

*CLOSED, LOCKED INTRAMEDULLARY
NAILING OF PEDIATRIC
FEMORAL SHAFT FRACTURES*

CK Yiannakopoulos, AD Kanellopoulos

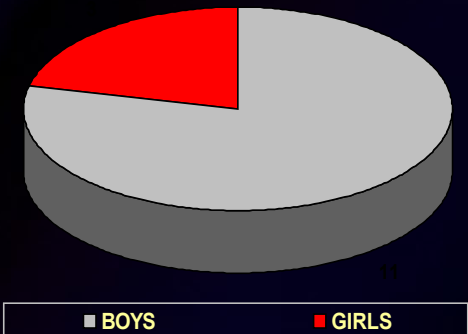
Paediatric Orthopaedics Department,
KAT Accident Hospital,
Athens, Greece

Purpose

To evaluate the safety and efficiency of locked intramedullary nailing in the treatment of paediatric femoral shaft fractures.

Patients - Methods

- ✓ 17 children with femoral shaft fractures
- ✓ All fractures were closed
- ✓ 14 male and 3 female patients, aged 11-16 years (mean 14.1 years)
- ✓ Mean Follow Up: 17 months (13-36)



Method Of Treatment

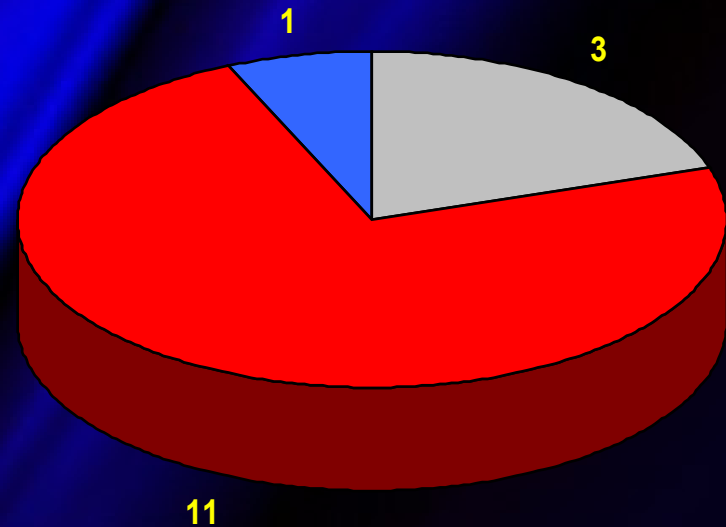
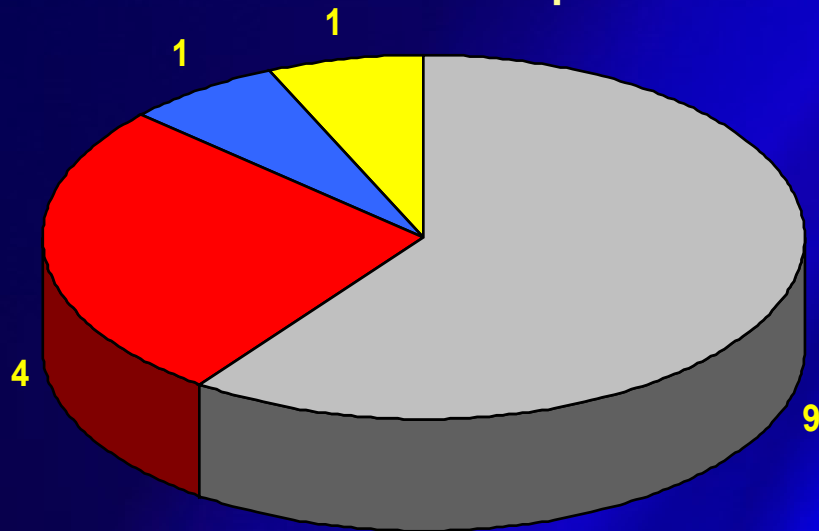
Static Locked Reamed Intramedullary Nailing



Fracture Characteristics

- ✓ nail length 350 mm (280-420)
- ✓ nail width 10.5 mm (8-12)

Winqvist Classification



Surgical Technique

- ✓ Supine position
- ✓ Entry Point: Greater Trochanter Tip
- ✓ No dissection
- ✓ No awl use
- ✓ Percutaneously



Surgical Technique

- ✓ Operation Time: 110 min
- ✓ Blood Loss 70 ml
- ✓ No blood transfusion
- ✓ Hospitalization 2 days (2-6)



Surgical Technique

- ✓ 15 patients could weight bear at discharge



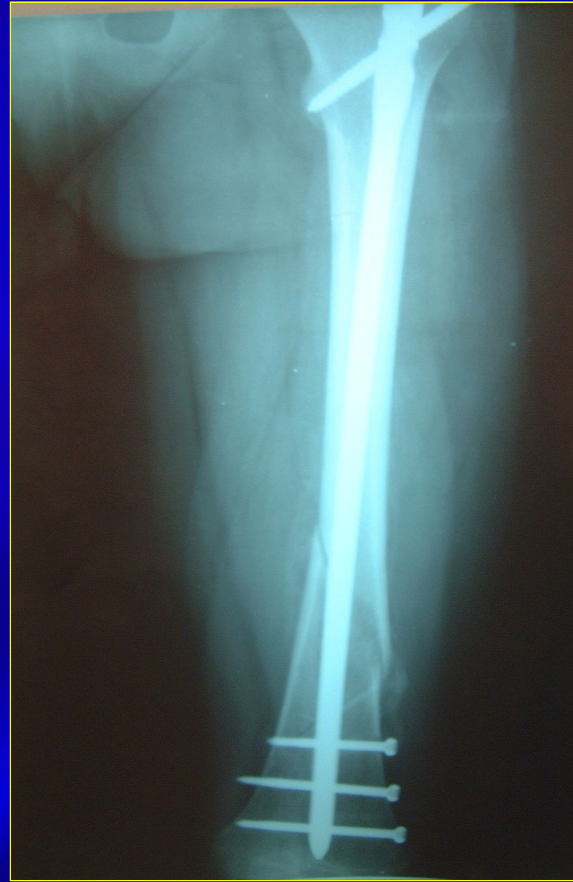
Surgical Technique

- ✓ Mean time to healing:
9 weeks (6-13)
- ✓ No pseudarthrosis
- ✓ No deep infection
- ✓ Full range of knee and hip movement



11 Year Old, Male Patient 57 Kgr

1 Month



9 Months



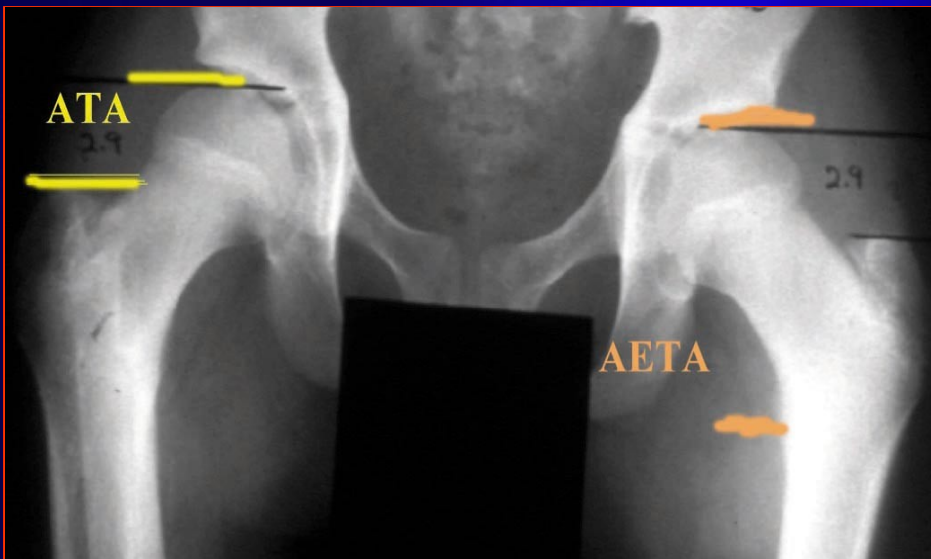
Complications

- Infection
 - 1 superficial
- No osteonecrosis
- Post-traumatic apophyseodesis of the GT
 - 1 case
- Heterotopic Ossification
 - 1 case



Anatomy Of the Proximal Part of the Femur

- ✓ LTAD : 0.3 mm (-8 to +5)
- ✓ Neck width: 0.7 mm (-5 to +7)
- ✓ ATD : 3.5 mm (-5 to +11mm)



LTAD:
lesser trochanter articular distance

ATD :
articulo-trochanteric distance of Edgren

Leg Length Discrepancy

- ✓ CT scanogram
- ✓ Mean Follow Up 19 months (12-29)



Leg Length Discrepancy

- Mean Total Discrepancy:

1.4 mm

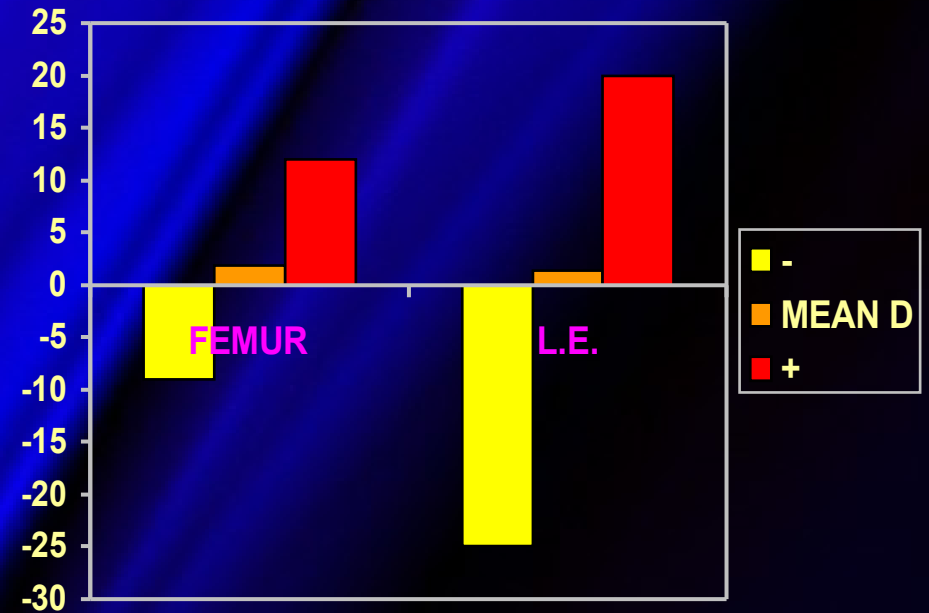
mm

– range: -25 to + 20 mm

- Mean Femoral Discrepancy:

1.9 mm

– range: -9 to +12mm



Conclusion

- ✓ IMN is safe in adolescents
- ✓ ON depends on the surgical technique
- ✓ Post-traumatic Apophyseodesis of the GT
 - ✓ Radiological finding
 - ✓ No serious consequences

