

Femoral head fractures

Balaji Purushothaman

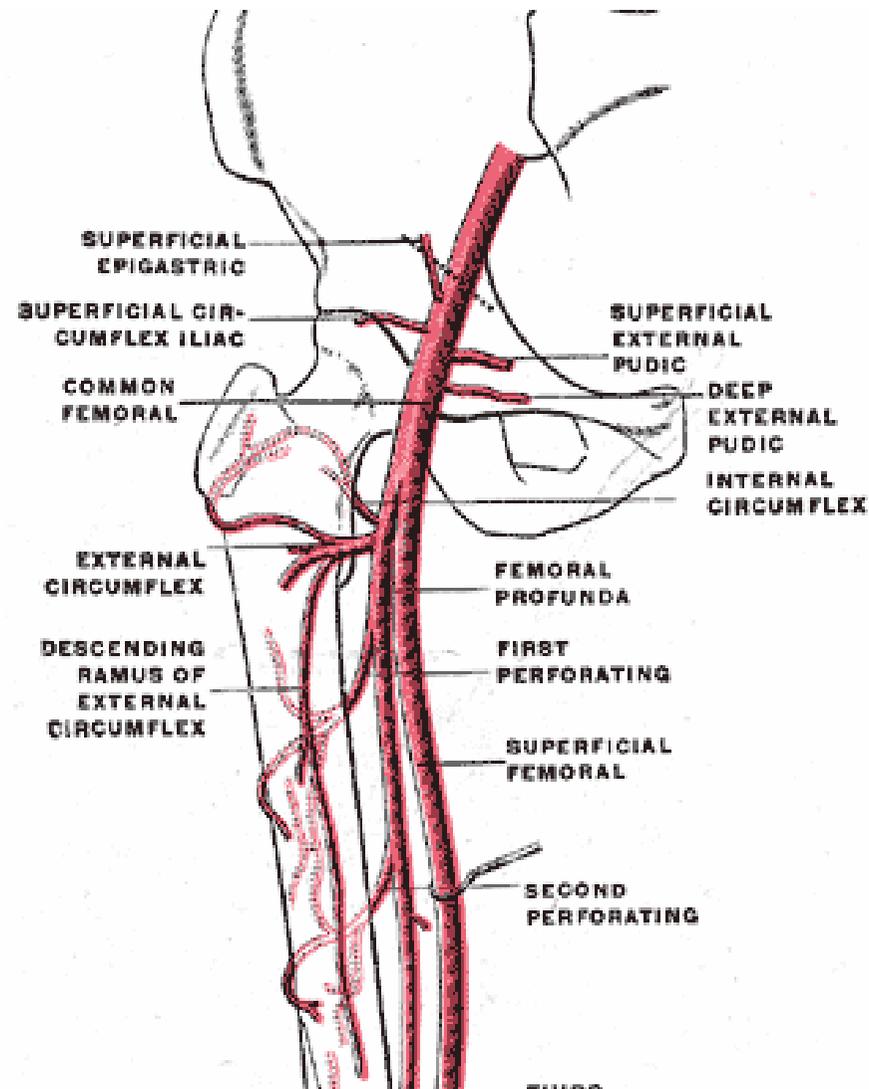
Sunderland Royal Hospital

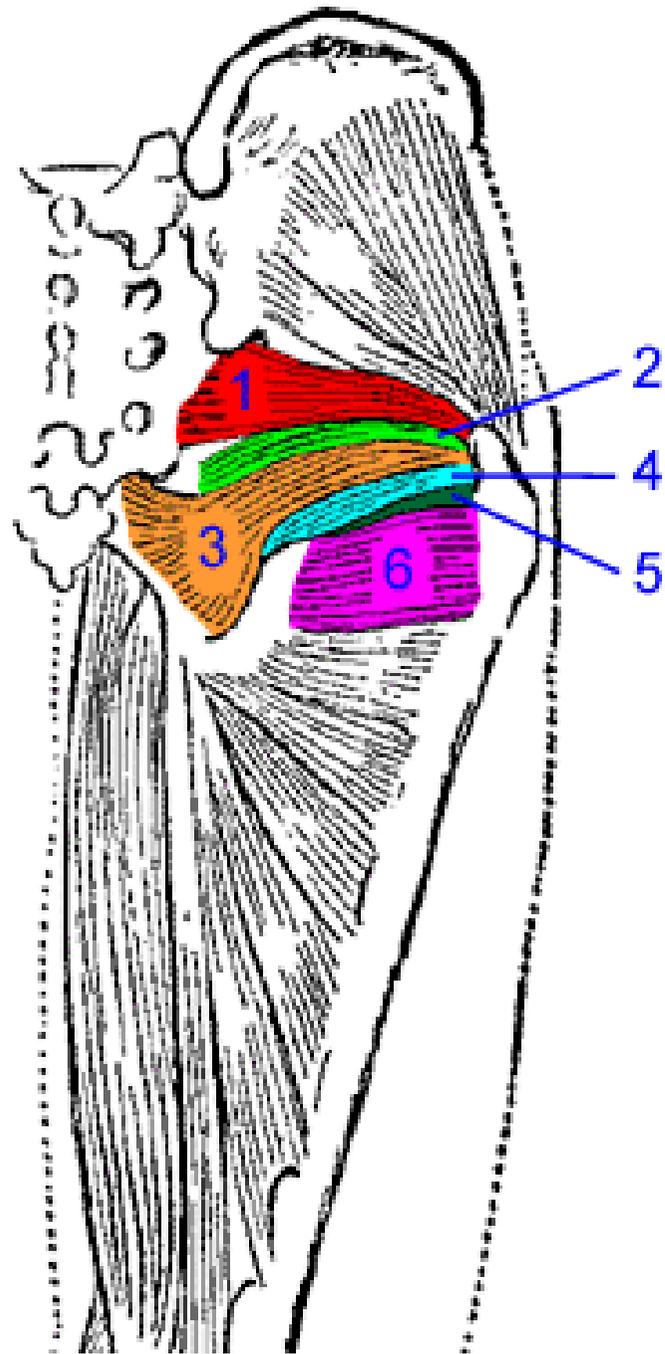
- Introduction
- Anatomy
- Mechanism of Injury
- Classification
- Diagnosis (Imaging)
- Management
- Complications
- Outcomes

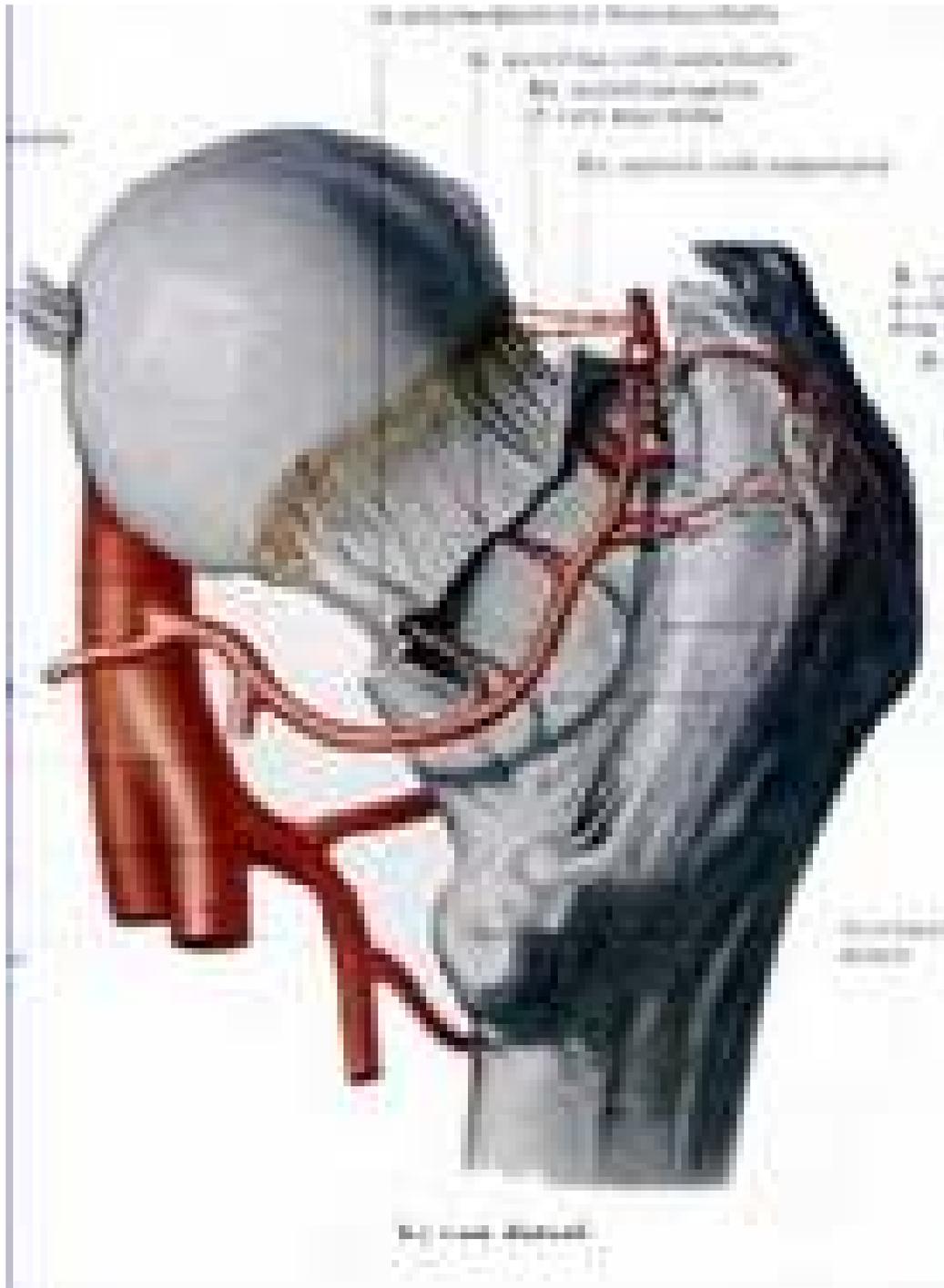
Introduction

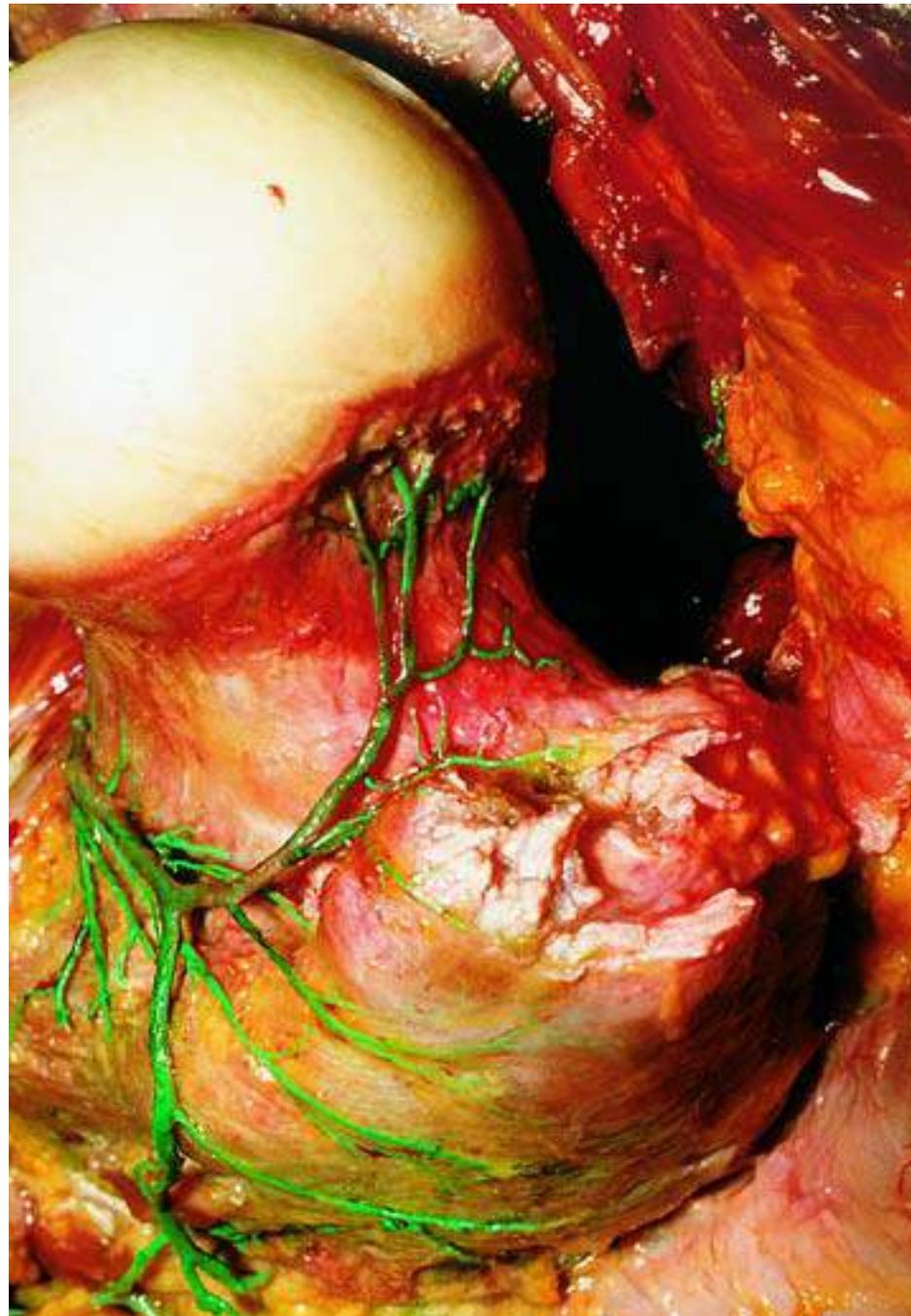
- Birkett 1869
- 5-15% of posterior hip dislocations
- > 50% anterior dislocations
- ↑ incidence (MVA, improved resus)

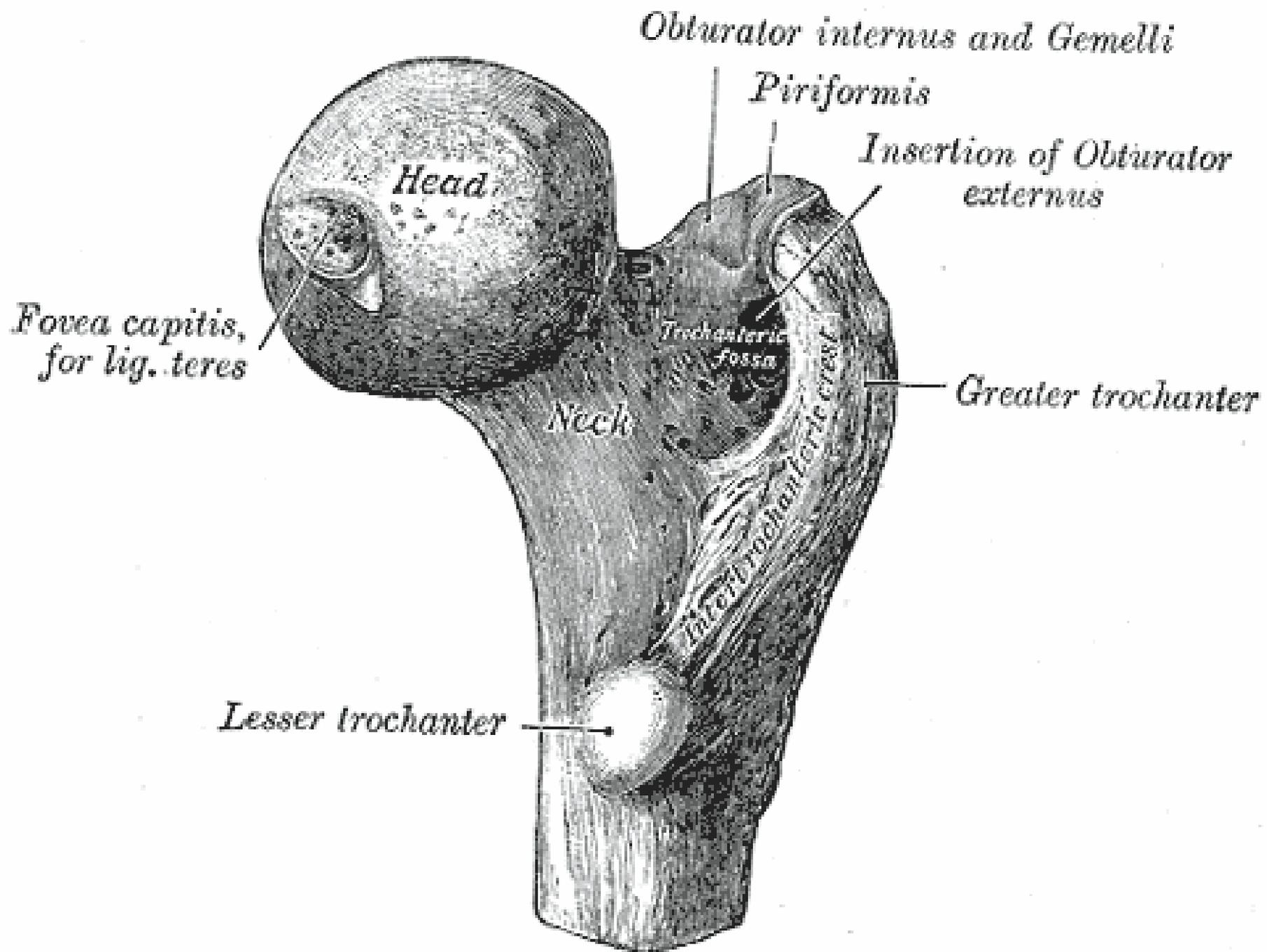
Anatomy













Mechanism

MVA

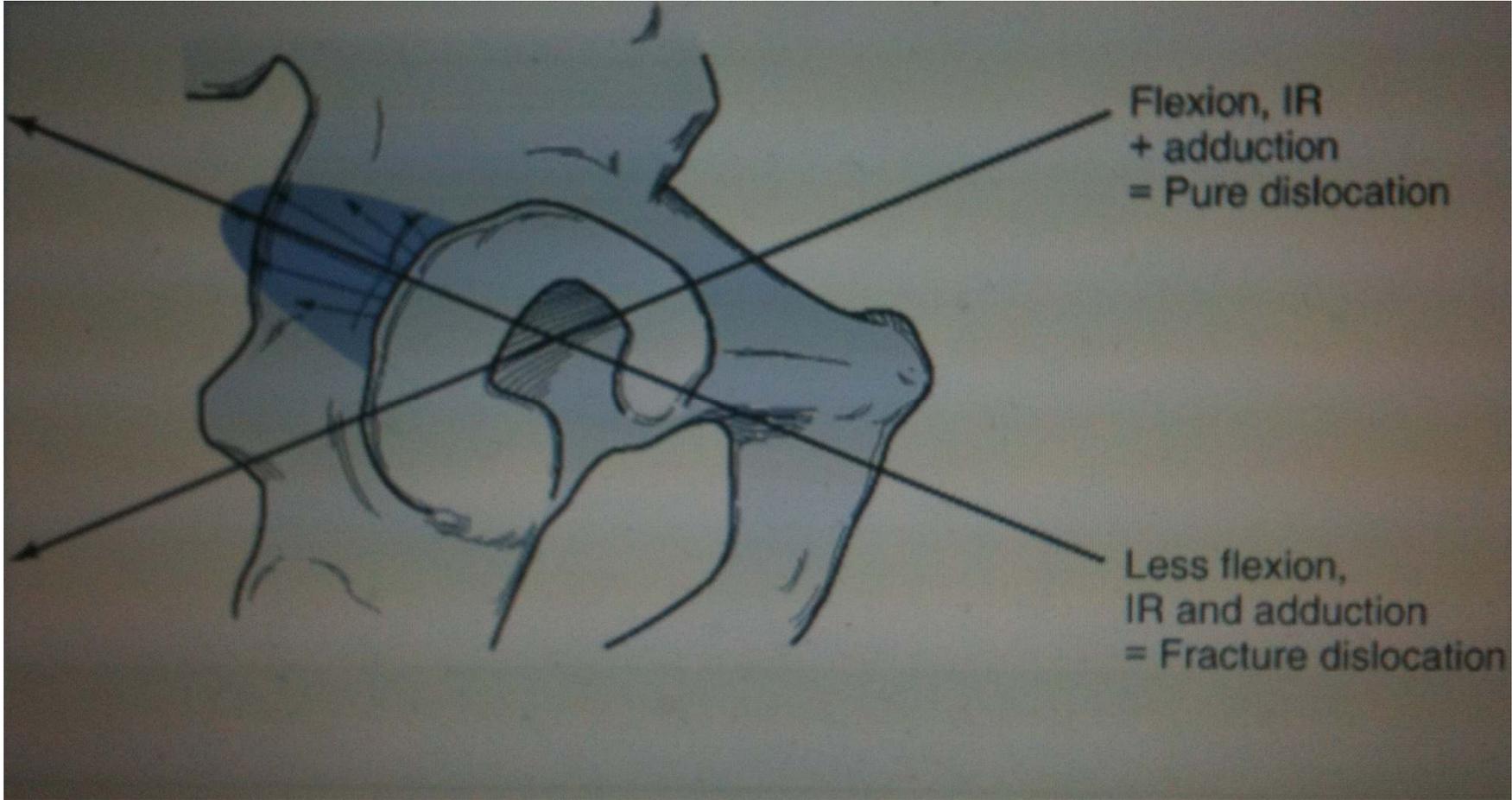
Falls

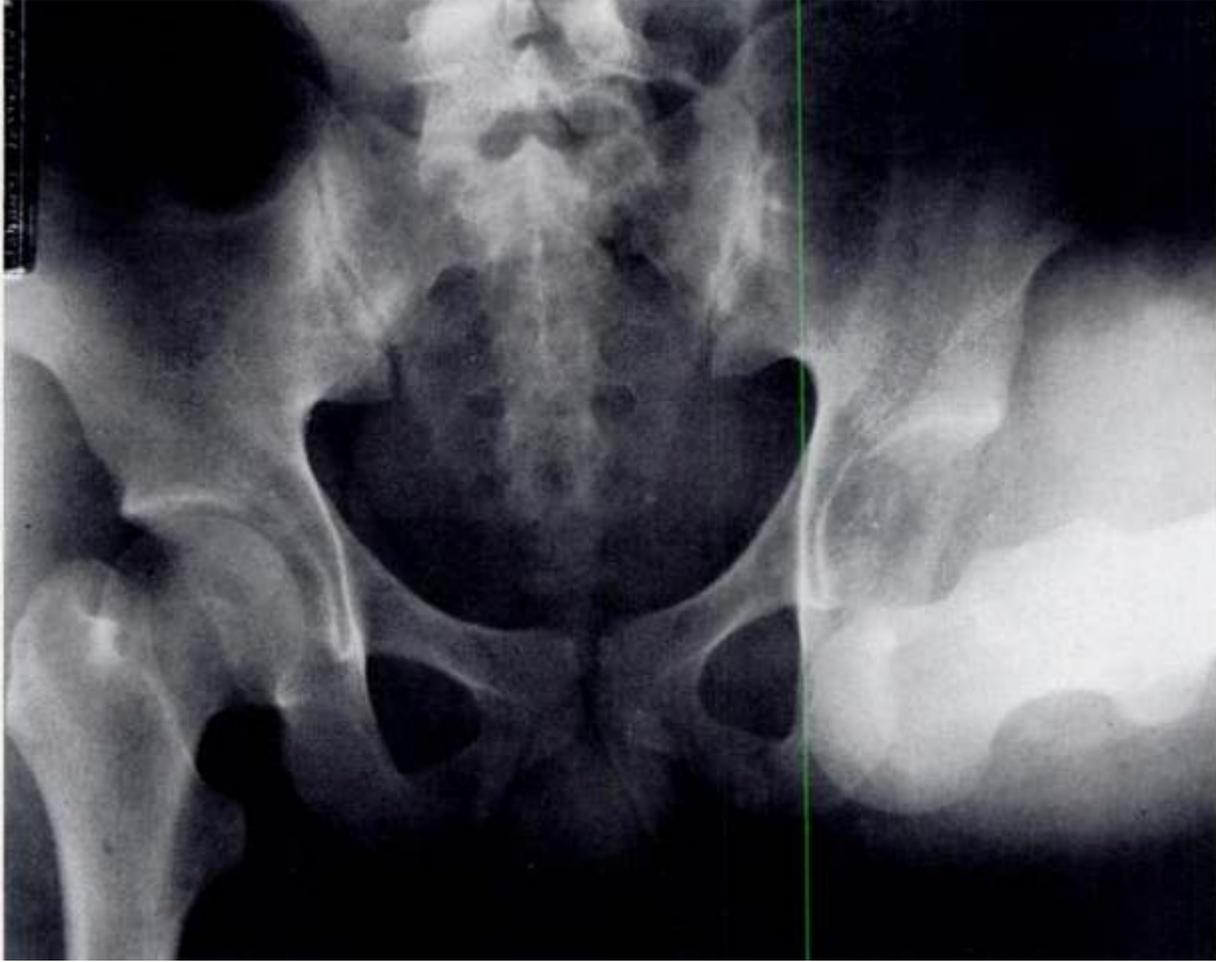
Hip Dislocation

Posterior Dislocation
Anterior Dislocation



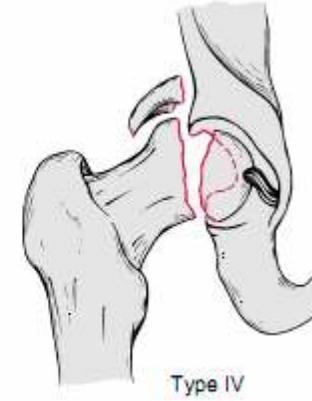
Risk Factor – Decreased Femoral anteversion





Classification

Pipkin (1957)



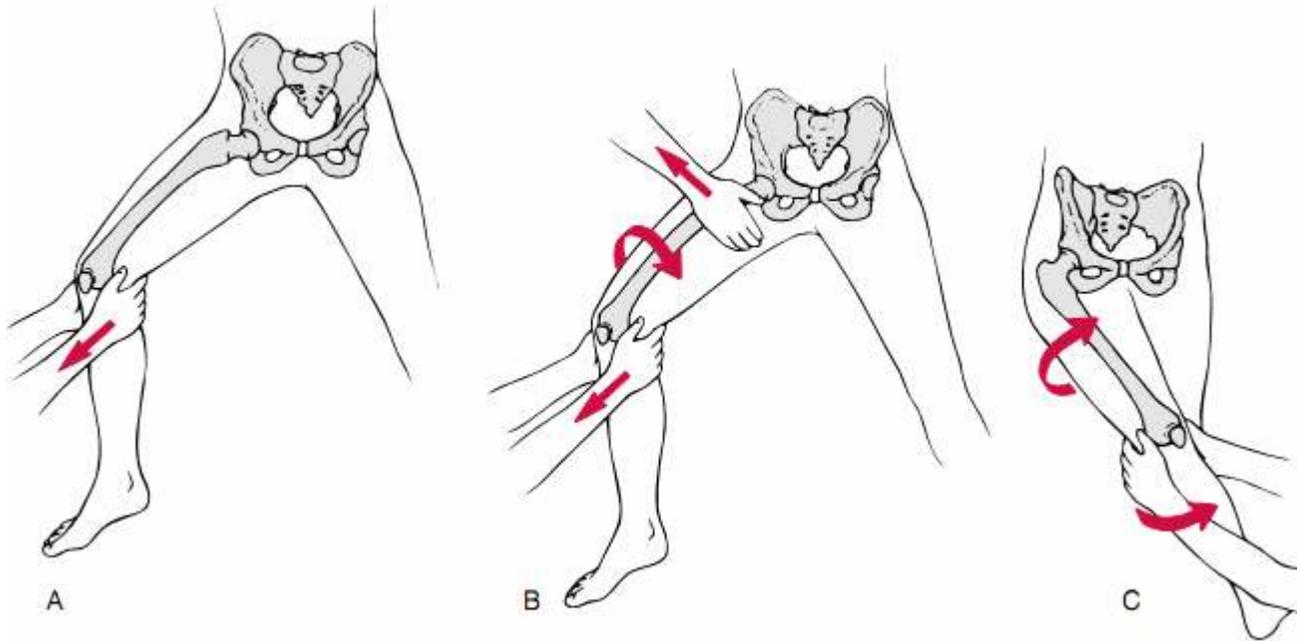
Diagnosis

- History & Physical Exam
 - Deformity
 - Neurology
- Imaging
 - AP Pelvis
 - Judet Views (Pipkin IV)

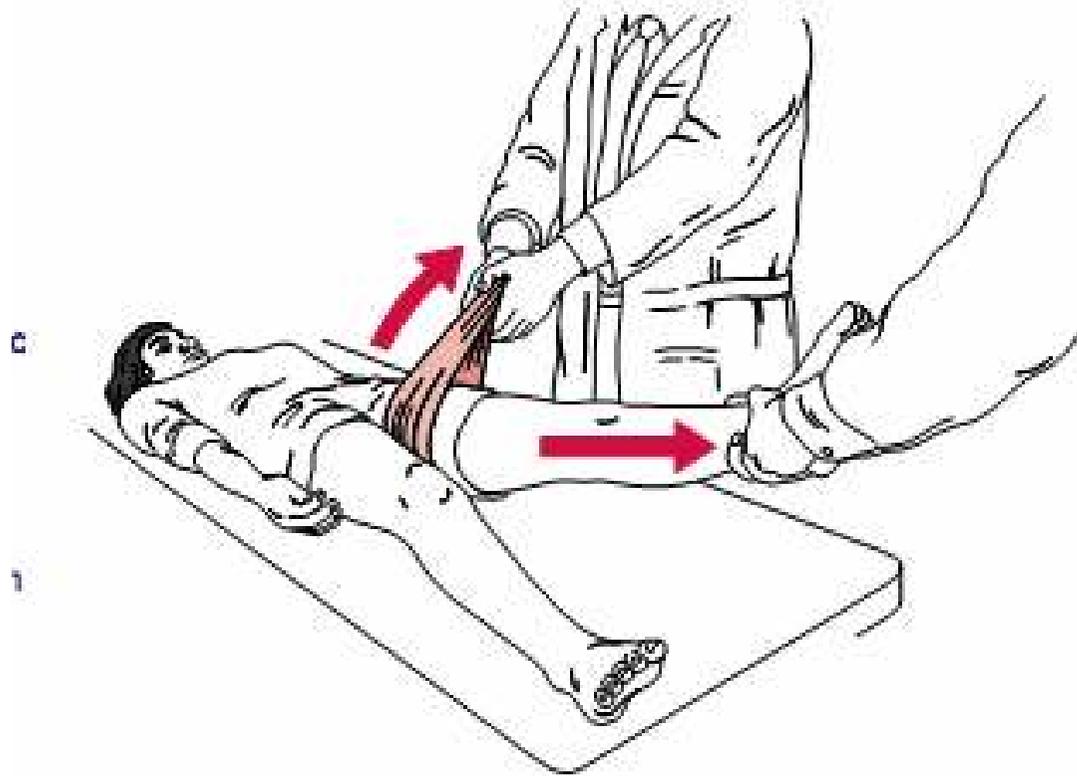
Management

- **Initial**

- Emergency reduction of hip joint (<6hrs)



Management

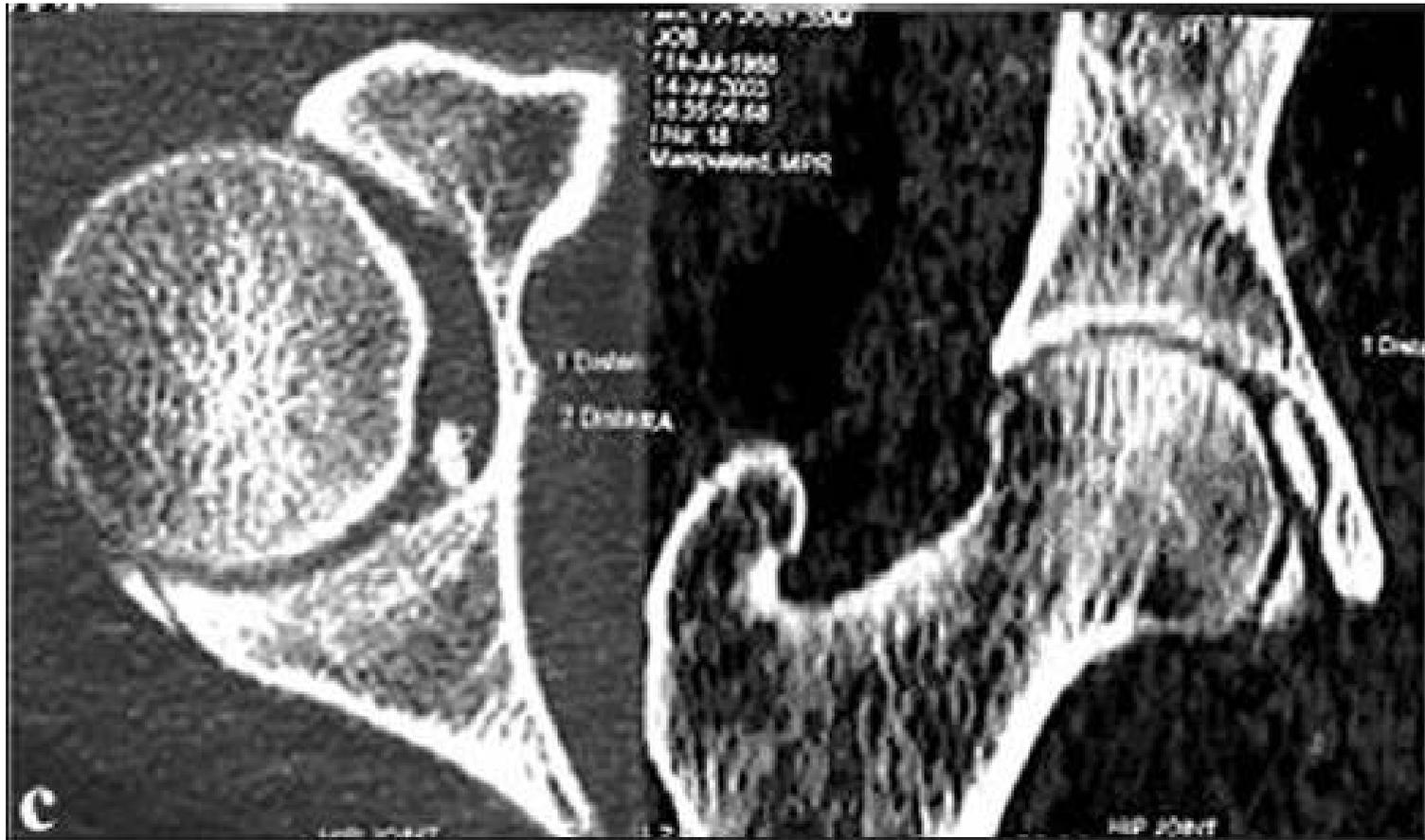


Post Reduction X - rays

- CT Scans
 - Indentation #
 - Incarcerated fragments
 - Loose bodies





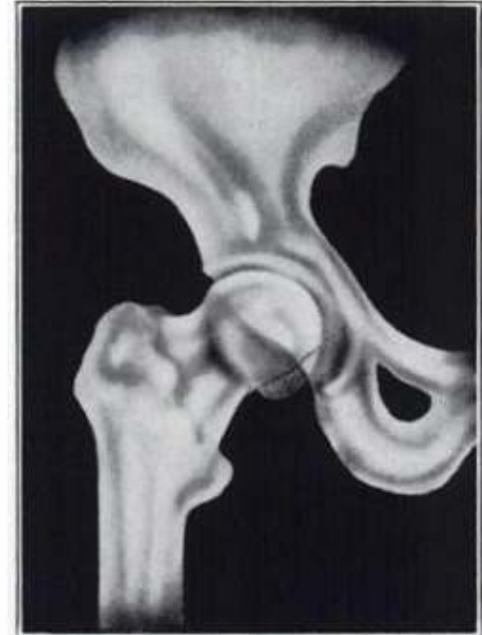
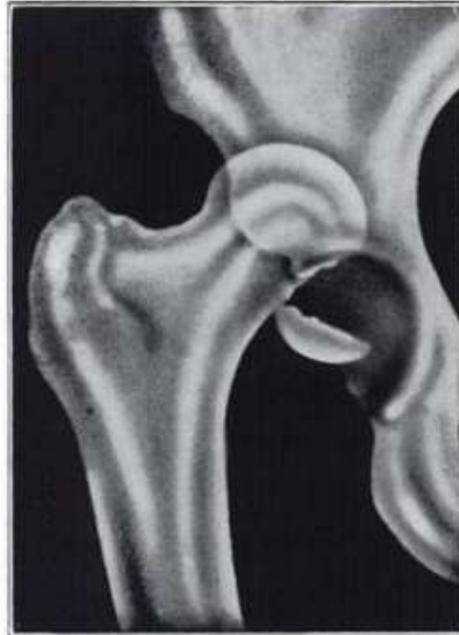




Management

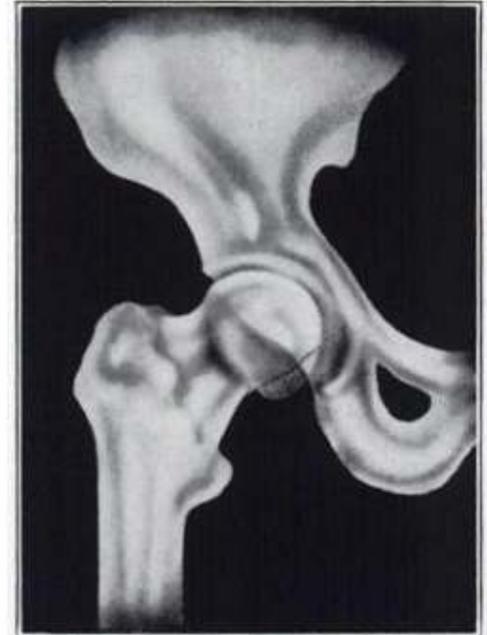
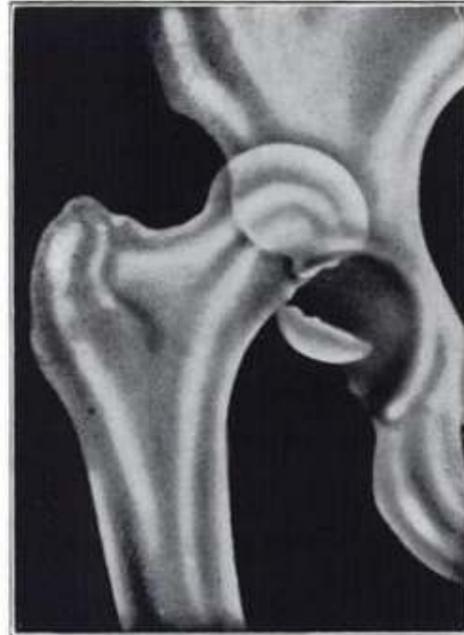
Definitive

Non Surgical
Surgical



Management

- Non Surgical
 - Pipkin 1
 - Anatomic reduction
 - Stable joint
 - No interposed fragment



PWB 2/12
Serial Radiographs

Management

- Surgical

Irreducible dislocation

Anterior

- Buttonholing through the capsule

- Rectus femoris

- Capsule

- Labrum

- Psoas tendon

Posterior

- Piriformis tendon

- Gluteus maximus

- Capsule

- Ligamentum teres

- Posterior wall

- Bony fragment

- Iliofemoral ligament

- Labrum

Management

- Surgical

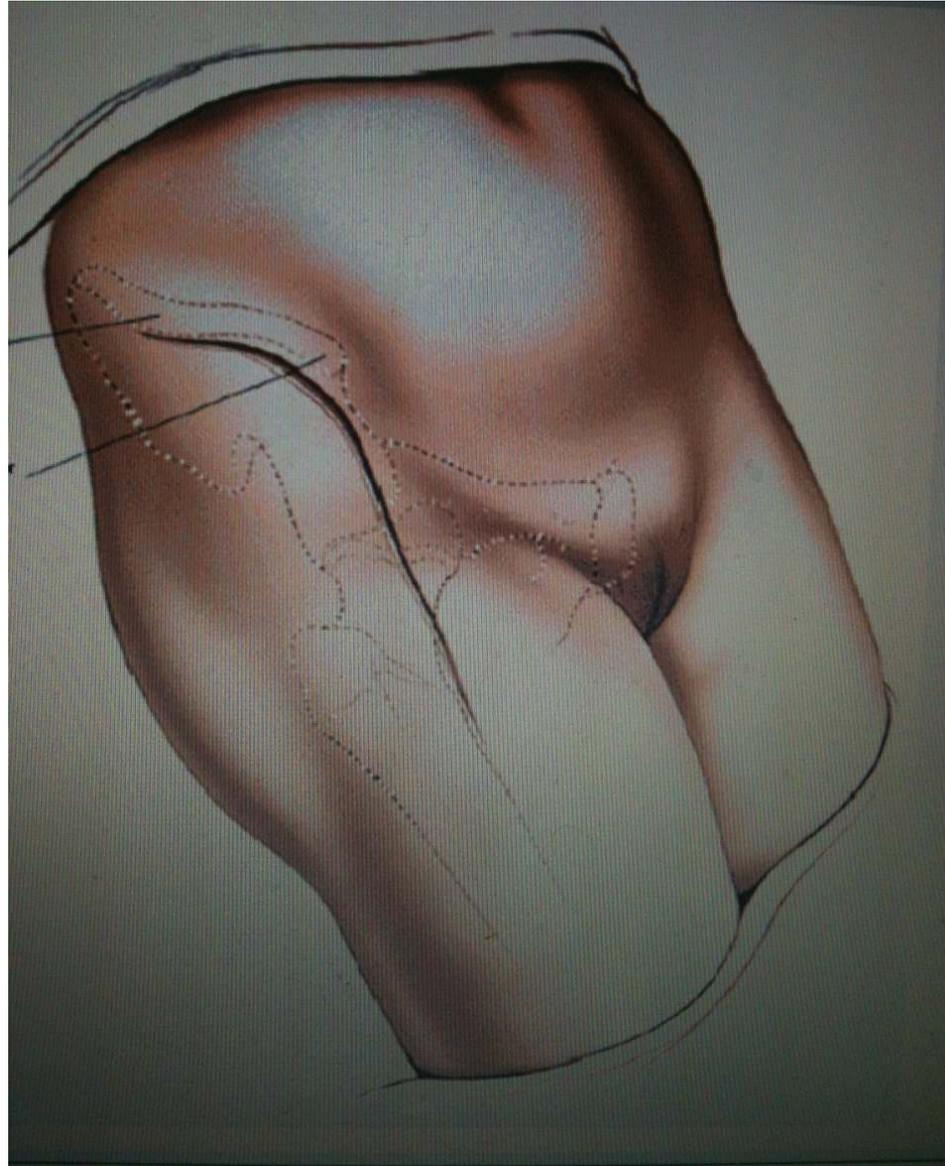
Incongruent reduction

Incarcerated fragments
soft tissue interposition

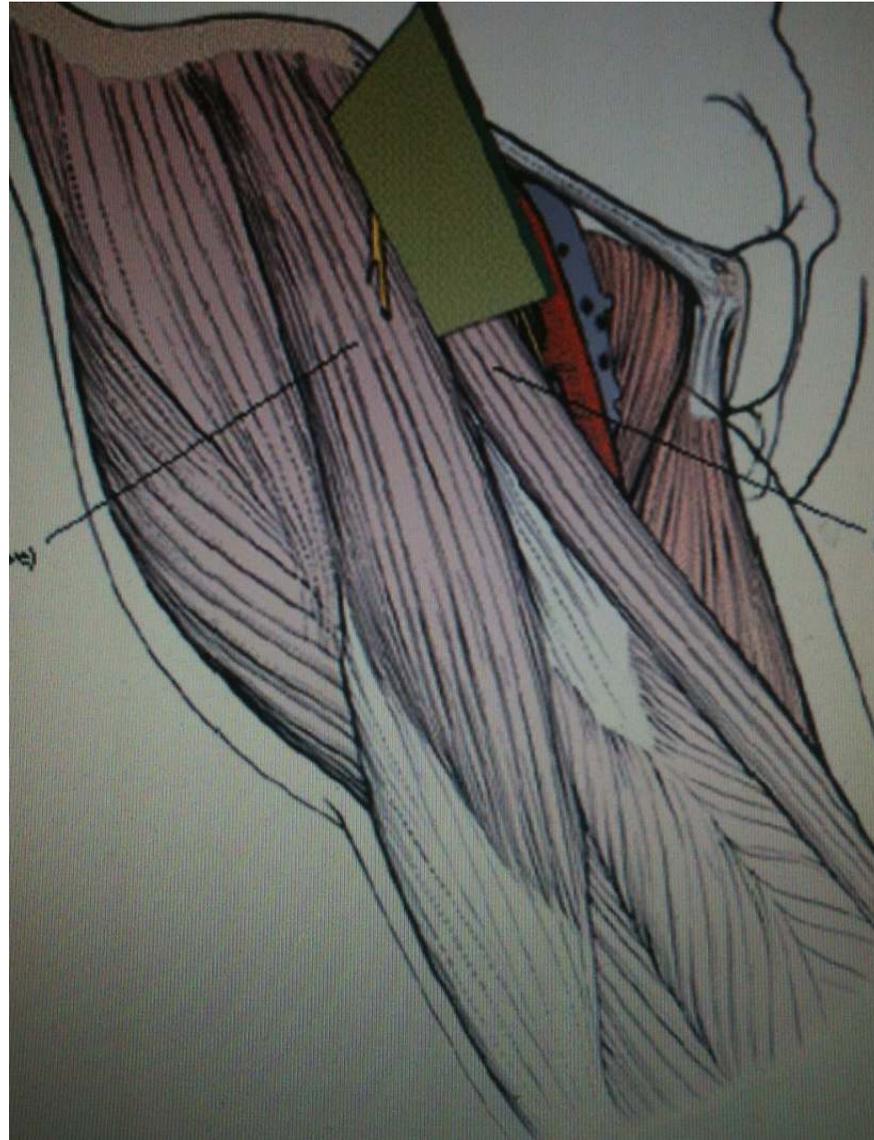
Management

- Fixation Vs Excision
- Surgical Approaches

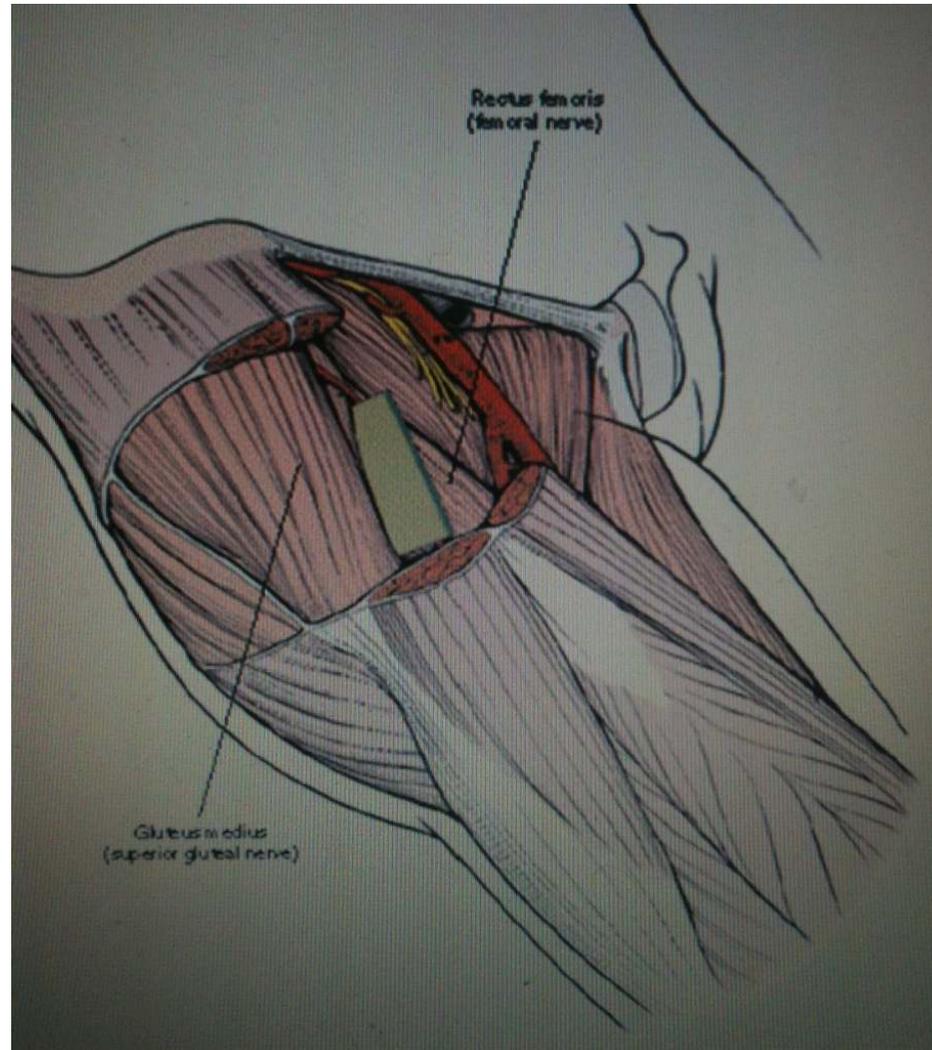
Anterior (S-P) Approach



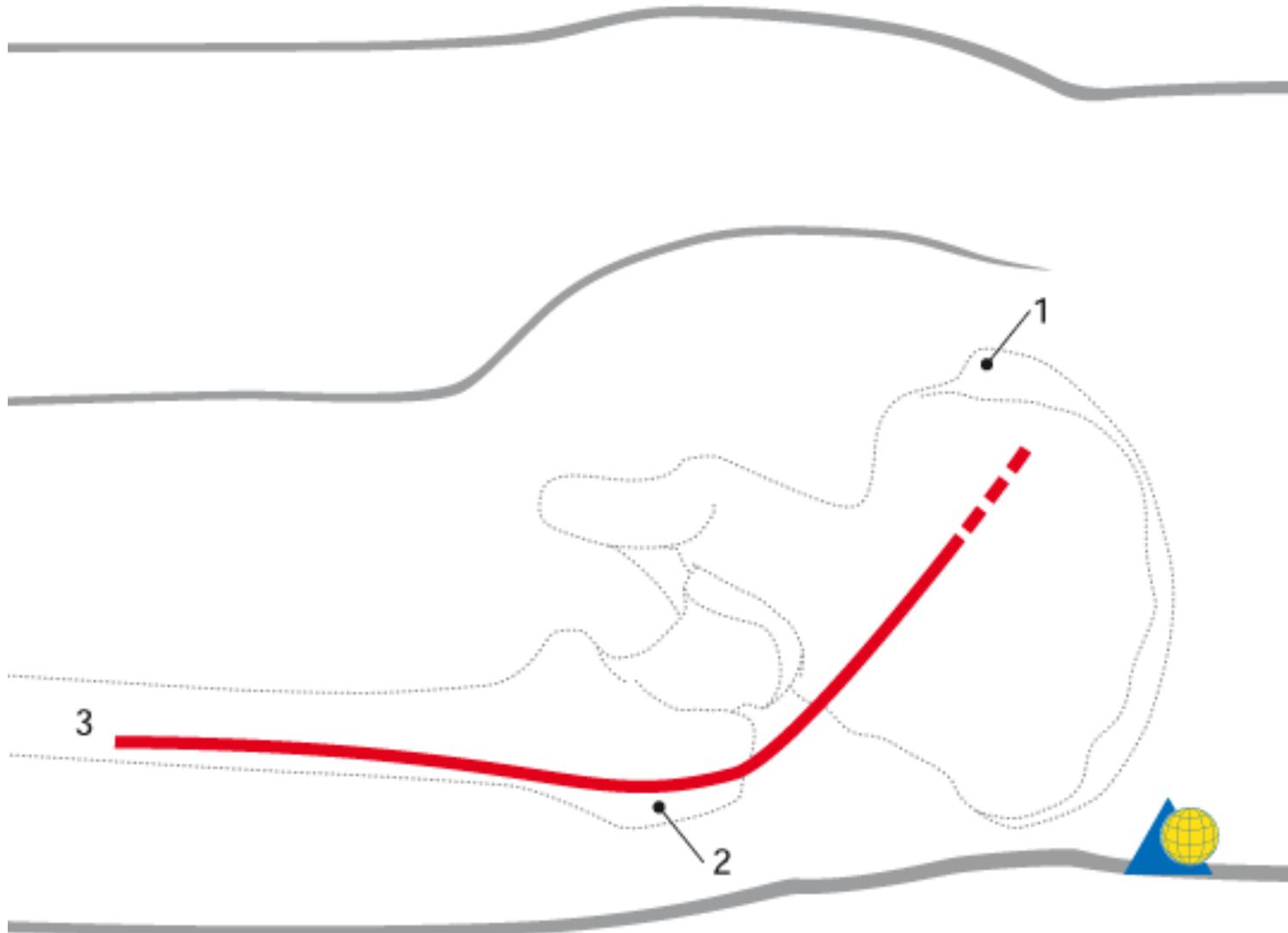
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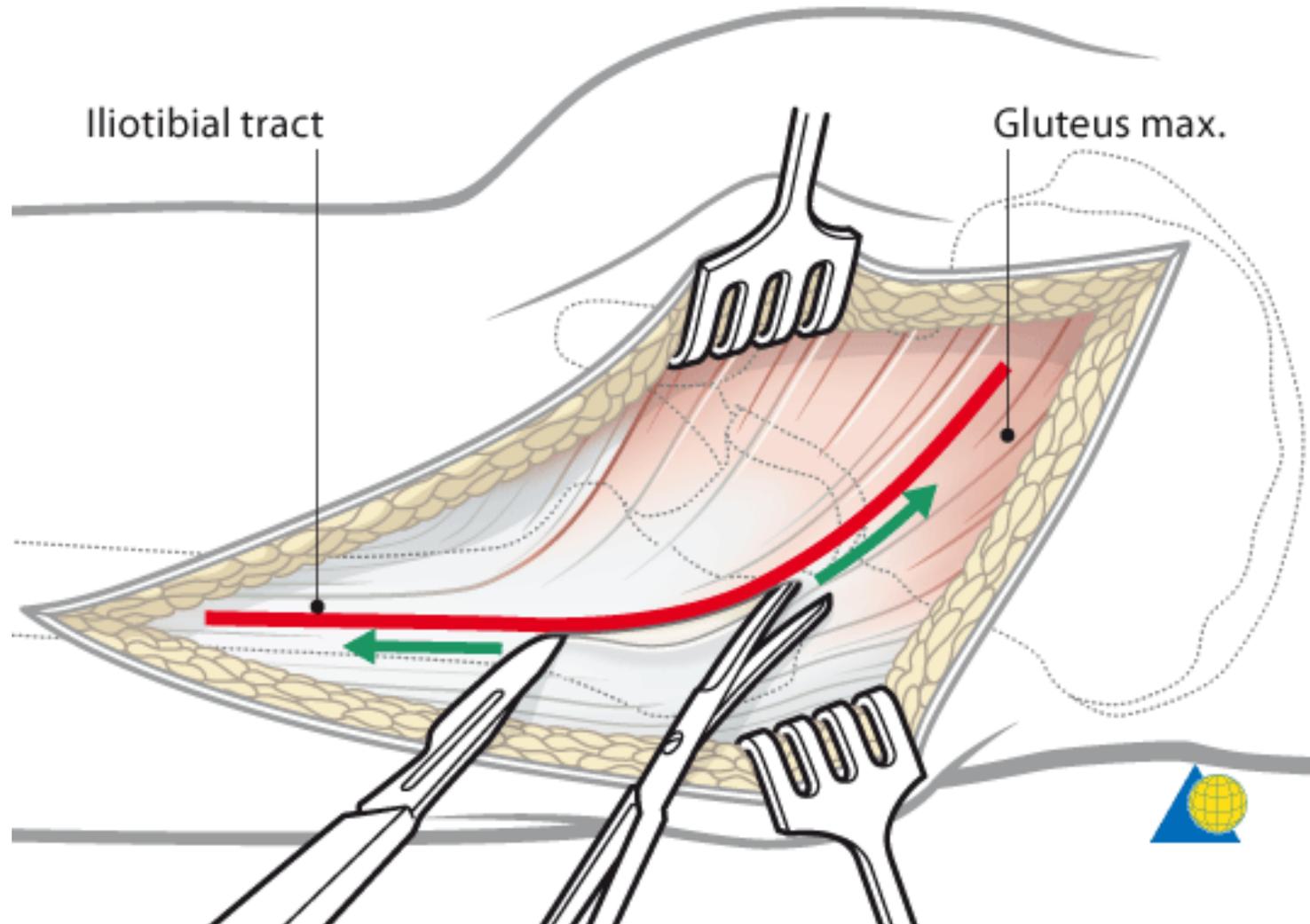
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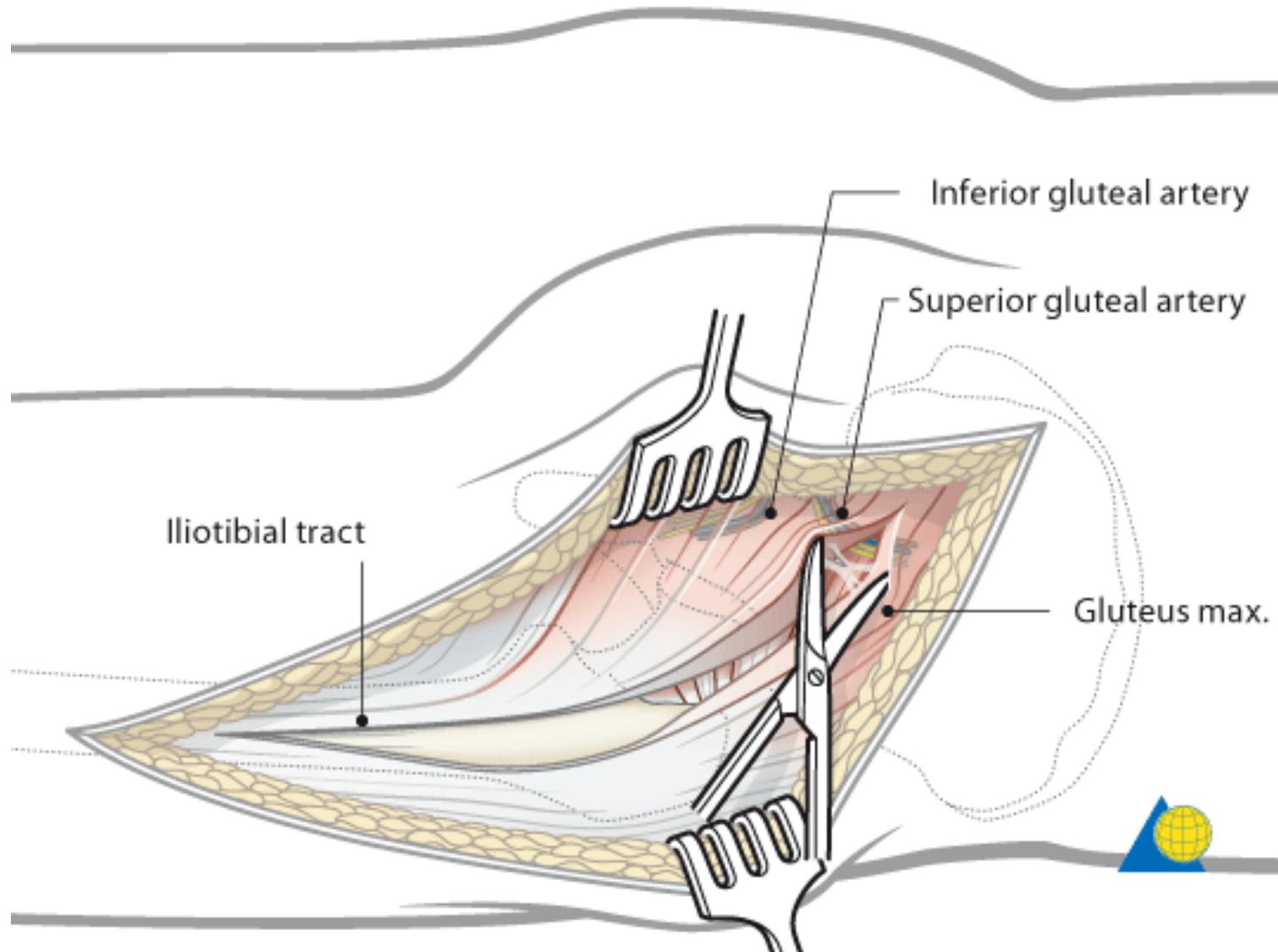
Kocher - Langenbeck



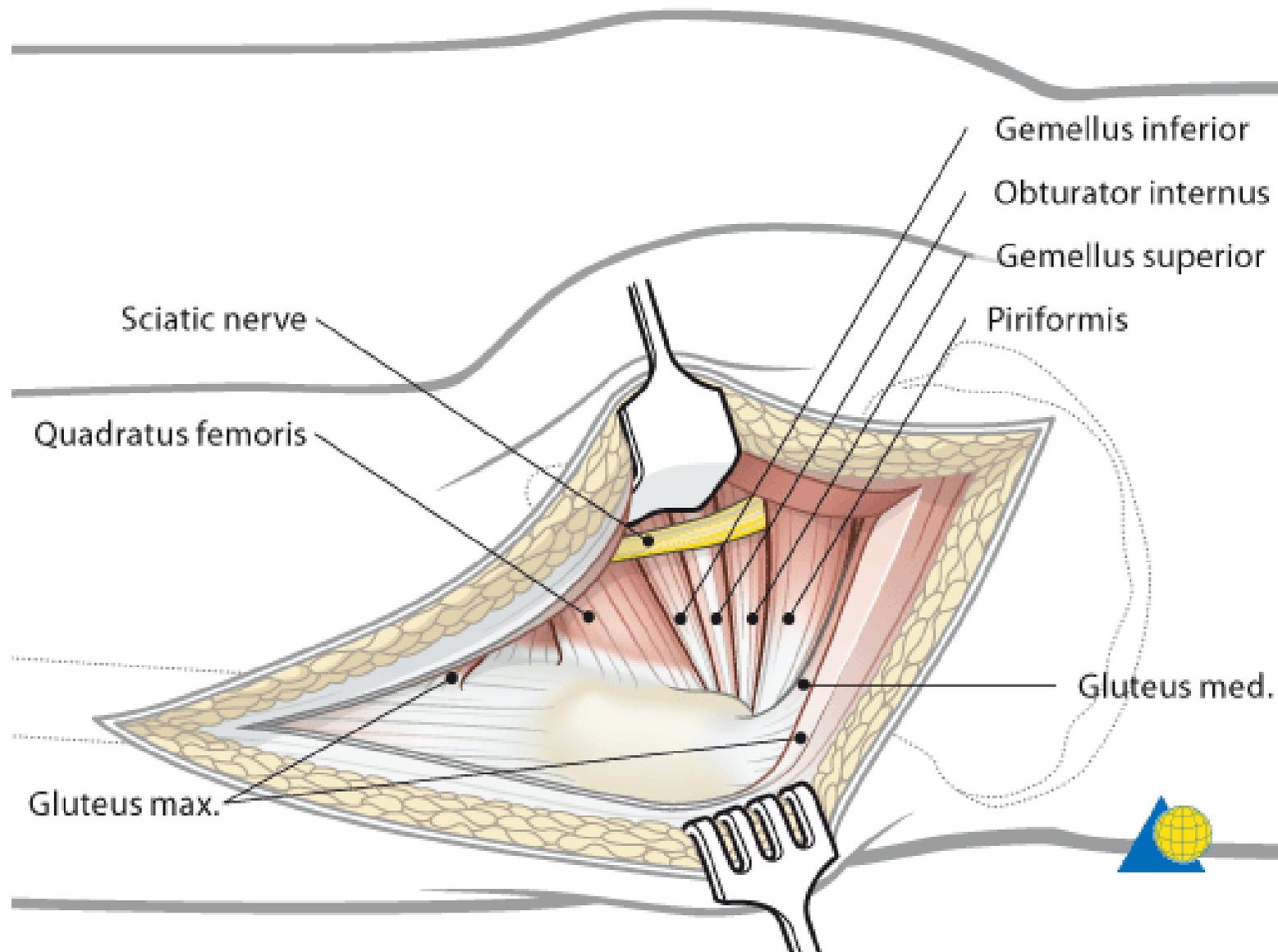
Kocher - Langenbeck



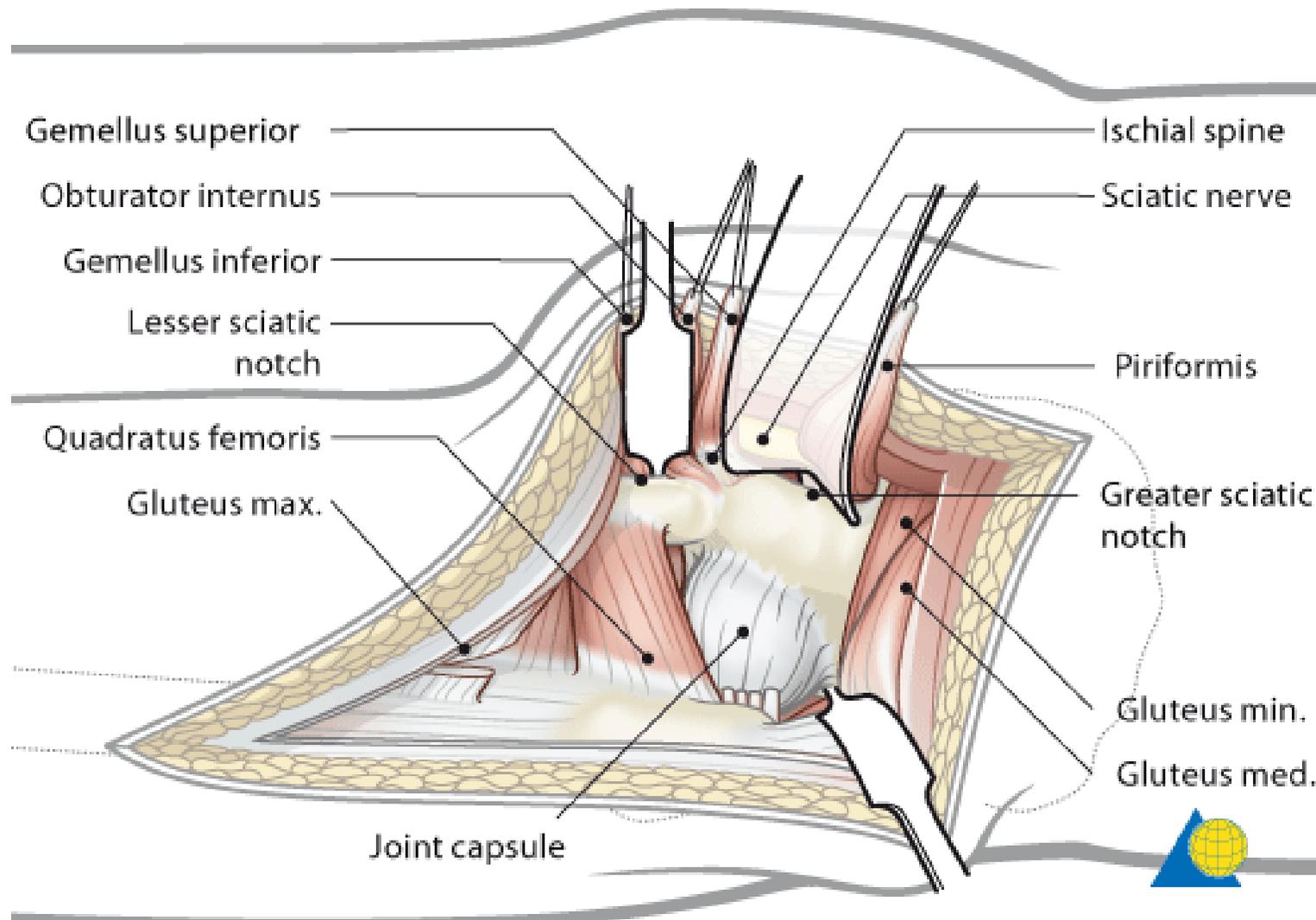
Kocher - Langenbeck



Kocher - Langenbeck



Kocher - Langenbeck



Surgical Dislocation

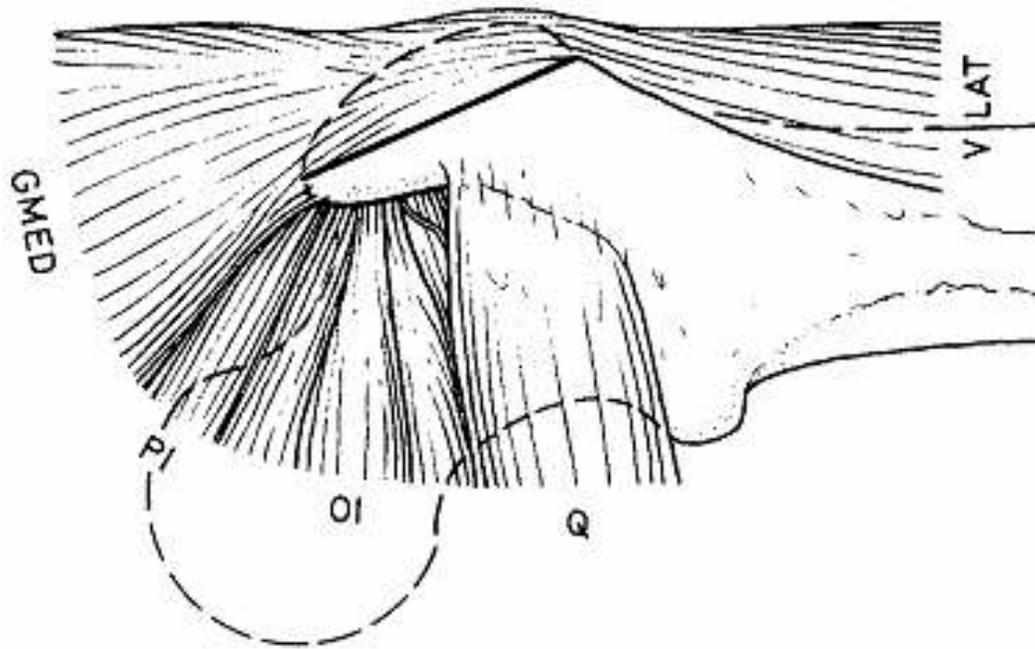
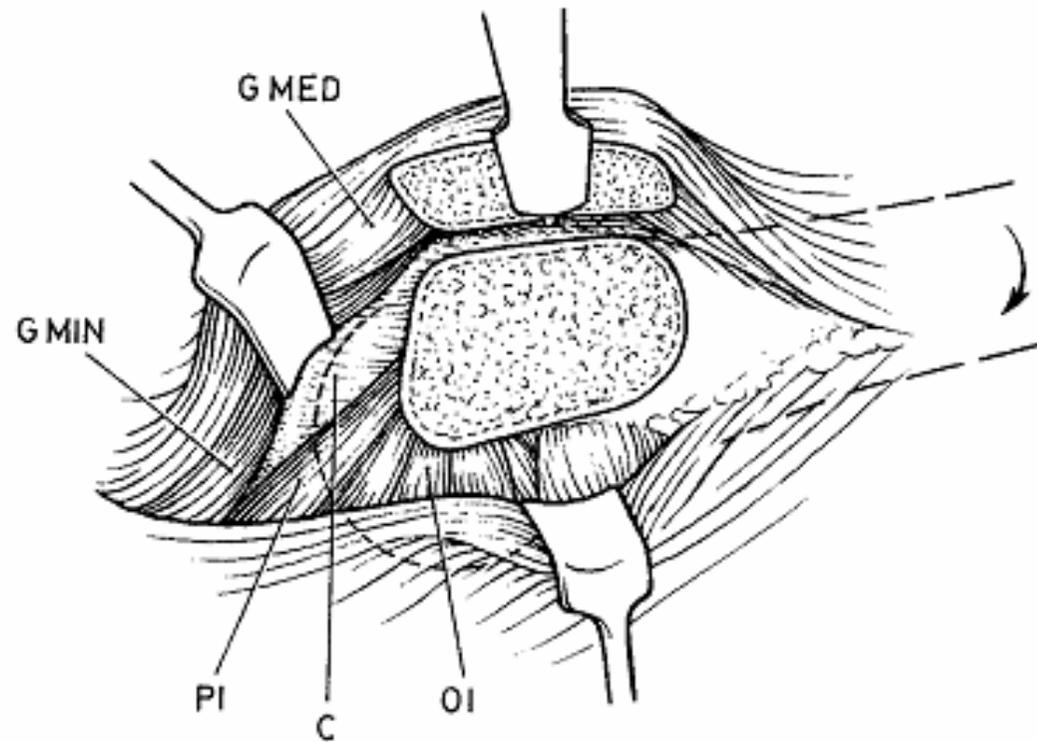
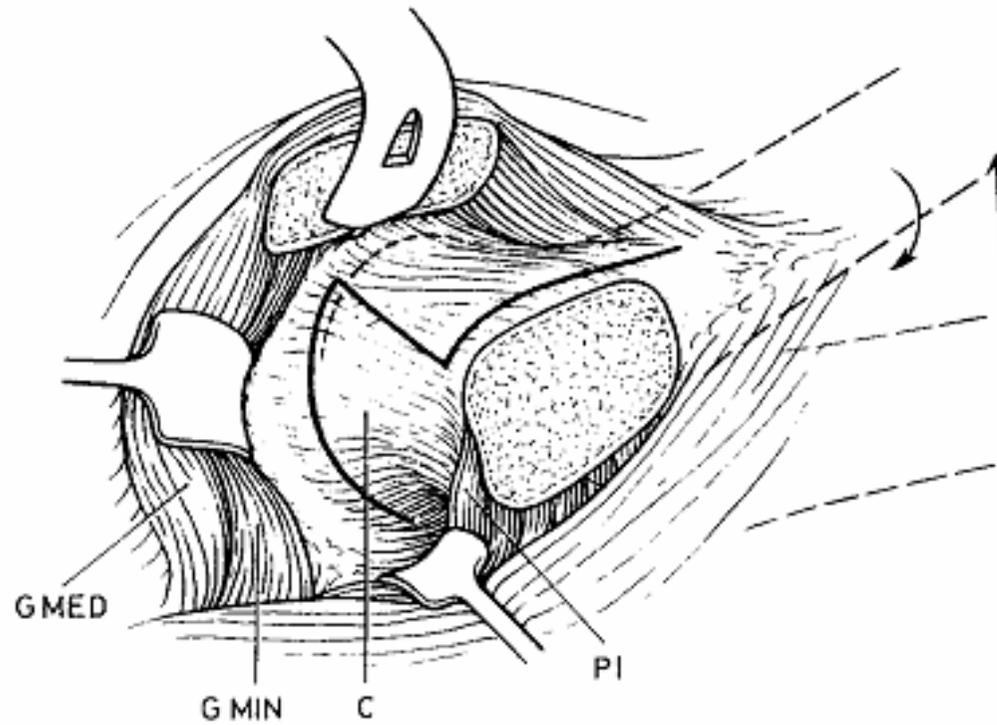


Fig. 1

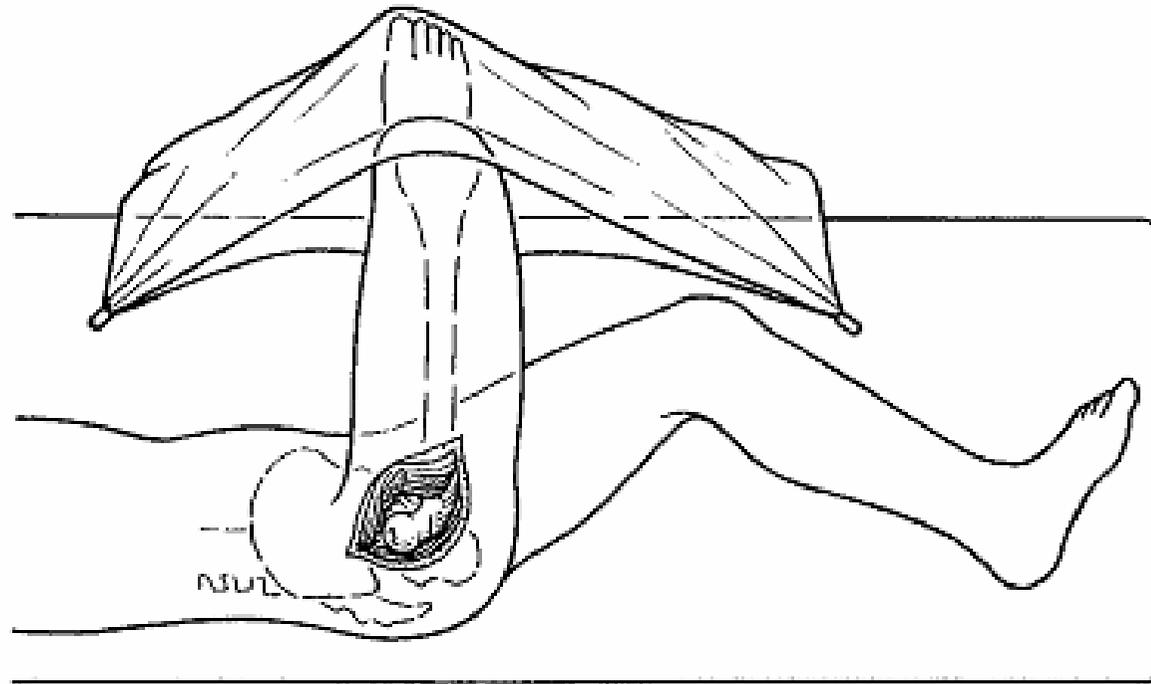
Surgical Dislocation



Surgical Dislocation



Surgical Dislocation



Surgical Dislocation

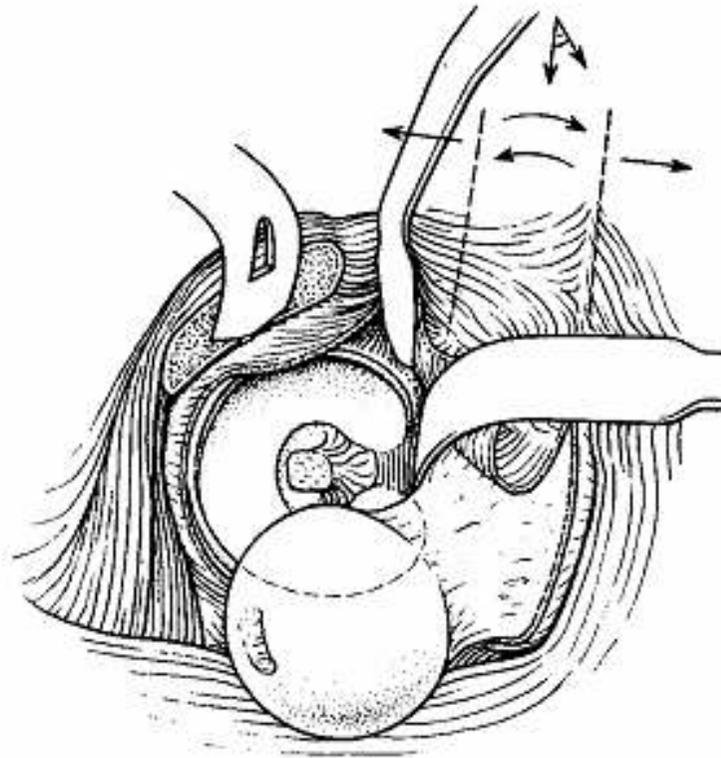


Fig. 5

Complications

- # during closed reduction
- Sciatic nerve Injury (10 -23%)
 - Partial recovery in 60-70%
- AVN (6 -23%)
- H O (6-64%)
- Post traumatic OA (8 -75%)

Outcomes

- **Swiontkowski, et al**
 - Ant Approach for Pipkin1&2
 - ↓ operating time, bleeding
 - ↑ exposure, also HO
 - No AVN
 - **Yoon et al (2001)**
 - N=30 (3-10 yrs f/up)
 - 67% good to excellent
 - **Marchetti et al (1996)**
 - Pipkin 1 & 2 better outcome than Pipkin 3 & 4 (76%vs 56%)

References

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