

Common Pediatric **Hip** Problem

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Common Pediatric Hip problems:

- **DDH** developmental dysplasia of the hip
- **SCFE** slipped capital femoral epiphysis
- **Perthes**

Normal pelvis

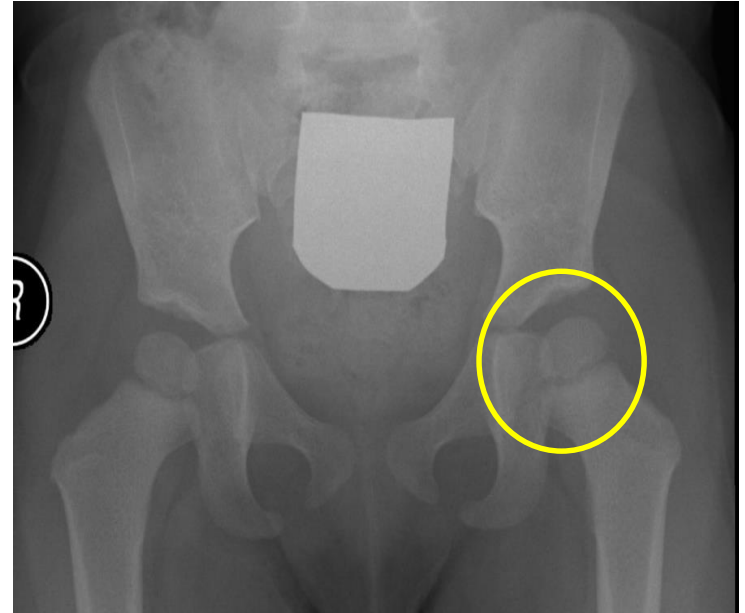


ADULT

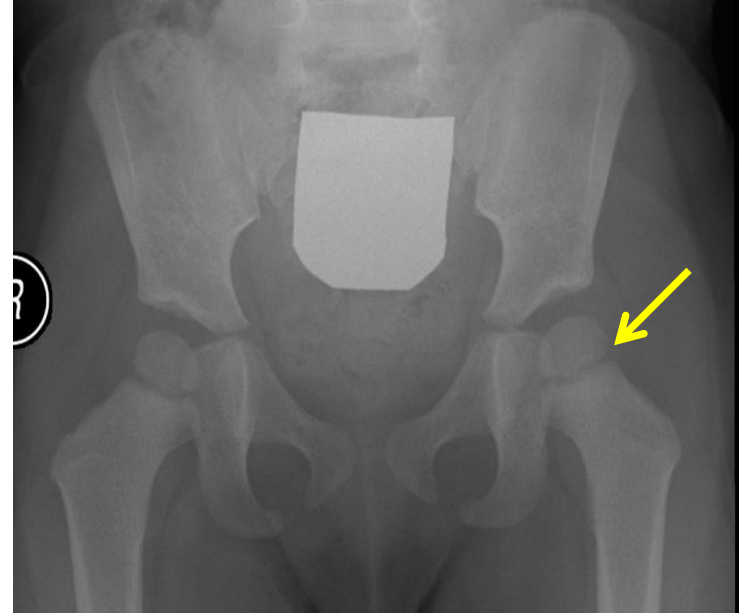


CHILD

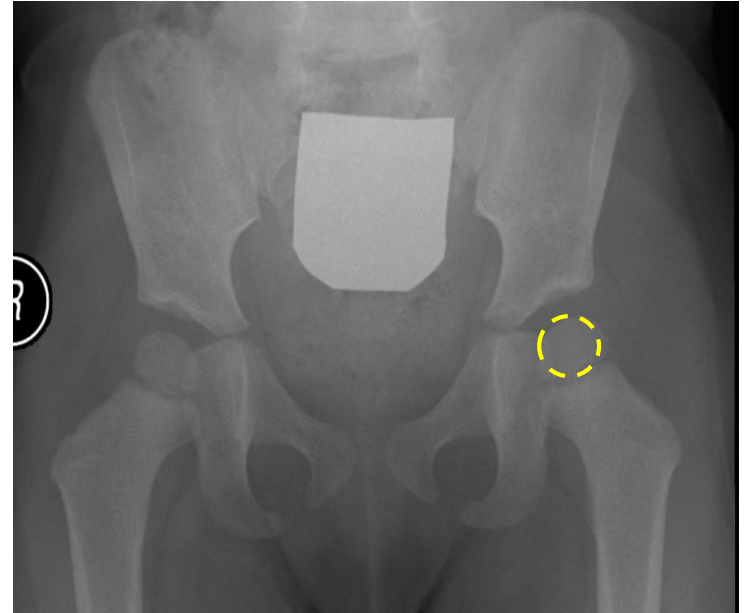
Normal pelvis



Normal pelvis



Normal pelvis



DDH or CDH

Nomenclature

- CDH : C ongenital D islocation of the H ip
- DDH : D evelopmental D ysplasia of the H ip

DDH

Normal hip

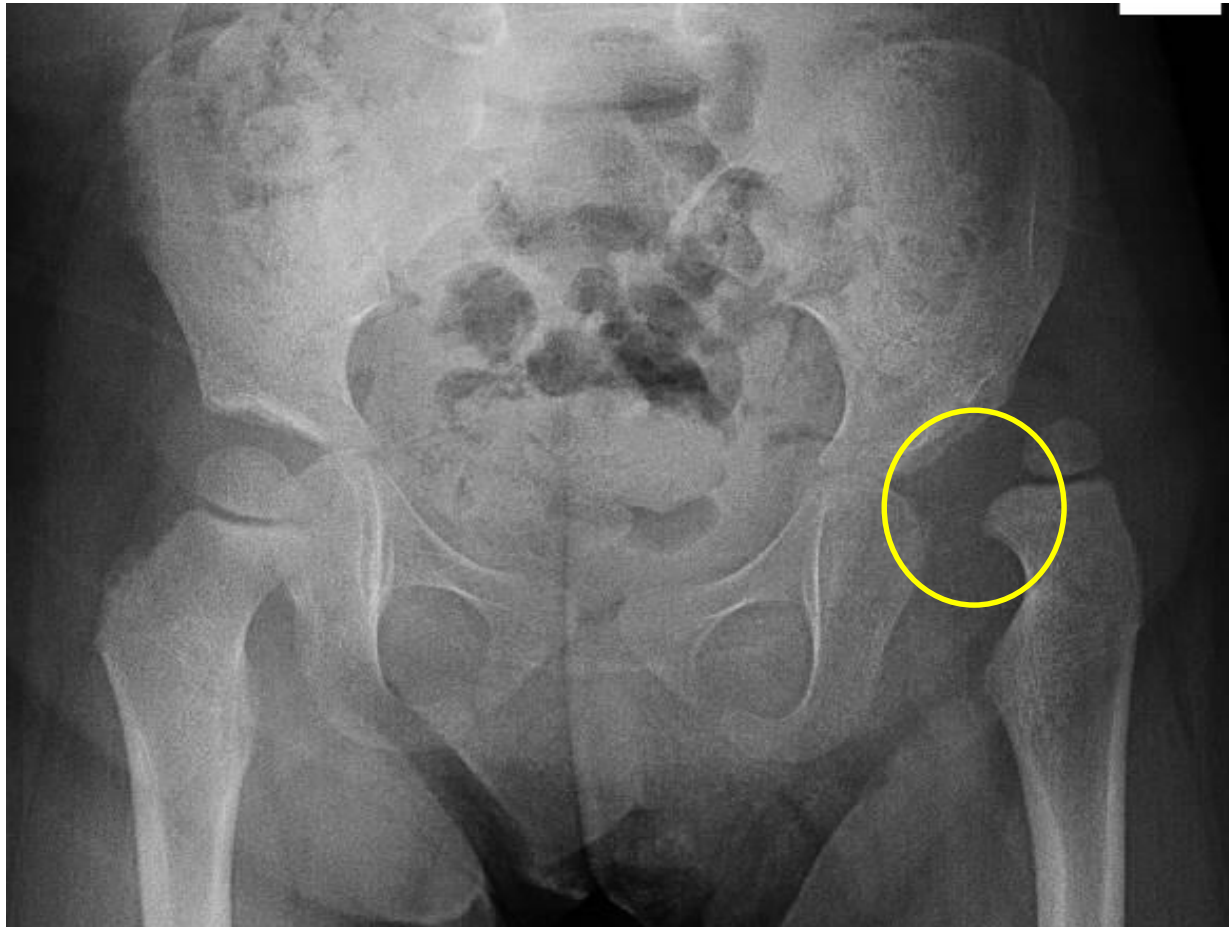
Dislocated hip



DDH

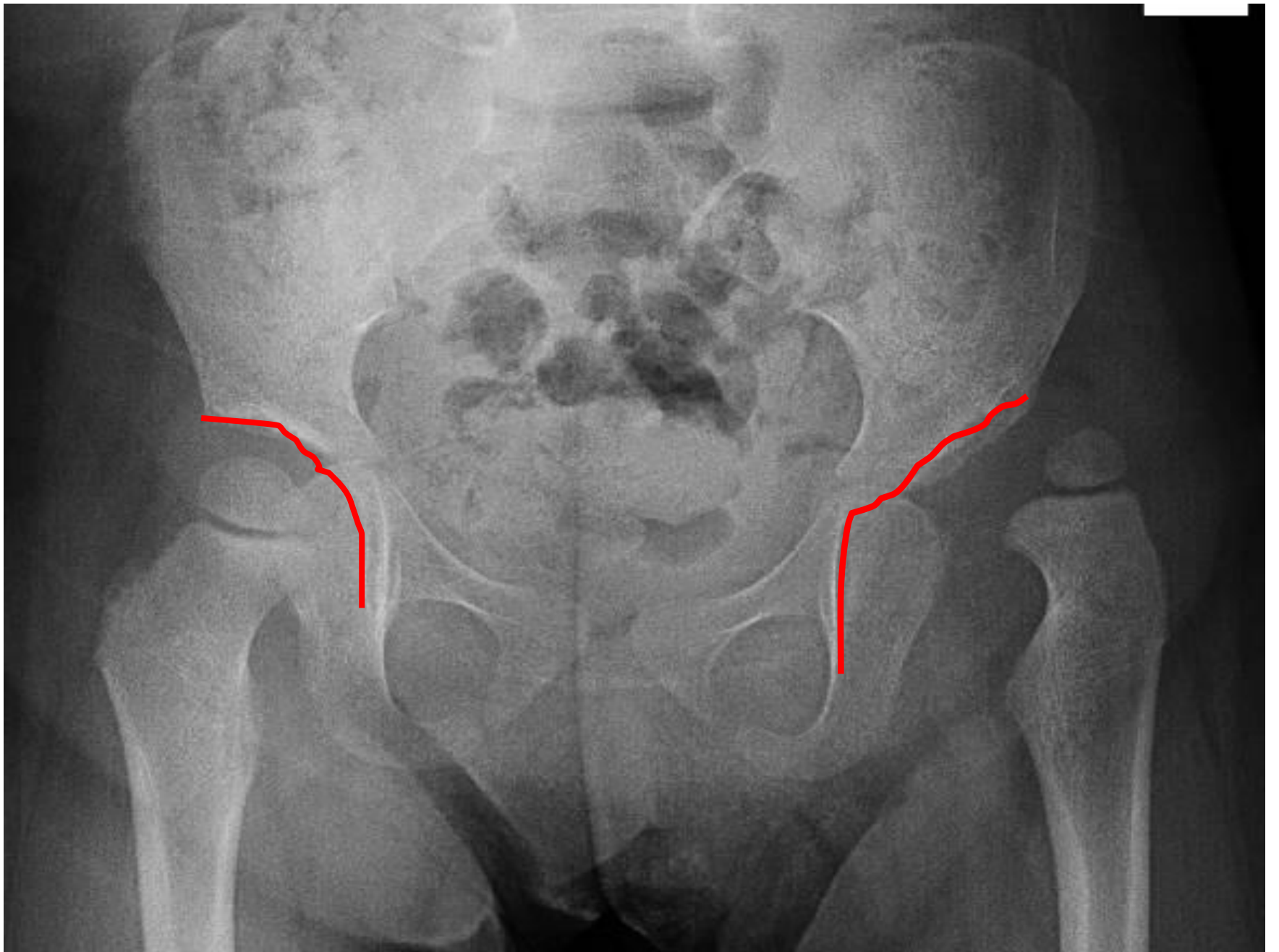
Normal hip

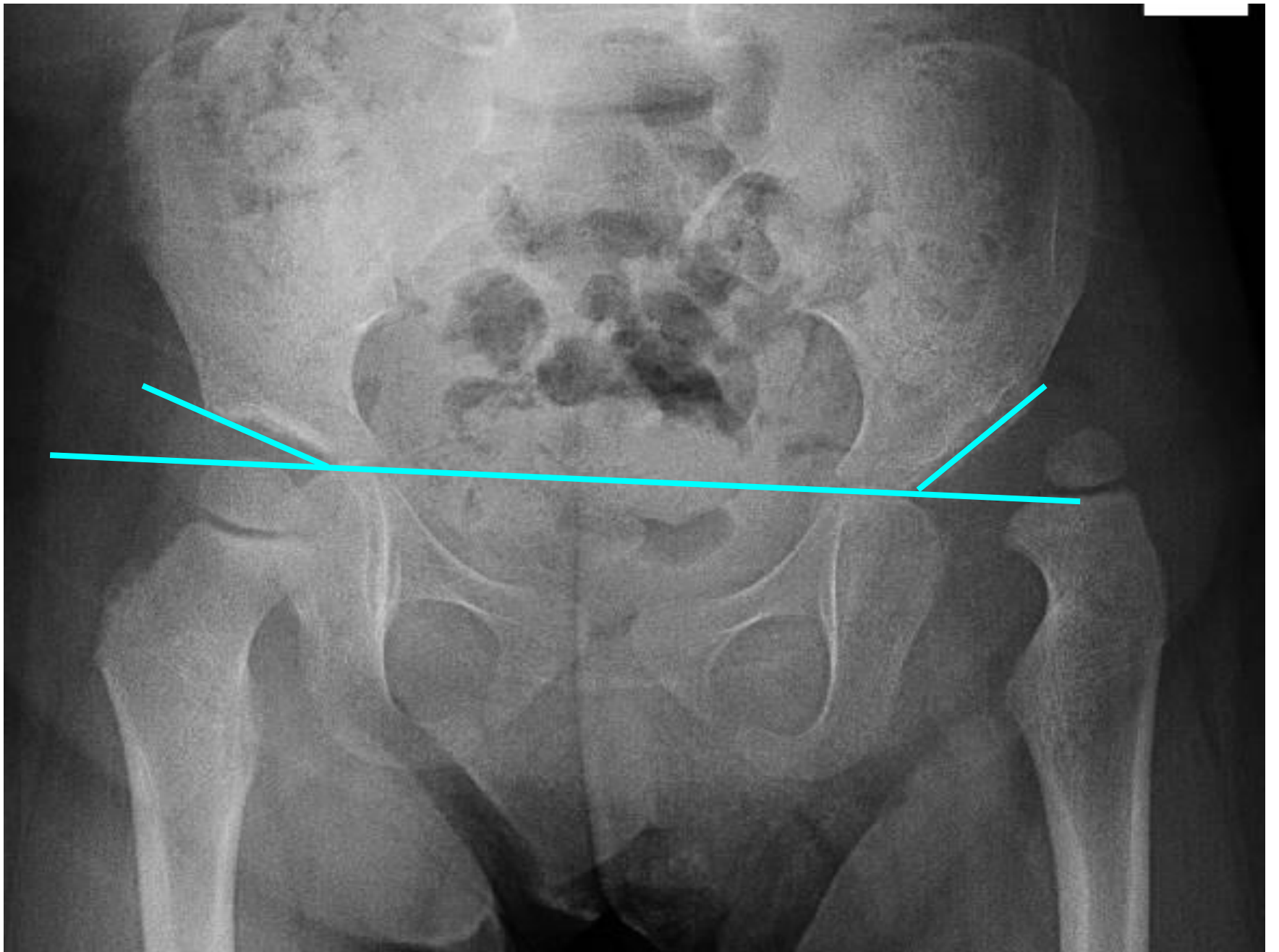
Dislocated hip



Patterns of disease

- Dislocated
- Dislocatable
- Subluxated
- Acetabular dysplasia





Causes (multi factorial)

- Hormonal
 - Relaxin, oxytocin
- Familial
 - Lig.laxity diseases
- Genetics
 - Female 4 X male --- twins 40%
- Mechanical
 - Pre natal
 - Post natal

Unknown

Mechanical causes

- Pre natal
 - Breach , oligohydrominus , primigravida , twins
 - (torticollis , metatarsus adductus)
- Post natal
 - Swaddling , strapping







Infants at risk

who?

- Positive family history: 10X
- A baby girl: 4-6 X
- Breech presentation: 5-10 X
- Torticollis: CDH in 10-20% of cases
- Foot deformities:
 - Calcaneo-valgus and metatarsus adductus
- Knee deformities:
 - hyperextension and dislocation

Infants at risk

When risk factors are present

- The infant should be reviewed
 - Clinically
 - radiologically

Clinical examination

- The infant should be
 - quiet
 - comfortable



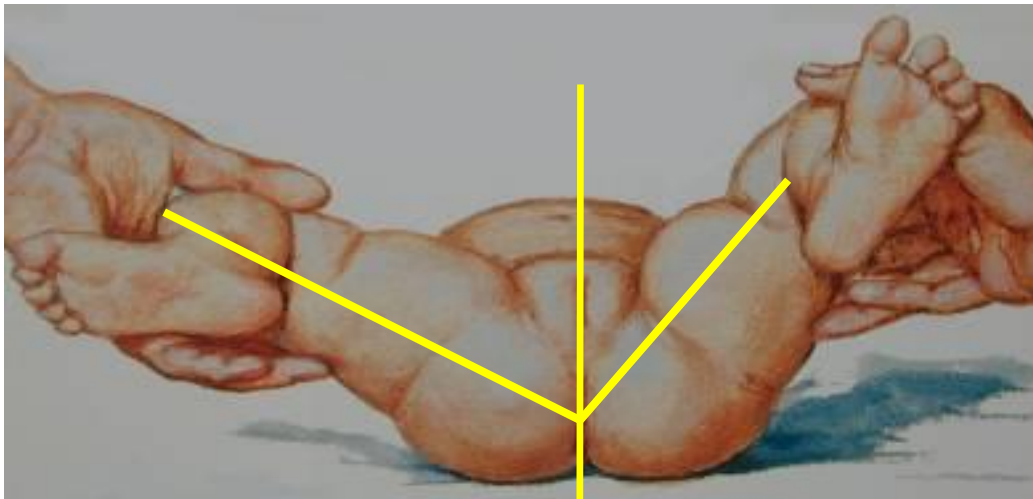
- **Look:**

- External rotation
- Lateralized contour
- Shortening
- Asymmetrical skin folds
 - Anterior – posterior





- Move
 - Limited abduction



- **Special test**

- Galiazzi

- Ortolani , Barlow test

- Trendelenburgh sign

- Limping (waddling gait if bilateral)

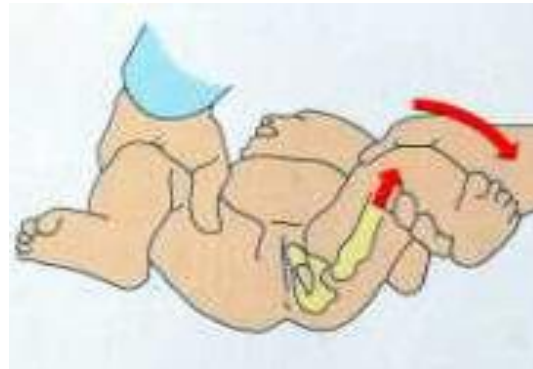
Special test

Galiazzi test



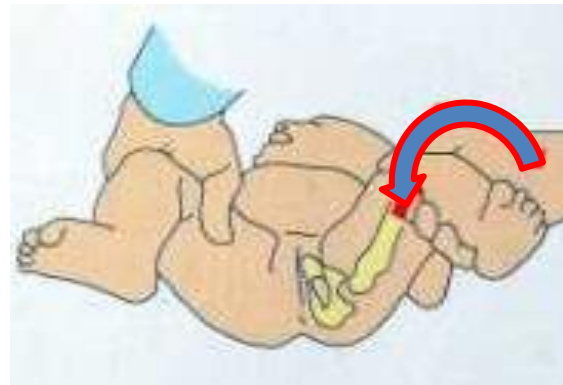
Special test

Ortolani test



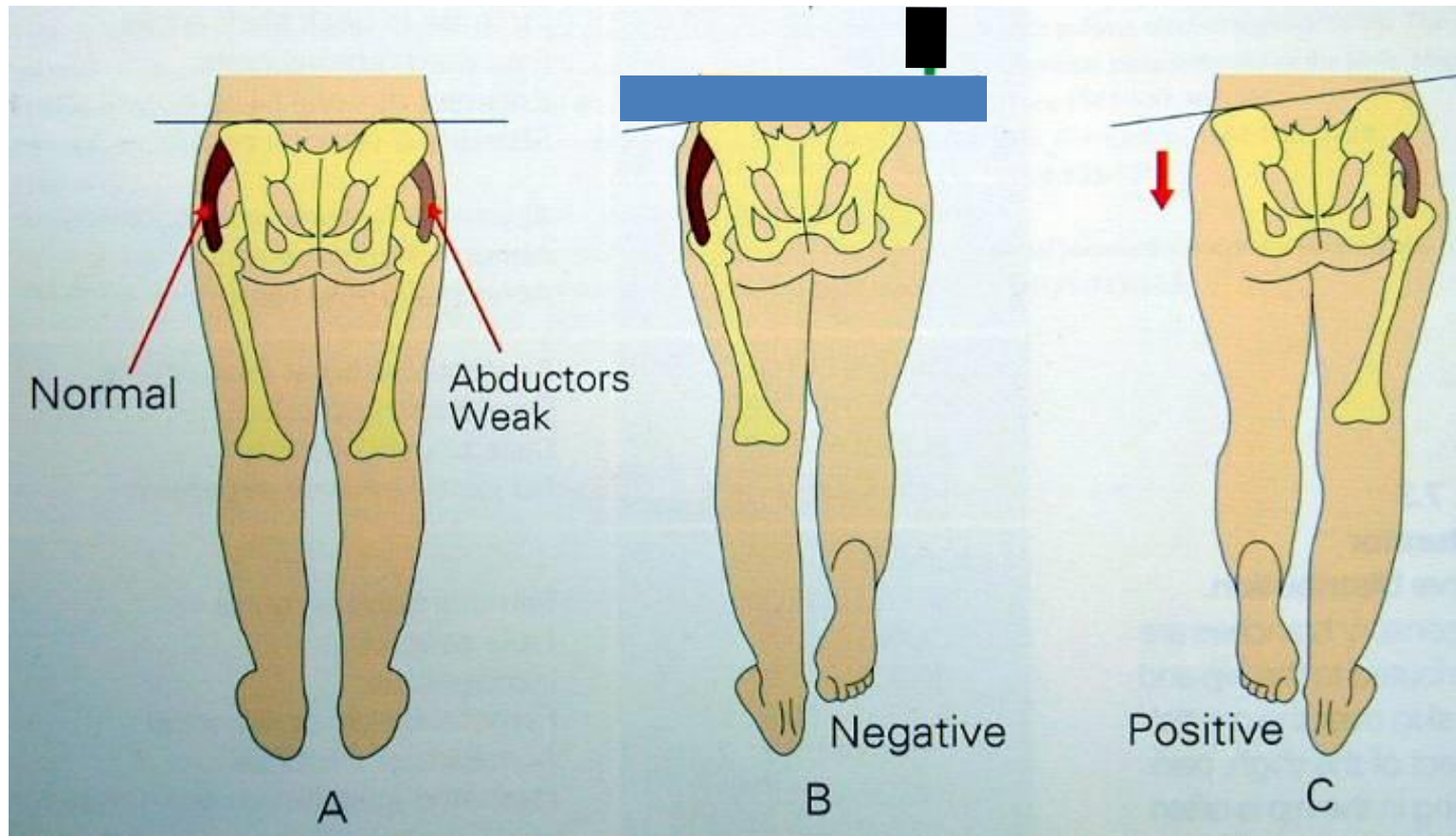
Special test

Barlow test



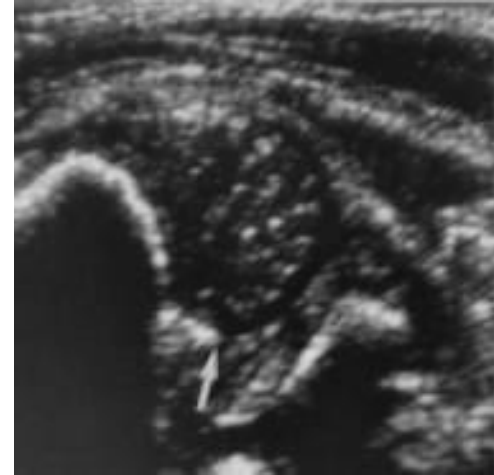
Special test

Trendelenburgh sign



Investigations

- 0-3 months U/S
- > 3months X-ray pelvis
AP + abduction



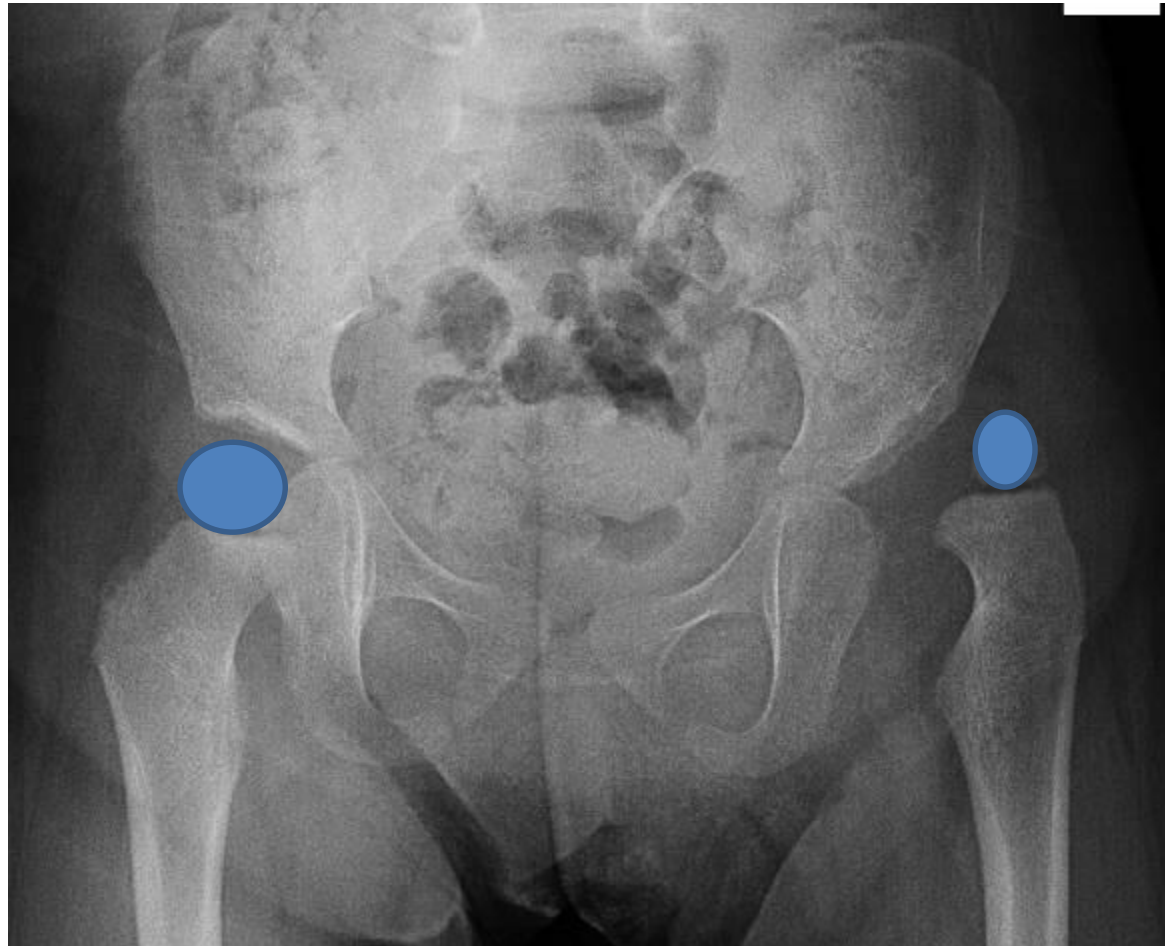
Radiology

- After 6 months: reliable



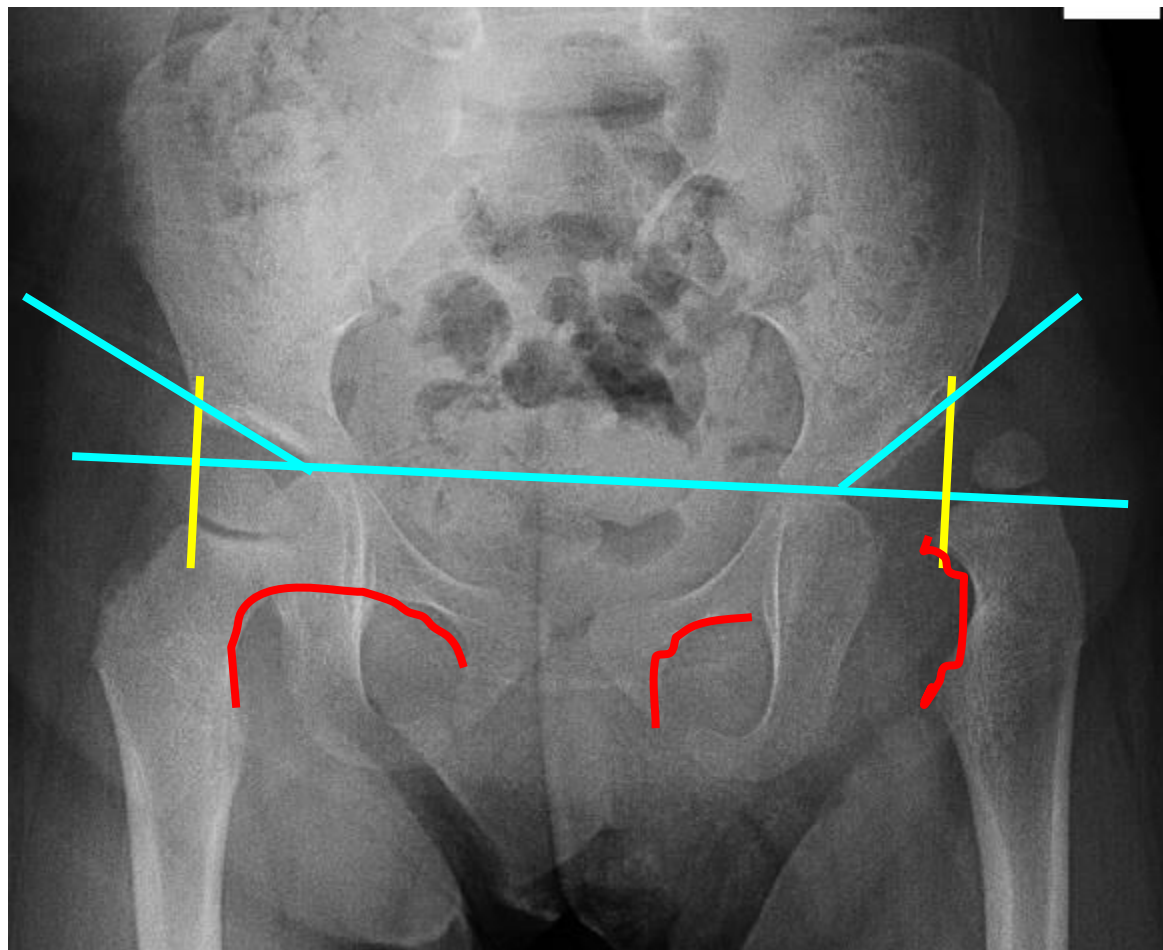
Radiology

- After 6 months: reliable



Radiology

- After 6 months: reliable



Treatment - Aims

- Obtain concentric reduction **REDUCE**
- Maintain concentric reduction **STABELIZE**
- In a non-traumatic fashion **SAFELY**
- Without disrupting the blood supply to femoral head

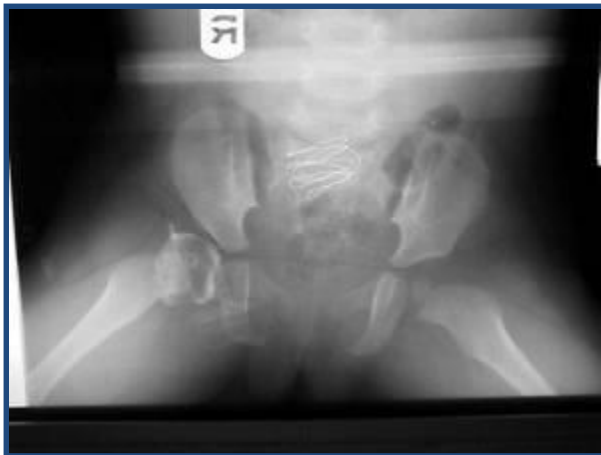
Way:

Refer to pediatric orthopedic clinic

Treatment

- Method depends on **age**
- The **earlier** started, the **easier** and **better** the results
- Should be detected **EARLY**
- Could be surgical or non surgical

- If not treated : OA. Stiffness. Pain. Limping. Spine problems . Difficult life



Treatment

- **Birth – 6m**
 - Reduce + maintain with Pavlik harness or hip spica (H.S)
- **6-12 m:**
 - GA + Closed reduction + maintain with hip spica ?? Open ??

- **12 - 18 m:**
 - GA + Open reduction + maintain with hip spica
- **18 – 24 m:**
 - GA + Open reduction + Acetabuloplasty + maintain with hip spica

- **2-8 years:**
 - GA + Open reduction + Acetabuloplasty + femoral shortening + H.S
- **Above 8 years:**
 - GA + Open reduction + Acetabuloplasty (advanced) + femoral shortening + H.S

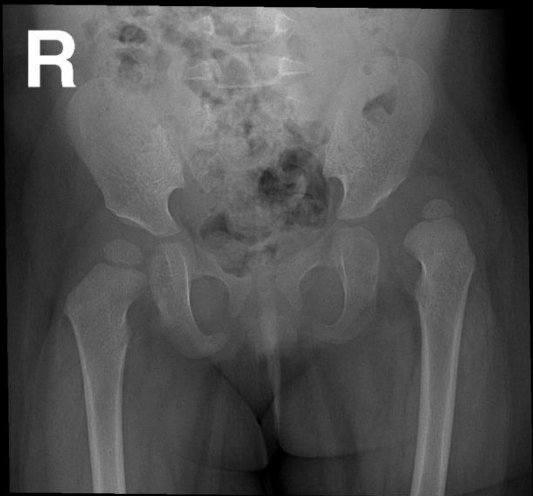
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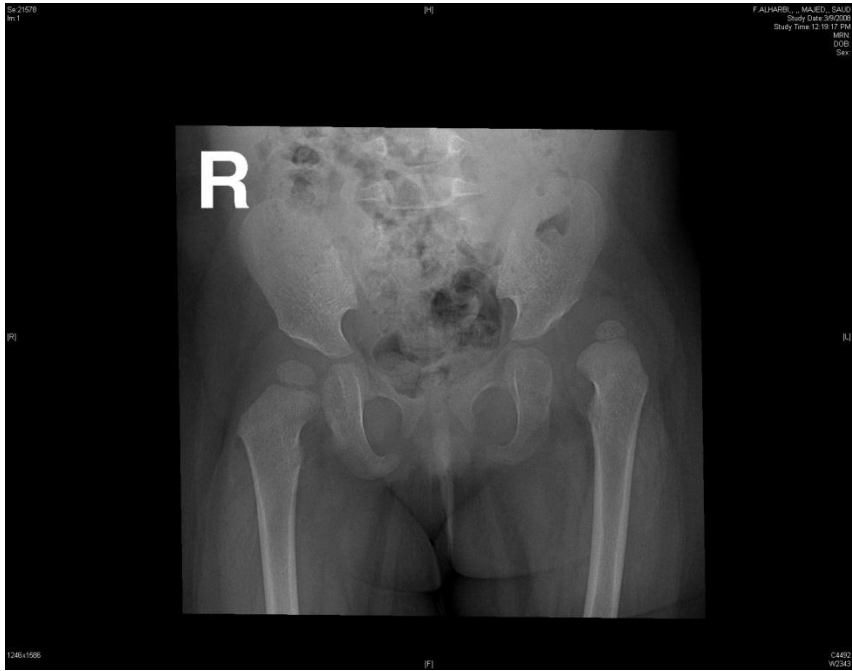
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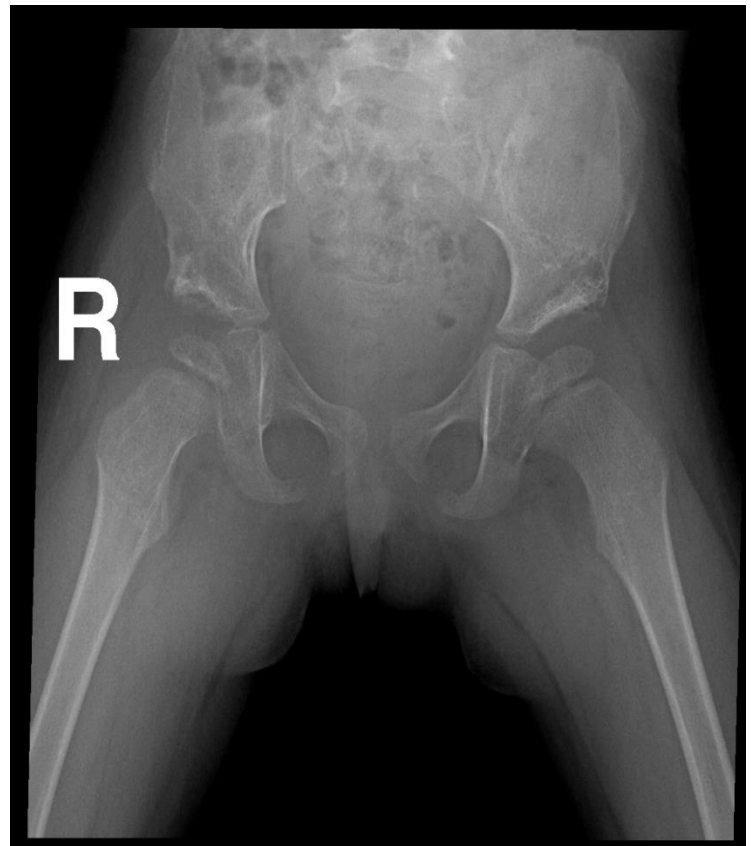
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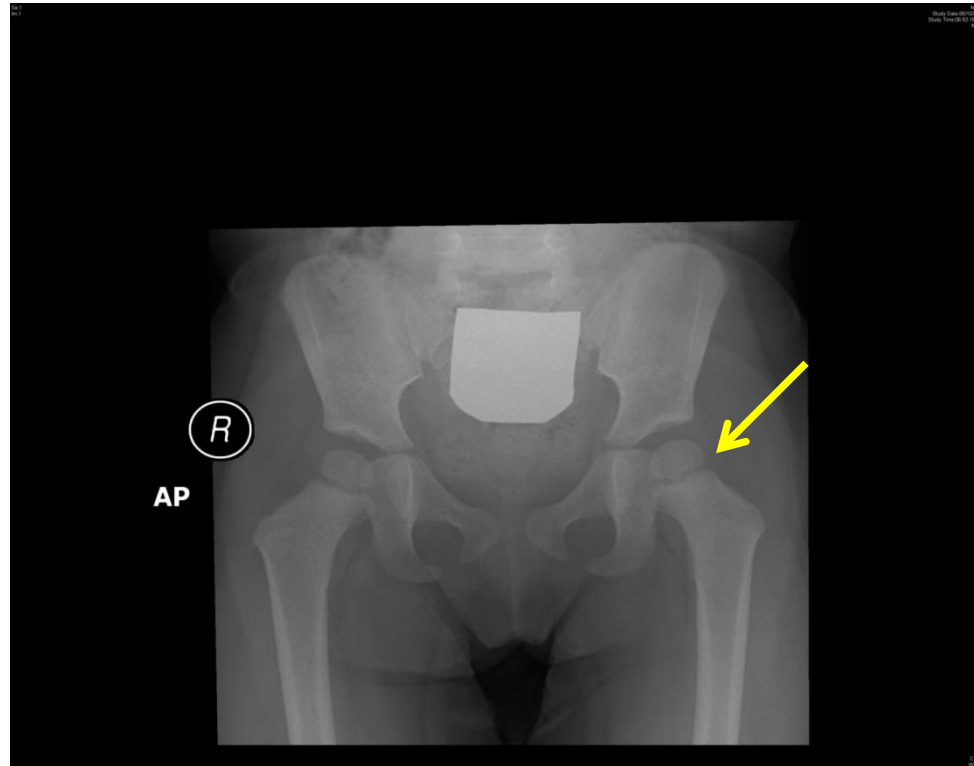




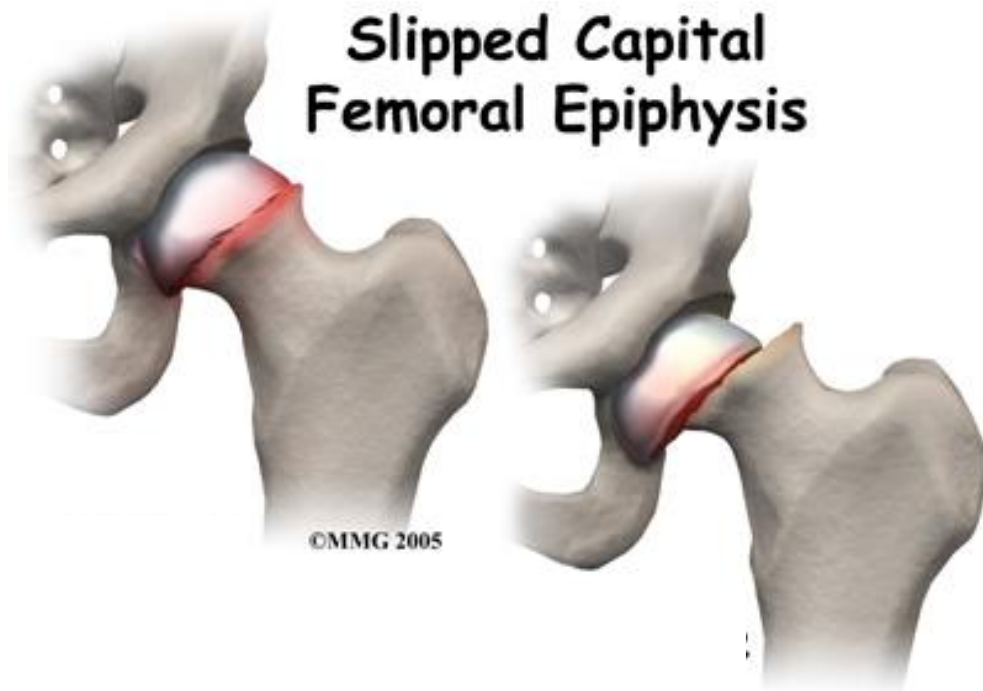
- **Late complications if not treated:**
 - Severe pain
 - Early arthritis
 - LLD leg length discrepancy
 - Pelvic inequality
 - Early Lumbar spine degeneration

SCFE

slipped capital femoral epiphysis



Slipped Capital Femoral Epiphysis



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SCFE:

- **Slipped Capital Femoral Epiphysis**
Where → at level of growth plate

Why →

- ? Hormonal
- ? Metabolic
- ? Mechanical, obesity
- ? Trauma
- ? Unknown

SCFE:

➤ Typical :

- > 8-12
- > ↑ in males
- > ↑ in obese
- > ↑ in black
- > ↑ if other side affected

➤ History:

- > Hip pain / ? knee pain (only)
- > Minor trauma
- > no trauma
- > Limping (painful)

On Examination:

- Hip in ER (external rotation)
- ↓ IR (internal rotation)
- ↓ Abduction
- Usually painful ROM
- Limping (painful)



Ix:

➤ **X-ray**

. Pelvis –

Early: could be normal or ↑ ↑ growth plate space [pre slip phase]

Late: slippage positive

. Knee

➤ **MRI** can help if X-ray is not clear or doubtful



Treatment:

- Refer to orthopedic as emergency case

What they will do?

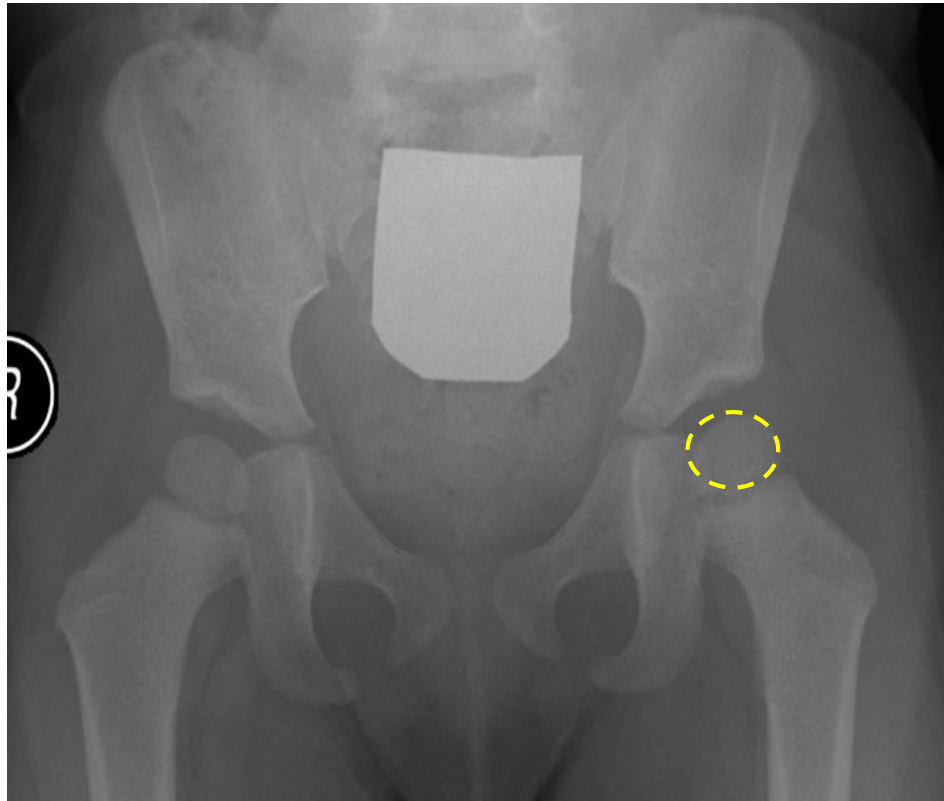
- In situ pinning – to prevent further damage to the vascularity
- Protected weight bearing for 3-4 weeks then full weight bearing
- No sport for 6 months

- **Late complications :**
 - FAI (femoral Acetabular Impingement)
 - Early arthritis
 - LLD leg length discrepancy
 - Pelvic inequality
 - Early Lumbar spine degeneration



Perthes Disease:

Legg-Calvé-Perthes Disease



Perthes Disease:

- Where: at the level of head of femur
- Why: ↓ vascularity of head of femur
(avascular necrosis)

Cause → **unknown**

Typical :

4-8 years

↑ in males

↑ in obese

Severity of the disease depends on :
the amount of femoral head involvement

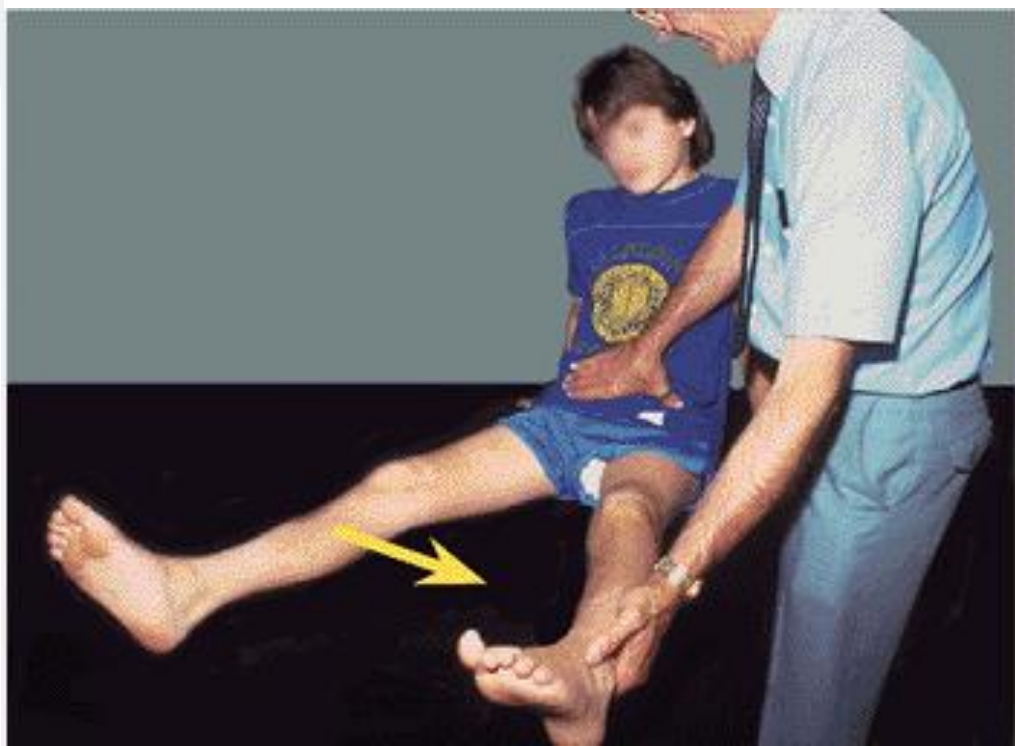


History:

- Hip pain or knee pain
- Minor trauma or no trauma
- Painful limping

On Examination:

- ↓ Abduction
- ↓ IR (internal rotation)
- Usually painful range of motion ↓ ↓ ↓
- Limping (painful)



Ix:

- X-ray: - knee
 - Pelvis → ↓ head size
(irregular shape)
- If early:
 - X-ray might not show anything
 - **MRI** can help



Treatment:

- Very controversy
- Refer to pediatric orthopedics as an urgent case
- Guidelines of treatment:
 - > Control pain
 - > Maintain ROM
 - > Hip containment

- **Late complications :**
 - Early arthritis
 - LLD leg length discrepancy
 - Pelvic inequality
 - Early Lumbar spine degeneration

thanks