Ashford and St. Peter's Hospitals
NHS Foundation Trust

Guideline for the investigation and management of a limping child in the Paediatric Emergency Department

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Guideline History		
Date	**Comments**	**Approved By**
15/06/2021	Update on previous version	Paediatric Guideline Committee

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1.

Guideline for the investigation and management of the limping child in Paediatric ED

Introduction

Limp is a common presentation to Paediatric ED with a wide differential diagnosis. This guideline provides a systematic approach to investigation and treatment.

Limp is a common presentation in the PED, and the diagnosis will vary with the age of the patient, the presentation, and associated features. It is important to rule out serious treatable causes, such as osteomyelitis, septic arthritis, and more unusually leukaemia. Injury should be considered in a child who will not weight bear at all, and there should be a high suspicion of NAI in a non-mobile child with loss of or reduced movement of a limb.

Assessment

History

- Careful history of any recent injury, or viral illness
- Ask about any related symptoms e.g. pain or swelling of other joints, rashes, bruising, fever, weight loss, pain progressing or waking child at night
- Note any recent antibiotic treatment (partially treated septic arthritis or osteomyelitis)
- In NAI there may be no history of injury given by the parent

Examination

- The child must be undressed to their underwear or nappy, including socks and shoes
- General appearance of child well/unwell
- Temp, HR, RR, BP, 02 sats
- Gait: Ask the child to walk towards you or parent, if very young child, and assess the gait
    - A limp may become more obvious when the child runs
    - If the child can kneel or crawl, an injury is likely to be below the knee
- Examine the legs for swelling, bruising or deformity or decreased muscle mass
- The feet should be examined, including the soles, and between the toes
- Check for tenderness or increased temperature of bones or joints

- Check range of movements of joints and if movement is limited by pain
- Lower limb reflexes should be checked and full neurological exam if indicated
- The back should be examined for scoliosis and bony tenderness
- The pelvis and sacroiliac joints should also be examined
- The abdomen should be examined, looking for any masses, scars, tenderness hepatosplenomegaly, herniae, inguinal lymph nodes and scrotal swellings, including torsion of the testis
- If there is bruising or a petechial rash, the child should be examined for lymph nodes
- The chest should be auscultated as pneumonia can cause pain, and may occasionally lead to an altered gait
- Remember that hip pathology can present as referred pain to the knee.

Assessment of cases

Children with **non-traumatic** limp should all be seen by Paediatrics first and then referred on to Orthopaedics if appropriate.

All children with fever and limp/swollen joint must have a diagnosis of septic arthritis considered and should have the following investigations:

- **FBC** (WCC<12 counts against SA)
- **ESR** (ESR<40 counts against SA)
- **CRP** (CRP<20 counts against SA)
- **Blood cultures**
- **Pneumococcal/Streptococcal antigen in urine**

X-ray

This is useful to look for fractures, Perthe's and SUFE. It is less useful for joint effusions, osteomyelitis or septic arthritis

Ultrasound

This can detect a joint effusion, but is not diagnostic unless the joint is aspirated

MRI

This can detect osteomyelitis, septic arthritis, Perthe's disease, bone tumours and discitis

For the management of osteomyelitis and septic arthritis, please follow the:

Guideline for the management of osteomyelitis and septic arthritis in Paediatric patients

Antibiotic guidance is available via Microguide.

In children with limp but no fever the differentials below should be considered and investigations requested as appropriate:

Differential	Suggestive features	Investigations
Osteomyelitis	• often more insidious pain • more localised to bone than joint • may co-exist with septic arthritis	• MRI (may need sedation)
Transient synovitis/'Irritable Hip'	• Viral prodrome • Well child • Usually weight bearing	• No diagnostic test • Can have effusion (sterile)
Bone tumour/leukaemia	• Pain- often worse at night • Bruising etc. • Wt loss • Night sweats	• FBC & film • LDH, urate • X-ray • MRI
Psoas abscess	• Fever • Pain on hip flexion • Often insidious	• Abdo USS
Appendicitis	• Abdominal pain etc	• Surgical opinion • Abdo USS
Slipped upper femoral epiphysis	• Early teens • Obesity • Hypothyroidism/Trisomy21	• Hip x-ray • Orthopaedic opinion
Perthe's disease	• Younger child • Male • Chronic	• Hip x-ray • Orthopaedic opinion
Cellulitis	• Cutaneous signs	• Culture (blood/skin)

Transient synovitis is usually a diagnosis of exclusion and there are no specific tests for it. If there is any doubt about the diagnosis, then bloods and x-rays should be done.

- Children with a working diagnosis of transient synovitis can be managed in primary care.
    - Advice on rest and simple analgesia should be given, and parents/carers should be advised to take the child to PED if symptoms worsen, a fever develops, or the child becomes unwell or unable to weight bear.
    - If symptoms are improving within 48 hours, the child should be reviewed 1 week from symptom onset to confirm complete resolution of symptoms.
    - If symptoms worsen or fail to resolve, or there is any doubt about the diagnosis, urgent hospital assessment should be arranged.

IF A CHILD IS TO BE DISCHARGED THEY SHOULD BE GIVEN A LIMPING CHILD DISCHARGE ADVICE LEAFLET

NB: ORTHOPAEDIC REVIEW IS AS AN OUTPATIENT UNLESS SEPTIC ARTHRITIS IS SUSPECTED. FRACTURE CLINIC IS NOT APPROPRIATE. THE ON CALL ORTHOPAEDIC TEAM CAN BE CONTACTED TO REVIEW THE CHILD IF NECESSARY, AND THEY CAN PUT THE CHILD INTO THEIR 'HOT HIP' CLINIC.

2. Supporting References

https://cks.nice.org.uk/topics/acute-childhood-limp/

3. Supporting relevant trust guidelines

Guideline for the management of osteomyelitis and septic arthritis in Paediatric patients

https://viewer.microguide.global/guide/1000000059#content,9bd1ccbc-3d84-4dd5-9efa-2c5338495e04

2. Guideline Governance

a. Scope

This guideline is relevant to all staff caring for all children from 0-18 years old across the emergency department, inpatient ward and outpatient department.

b. Purpose

i. This guidelines aims to facilitate a common approach to the management of children. At times deviation from the guideline may be necessary, this should be documented and is the responsibility of the attending consultant.

ii. This guideline is subject to regular review to ensure ongoing evidence based practice.

c. Duties and Responsibilities

All healthcare professionals responsible for the care of all children 0-18years should be aware of practice according to this guideline.

d. Approval and Ratification

This guideline will be approved and ratified by the Paediatric Guidelines Group.

e. Dissemination and Implementation

i. This guideline will be uploaded to the trust intranet 'Paediatric Guidelines' page and thus available for common use.
ii. This guideline will be shared as part of ongoing education within the Paediatric Department for both medical and nursing staff.
iii. All members of staff are invited to attend and give comments on the guideline as part of the ratification process.

f. Review and Revision Arrangements

a. This policy will be reviewed on a 3 yearly basis by the appropriate persons.
b. If new information comes to light prior to the review date, an earlier review will be prompted.
c. Amendments to the document shall be clearly marked on the document control sheet and the updated version uploaded to the intranet. Minor amendments will be ratified through the Paediatric Guidelines Group. A minor amendment would consist of no major change in process, and includes but is not limited to, amendments to documents within the appendices.

g. Equality Impact Assessment

Background • Who was involved in the Equality Impact Assessment
Author and the supervising consultants.
Methodology • A brief account of how the likely effects of the policy was assessed (to include race and ethnic origin, disability, gender, culture, religion or belief, sexual orientation, age) • The data sources and any other information used • The consultation that was carried out (who, why and how?)
All groups of staff and patients were taken into consideration and there is no bias towards or against any particular group.
Key Findings • Describe the results of the assessment • Identify if there is adverse or a potentially adverse impacts for any equalities groups
There is no evidence of discrimination.
Conclusion • Provide a summary of the overall conclusions
There is no evidence of discrimination.
Recommendations • State recommended changes to the proposed policy as a result of the impact assessment • Where it has not been possible to amend the policy, provide the detail of any actions that have been identified • Describe the plans for reviewing the assessment
This guideline is appropriate for use.

h. Document Checklist

To be completed (electronically) and attached to any document which guides practice when submitted to the appropriate committee for approval or ratification.

Title of the document: Guideline for the investigation and management of a limping child in the Paediatric ED

Policy (document) Author: Dr Erin Dawson

Executive Director: N/A

		Yes/No/ Unsure/NA	Comments
1.	**Title**		
	Is the title clear and unambiguous?	**Yes**	
	Is it clear whether the document is a guideline, policy, protocol or standard?	**Yes**	
2.	**Scope/Purpose**		
	Is the target population clear and unambiguous?	**Yes**	
	Is the purpose of the document clear?	**Yes**	
	Are the intended outcomes described?	**Yes**	
	Are the statements clear and unambiguous?	**Yes**	
3.	**Development Process**		
	Is there evidence of engagement with stakeholders and users?	**Yes**	
	Who was engaged in a review of the document (list committees/ individuals)?		**Paediatric Guidelines group**
	Has the policy template been followed (i.e. is the format correct)?	**Yes**	
4.	**Evidence Base**		
	Is the type of evidence to support the document identified explicitly?	**Yes**	

		Yes/No/ Unsure/NA	Comments
	Are local/organisational supporting documents referenced?	**Yes**	
5.	**Approval**		
	Does the document identify which committee/group will approve/ratify it?	**Yes**	
	If appropriate, have the joint human resources/staff side committee (or equivalent) approved the document?	**Yes**	
6.	**Dissemination and Implementation**		
	Is there an outline/plan to identify how this will be done?	**Yes**	
	Does the plan include the necessary training/support to ensure compliance?	**Yes**	
7.	**Process for Monitoring Compliance**		
	Are there measurable standards or KPIs to support monitoring compliance of the document?	**Yes**	
8.	**Review Date**		
	Is the review date identified and is this acceptable?	**2024**	
9.	**Overall Responsibility for the Document**		
	Is it clear who will be responsible for coordinating the dissemination, implementation and review of the documentation?	**Yes**	
10.	**Equality Impact Assessment (EIA)**		
	Has a suitable EIA been completed?	**Yes**	

Committee Approval (Paediatric Guidelines Group)			
If the committee is happy to approve this document, please complete the section below, date it and return it to the Policy (document) Owner			
Name of Chair	**Dr Claire Mitchell**	**Date**	**31/08/2021**
Ratification by Management Executive (if appropriate)			
If the Management Executive is happy to ratify this document, please complete the date of ratification below and advise the Policy (document) Owner			
Date: n/a			