Painful Hip in Children

Differential diagnosis

At any age:

- Transient synovitis, Trauma, Septic arthritis, NAI, Bone malignancy
- Also: Acute osteomyelitis of the proximal femur, TB arthritis, juvenile spondyloarthritis, juvenile rheumatoid arthritis and juvenile chronic arthritis

Age <5y:

- Developmental dysplasia of the hip
- Transient synovitis common
- Also: Infantile coxa vera, acute infective epiphysitis

Age ~5-10y:

- Perthes' disease

Age ~10-15y:

- Slipped upper femoral epiphysis

Investigations

Bloods: Minimum of FBC, ESR (CRP), culture

Imaging:

- Plain X-ray hips (both, AP and lateral "frog leg" view).
- Ultrasound - best method of showing hip joint effusion.
- MRI - not often used, but may help if diagnosis unclear or surgery contemplated.

Transient synovitis ("irritable hip")

Summary:

- Usually has acute onset. Commonest cause of hip pain in a well child
- Self-limiting condition thought to be due to viral infection or an autoimmune process.
- 2M:1F.

Presentation:

- Pain usually not severe but may prevent weight-bearing on the affected leg.
- Usually no pain at rest and passive movements are only painful at the extreme ROM.
- Child is usually not toxic and the ESR is either normal or slightly raised.
- USS may show an effusion

Management:

- Includes rest and analgesia, with mobilisation once pain has settled.
- Symptoms usually resolve within 2 weeks but may recur.
- There is no evidence of any long term complications.

Septic arthritis.

Summary:

- Child often toxic, pain present at rest, not weight bearing, resist attempts to move hip.
- See separate article

Developmental dysplasia of the hip

- Up to 60% apparently abnormal hips normalise w/o Mx after 1mo so true incid: 1-2:1000.

Risk factors:

- Female
- Breech position
- Caesarean section
- First born child
- Prematurity
- Oligohydramnios
- Family history
- DDH assoc with club feet, spina bifida and infantile scoliosis

Presentation:

- Barlow's test, Ortalani's test
- Asymmetrical skin creases in the thigh or buttock, or unequal leg length
- Reduced hip abduction in flexion (normal is 90 degrees)
- Reduced distance between greater trochanter and anterior superior iliac spine

Inv:

- Plain AP XRay signs: increased acetabular angle (>30° infants, >23° if older), asymmetry of femoral head ossification, and malalignment
- USS femoral head coverage by acetabulum: >=50% (normal), 33-50% (jt laxity), <33% (subluxable), dislocated.

Management

- Reduce if dislocated
- Bracing (Pavlik harness, Frejka splint or other) for 2-3mo until USS/XR show stable
- Closed reduction/hip spica if hip still dislocated
- Surgery if bracing fails or diagnosed >6mo old.

Perthes' disease

Summary:

- Self-limiting with occlusion of blood supply to femoral head causing avascular necrosis.
- Re-vascularisation and remodelling occur but femoral head may remain abnormal shape.
- 4M:1F. Aged 5-10yrs. 85% unilateral.
- RF: low birth weight, short stature, low socio-economic class and passive smoking.

Presentation:

- Gradual onset of pain (±referred to knee), limp & restriction of hip movements.
- More advanced cases may cause leg shortening and proximal muscle wasting.
- X-rays may be normal initially, then smaller femoral head, widening of jt space (esp frog lateral view), apparent increased head density, physeal plate blurring, radiolucency prox physis before flattening of the superolateral epiphysis and fragmentation.

Management

- Physiotherapy improves ROM & muscular strength but not bone changes.
- Surgery if>6yr (as ≤6yr do well whatever)

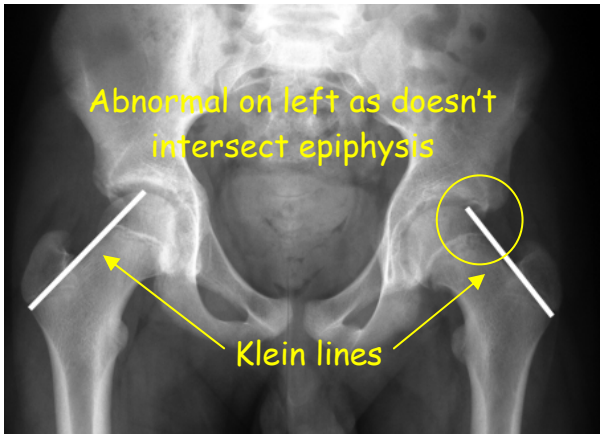
Slipped upper femoral epiphysis

Summary:

- Usually at the onset of puberty and most often in very tall/thin or short/obese children.
- Other RF: Afro-Caribbean, boys, family history.
- 25% bilateral.

Presentation:

- Hip, thigh and knee pain. Often insidious onset.
- May be able to weight bear, but is painful.
- May be leg shortening
- Flexion of hip often also causes ext rotation.
- XR – AP & frog's leg view (Klein line on AP XR)



Management

- No walking, avoid moving or rotating leg.
- Analgesia & Ortho referral for surgery.
- >95% do well if slippage<33%.