



PAEDIATRIC ACUTE CARE GUIDELINE

Fractures - Foot

Scope (Staff):	All Emergency Department Clinicians
Scope (Area):	Emergency Department

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

Fractures - Foot

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

Background

- Fractures of the hindfoot and midfoot are uncommon in children
- Forefoot fractures rarely lead to complications

General

- Children's feet are flexible therefore hindfoot and midfoot fractures are relatively uncommon
- Metatarsal and phalangeal fractures are more common and usually evident on clinical examination

Assessment

- Be aware of potential compartment syndrome in crush injuries or multiple fractures of the foot

History

- Common mechanisms of injury are crush injuries, stubbing of toe, kicking and tripping
- Tarsal fractures are uncommon in isolation, and are usually seen in crush injuries
- Calcaneal fractures commonly occur after a fall from a height landing on the heels. In

these cases, compression fractures of the spine should also be considered.

- Consider non-accidental injury. Complete an Injury Proforma form in all children < 2 years (A3 folded sheet located in the Doctor's offices)

Examination

- There is usually localised pain, swelling and tenderness with reluctance to weight bear

Investigations

Radiology:

- X-Rays: dorsopalmar, oblique and lateral views. See [Radiology Requests – Limb X-Rays](#).
- If the calcaneus is tender, calcaneal views must be specifically requested since calcaneal fractures may not be visible on standard views
- A CT scan may be indicated in talar fractures, intra-articular calcaneal fractures, severe crush injuries or suspicion of Lisfranc injury
- For descriptions of types of fractures see [Fractures – Overview](#)

Management

- The majority of foot fractures do not require operative treatment

Initial management

- [Analgesia](#)
- Immobilise suspected fracture before X-Rays (e.g. splint)
- Examine for neurovascular injury (if deficits evident manage immediately) – urgent Orthopaedic Team referral
- Ice and elevation of effected limb
- [Antibiotics](#) for compound fractures and consider [tetanus](#)

Further management

Hindfoot Fractures

- Fractures of the talus and calcaneus are uncommon in children
- Fracture of the talar neck occurs most frequently in hindfoot fractures of children and may be complicated by osseous necrosis – these should be referred to the Orthopaedic Team
- Intra-articular fractures of the calcaneus should be referred to the Orthopaedic Team
- Minimally displaced talar and non intra-articular calcaneal fractures are managed in a below knee plaster backslab and followed up in the Orthopaedic Fracture clinic in 7 days.



Fracture of neck of talus



Talar dome fracture – looks simple on plain X ray but CT shows multiple intra-articular bony fragments.

Midfoot Fractures

- Fractures of the navicular, cuboid, cuneiform and tarsometatarsal junction (Lisfranc) are rare in children and are usually seen in combination with other foot fractures
- Be wary of compartment syndrome in major midfoot fractures
- Avulsion fractures of the navicular or cuboid are managed in a below knee plaster backslab and followed up in the Orthopaedic Fracture clinic in 7 days.
- Tarsometatarsal fractures (Lisfranc) and complex fractures should be referred to the Orthopaedic Team.




Metatarsal Fractures



- Minimally displaced fractures of the metatarsals are managed in a non-weight bearing below knee backslab and followed up in the Orthopaedic Fracture clinic in 7-10 days.
- A cam boot may be suitable for undisplaced shaft fractures of the 1st to 4th metatarsals
- Displaced or multiple metatarsal fractures should be discussed with the Orthopaedic Team
- Avulsion fracture at the **base of the fifth** metatarsal (insertion of peroneus brevis) is a relatively common fracture in children. These are immobilised in a CAM boot with Orthopaedic Fracture clinic follow up in 7 days. Differentiate avulsion fractures of the base of the fifth metatarsal with **Jones fractures** which involve the 4th and 5th intermetatarsal joint – these are managed in a below knee backslab with Orthopaedic Fracture clinic followup.

Phalangeal Fractures

- The degree of soft tissue injury is often more important than the fracture in phalangeal fractures
- Compound fractures, proximal phalanx and intra-articular fractures of the great toe should be referred to the Orthopaedic Team.
- Proximal phalangeal fracture of the great toe should be immobilised in a Darco Shoe, non-weight bearing and followed up in Orthopaedic Fracture Clinic
- Other phalangeal fractures can be managed with buddy strap and Darco walking shoe or sturdy shoes and do not require specific follow up
- Dislocations of the phalanges can be reduced in the Emergency Department and buddy

strapped. No specific follow up is required.

 Minimally displaced oblique fracture of 5th metatarsal	 Fracture of base of 5th metatarsal following inversion injury	 Fractures of distal 2nd-4th metatarsals
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 Angulated Salter-Harris II fracture of 5th proximal phalanx	 Dorsally displaced transverse fracture of neck of 3rd proximal phalanx
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Fractures of Foot Requiring Urgent Orthopaedic Referral

- Neurovascular compromise
- Compound fractures
- Compartment syndrome
- Hindfoot (talar and calcaneal) fractures
- Midfoot fractures (Lisfranc injury)

Referrals and follow-up

- Simple phalangeal fractures and dislocations require no specific follow up
- Other foot fractures should be followed up in the Orthopaedic Fracture clinic in 7-10 days. See [Outpatient Clinics](#).
- All children who have a plaster placed should have a plaster check at 24 hours. They can return to the Emergency Department to be assessed by the triage nurse.


Health information (for carers)

- [Pain Management](#) Health Fact Sheet
- [Patients with Plaster](#) Health Fact Sheet
- Crutches
- [Patients with Forefoot Fractures \(Medical Surgical Shoes\)](#) Health Fact Sheet

Tags

boot, calcaneus, compound, cuboid, cuneiform, dislocation, feet, foot, forefoot, fracture, fractures, hindfoot, kick, lisfranc, metatarsal, metatarsals, midfoot, navicular, orthopaedic, phalanges, phalanx, talus, tarsal, tarsals, toe, toes, trip

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