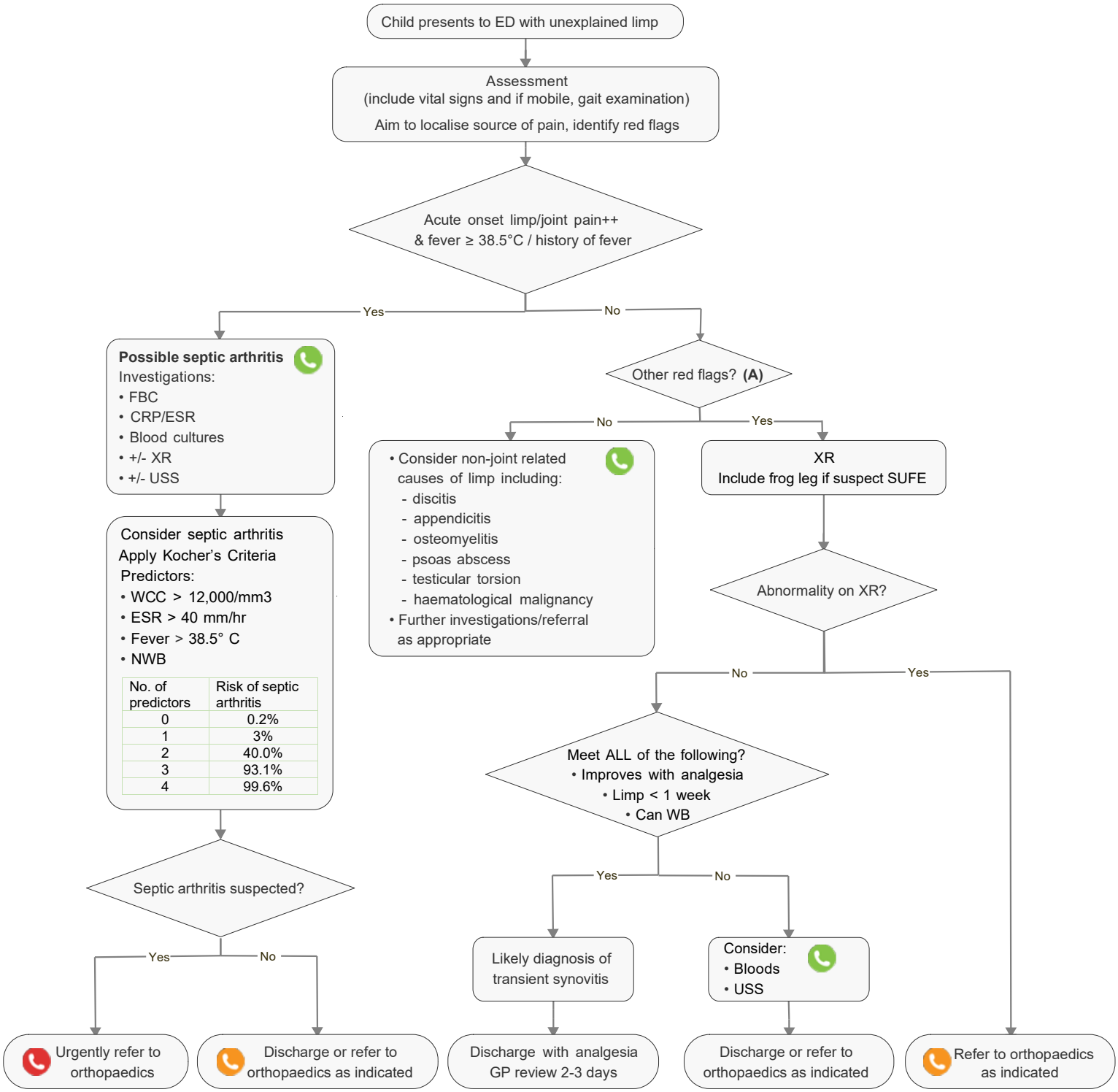
Limp - Emergency Management in Children - Flowchart



Urgent orthopaedic referral as per local protocols
Discuss timing of antibiotics

Seek orthopaedic advice as per local protocols

Seek senior emergency/paediatric advice as per local protocols. Consider seeking orthopaedic advice

For more information refer to the *Statewide Paediatric Guideline: Limp - Emergency Management in Children*

A. Red flags to suggest serious underlying pathology

- Inability to weight bear
- Possibility of unwitnessed trauma/NAI
- Age < 4 years
- Overweight adolescent
- Persistent limp
- Bony pain

Abbreviations

CRP	= C Reactive Protein
ESR	= Erythrocyte Sedimentation Rate
FBC	= Full Blood Count
NAI	= Non-Accidental Injury
NWB	= Non-Weight Bearing
USS	= Ultrasound Scan
WB	= Weight Bear
XR	= X-Ray

Possible diagnoses for a child presenting to ED with a limp

Common ED presentation

Transient Synovitis

- most common cause of limp in the pre-school age group
- male to female ratio is 2:1
- recent history of upper respiratory or gastrointestinal viral infection is common
- child may have normal temperature or low-grade pyrexia (< 38.5°C)
- diagnosis is usually by exclusion, with a careful history and examination (blood tests not routinely required though may be needed to exclude other diagnoses)
- child usually able to walk and weight bear with mild pain or discomfort
- most recover with rest and anti-inflammatory medication within 2 weeks, though usually shorter
- careful clinical assessment is needed to differentiate the more common transient synovitis from an early presentation of septic arthritis in the younger age group

Less common but serious ED presentations

Septic Arthritis

- **an orthopaedic emergency – potential for joint destruction with delayed antibiotic treatment**
- affects all age groups but most common in younger children (peak age < 3 years)
- usually acute onset, with fever (≥ 38.5°C) and toxaemia
- severe pain may occur with passive motion, with children reluctant or unable to move the joint or weight bear
- treatment is with parenteral antibiotics once cultures (blood and ideally synovial fluid) have been obtained

Perthes disease

- idiopathic avascular necrosis of the proximal femoral epiphysis
- commonly between 4-10 years of age
- male to female ratio is 5:1, 20% bilateral
- discomfort and limp may fluctuate potentially delaying diagnosis
- hip stiffness may be present on examination with loss of internal rotation and abduction
- X-rays can be normal in the early stages, with later changes of joint effusion, epiphyseal fragmentation or loss of femoral head height
- maintain a high index of suspicion and consider orthopaedic referral in males aged 5-10 years with persistent limp, even if X-rays are normal
- management may be supportive and/or surgical

Slipped Upper Femoral Epiphysis (SUFE)

- most common hip disorder affecting adolescents
- greatest risk factor is weight above 90th percentile
- more common in children with endocrine disorders / disturbances (puberty)
- male to female ratio is 3:1, bilateral in 20% of patients
- may present with groin/ thigh/ knee pain, abnormal gait, weakness and/or thigh atrophy
- limp often present for weeks or months, and may have been preceded by minor trauma
- slipped epiphysis demonstrated on X-ray of pelvis (including frog leg view) – may be normal or only minor slip in early stages
- maintain a high index of suspicion in overweight adolescents with persistent limp
- high risk of avascular necrosis
- requires operative management

For more information see *Statewide Paediatric Guideline: Limp-Emergency Management in Children*