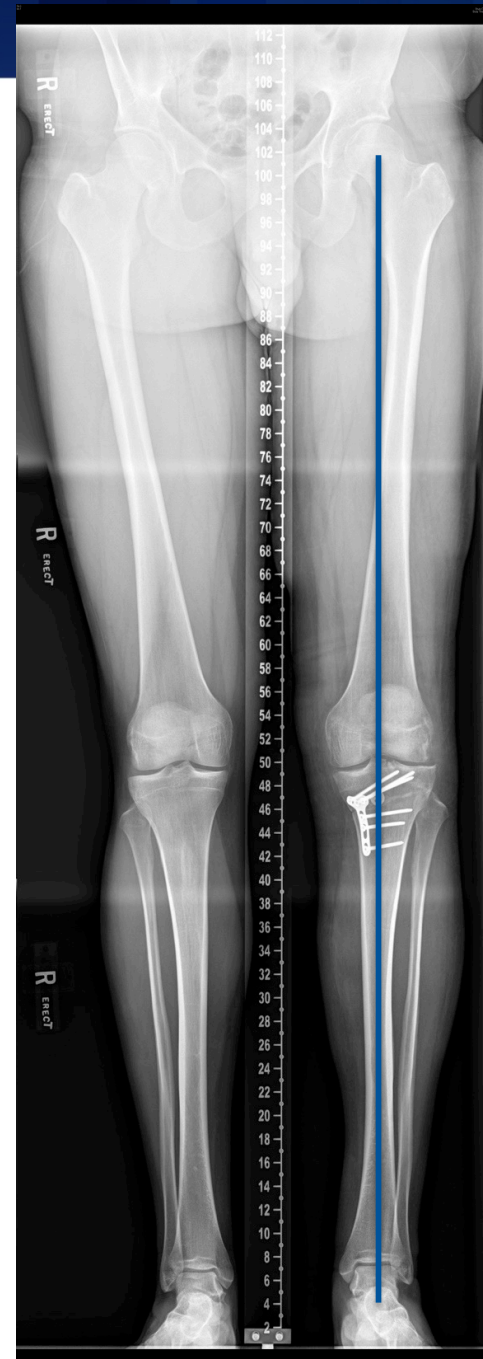




Medial tibial closing wedge and lateral meniscal transplant



6 mos





Distal Femoral Osteotomy

Summary

- Osteotomy is a necessity
 - Valgus deformity
- Open or closing wedge are useful
- Assess limb length
- CWO for high risk, large corrections
- DF OWO or Tibial CWO for smaller , low risk