

# The Limping Child

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- 2013 OLCHC ED ~35,000 attendances
- Referrals containing “limp” in p/c- 186
  
- “Limp” diagnoses: 284
  - Transient Synovitis/ Irritable Hip 181
  - DDH 6
  - Perthes Disease 7
  - SUFE 6
  - *Limp- unspecified* 84

# Limp- Cause by age



Preschool	School age	Adolescent
DDH	Trauma	Fracture
Transient Synovitis	Perthes Disease	Osteochondroses
Fracture	Transient Synovitis	SUFE
Foreign Body		Overuse syndromes
JIA		Osteochondritis dissecans
Malignancy	Malignancy	Malignancy
SA/OM	SA/OM	SA/OM
Discitis		Pain amplification syndromes

# Cause by acuity



Ospidéal  
Mhuire na Leanai,  
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Acute	Sub-acute	Chronic
Fracture	JIA	Cerebral Palsy
Transient Synovitis	Malignancy	DDH*
SA		Perthes Disease*
SUFE		
OM		

# Clinical presentations

## Case 1

- Tommy, 2yo male
  - Reluctant to weight bear on left leg today
  - No trauma
  - URTI last week
  - Now mobilising post-paracetamol
  - Improving over this morning
  - No fever

# Case 2

- Tommy, 2yo male
  - Reluctant to weight bear on left leg today
  - Caught left leg under him on slide yesterday

# Toddler Fracture



# Case 3

- Tommy, 2yo male
  - Reluctant to weight bear on left leg today
  - Temp 38.5c
  - Not coryzal
  - Upset on exam of left leg
  - Difficult to localise further



# Septic Arthritis



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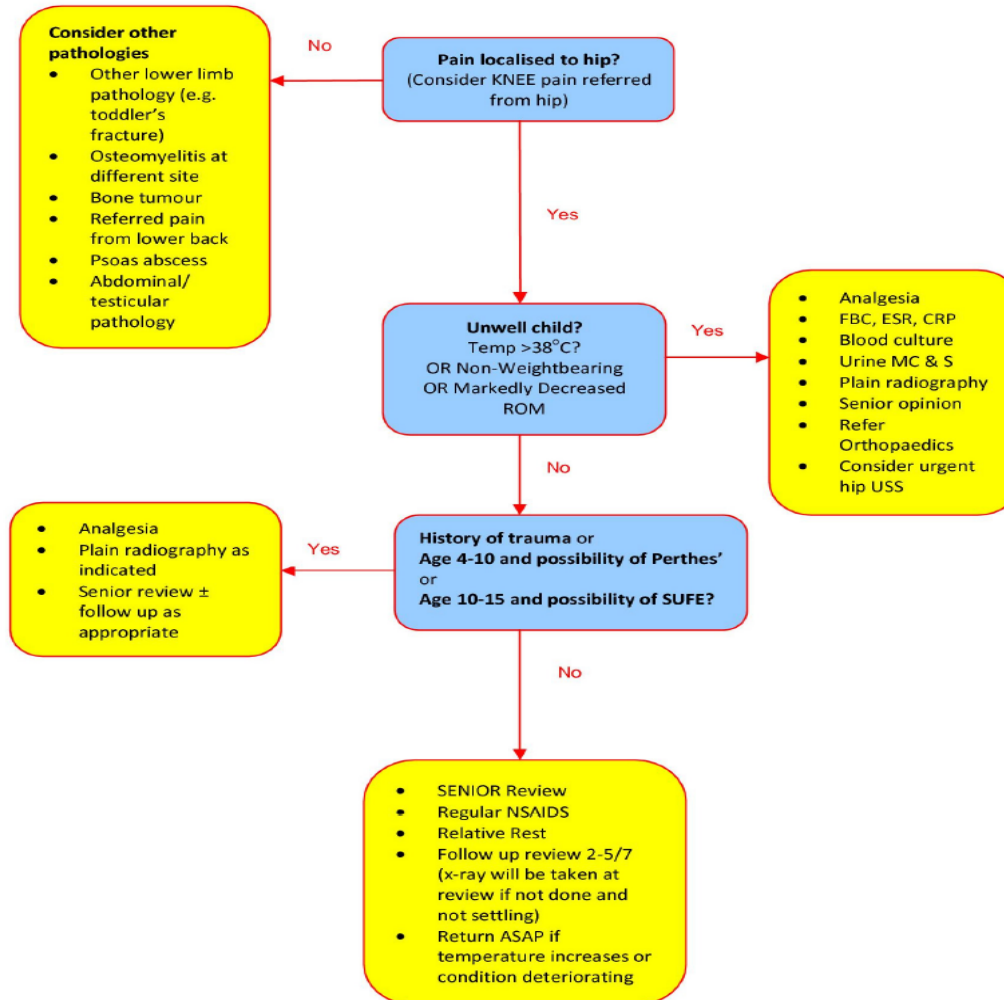


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# Standardised approach

- Clinical practice guideline
  - *Implementation of an evidence based guideline reduces blood tests and length of stay for the limping child in a paediatric emergency department.* [McCanny PJ](#), [McCoy S](#), [Grant T](#), [Walsh S](#), [O'Sullivan R](#). Emerg Med J. 2013 Jan;30(1):19-23.
- Decision making tools

## Limping Child



# Decision tools

- Kocher's Criteria:
  - febrile  $>38.5c$
  - non weight bearing
  - WCC  $>12 \times 10^9$
  - ESR  $> 40\text{mm/hr}$

J Bone Joint Surg 2004

# When to Investigate

- Xray
  - Trauma
  - Apparent TS with duration > few days
  - Adolescent with sudden hip/groin pain + limp
- Bloods (FBC, CRP, ESR)
  - Apparent TS x > few days
  - Fever + limp
  - bone pain (sub acute)
- Ultrasound
  - Useful to evaluate for hip effusion (SA Vs TS)
  - May show subperiosteal pus (OM)
- Bone scan
  - Osteomyelitis
  - Superseded where available by MRI



# Red flags

- Fever + limp
- Adolescent with sudden limp
- Nocturnal pain
- Ataxia
- Lower limb weakness

# Neurological causes of Limp

- Intracranial tumour
- Guillian Barre
- Transverse Myelitis

# SUFE





# DDH



# When to refer to ED

- Acute limp:
  - unable to weight bear
  - fever with limp
  - painful limp
- Bloods suggestive of acute leukaemia
- XR suggestive of bony lesion
- Ataxia
- Lower limb weakness
- Abnormal neurology exam

# When to refer to OPD

Prior to referral, if possible perform:

- X-ray
- FBC ESR CRP

# When/ what to refer to OPD

## Sub-Acute/ Chronic limp

- Intermittent
- Worse in mornings
- Atraumatic
- Reduction in ROM
- Raised inflammatory markers
- No fever usually
- Hypermobility

# When to refer to OPD- Orthopaedics

- Osteochondroses
  - Non resolving Osgood Schlatter, Severs
- Chronic symptoms in absence of Xray / blood findings
- Apparent recurrent TS with normal hip X-rays
- Late Dx DDH or Perthes (via ED)

# When to refer to OPD- Physiotherapy

- Symptoms suggestive of Osteochondroses
- Local Physiotherapy
- Orthopaedic OPD

# Take-home message

- Causes of Limp vary with age
- Fever with painful limp needs investigation
- For recurrent/ chronic limp OPD referral may be most appropriate
- X-rays less useful in atraumatic limp <10yo
- Adolescents with acute hip OR knee pain warrant Xray to o/r SUFE