



**The Alder Hey Orthopaedics Approach to
Managing Children During the COVID
Pandemic**

March 2020

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These guidelines are written to assist in the immediate management of paediatric orthopaedic patients during the COVID pandemic. **They are not prescriptive.** As usual, all cases seen by the orthopaedic team should be discussed in a daily trauma meeting and any decisions made at that meeting would supersede this document. This guidance embodies the minimum standard of care that our patients should expect, although it may not always be the care we would normally offer. The level of care given to patients very much depends of the degree of pressure on the Trust at the time that care is delivered and on the availability of staff who can deliver that care. Pragmatic common sense should always be exercised. Information documents for parents have been prepared by the BOA (in conjunction with BSCOS) and can be edited to fit local circumstances and offered to parents for guidance.

OVER-ARCHING PRINCIPLES

ALL INJURIES SHOULD BE EXAMINED TO ASSESS NEUROVASCULAR STATUS, AND EXCLUDE COMPARTMENT SYNDROME.

Orthopaedic consultants must urgently review:

- A child with a suspicion of septic arthritis or musculoskeletal infection.
- A child with suspicion of a tumour.

It is important to remember to always consider NAI.

Consider providing all families with the BOA guidance document where appropriate.

Provide all families with a parental advice leaflet on how to care for and remove their child's cast.

ELECTIVE PRACTICE

HIP SCREENING

Government restrictions have been put in place in March 2020, limiting the movements of the public as a patient safety measure. It is accepted that during this crisis, routine non-urgent ultrasound scanning may not take place resulting in a delay for the scanning of unstable or at risk hips. It may well not be possible to adhere to the present NIPE standards due to the government restrictions on movement, public gatherings and the treatment of non-urgent cases. Medical and sonographic personnel may also not be available. If screening is cancelled or postponed, a letter with contact details for patient queries should be drafted by the hip-screening department within the Trust.

Screen positive after clinical examination (suspected dislocated or dislocatable hip)

- In light of current pressure on all services, only babies with screen positive results on physical examination should be referred for hip ultrasound. As far as possible the recommended target times should be adhered to, but we recognise that this may not be possible and therefore the scan should be undertaken as soon as is reasonably feasible.
- If a maternity hospital has the capacity and experience, babies should receive the hip ultrasound **prior to discharge** from the hospital, where possible.
 - If the ultrasound is normal (centered hip and Graf >55 degrees) the child can be discharged.
 - If the child has any abnormality, the child should be rescanned at **6 weeks** of age. Treatment need not automatically begin at this stage, and parents should be reassured that many hips will resolve spontaneously. Parents should be advised not to swaddle their child. Commencing treatment early will increase unnecessary face-to-face follow-ups with its incumbent risks during the period of social distancing.
- If a maternity hospital does not have the capacity and/or experience, the child should be scanned at **6 weeks** of age. If hip ultrasound is not possible 6 weeks of age the scan should be arranged as soon as possible when services resume.
- For those scanned at 6 weeks of age (for either of the above reasons), and the hip is found not normal (a normal hip is a centred hip **and** Graf >55 degrees), orthopaedic review will be required and a harness may be commenced. Once in a harness, treatment follows the standard harness protocol.

Screen positive for hip risk factors (i.e. Breech or Family History)

- Babies with hip risk factors who would usually have hip scan at 6 weeks of age should **NOT** be referred for hip ultrasound. This should be delayed until normal services resume when these children will be then followed up through clinical examination and/or ultrasound/ radiographic follow-up.
- Accurate records should be kept so that any babies who have missed out on a scan or orthopaedic opinion can be traced and followed up as appropriate, when resources permit. The screen positive result should be recorded on S4N to enable follow up at a later stage. In all cases where screening or follow up cannot be completed, records will remain as pending on S4N for later follow up.
- Referring babies with 'clicky hips' is not national policy so in line with current national guidance, babies with screening findings of 'clicky hips' should **NOT** receive hip ultrasound.

PONSETI CASTS

Starting new treatments:

The advice is NOT to start new treatments during the pandemic.

Delay in treatment – implications:

There is evidence that starting treatment later can still lead to good results.

Treatment protocols for older babies and children can be more challenging. Practitioners unfamiliar with this situation are advised to seek support from local tertiary centres and to comply with the advice of the European Consensus Group.

- Please refer to the official BSCOS Ponseti guidance document available at www.bscos.org.uk
- The UKCCG will also be providing advice as required.

ELECTIVE SURGERY FOR NON URGENT CONDITIONS INCLUDING CHILDREN WITH CEREBRAL PALSY

All such procedures should be paused until after the pandemic.

FRACTURE CARE PRACTICE

UPPER LIMB:

CLAVICLE FRACTURES:

Immediate treatment: Provide a sling for comfort and discharge from A&E
Prep the family to begin gentle ROM from 1 week onwards.

Follow up treatment: None required.

SHOULDER DISLOCATIONS:

Immediate treatment: Reduced and discharge from A&E
Provide a sling for comfort
Prep the family to expect a telephone consultation at 4 weeks and to begin gentle ROM from 1 week onwards

Follow up treatment: Telephone virtual fracture clinic – **4 weeks** to check on progress

PROXIMAL HUMERAL FRACTURES:

Immediate treatment: Provide a collar and cuff and discharge from A&E
Prep the family to expect a telephone consultation at 4-6 weeks
Advise to begin gentle ROM from 2 weeks onwards

Follow up treatment: Telephone virtual fracture clinic at **4-6 weeks** to check on progress.

MIDSHAFT HUMERAL FRACTURES:

Immediate treatment: **Minimally displaced/ stable:** Provide a collar and cuff for comfort
Displaced/ unstable: Apply a well fitting high above elbow backslab if appropriate.
Prep the family to expect a telephone consultation at 4-6 weeks

Advise to begin gentle ROM from 2 weeks onwards

Follow up treatment: Telephone virtual fracture clinic at **4-6 weeks** to check on progress.

SUPRACONDYLAR FRACTURES – closed injury, no neurovascular compromise:

- **Gartland 1**

Immediate treatment: Provide a collar and cuff

Prep the family that they will remove the collar and cuff themselves at 3 weeks and to avoid risky activities for 6 weeks

Follow up treatment: None

- **Gartland 2**

Immediate treatment: Application of a well-fitting above elbow backslab and U slab with flexion to 90 degrees

Prep the family to remove the cast themselves at home at 3 weeks and to avoid risky activities for a further 3 weeks. They should expect follow up after the COVID pandemic

Follow up treatment: Face-to-face follow up following the COVID pandemic

- **Gartland 3 & 4**

Immediate treatment: Admit to the ward for further surgical management

Document a clear assessment of their COVID status

Follow up treatment: Fracture clinic appointment **3 weeks** post op for removal of wires.

No Xray to be taken. Discharge from clinic

MEDIAL EPICONDYLE FRACTURES:

Immediate treatment:	Reduce any associated elbow dislocation and check that the medial epicondyle is not within the joint Apply a well fitting above elbow backslab Prep the family to expect a telephone consultation at 2 weeks and that will need to remove cast at 3 weeks and begin mobilisation
Follow up treatment:	Telephone virtual fracture clinic at 2 weeks to check on progress and decide further management thereafter

LATERAL CONDYLE FRACTURES:

- **No intra-articular displacement**

Immediate treatment:	Apply a well-fitting above elbow backslab Prep the family to expect an Xray at 2 weeks followed by a telephone consultation to offer further advice on when the family should remove their own cast at home
Follow up treatment:	Invitation for Xray through the cast at 2 weeks to ensure to displacement followed by telephone virtual fracture clinic thereafter
If no further displacement:	Face-to-face follow up following the COVID pandemic (3 months)
If displacement:	Percutaneous screw fixation (see pathway below)

- **Intra-articular displacement**

Immediate treatment:	Admit to the ward for open reduction and screw fixation. Prep the family to remove backslab/ soft cast at 4 weeks
Follow up treatment:	Telephone virtual fracture clinic – 6 weeks to ensure cast removed Face to face follow up following the COVID pandemic

***** Any long-term non-unions may need to be addressed after the pandemic*****

MONTEGGIA AND GALLEAZI FRACTURES:

Immediate treatment: Admit to the ward for standard operative care.

Follow up treatment: To be decided by the consultant in charge of care

SINGLE BONE FOREARM FRACTURES: (after ruling out Monteggia, Galeazzi and NAI)

Immediate treatment: Principle – to make the arm broadly straight but not necessarily reduce the fracture.

Provide simple analgesia

Apply an above elbow backslab/ soft cast in midrotation/ supination and a give sling for comfort.

Prep the family to expect to remove the cast themselves at home at 6 weeks followed by a telephone consultation at 8 weeks

Follow up treatment: Telephone virtual fracture clinic at **8 weeks** to check on progress

BOTH BONE FOREARM FRACTURES – minimally displaced:

Immediate treatment: Principle – to make the arm broadly straight but not necessarily reduce the fracture.

Provide simple analgesia

Apply an above elbow back slab cast and reinforce with soft cast in midrotation/ supination and a give sling for comfort.

Prep the family to expect a telephone consultation at 8-10 weeks and that they will need to remove the cast themselves at home at:

- 6 weeks if <10 years
- 8 weeks > 10 years

Follow up treatment: Telephone virtual fracture clinic at **8 or 10 weeks** following cast removal to check on progress

BOTH BONE FOREARM FRACTURES – displaced:

Immediate treatment: Principle – to reduce the fracture but anatomical reduction does not necessarily need to be achieved

Provide simple analgesia (which includes intranasal diamorph and/or entonox in A&E) followed by manipulation by a registrar

Application of a below elbow moulded gutter cast ensuring that there is a gap for the cast to be later cut off. Extend to above elbow and reinforce with soft cast leaving a tab of soft cast prominent for later removal

Prep the family to expect a telephone consultation at 2 weeks and that they will need to remove the cast themselves at home at:

- 6 weeks if <10 years
- 8 weeks > 10 years

If > 10 years of age, they will also receive an invitation for an Xray prior to the 2 week telephone call.

Internal fixation remains an option for the adolescent.

Follow up treatment: Telephone virtual fracture clinic at **2 weeks** and at **8 or 10 weeks** following cast removal to check on progress

GRADE ONE OPEN FOREARM FRACTURES:

Immediate treatment: These should be managed as closed injuries in A&E.

Superficial wash and one dose of IV cefuroxime should be administered in A&E.

Follow up treatment: As per fracture pattern protocol above.

BUCKLE FRACTURES DISTAL RADIUS:

Immediate treatment: Apply a splint or bandage to the limb

Prep the family to remove the immobilisation at 3 weeks

Discharge from A&E

Follow up treatment: None

UNDISPLACED DISTAL RADIUS FRACTURES:

Immediate treatment:	Futura splint
	Discharge from A&E
	Prep the family to remove the splint in 4 weeks
Follow up treatment:	None

DISPLACED FRACTURE DISTAL RADIUS:

- Patients < 12 years

Immediate treatment:	<u>Principle – to make the arm broadly straight but not necessarily reduce the fracture.</u>
	Provide simple analgesia
	Application of a below elbow moulded gutter cast ensuring that there is a gap for the cast to be later cut off. Extend to above elbow and reinforce with soft cast leaving a tab of soft cast prominent for later removal
	Prep the family to remove the cast themselves at home in 6 weeks and receive a telephone consultation at 8 weeks
Follow up treatment:	Telephone virtual fracture clinic at 8 weeks to ensure that the cast has been removed.

- Patients >12 years

Immediate treatment:	<u>Principle – to reduce the fracture but anatomical reduction does not necessarily need to be achieved – discuss with consultant</u>
	Provide simple analgesia (which includes intranasal diamorph and/or entonox in A&E) followed by manipulation with the senior registrar present when possible
	Application of a below elbow moulded gutter cast ensuring that there is a gap for the cast to be later cut off. Extend to above elbow and reinforce with soft cast leaving a tab of soft cast prominent for later removal

Prep the family to remove the cast themselves at home in 6 weeks and receive a telephone consultation at 8 weeks

Follow up treatment: Telephone virtual fracture clinic **at 8 weeks** to ensure that the cast has been removed

POTENTIAL SCAPHOID FRACTURES:

Immediate treatment: Apply a thumb extension splint
Prep the family to remove the splint in 6 weeks

Follow up treatment: Telephone virtual fracture clinic **8 weeks**

LOWER LIMB:

SLIPPED EPIPHYSIS:

Immediate treatment: Admit the patient for single screw fixation irrespective of stability
Prophylactic fixation will not be routinely performed and the family should be made aware of the symptoms to be watchful of
Consider decompression of capsule if unstable

Follow up treatment: To be decided by consultant in charge of care

CLOSED FEMORAL SHAFT FRACTURES:

Immediate treatment: Application of Thomas splint and admit to the ward
< 7 years: treat in a hip spica
7+ years: treat with operative stabilisation with internal fixation

Follow up treatment: Dependant on the procedure undertaken – D/W consultant

CLOSED DISTAL FEMORAL/ PROXIMAL TIBIAL PHYSEAL FRACTURES:

Immediate treatment: Urgent admission to the ward
Consider operative stabilisation with internal fixation

Follow up treatment: Dependant on the procedure undertaken – D/W consultant

INTRARTICULAR FRACTURES OF THE KNEE:

Immediate treatment: Consider surgical management

Follow up treatment: Dependant on the procedure undertaken – D/W consultant

TODDLERS FRACTURES:

Immediate treatment: Apply a soft bandage
Discharge from A&E

Follow up treatment: None

POTENTIALLY UNSTABLE DISTAL TIBIAL METAPHYSEAL-DIAPHYSEAL JUNCTIONAL FRACTURES:

Immediate treatment: Apply a below knee backslab – can be reinforced with soft cast
Non weight bearing
Prep the family that they will remove the cast themselves at home in 4 weeks and will receive a telephone consultation at 6 weeks

Follow up treatment: Telephone virtual fracture clinic at **6 weeks** to ensure that the cast has been removed

TIBIAL SHAFT FRACTURES > 10 years:

Minimally displaced

Immediate treatment: Apply a split above knee cast and reinforce with soft cast
Non weight bearing – provide a Zimmer frame or crutches
Prep the family that they will receive an appointment for an XR at 8 weeks and a telephone consultation thereafter. Prep the family that they will need to remove the cast themselves at home

Follow up treatment: XRay at **8 weeks** followed by virtual telephone fracture clinic where further advice regarding length of time in cast will be provided

Displaced:

Immediate treatment: Discuss with consultant:

If **soft tissues amenable** consider applying a moulded above knee split cast with soft cast overlay. If too unstable to treat in plaster, the preferred treatment is internal fixation

If **soft tissues not amenable**, consider using an ex-fix and seek advice of the limb reconstruction team. If ex-fix is applied, consider the presence of a limb reconstruction team so that optimal results may be obtained and return to theatre avoided

Follow up treatment: Determined by consultant

OPEN FRACTURES OF LOWER LIMB:

Immediate treatment: First aid for open fractures should not be compromised despite the COVID emergency. Follow the BOAST guidelines including early antibiotics and photography of the wound to facilitate decision-making. Wounds should NOT be washed out in the emergency department.

Discuss all cases with the on call orthopaedic consultant urgently

A decision regarding surgical debridement, stabilisation and definitive coverage should be made in consultation with a limb reconstruction surgeon (LJ, CP, NP)

Joint Consultant OrthoPlastic decision making should be maintained to minimise morbidity and limit unnecessary trips to theatre.

Techniques to minimise duration and complexity of treatment will be considered. This may include some of the following options: cast treatment with or without windowing/ internal fixation/ acute shortening/ intentional deformity/ local flaps/ consideration of early amputation

These injuries are limb and occasionally life threatening. Any decision to deviate from the BOA/BAPRAS guidance should be made

by two consultants with experience in the management of these injuries

Follow up treatment: Determined by the consultant in charge of care

SHII FRACTURE DISTAL TIBIA:

Immediate treatment: Apply a below knee backslab reinforced with soft cast to achieve optimal position

Check Xray not required unless initially grossly displaced

Non weight bearing with zimmer or crutches

Prep the family that will remove the cast themselves at home in 6 weeks and they will receive a telephone consultation 8 weeks.

Follow up treatment: Telephone virtual fracture clinic at **8 weeks** ensure that the cast has been removed

ADOLESCENT TRANSITIONAL FRACTURES OF THE ANKLE (TRIPLANAR AND TILLAUX FRACTURES):

Immediate treatment: **Undisplaced** fractures should be managed as per SHII fractures above

For **displaced** fractures, the ankle should be internally rotated and a below knee backslab reinforced with soft cast. A repeat check Xray required to ensure good positioning.

- If the fracture gap/step is minimal, conservative management should be followed

- If the fracture gap is deemed unacceptable, admit the patient for operative intervention. A CT scan can be considered although is not essential.

Follow up treatment: If conservative – treat as per protocol above

If operative, consultant to determine follow up plan

FIBULAR FRACTURES (WEBER):

Immediate treatment:	Apply a walking boot
	Weight bear as able – provide crutches if required
	Prep the family that they will remove the boot themselves at home in 4 weeks
Follow up treatment:	Telephone virtual fracture clinic at 4 weeks to check on progress and ensure that the boot has been removed

FOOT FRACTURES – EXCLUDING LISFRANC:

Immediate treatment:	Apply a walking boot or below knee backslab reinforced with soft cast if pain warrants.
	Prep the family to remove the cast themselves at 4 weeks
	Weight bear as able
Follow up treatment:	Discharge

GENERAL CONSIDERATIONS:

- If considering surgery for a suspected or confirmed COVID patient, this should be discussed with a consultant prior to admitting a patient. It will be appropriate to discharge the patient and perform delayed surgery in some cases
- If placing a backslab or softcast, ensure the parents know how it would be removed at home and direct them to the information leaflet and online videos on “how to remove your child’s cast”
- Use splint or boot in preference whenever appropriate/possible
- If placing a backslab or softcast, always ensure it is sturdy enough to last the duration of treatment
- Do not place a full POP without confirming with a senior team member that this is required