Legg-Calve-Perthes Disease

Idiopathic avascular necrosis of the proximal **femoral epiphysis** of the femoral head

Rule out septic arthritis
- Inability to weight bear, fever, limp
- Elevated WBC, CRP

PRESENTATION

- **Typical Presentation**
  - Age (average onset 4-8 years old)
  - Sex (male > female) (4:1)
  - Unilateral, rarely bilateral

SIGNS & SYMPTOMS

Insidious onset:
- Hip, thigh, or knee pain
- Antalgic or Trendelenburg Limp

DIFFERENTIAL DIAGNOSIS

- Skeletal dysplasia
- Sickle cell disease
- Gaucher disease
- Hypothyroidism

PHYSICAL EXAM

- Antalgic gait, or painless limp
- ROM Hip: decreased abduction and internal rotation, painful

PATHOPHYSIOLOGY

- Blood supply disruption to femoral epiphysis of unknown etiology
- Proximal femoral epiphysis progresses through **Waldenström stages:**
  - Stage I - observable sclerosis, medial joint space widening and crescent fracture
  - Stage II - collapse of femoral epiphysis
  - Stage III - reossification
  - Stage IV - remodelling

DIAGNOSIS

X-Ray (AP Pelvis, frog leg lateral)
- X-ray may appear normal initially - maintain high index of suspicion if typical presentation
- Sclerosis or fragmentation of femoral head epiphysis - typically unilateral

<u>Consider</u> MRI Pelvis or Bone Scan
- If index of suspicion high + initial X-ray negative

MANAGEMENT

- General treatment goal: containment of femoral head in acetabulum
- **Non-operative** (for everyone):
  - NSAIDs, activity restriction/protected weight bearing, physiotherapy (for abduction ROM)
- **Operative**: based on age (>8 years old) and severity
  - Femoral osteotomy
- **Prognosis**: variable duration of healing, can take 2-5 years to resolve

COMPLICATIONS

- Femoral head deformity at skeletal maturity
- Small limb length discrepancy
- Adulthood: increased risk of hip osteoarthritis

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