

The Limping or non-weight bearing Child

See also:

- [The acutely swollen joint](#)
- [Osteomyelitis / Septic Arthritis](#)

Background

- Some important diagnoses will differ according to the age of the child and are relatively age specific - see Table below, as well as Additional Notes.

Common diagnoses defined by age

Toddler (1-4 years)	Child (4-10 years)	Adolescent (>10 years)
<ul style="list-style-type: none"> ○ Developmental dysplasia of the hip (DDH) ○ Toddlers fracture ○ Transient synovitis of the hip (Irritable hip) ○ Child abuse 	<ul style="list-style-type: none"> ○ Transient synovitis of the hip ○ Perthes Disease 	<ul style="list-style-type: none"> ○ Slipped upper femoral epiphysis (SUFE) ○ Overuse syndromes / stress fractures

All ages:

- Infections: [Osteomyelitis / Septic Arthritis](#), discitis, soft tissue, viral myositis
- Trauma
- Non accidental or inflicted injury (see Child abuse guideline) - fracture, sprain, haematoma
- Malignancy - Acute lymphoblastic leukaemia, bone tumours, eg: spine or long bone
- Rheumatological disorders and reactive arthritis
- Intra-abdominal pathology, eg: appendicitis
- Inguinoscrotal disorders, eg: testicular torsion
- Vasculitis, serum sickness
- Functional limp

Assessment

Important features in the history include:

- Duration of symptoms
- Complete refusal to weight bear
- Trauma - there is often a coincidental history of trauma in a non-traumatic condition or there may be no history of trauma and the child may have a significant injury.
- Preceding illness - there is often a history of a simple viral infection preceding a transient synovitis or reactive arthritis

Document name goes here	
Prepared by: Alan Webb	Date of Issue: 13/9/17
Version: 1	Date of Review: 31/12/22
Page: 1	Date: 6/1/20

- Fever or systemic symptoms - suggests infective or inflammatory causes
- Pain - site and severity. Pain on changing the nappy, causing back flexion, may be present in discitis
- Morning stiffness
- Previous injuries or child protection concerns

Examination:

- General appearance, temp
- Gait - running may exaggerate a limp
- Neurological examination - look for ataxia, weakness
- Generalised lymphadenopathy (viral infection / haematological cause)
- Excessive bruising or bruising in unusual places (NAI, haematological)
- Abdomen, scrotum and inguinal area (masses)
- Bony tenderness
- All joints
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 - knee pain can be referred from the hip, and thigh pain can be referred from the spine
 - Include sacro-iliac joints and spine in joint assessment - look for pain on flexion and/or midline tenderness which may be present in discitis
 - Exaggerated lordosis (discitis)
 - Hip abduction and internal rotation are often the most restricted movements in hip pathology

Investigations:

Unless suspecting a specific diagnosis, investigations are usually not required in children with limp <3 days duration.

Discuss with senior staff, then *consider*:

- Bloods:
 - FBC & PV, CRP, blood culture
- Imaging:
 - plain films
 - Further imaging should be discussed with senior staff:

Imaging may demonstrate:

Plain x-rays	Ultrasound scan	Bone scan	CT / MRI
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Document name goes here	
Prepared by: Alan Webb	Date of Issue: 13/9/17
Version: 1	Date of Review: 31/12/22
Page: 2	Date: 6/1/20

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Highland

- Perthes / SUFE
- Chronic osteomyelitis (bony changes only evident after 14 - 21 days)
- Tumours
- Developmental dysplasia of hips (> 6 months of age)

- septic hip
- Osteomyelitis
- Discitis
- Perthes
- Occult fracture

- Only after orthopaedic consultation

Management

Specific management depends on diagnosis.

Ensure adequate analgesia.

Discharge and Follow-up:

If no specific cause found, or suspected transient synovitis:

- Bed rest is important for children with transient synovitis.
- Analgesia; NSAID (eg ibuprofen) +/- paracetamol
- Review with local doctor within 3 days.
- Return to hospital if febrile, unwell or getting worse
- Patients with symptoms for greater than 4 weeks can be referred to rheumatology clinic.

Consider consultation with local paediatric/orthopaedic team:

- Suspected cause of limp is infection of bone/joint, SUFE, Perthes or malignancy.
- Child presenting on multiple occasions.
- Uncertainty regarding diagnosis.

Parent information sheet:

- [Irritable hip \(Transient Synovitis\)](#)

Admission Information

If admission required, Children under 5 would be admitted under paediatrics with orthopaedic supervision to the Children's ward for septic joint, discitis, osteomyelitis, Perthes, SUFE or DDH.

Children over 5 would be admitted to Children's ward under orthopaedics.

Additional Notes - specific causes of Hip Pain

Irritable Hip (transient synovitis)

Document name goes here	
Prepared by: Alan Webb	Date of Issue: 13/9/17
Version: 1	Date of Review: 31/12/22
Page: 3	Date: 6/1/20

- Commonest reason for a limp in the pre-school age group.
- Usually occurs in 3-8 year olds
- History of recent viral URTI (1-2 weeks)
- Child usually able to walk but with pain
- Child otherwise afebrile and well
- Mild-moderate decrease in range of hip movement - especially internal rotation.
- Severe limitation of hip movement suggests septic arthritis.

Transient synovitis is a diagnosis of exclusion. Symptoms overlap with those of [septic arthritis](#). If diagnosis in doubt, consult with orthopaedics.

Perthes disease

- Avascular necrosis of the capital femoral epiphysis.
- Age range 2-12 years (majority 4-8yrs)
- 20% bilateral
- Present with pain and limp
- Restricted hip motion on examination

Slipped Upper Femoral Epiphysis

- Late childhood/early adolescence.
- Weight often > 90th centile.
- Presents with pain in hip or knee and associated limp.
- The hip appears externally rotated and shortened.
- There is decreased hip movement - especially internal rotation.
- May be bilateral.

Adapted from http://www.rch.org.au/clinicalguide/guideline_index/Child_with_limp/ for Raigmore Hospital by Dr Alan Webb

Document name goes here	
Prepared by: Alan Webb	Date of Issue: 13/9/17
Version: 1	Date of Review: 31/12/22
Page: 4	Date: 6/1/20