



## PAEDIATRIC ACUTE CARE GUIDELINE

### Fractures - Femur

<b>Scope (Staff):</b>	All Emergency Department Clinicians
<b>Scope (Area):</b>	Emergency Department

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<http://kidshealthwa.com/about/disclaimer/>

## Fractures - Femur

This guideline is specific for the assessment and management of femur fractures

### Background

- Femoral shaft fractures are more common than other parts of the femur
- Consider non-accidental injury in femoral shaft injuries in infants
- Shock is never the result of a single femoral shaft fracture in children – look for another site of haemorrhage

### General

- Femur fractures account for approximately 1.5% of paediatric fractures
- Incidence is most common in the 2 – 3 year age group and adolescence
- Consider non-accidental injury. Complete an Injury Proforma form in children < 2 yrs (A3 folded sheet located in the Doctor's offices)

### Assessment

- Neurovascular examination should be performed regularly
- Look for other injuries if the mechanism is due to a motor vehicle accident or there is concern for non-accidental injury

## History

- The most common mechanism of injury for early childhood is a fall resulting in a twisting injury or a direct blow
- Sports and motor vehicle accidents are the most common mechanism of injury for adolescents
- In infants, femoral shaft injuries should raise suspicion of non-accidental injury. A careful and detailed history should be taken in these cases. Do an injury proforma sheet for children < 2 years (A3 folded sheet located in the Doctor's offices).

## Examination

- There is usually pain and swelling of the thigh with reluctance to move the hip and knee joints
- Assess for neurovascular compromise and open wounds

## Investigations

### Radiology:

- The entire femoral shaft including hip and knee joints should be X- Rayed.  
See [Radiology Requests – Limb X-Rays](#)
- Assess angulation and alignment
- Look for dislocation of the hip
- For description of types of fractures see [Fractures – Overview](#)

## Management

- A [Femoral nerve block](#) provides effective analgesia
- If distal pulses are compromised, seek urgent Orthopaedic Team review
- Perform a primary survey if the mechanism of injury is a high impact trauma
- All femoral fractures should be referred to the Orthopaedic Team

## Resuscitation

- If the mechanism of injury is due to high impact trauma or MVA, life threatening injuries should be assessed and treated before dealing with the femoral fracture. See [Serious Injury](#).
- Shock does not occur in isolated femoral fractures – look for other sources of bleeding

## Initial management

- [Analgesia](#). Often need opioids (e.g. intranasal [fentanyl](#)) and [femoral nerve block](#)
- Examine for neurovascular injury (if deficits evident manage immediately) – urgent Orthopaedic Team referral

- Immobilise suspected fracture before X-Rays (e.g. splint, board)
- Keep fasted pending Orthopaedic review
- [Antibiotics](#) for compound fractures and consider [tetanus](#)

## Further management

### Proximal Femur

- In children, proximal femoral fractures (physeal, intertrochanteric and femoral neck fractures) are less common than femoral shaft fractures but have higher rates of complication (osseous necrosis)
- All proximal femoral fractures should be referred to the Orthopaedic Team for further management
- **Slipped Upper (or Capital) Femoral Epiphysis** (SUFE) usually presents in adolescents with a history of chronic hip or knee pain but may also present acutely with trauma
  - Management involves strict bed rest, analgesia and Orthopaedic Team referral for pinning. See [Limp and Hip Pain](#).
- **Hip dislocation** is uncommon in children but may be associated with fracture. Early referral to the Orthopaedic Team for reduction is important to reduce the incidence of osseous necrosis.

### Shaft of Femur

- All femoral shaft fractures should be referred to the Orthopaedic Team
- Younger children will need traction +/- hip spica and older children may need intramedullary rods to stabilise the fracture
- Adequate analgesia including [femoral nerve block](#) is important while awaiting Orthopaedic Team review
- Traction splint should be applied once adequate analgesia has been given
- Diazepam 0.2mg/kg orally is useful for muscle spasm and adjunct oral analgesia such as Pain Stop (combination paracetamol/codeine syrup) and Ibuprofen should be provided prior to transfer to the ward. See [Analgesia](#).



Spiral fracture of femur in a 3 month old was a result of NAI – also note ‘Bucket Handle’ appearance of distal metaphysis



Transverse fracture of femur with displacement and shortening secondary to a MVA

## Fractures of Femur Requiring Urgent Orthopaedic Referral

- All fractures of the femur in children should be referred to the Orthopaedic Team
- Urgent referral is needed for any fracture with neurovascular compromise

## Referrals and follow-up

- All femoral fractures in children are referred to the Orthopaedic Team and followed up in the Orthopaedic Fracture clinic. See [Outpatient Clinics](#).


## Health information (for carers)

- [Pain Management](#) Health Fact Sheet

## Tags

diazepam, femoral, femur, fracture, fractures, hip, MVA, nai, nerve block, orthopaedic, SCFE, shaft, spiral, sufe, thomas splint

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