

Limping child

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DD in various age groups

Toddler 1-3 yr

Child (4-10 yr)

Adolescent (11-15 yr)

Transient synovitis

Transient
synovitis

SUFE

Septic arthritis

Septic arthritis

Chondrolysis

Diskitis

Perthes disease

Osteochondrosis
dissecans

Fracture

Discoid meniscus

Hip dysplasia

CP

LLD

Overuse syndrome

Muscular dystrophy

DDH

JRA

Rarities:

Leukemia, Osteoid osteoma

Toddlers



- Difficult to attain a reliable history;
- Parents may not recall minor incidents;
- Different gait pattern:
 - Wide-based gait
 - Increased flexion of hips and knees
 - Arms held not of side
 - Extended elbows
- Laboratory values may not be sensitive.

Transient Synovitis

- What is transient synovitis?
- How does it present?
- What is the differential diagnosis?
- How do you treat it?

What is transient synovitis?

- Common condition.
- Boys more often.
- Aged often 3 – 7 years.
- Synonyms – toxic synovitis or irritable hip.
- Transient synovitis = natural history.

Fischer SU, Beattie TF. The Limping Child: Epidemiology, Assessment and Outcome. J Bone Joint Surg Br. 1999; 81(6):1029-1034.

How does it present?

- Acute pain, limp & sometimes unable to walk;
- Most often in morning – no prodrome;
- Not sick & non-specific investigations like WBC or ESR normal or slightly up;
- Radiographs normal;
- Ultrasound examination = effusion.

What causes transient synovitis?

- Unknown.
- Manifestation of viral illness?
- Trauma?
- Unknown!

What is the Differential Diagnosis?

- Septic arthritis.
- Osteomyelitis ad
- Perthes disease.
- JRA
- Very occasionally malignancy.



How do you distinguish septic arthritis from transient synovitis?

1. Fever
 2. Inability to walk
 3. Elevated ESR >40
 4. Raised wbc >12.000
- ?Aspirate

4/4 criteria - 99% chance of sa;
3/4 criteria - 93% chance of sa;
2/4 criteria - 40% chance of sa;
1/4 criteria - 3% chance of sa.

Jung et al JPO 2003; 23(3):368-372.

Kocher et al JBJS Am. 1999; 81(12):1662-1670

Kocher et al JBJS Am. 2004; 86-A(8):1629-1635.

Luhmann et al JBJS Am. 2004; 86-A(5):956-962.

How do you treat transient synovitis?

- Benign process generally without sequel.
- Expectant, bed rest & ensure follows anticipated course.
- No good evidence for traction or anti-inflammatories.

Kermond et al Ann Emerg Med. 2002; 40(3):294-299.

When should a child be admitted with transient synovitis?

- If in doubt as to diagnosis admit for investigation & serial review.
- However if can walk – albeit with limp & not unwell consider advising rest at home.
- Return if gets worse.

What is the usual time frame for recovery?

- Review suggests that return to normal in 2-3 weeks.
- Persistent reduced movement arc after this ought to raise other possible cause e.g. JRA.

Septic arthritis

- Septic arthritis of the hip is a surgical emergency
- History of minor trauma
- Concurrent infection or illness;
- Previous hospitalisation, surgery
- Generalny unwell
- Fever, chills, malaise

Septic arthritis

- Tumor (swelling)
- Rubor (warmth)
- Dolor (tenderness)
- Color (erythema)
- Functio laesa (non w/b)

Does transient synovitis cause Perthes disease?

- Long discussed, unclear but currently not believed to be associated.
- <5% of Transient synovitis is followed by Perthes disease some months later.
- Cause or Effect?
- Soft relationship = 'parental education'.

Vila-Verde et al Clin Orthop. 2001; (385)(385):118-123.

Perthes disease

- avascular necrosis (loss of blood supply);
- usually seen in 4 to 8 yr old boy with delayed skeletal maturity;
- early phase:
 - limited abduction & internal rotation;
 - antalgic gait.



Developmental dislocation of the hip

- LLD;
- Trendelenburg gait;
- Limited abduction;
- Unstability (telescoping);
- Rotational hypermobility;
- Asymmetry of the skin folds;

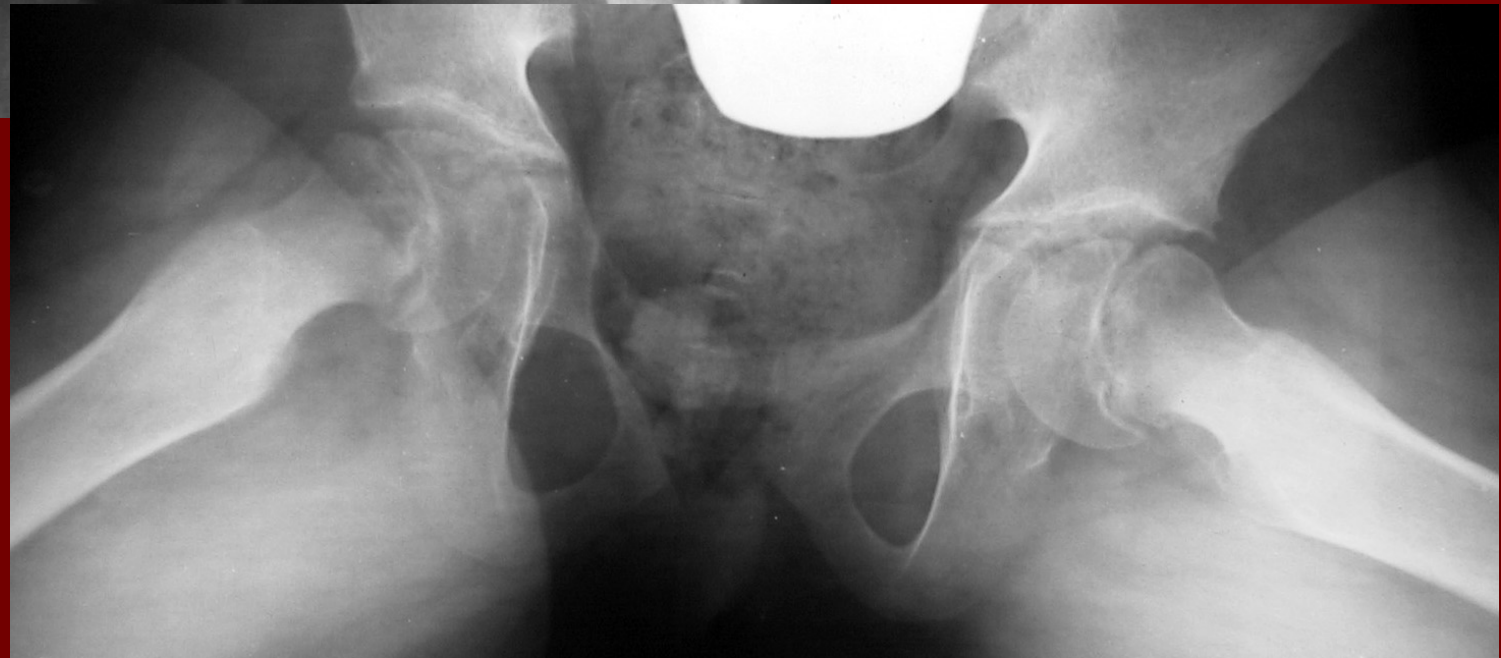


DDH

- Skin and subcutaneous tissue bunch up;
- Galeazzi's sign.



Slipped capital femoral epiphysis



SCFE



SCFE

- Boys > girls;
- 10-17 yrs of age;
- Adolescent growth spurt;
- Endocrine dz;
- Delayed puberty;
- Delayed bone age.



SCFE



- **Loss internal rotation;**
- **Increased external rotation;**
- **External rotation & abduction as hip is flexed.**



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