

# COMPLICATIONS ENCOUNTERED FOLLOWING WIDE TUMOR RESECTIONS IN THE INFANTILE AND JUVENILE AGE GROUPS



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# Complications of Sarcoma Treatment

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## □ Resection

- Sacrificiation of epiphyses
- Sacrificiation of joints

## □ Adjuvants

- Radiation
  - Sacrificiation of epiphyses
  - Postirradiation sarcoma
  - Soft tissue compromise
- Chemotherapy
  - Systemic morbidity
  - Growth retardation ?

## □ Reconstruction

- Infection
- Loosening
- Graft fractures

# Complications of Sarcoma Treatment

- **Sacrificiation of (epi)physes**
  - Leg length discrepancy
  - Deformity
  - Truncal obliquity in long term
- **Prosthesis failure**
  - Wear
  - Osteolysis
  - Infection
  - Bone loss
  - Soft tissue problems
- **Graft problems**
  - Nonunion
  - Leg length discrepancy
  - Deformity
  - Infection



# Patients

- **1990 – 2003**
- **68 patients with malignant (& benign aggressive) lesions of pelvis and lower extremities**
- **30 female, 38 male**
- **Mean age 13.1 (1.5 – 18)**



# Patients

- **%75 Stage IIB OSG**
- **Location**
  - 34 Distal femur
  - 26 Proximal Tib. + Fib.
  - 4 Foot & Ankle
  - 4 Pelvis
- **Physis sacrifice**
  - Single (27)
  - Dual (4)
  - RTx (13)



# Reconstructions

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- ❑ **Modular prostheses (40)**
- ❑ **Vascularized fibula (13)**
- ❑ **Arthrodeses (V.fib) (10)**

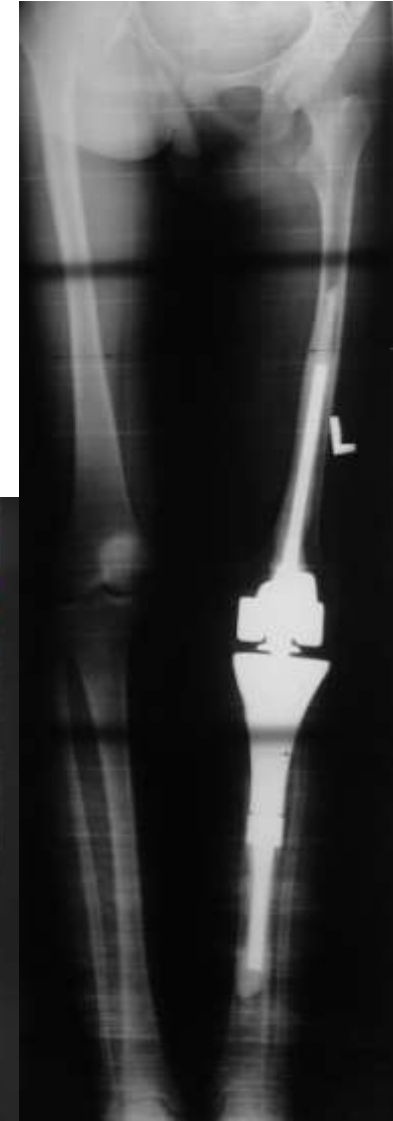


# Complications

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## □ Modular Prostheses

- Infection 4
- Loosening 5
- Restricted ROM 4
- LLD 14









# Complications

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- **Physical sacrifice**
  - **Leg length discrepancy (13)**
    - **Mean 4.6 cm (1-12)**
  - **Deformity (11)**
    - **Multiplanar (11)**
  - **LLD + Bone Loss (6)**

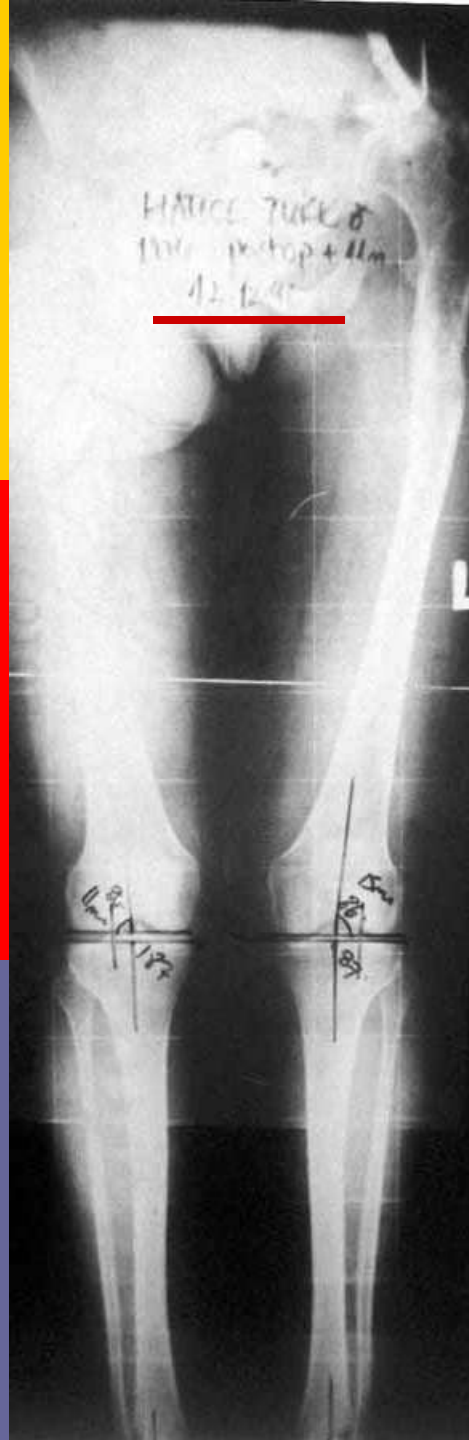


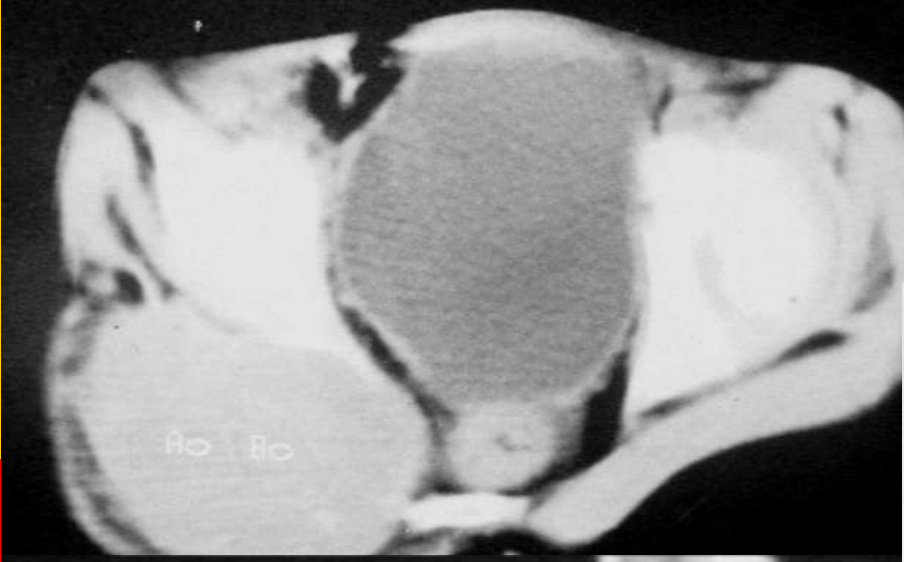
# Complications

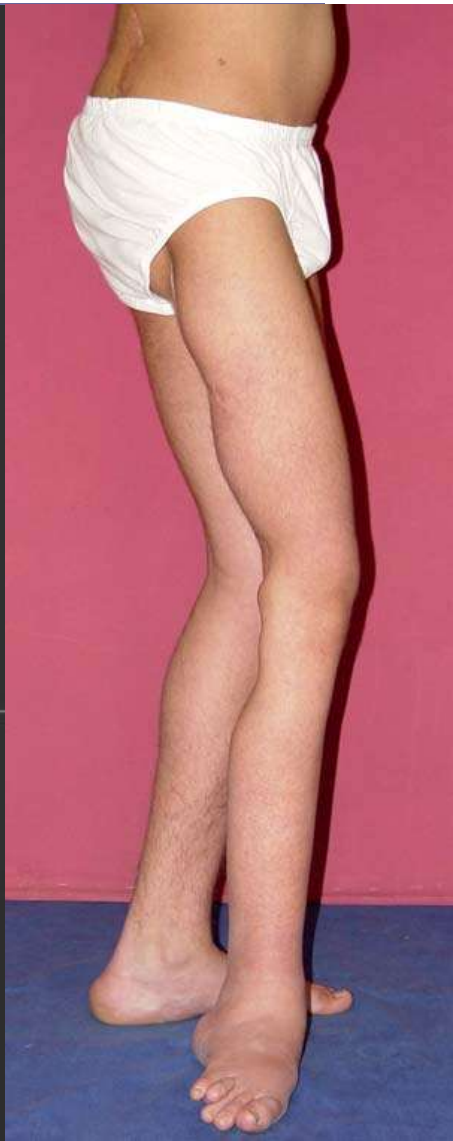
- **Physeal sacriification**
  - **Leg length discrepancy (12)**
  - 
  -

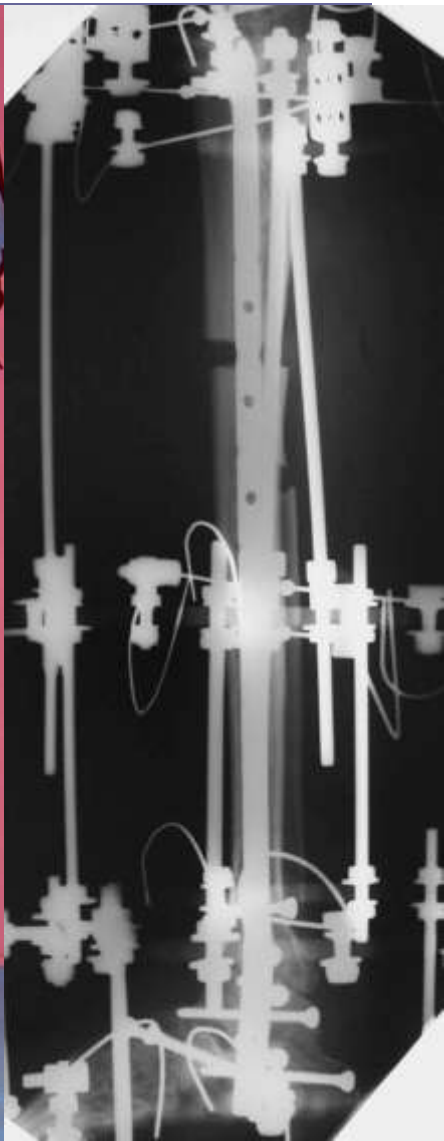
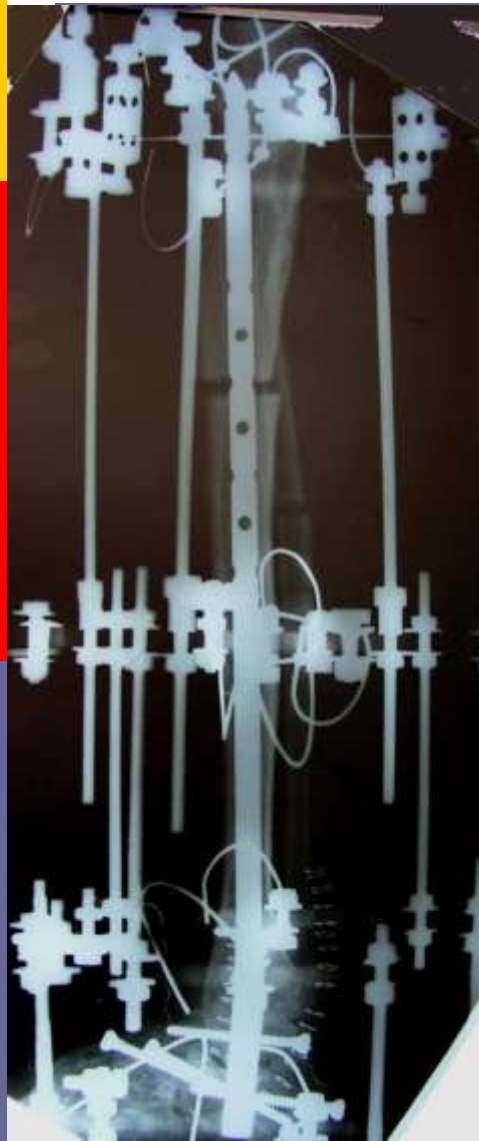


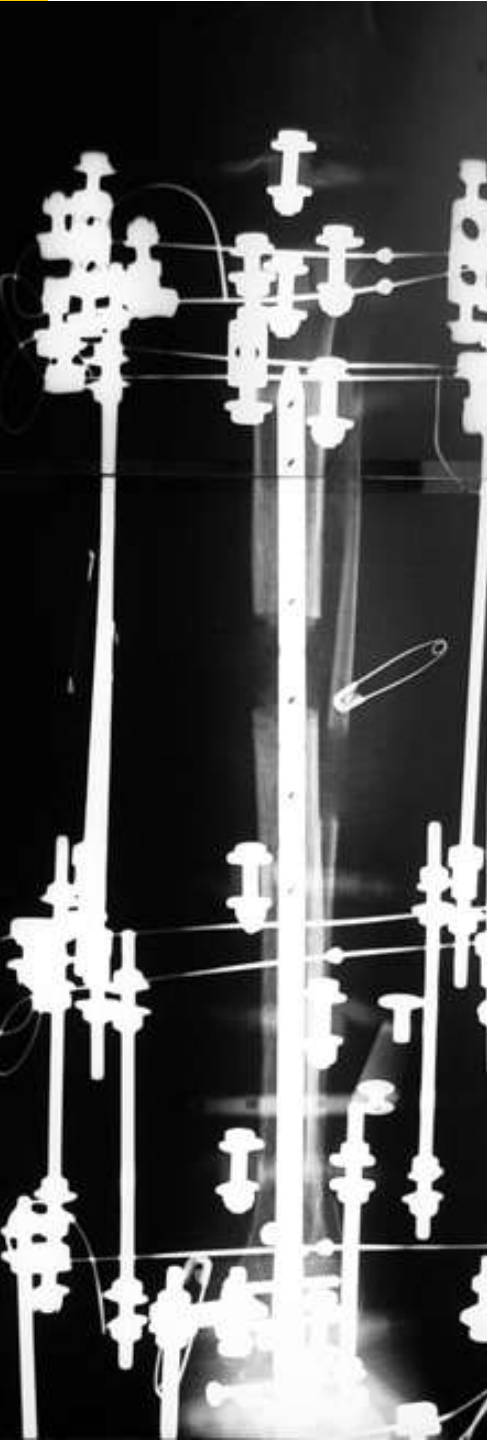












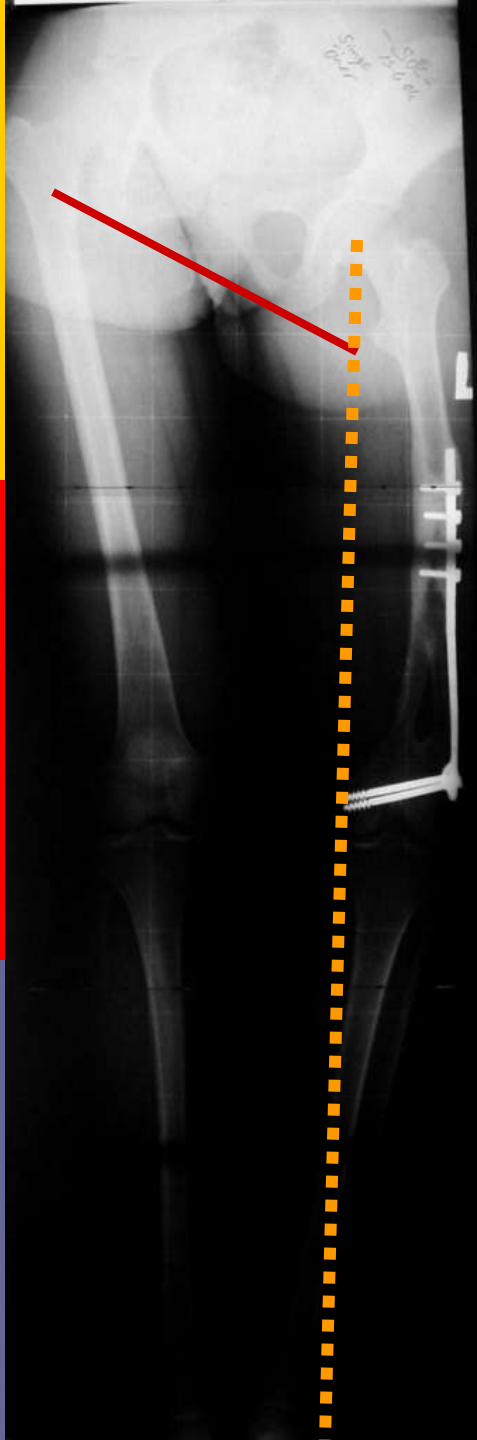
# Complications

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- **Physcal sacriphication**
  - 
  - **Deformity (11)**
  -



**+ 11 years**



**+ 10 years**



# Complications

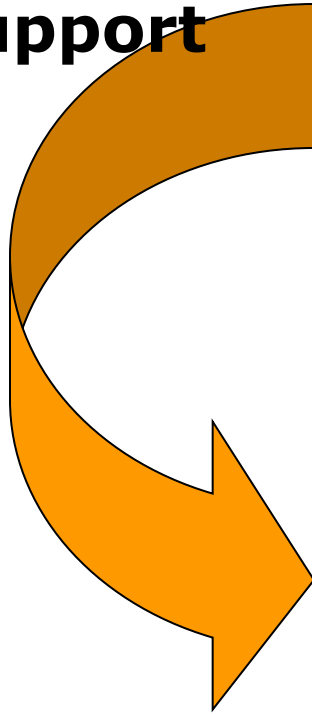
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- ❑ **Sacrificiation of (tarsal) (bones and) physes, and dynamic support (tendons)**



# Complications

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# Complications

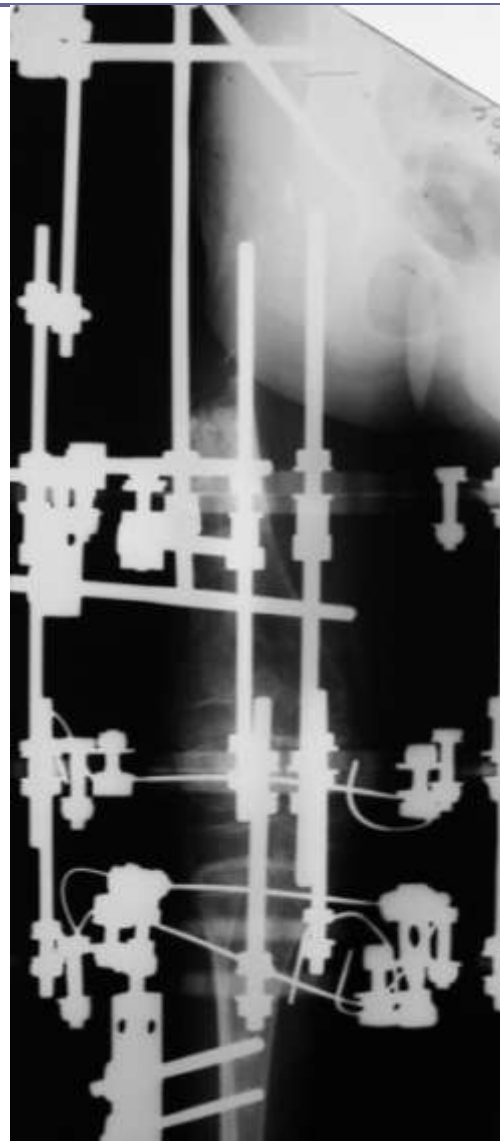
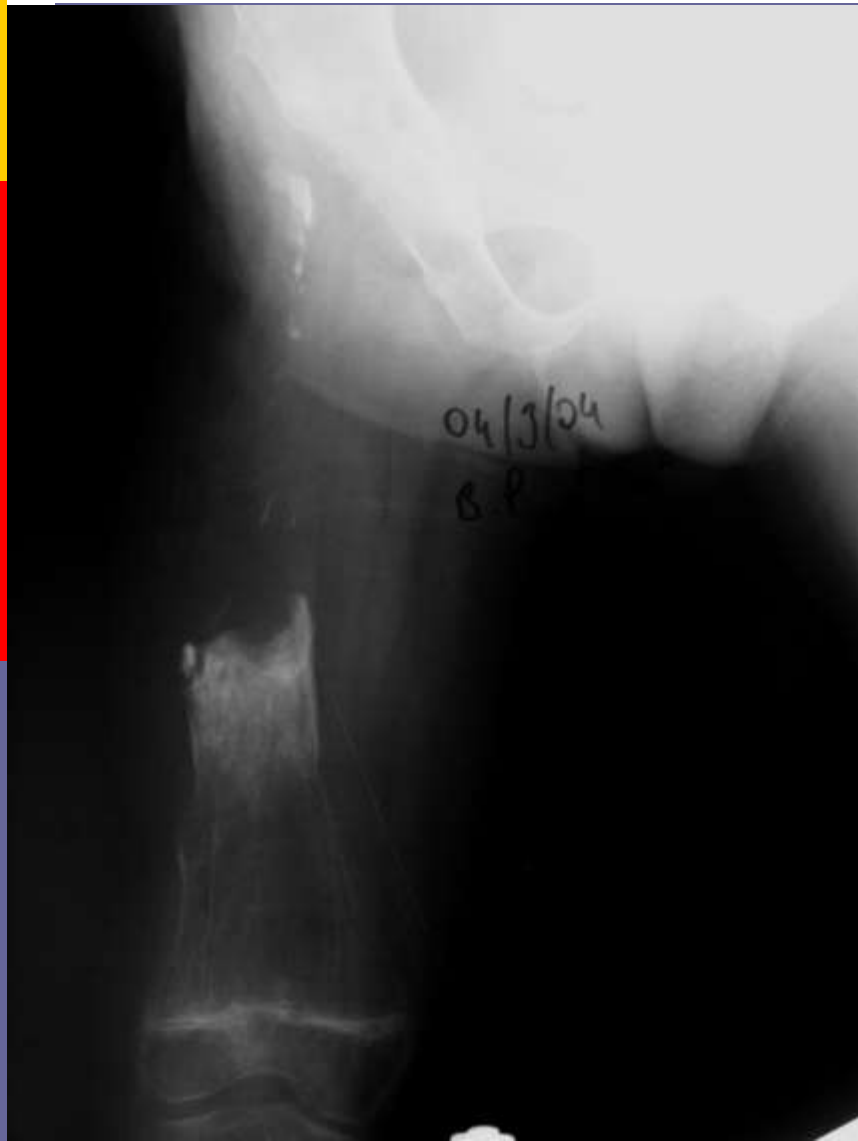
## □ Physical sacrifice

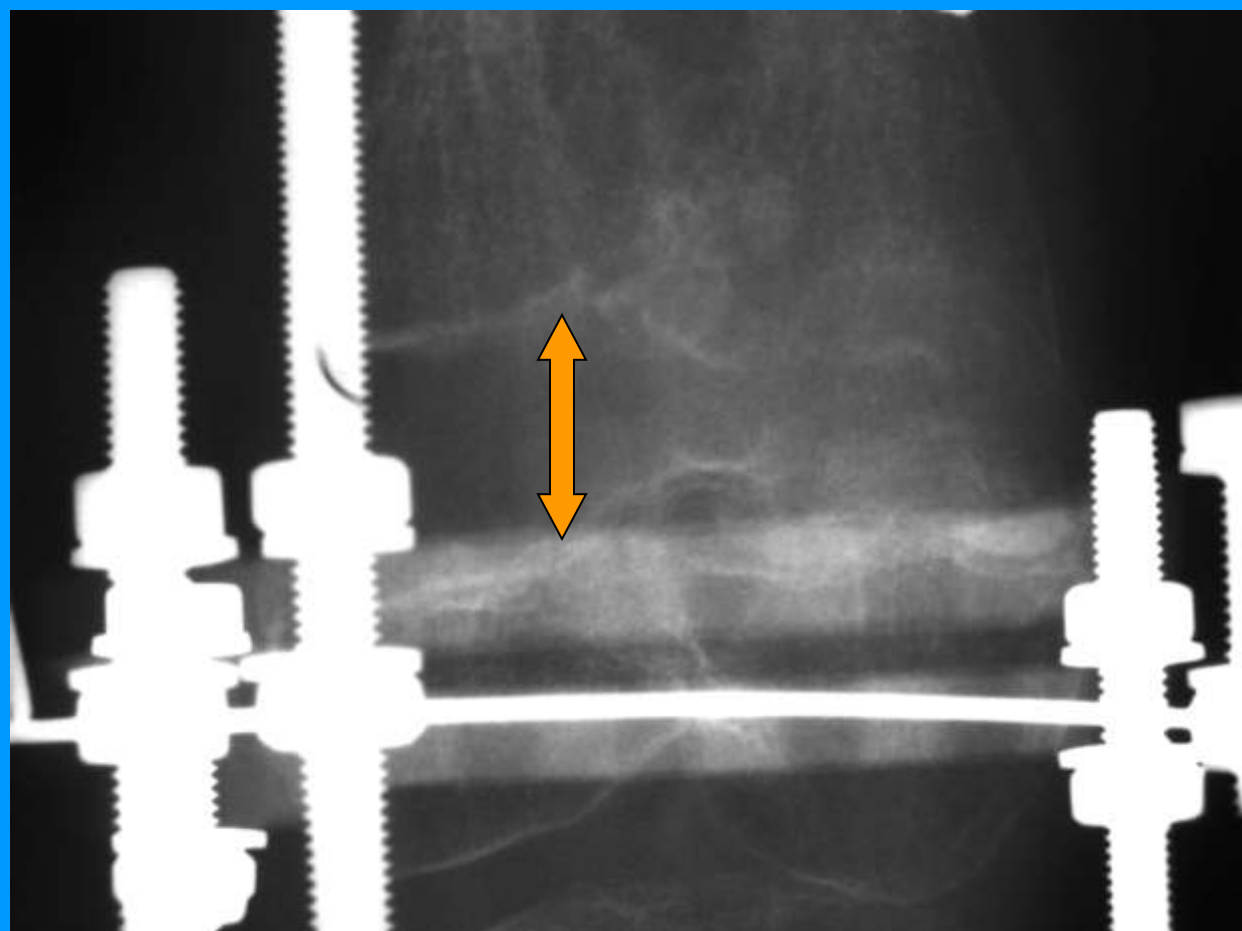
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- **LLD + Bone Loss (6)**

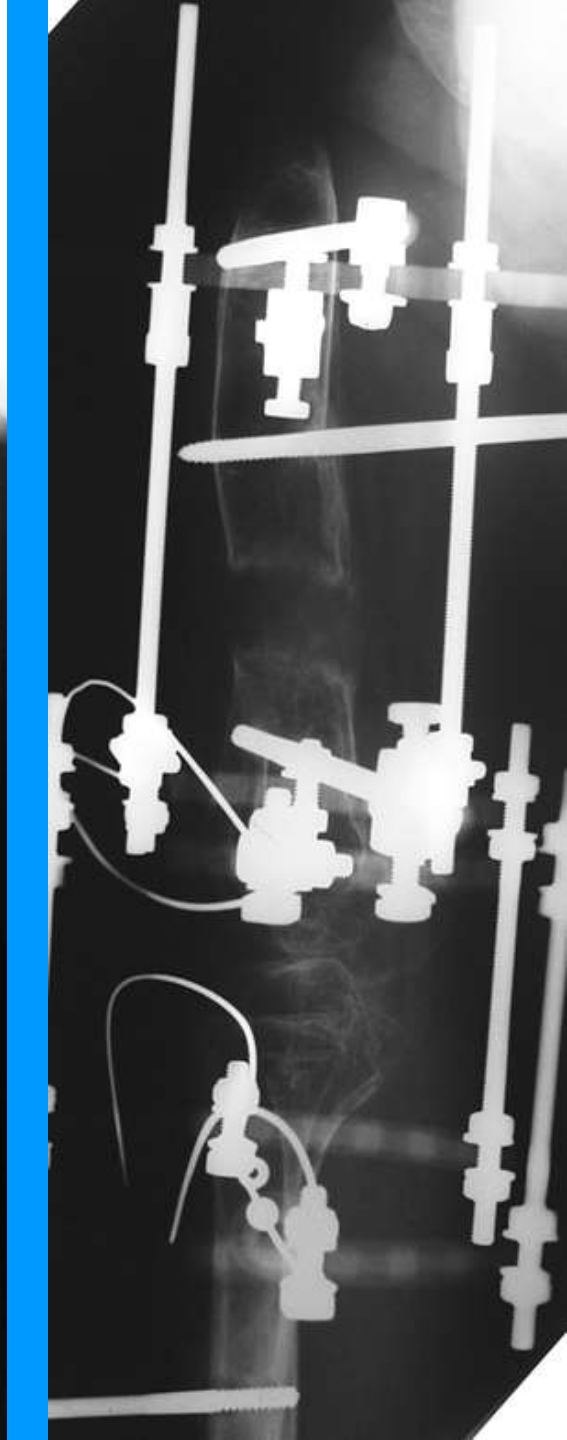
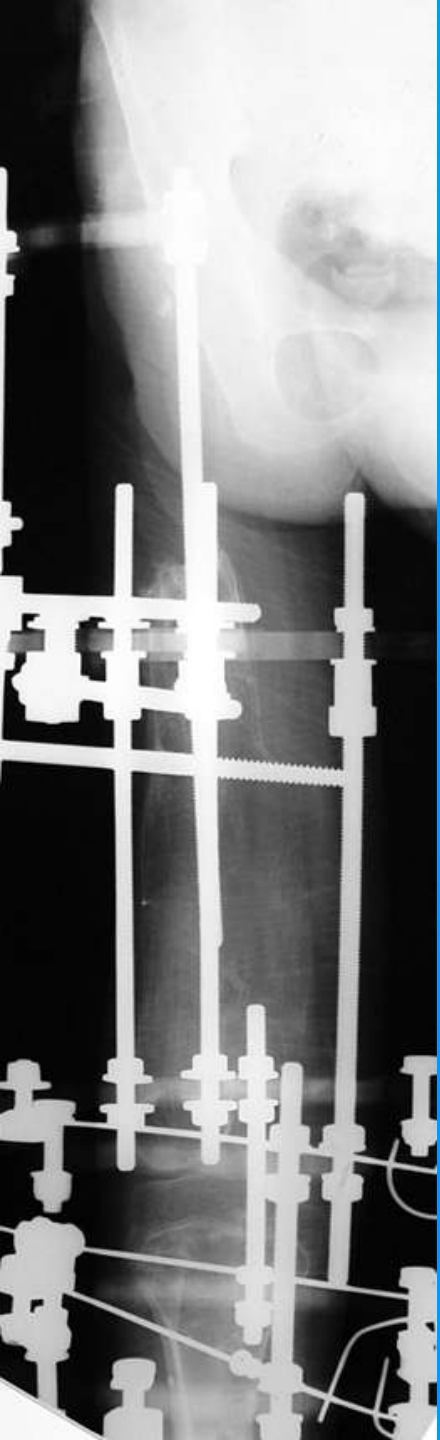


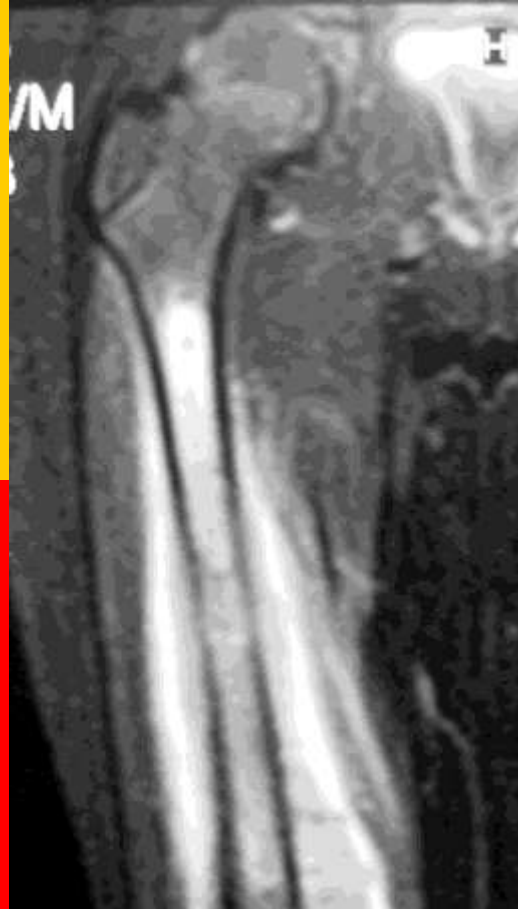


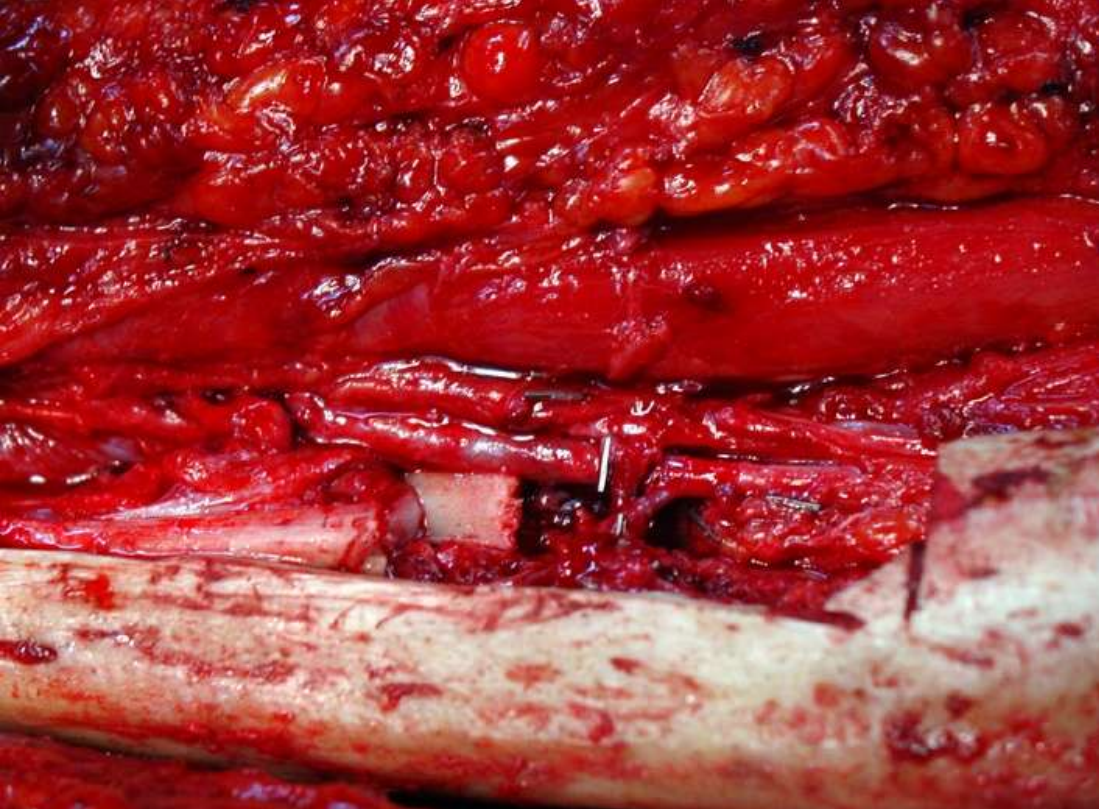
**+ 2 years**



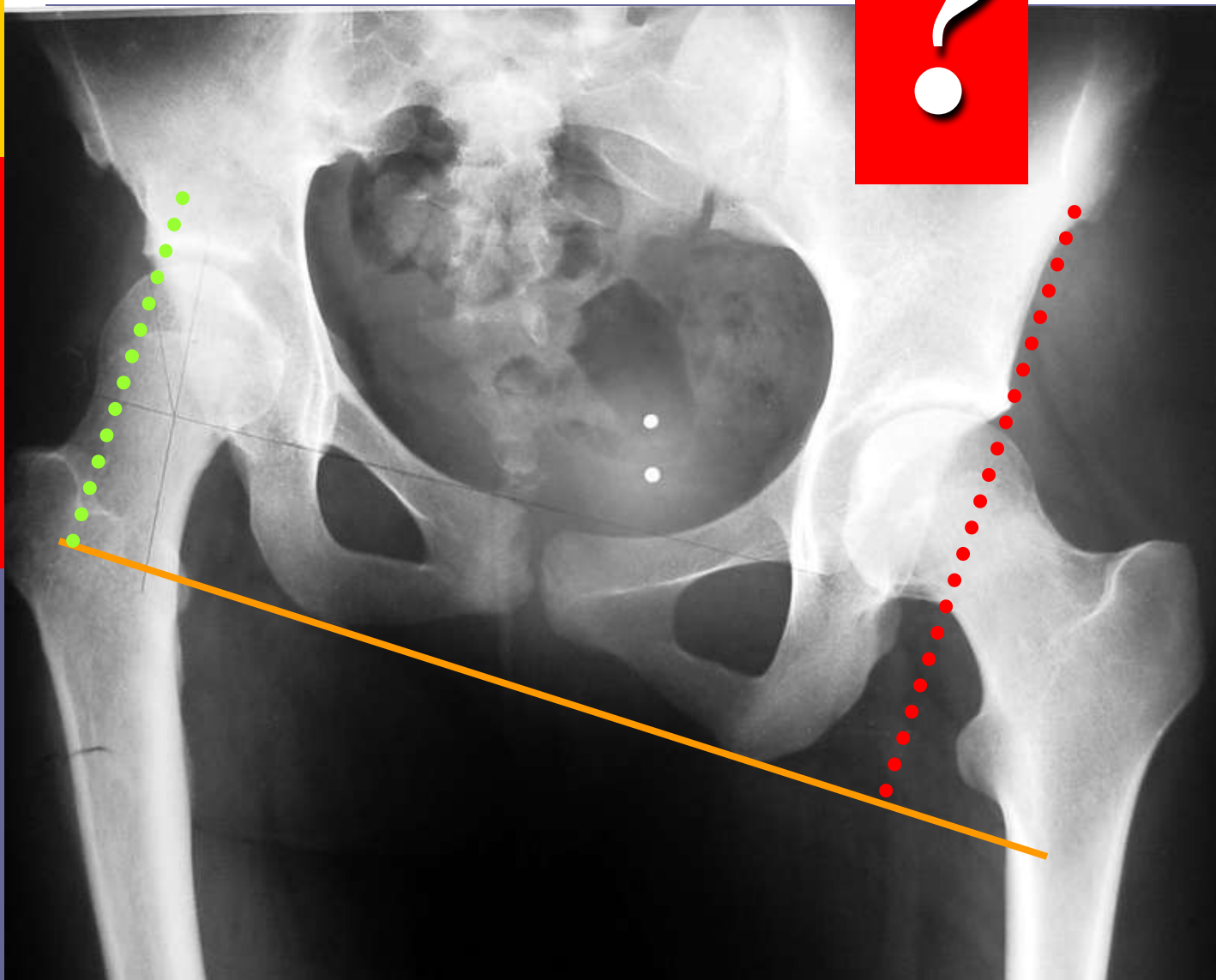








# Complications



# Conclusion

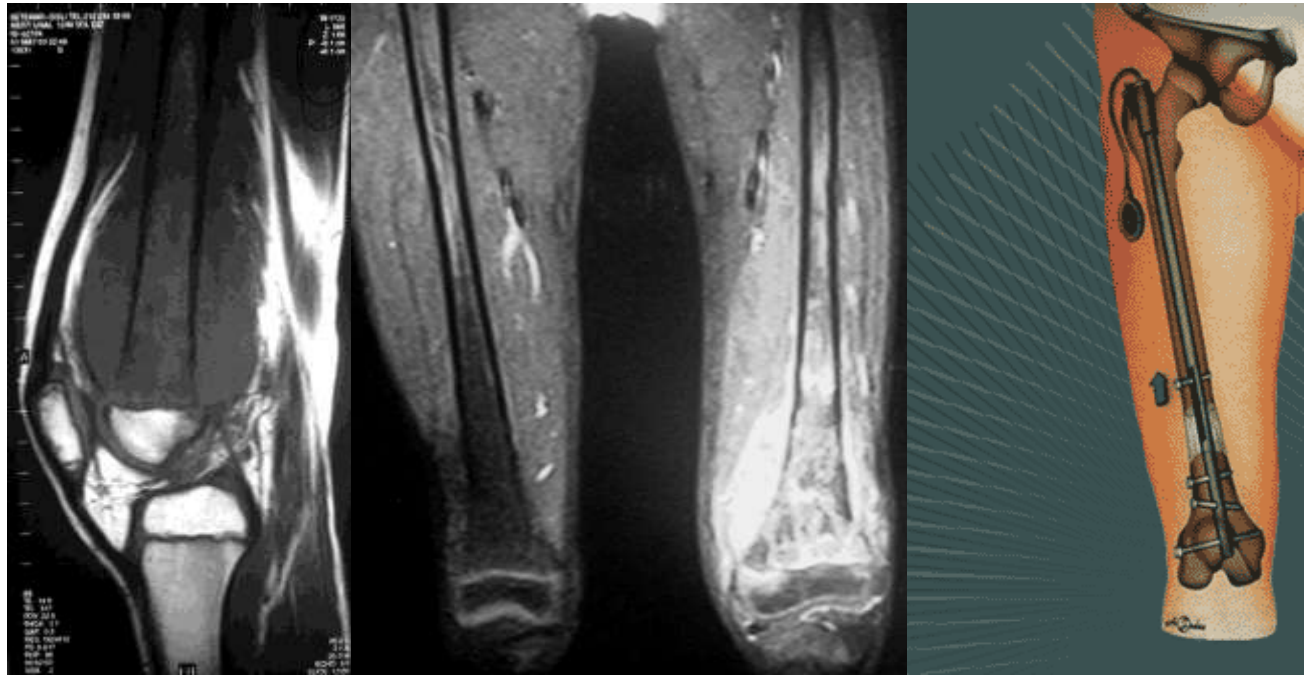
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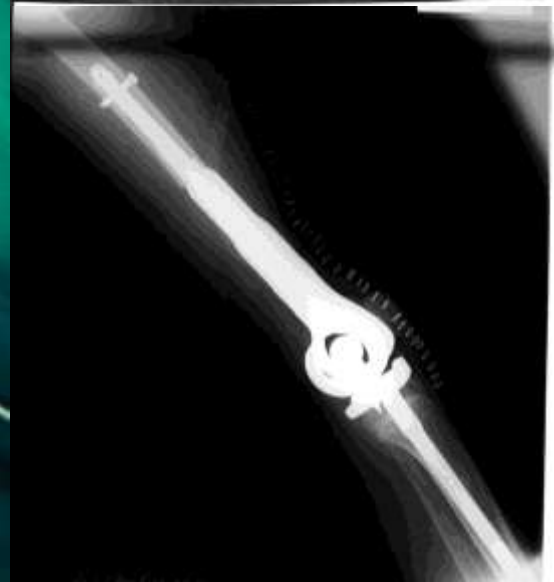
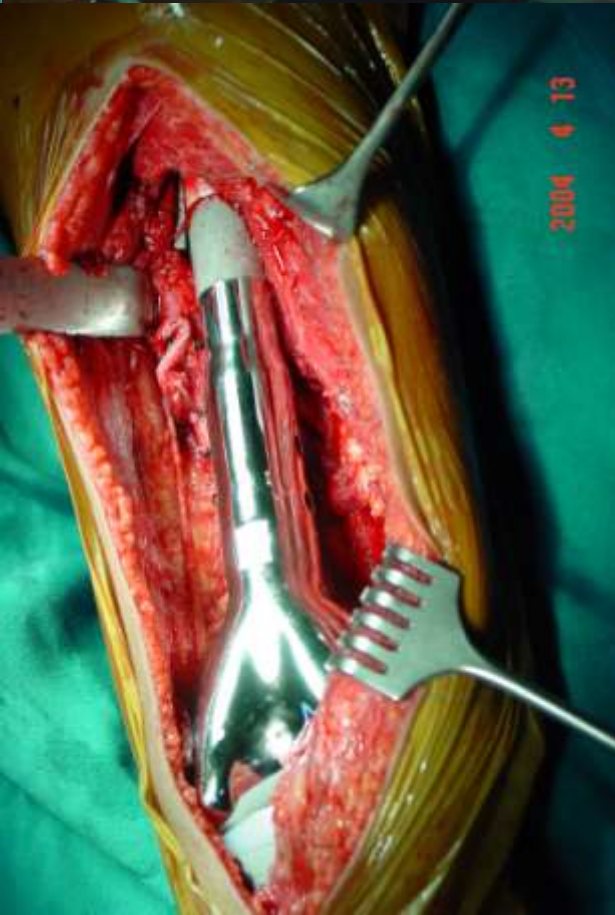
- ❑ **In the growing organism, resections sacrificing epiphyses result in sequela (LLD, deformity)**
- ❑ **Primary intention should to prevent the sequela**
- ❑ **Growing prosthesis may prevent LLD, but end up with complications, too**
  - **Soft tissue problems**
  - **Mechanical failure of the prosthesis**
  - **Inadequate lengthening**
  - **Need for multiple interventions**
  - **Remaining live bone at the end of lengthening is of **inadequate length and quality** for a final endoprosthetic reconstruction**

# *Ideal Solution...*

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- **Mobile reconstruction of the joint**  
**AND**
- **Lengthening of the bone with the same implant...**







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*Thank you for your attention*