Limp in Childhood: An Audit of our Practice Against Local Guidance

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Introduction

- Limp is common cause of presentation to hospital in children
- Accounts for up to 5% of emergency department visits in children
- Most commonly presents in children aged 1 - 4 years
- Most commonly involves hip or knee
- Causes can be broken down into:
    - Common, benign, self-limiting conditions:
        - Transient synovitis
    - Rarer, more serious conditions
        - Septic arthritis
        - Osteomyelitis
        - Malignancy
        - Non-accidental injury
        - Perthes
        - SUFE (slipped upper femoral epiphysis)
        - DDH
        - JIA
- Further difficulties in diagnosis:
    - Children struggle to localise pain
    - Pain may be referred from another joint
    - History of trauma may be a red herring
    - Treatment with antibiotics may alter presentation of an infected joint/bones
- Therefore it is important to investigate appropriately and follow up to ensure resolution of symptoms
- Currently, there are no national guidelines for the investigation and management of limp in children in the UK.

Aims

To investigate whether, in the Children's Clinical Decision Unit, investigation and management of childhood limp followed local guidelines

To identify if any significant diagnoses were missed

To revise the local guidelines to ensure they were up to date and correctly reflected best practice.

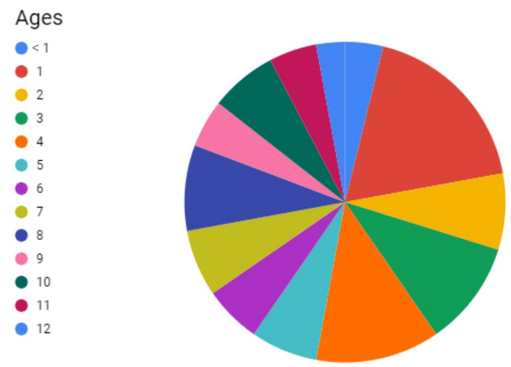
Method

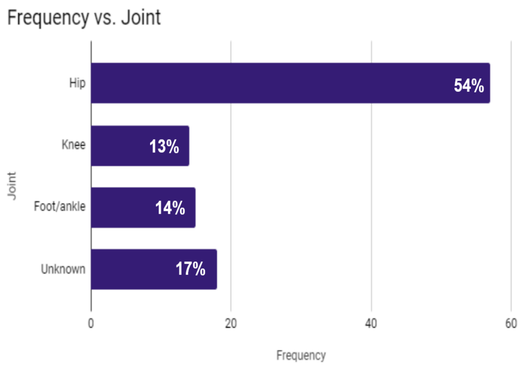
1. A search was done for patients presenting with limp to our Children's Clinical Decision Unit within the last 6 months.
2. Their electronic medical records were then reviewed for details of their admission, investigations, diagnosis, management, and follow-up.
3. These were compared to local guidelines at Oxford University Hospitals.
4. The records were also reviewed for any re-presentations and missed diagnoses.

Results

The search found 106 patients.

Demographics of patients:





Results continued

According to local guidelines

All patients should have:

- Blood tests (full blood count, blood film, C-reactive protein, erythrocyte sedimentation rate and blood cultures)
- X-ray of the affected joint (the guideline details the specific views required).

Findings:

- 33 of the 106 patients had the correct initial investigations.

Those with 2 or more risk factors for septic arthritis should have:

- An ultrasound of the affected joint

Findings:

- 10 of 15 patients with 2 or more risk factors for septic arthritis had an ultrasound.

Those with a diagnosis of transient synovitis/reactive arthritis should have:

- A telephone review in 7 days

Findings:

- 35 of the 53 patients had a telephone review

Diagnoses:

Transient Synovitis	**45**
Reactive Arthritis	**7**
Musculoskeletal Pain/Strain	**7**
Osteomyelitis	**2**
Septic Arthritis	**1**
JIA	**1**
Osgood-Schlatter Disease	**1**
Perthes' Disease	**1**
Plantar Fasciitis	**1**
Kohler Disease	**1**
Osteochondral Fracture of the Patella	**1**
Complex Regional Pain Syndrome	**1**
Unclear/Not documented	**18**

Results continued

Missed Diagnoses:

Osteomyelitis	**1**
Myositis and Lymphadenitis	**1**
Osteochondral Injury	**1**
2nd and 3rd metatarsal fractures	**1**

Limitations

- Documentation sometimes inadequate, making data collection difficult
- Data collected from EPR and not from handwritten notes
- Retrospective audit

Conclusion

- Adherence to limp guidelines was poor and as a result significant pathology was missed.
- Recommendations included
    - Increased education of doctors in training about the limp assessment management guidelines
    - Creation of a limp proforma
    - Reinforcing mandatory telephone reviews after discharge and compulsory recalling of patients with on going symptoms
    - Better documentation of diagnoses (including those suspected/likely diagnoses)

Future Directions

Further ongoing work includes reviewing and updating the limp guidelines.

References

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