Limping Child Pathway

Clinical Assessment/ Management tool for Children

Management – Combined Acute and Primary Care

Patient presents

Limp - abnormal gait pattern usually caused by pain, weakness or deformity

See table 2 for common and significant causes of limp.

Complete PEWS for all patients

Any history of trauma?

Yes

- Low threshold for same day X-rays
- Consider referral to Paediatric ED
- **Consider child protection in younger children**

No history of trauma
Assess child on basis of age and history/examination

Table 1

Green	Amber	Infection (SA/OM) red Flags	Malignancy red flags
Symptoms less than 72 hours or >72 hours and improving	Symptoms more than 72 hours and no improvement	Temperature >38.5°C in preceding week	Fatigue, anorexia, weight loss, night sweats
Mobile but limping	No red flags	Unable to weight bear	Pain waking child at night
Well		Pain on moving joint (passive)	
No red flags		Hot swollen joints	

Green Action

- Provide with **advice sheet**
- Regular analgesia with ibuprofen and paracetamol
- If any safeguarding concerns (esp infants, non-verbal and additional needs) or concerns about slipped upper femoral epiphysis, low threshold for same day X-rays
- Review in 48-72 hours if not improving

Amber Action

Refer to PED
Senior review, consider:

- Xrays (2 views only needed if over 8 years or clinical concern on AP view)
- Bloods – FBC & film, CRP, blood culture (see table 3 for Kocher criteria re: septic arthritis)
- Follow-up

Admit

Urgent Action

- Xrays (2 views: AP & frog-lateral hips)
- Bloods – FBC & film, CRP, blood culture (see table 3 for Kocher criteria re: septic arthritis)
- Orthopaedic review
- Further investigation and management as appropriate

Urgent Action

- **Paediatric review**

GMC Best Practice recommends: Record your findings (See "Good Medical Practice" http://bit.ly/1DPXl2b)

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Table 2: Causes of limp by age

Age Less than 3 Years	Age 3 – 10 years	Older than 10 years	Any Age
Septic arthritis (SA)/ osteomyelitis (OM) • Usually febrile. • Most commonly occurs under 4 years of age. • Pain + inability to bear weight. • If SA hip, hip often held flexed and abducted. • Child often looks unwell and passive movement of the joint extremely painful. • **Septic arthritis is a medical emergency requiring urgent treatment.** • Femoral osteomyelitis presents similarly to septic arthritis with fever and pain but children have some passive range of motion unless there is extension of the infection into the joint. **Transient synovitis is less common below 3 years of age.** **Fracture/ soft tissue injury** **Developmental dysplasia of hip** **Toddler fracture** **Non Accidental Injury**	**Transient synovitis** • Typically acute onset following a viral infection. • No systemic upset. • Peak onset age 5/6 years, more common in boys. • Managed with oral analgesia. • No pain at rest and passive movements are only painful at the extreme range of movement. • Recurs in up to 15% of children. **Septic arthritis (SA) / osteomyelitis (OM)** **Fracture/soft tissue injury** **Perthes disease** • Usually occurs in children aged 4-10 years (peak 5 and 7 years.) • Affects boys more than girls • Bilateral in 10%	**Septic arthritis (SA) / osteomyelitis (OM)** **Slipped upper femoral epiphysis** • Usually occurs aged 11-14 years. • More common in obese children and in boys. • Bilateral in 20-40%. • May present as knee pain • **Same day Xray essential** – delayed treatment associated with poor outcome. **Perthes disease** **Fracture/soft tissue injury**	**Septic arthritis (SA) / osteomyelitis (OM)** **Malignancy** including leukaemia **Non-malignant haematological disease** e.g. haemophilia, sickle cell **Metabolic disease** e.g. rickets **Neuromuscular disease** e.g. cerebral palsy, spina bifida **Limb abnormality** e.g. length discrepancy **Inflammatory joint or muscle disease** e.g. JIA • Affects the hips in 30-50% of cases and is usually bilateral. • Uncommon for hip monoarthritis to be the initial manifestation. • Children typically present with groin pain but may have referred thigh or knee pain. Often have morning stiffness, with gradual resolution of pain with activity. • There is painful or decreased range of motion, especially in internal rotation.

Table 3: Amended Kocher's criteria for septic arthritis

Fever >38.5°C, Unable to weight bear, CRP>20mg/L, WCC >12
(1 criterion = 3% probability for septic arthritis / 2 criteria = 40% probability / 3 criteria = 93% probability / 4 criteria = 99.6% probability)
-see https://www.mdcalc.com/kocher-criteria-septic-arthritis and Caird M et al. J Bone Joint Surg Am. 2006 Jun;88(6):1251-7

Infections with referred pain to the lower extremities

e.g appendicitis with periappendiceal abscess, discitis, pelvic inflammatory disease, psoas abscess, skeletal tuberculosis, spinal epidural abscess, suppurative iliac fossa adenitis with retroperitoneal iliac fossa abscess, and vertebral body osteomyelitis