

# Leg Length Discrepancy

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# Topics

- Introduction
- Assessment
- Planning
- Intra operative measures
- Post operative discrepancies

# Introduction



# Consequences

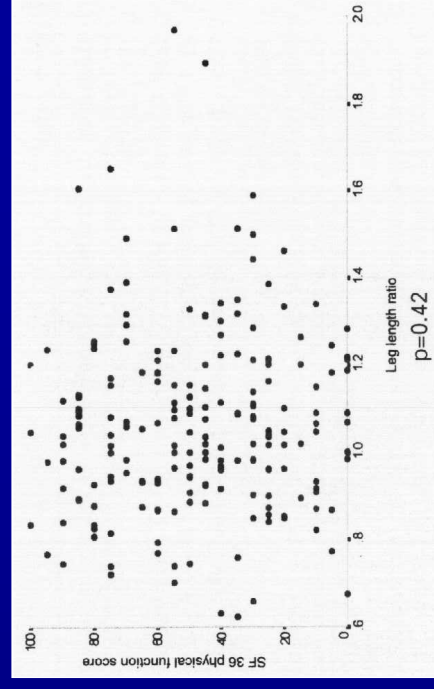
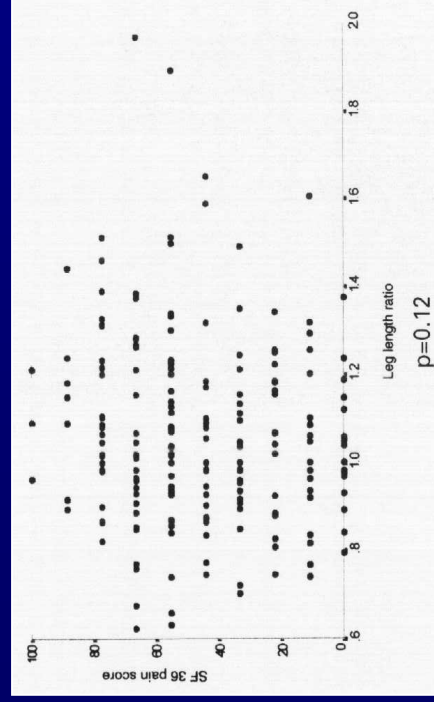
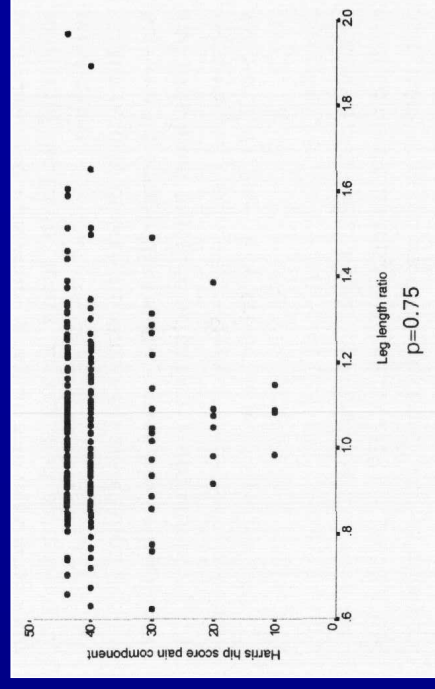
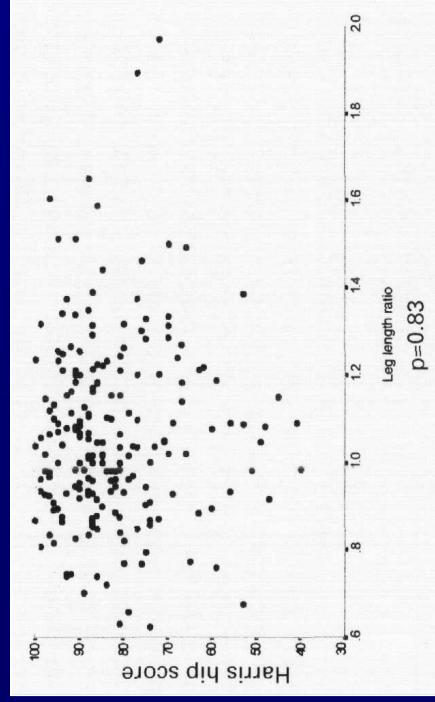
- Mechanical
  - Limp
  - Pelvic Tilt
- Physiological
  - Nerve injury

# Incidence and Extent?



- *Williamson & Reckling – 1978*
- *Love & Wright – 1983*
- *Woo & Morrey – 1982*
- *Eden, Sharkey, Alexander - 1995*

# White & Dougal. JBJS(Br) 2002



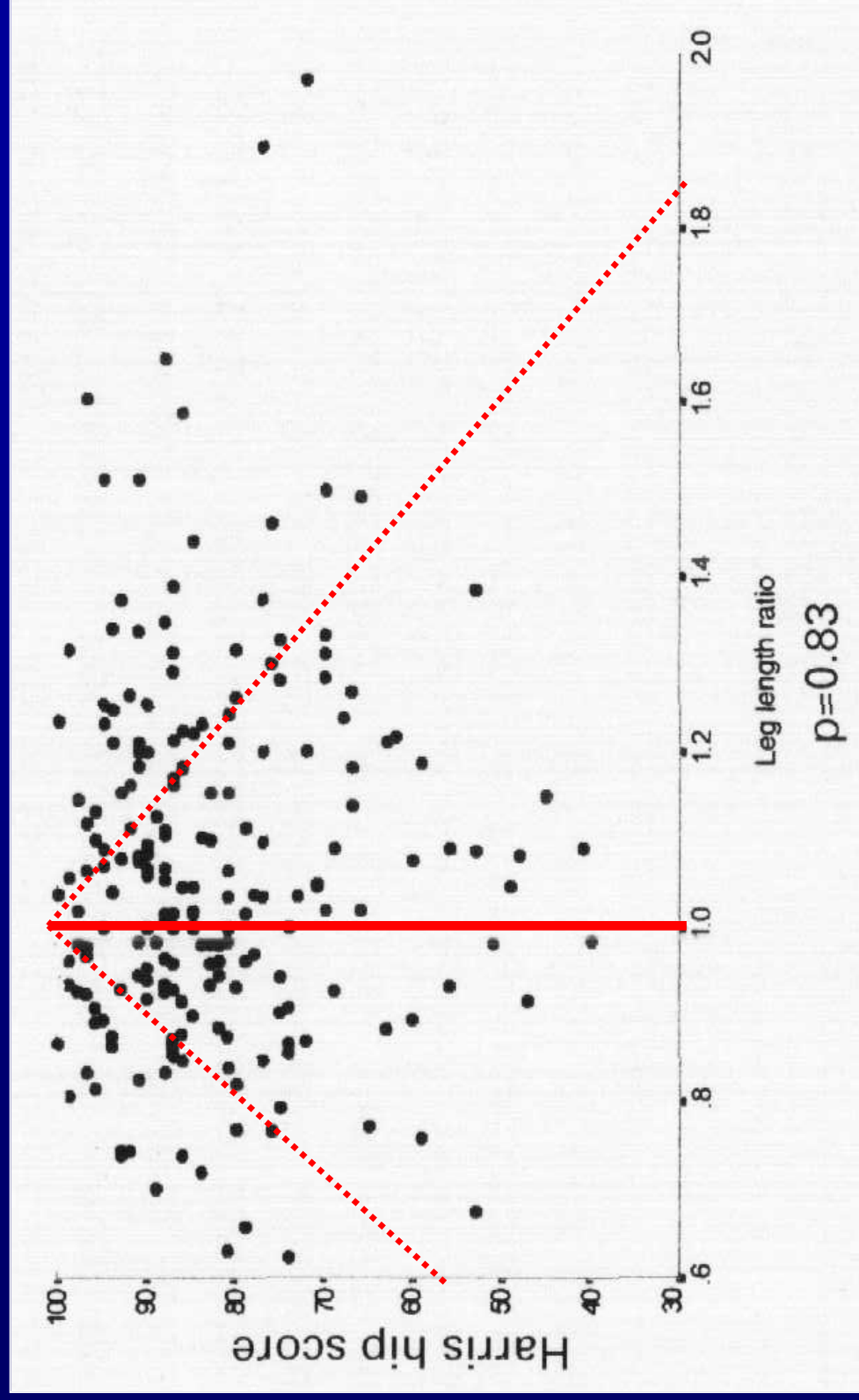
# ***Konvyes & Bannister. JBJS(Br) 2005***

- 90 patients (75 at 1 year)
  - 56 (62%) long
  - 5 (6%) equal
  - 29 (32%) short
- Mean lengthening 3.5mm

# ***Konvyes & Bannister. JBJS(Br) 2005***

- Perception: (P<0.05)
  - 43% vs 21% (3 months)
  - 33% vs 17% (1 year)
- Oxford Hip Score: (P<0.01)
  - 24 vs 18 (3 months)
  - 20 vs 15 (1 year)

# *White & Dougal. JBJS(Br) 2002*

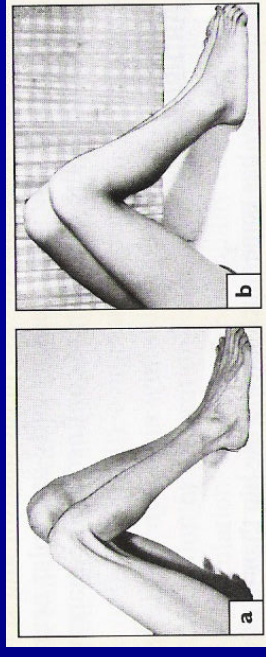


# Assessment

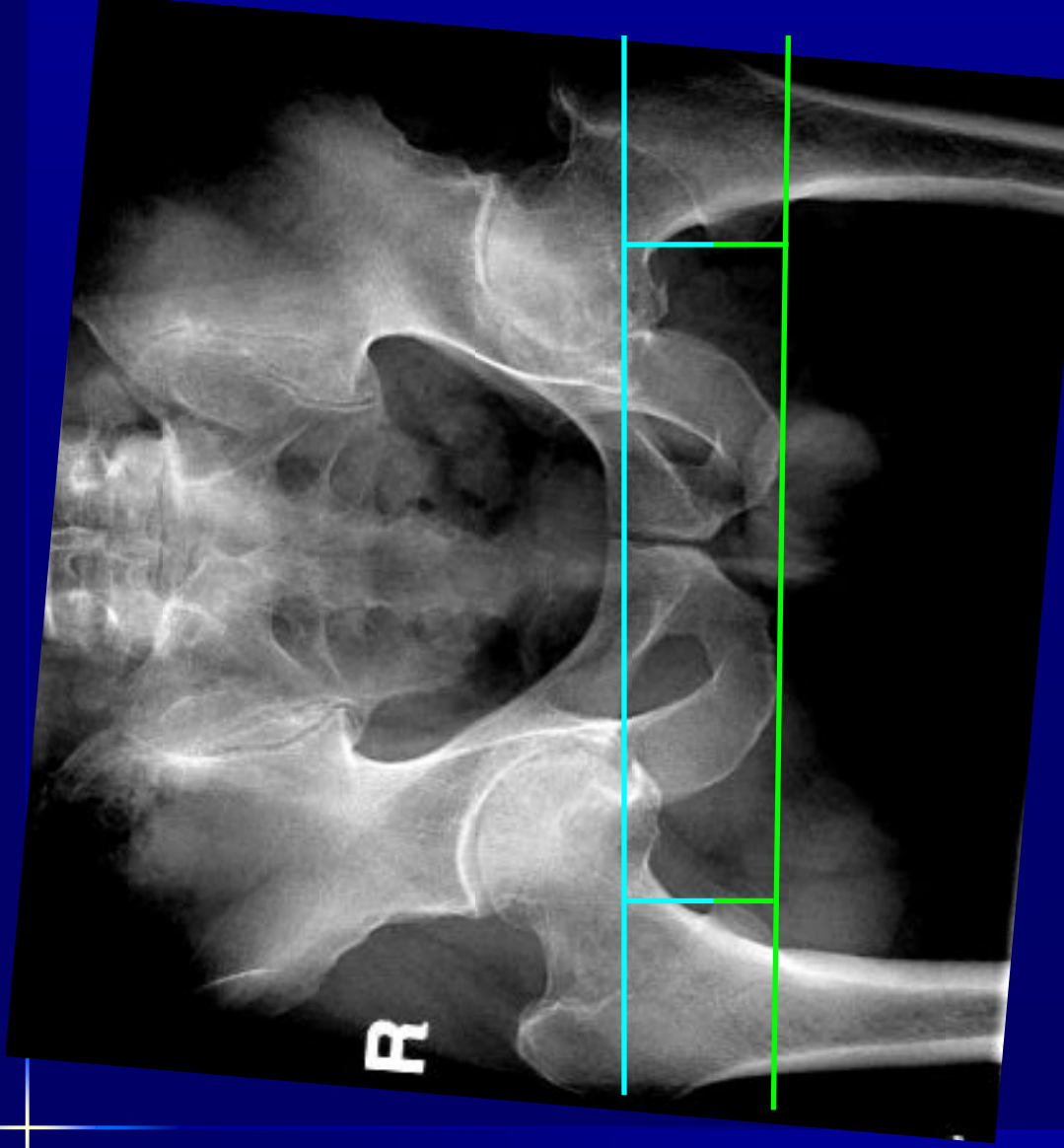
- Clinically
- Radiologically

# Clinical examination

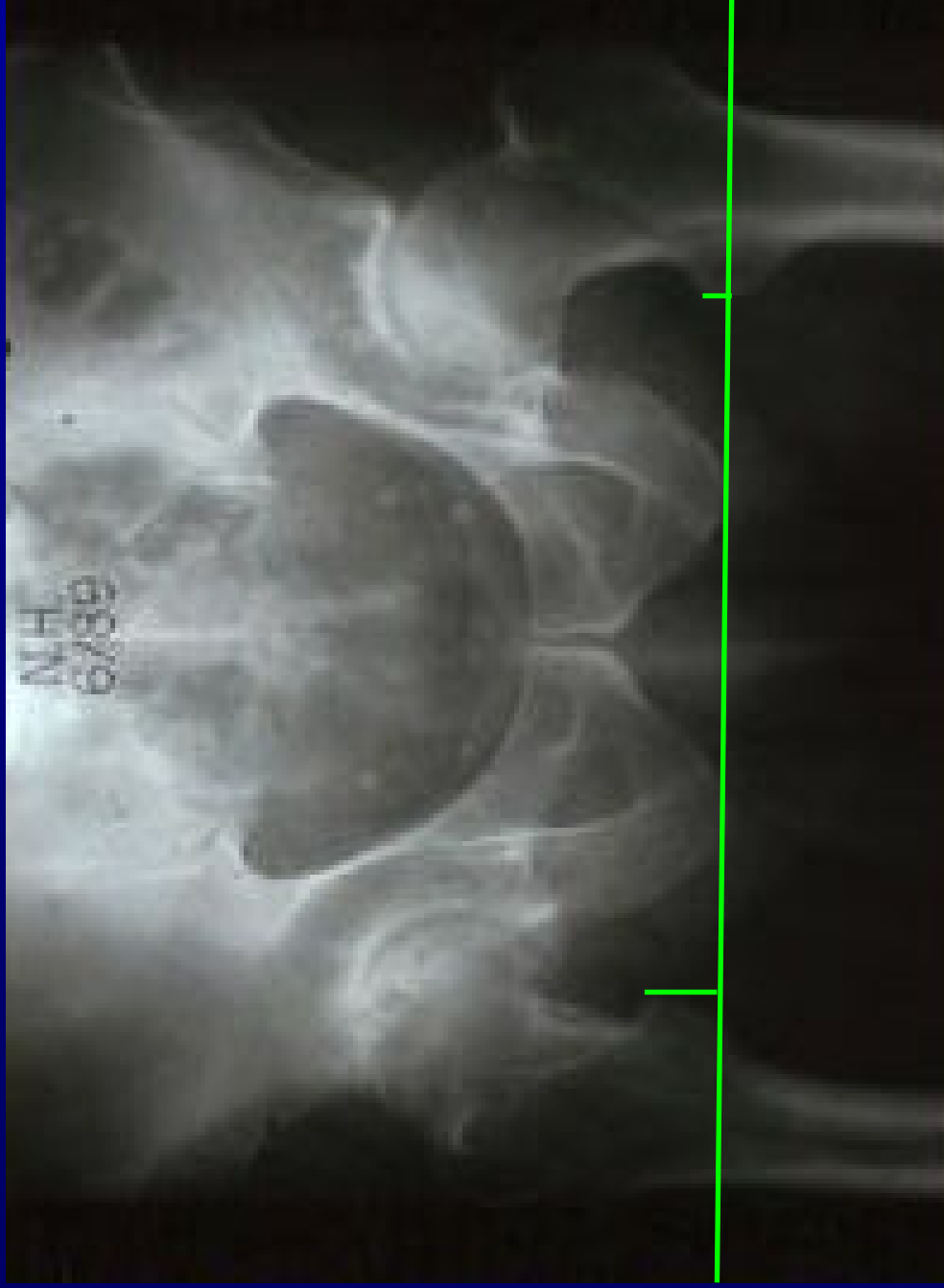
- True LLD
- Blocks
- Apparent LLD



# Radiological Assessment

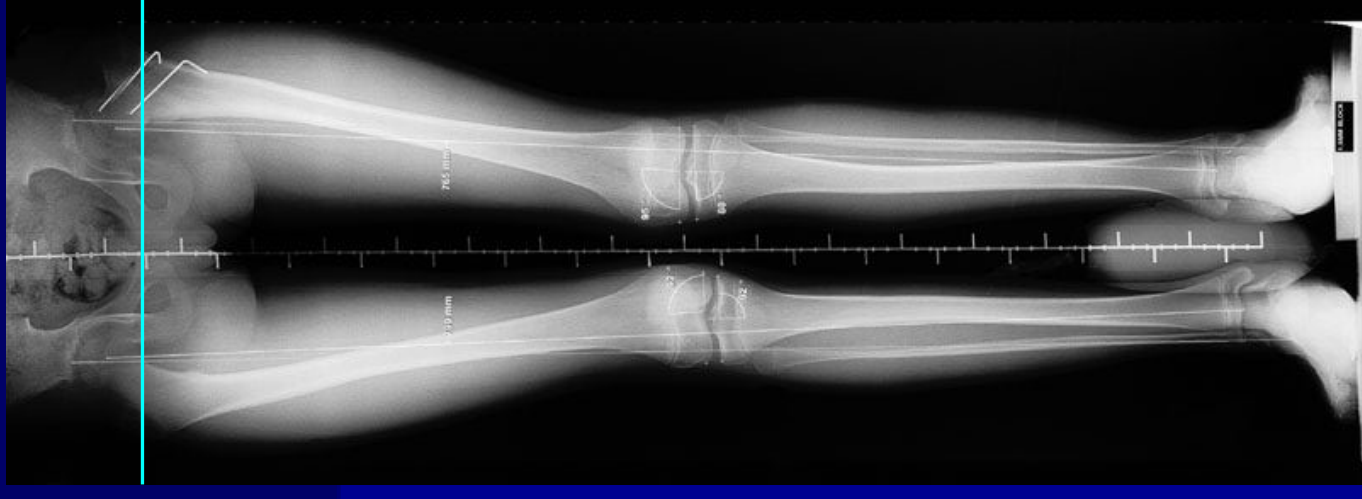


# Radiological assessment



# Long Leg Views

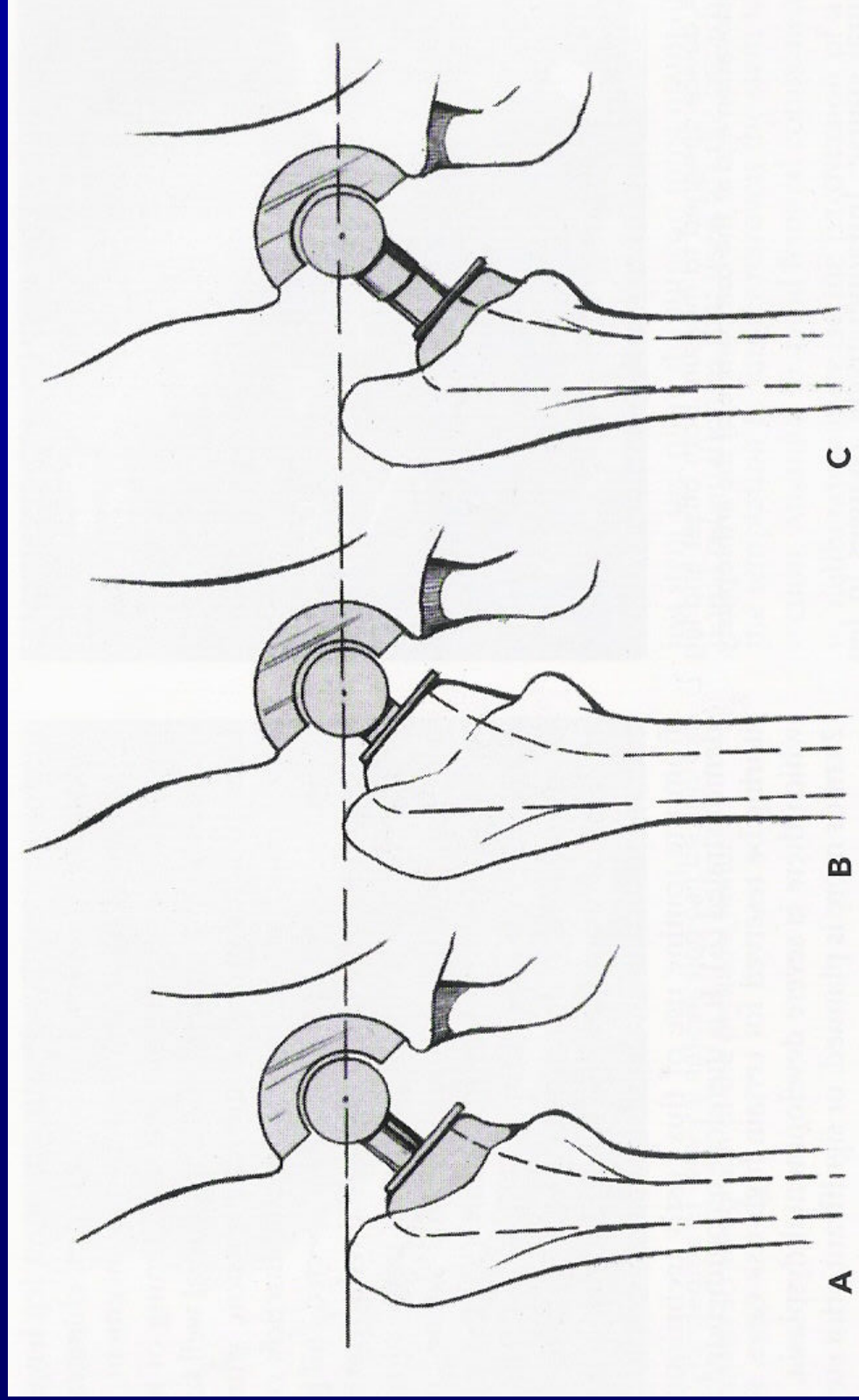
- Useful
  - Distal deformity
  - Pelvic Osteotomy



# Surgical Planning

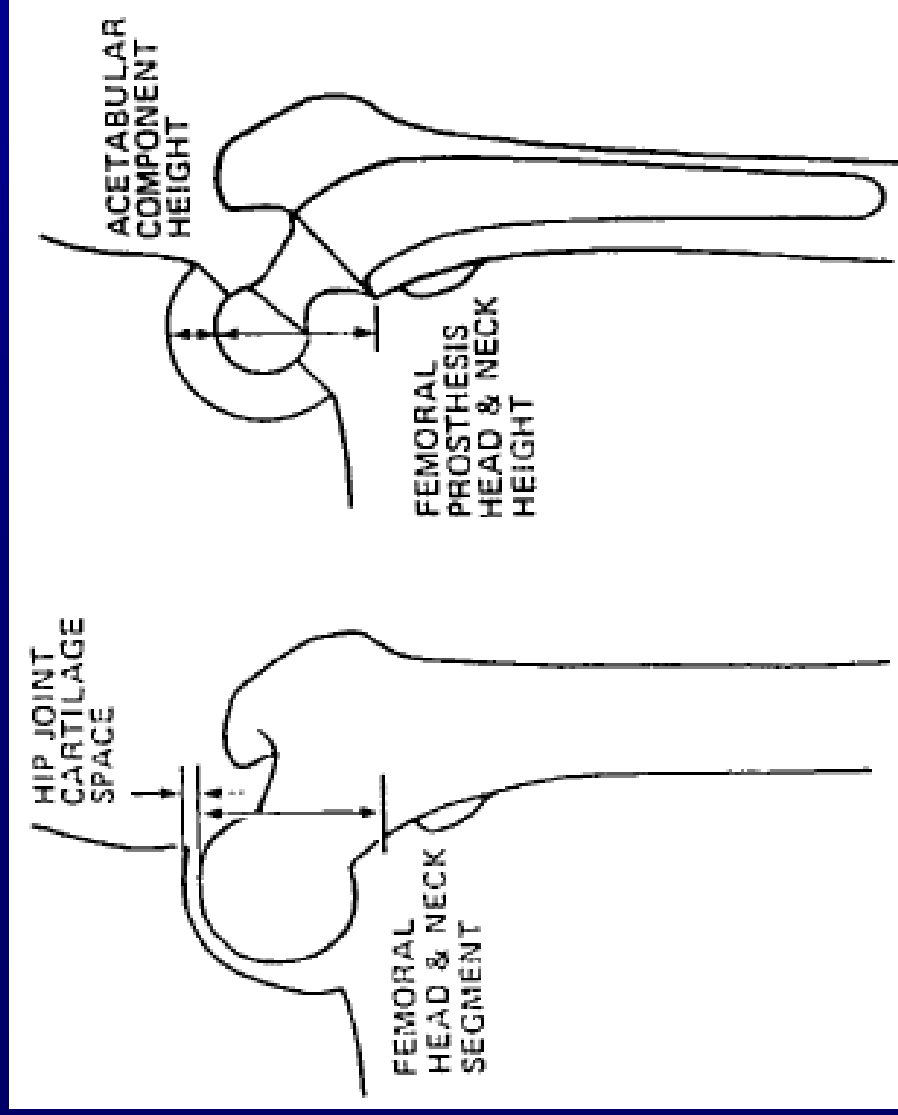
- Large offset and coxa vara
- Contracture (hip or knee)
- Long leg arthritis
- Extra-articular leg length discrepancy
  - Pelvic obliquity
  - Spinal deformity
  - Femoral #
- High hip centre

# Surgical Planning

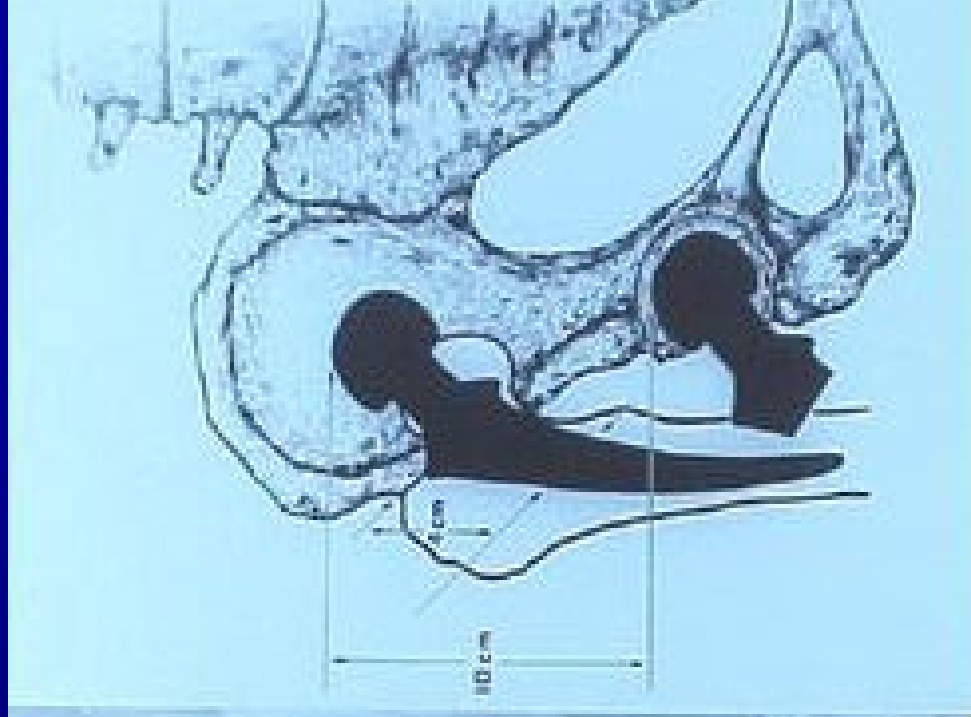


# Surgical Planning

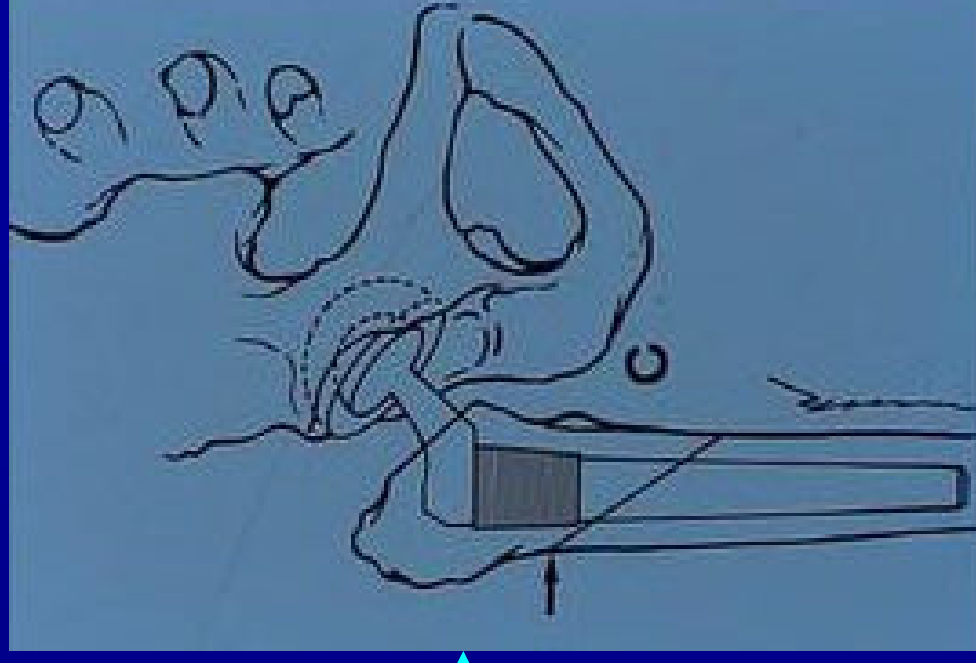
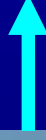
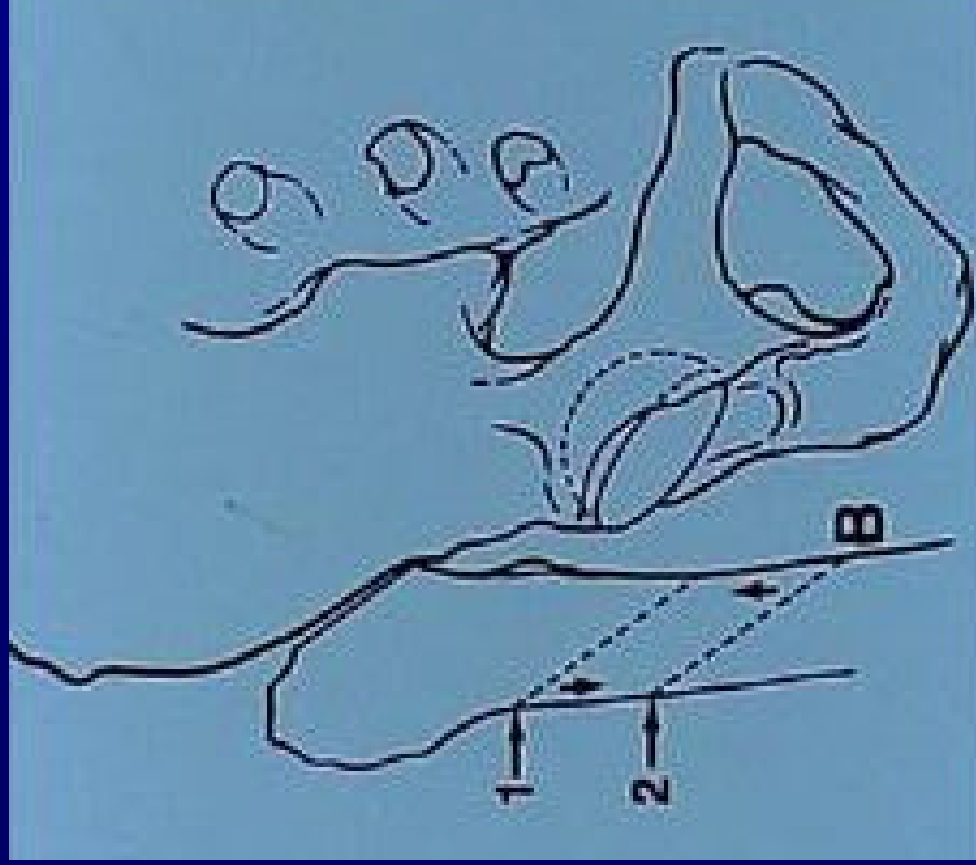
- 97% < 1cm
- 86% < 6mm
- Mean = 1mm



# Surgical Planning



# Surgical Planning



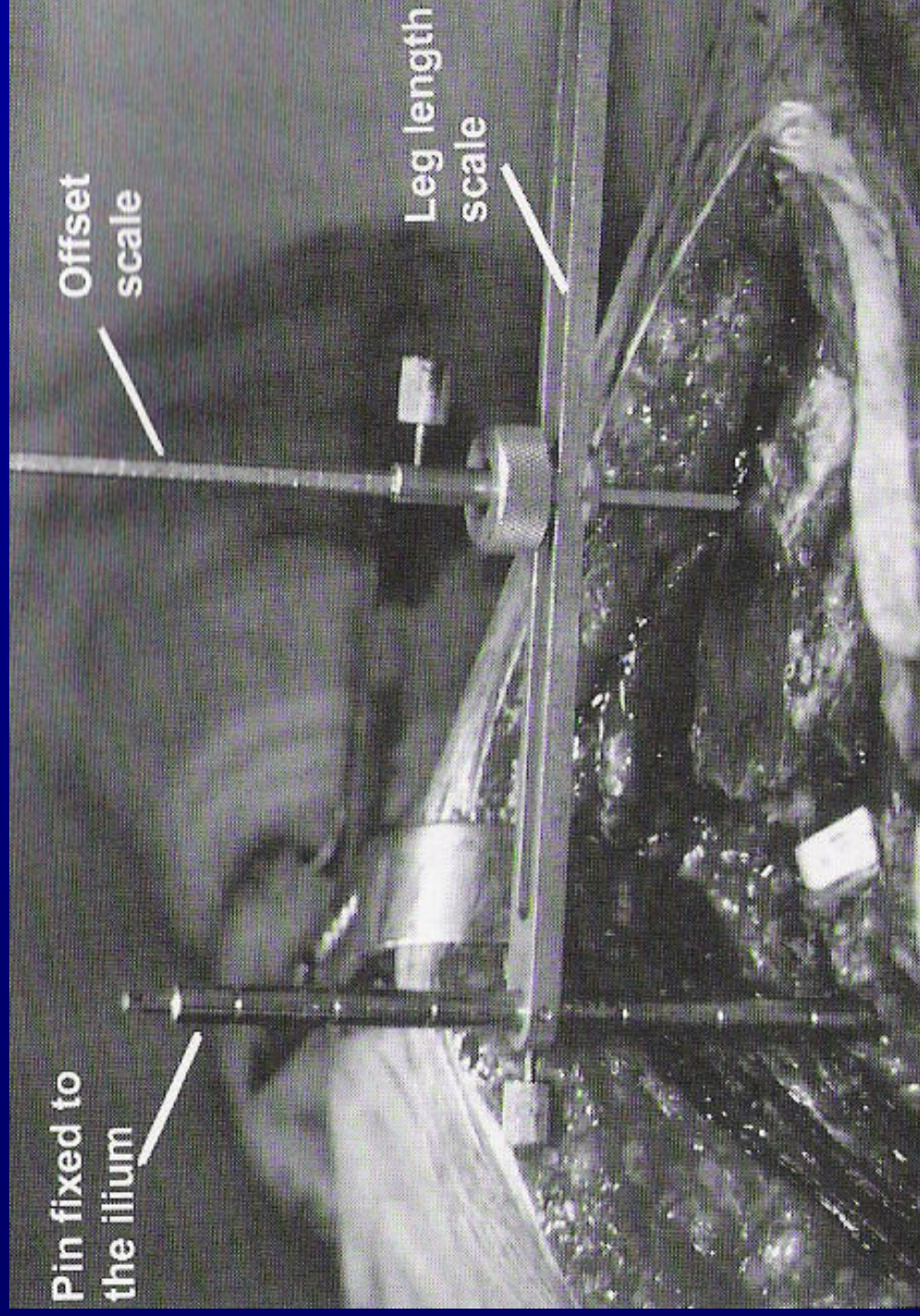
# Intra-operative Measures



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- *Jasty, Webster, Harris. CORR 1996*
- *Ranawat et al. J Arthroplasty 2001*
- *Murphy & Ecker. CORR 2007*

# Intra-operative Measures

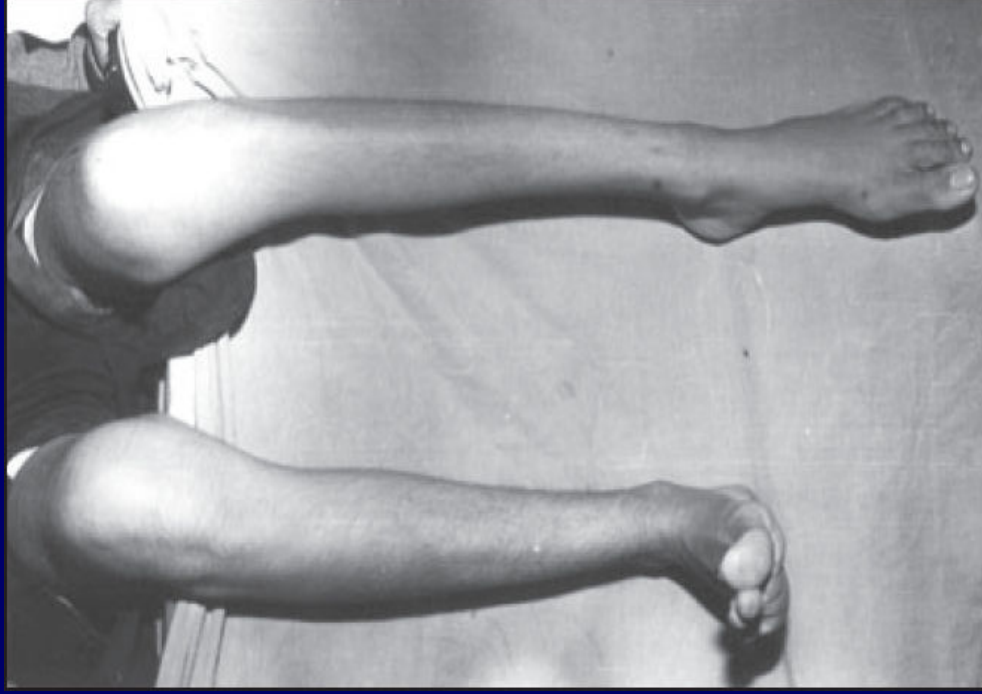
- Sciatic nerve
- Evoked potential monitoring

# Post op discrepancies

- Check length
  - Clinically
  - Radiologically
- Inform Patient
- Shoe raise
- False perception



# Post op Discrepancies



# Post op Discrepancies

- Revision ?
- *Pritchett. CORR 2004*
  - 19 long and painful patients
  - 17 revisions to shorten
  - 9/17 resolved pain
  - 7/11 improved motor function

# Summary

- Leg length discrepancy
- Assessment
- Surgical Planning
- Intra operative measures
- Post operative discrepancies

**Thank you**

