Paediatric Orthopaedic Induction for Orthopaedic Registrars

Paediatric On-Call

There are five paediatric orthopaedic consultants working at QMC running the on call rota as follows:

- Monday – Mr Lawniczak (DL2)
- Tuesday – Miss Price (KRP)
- Wednesday – Mr Bryson (DB6)
- Thursday – Mr Chell (JC3)
- Friday – Sunday – 1 in 5 rota (above + Mr Hunter (JBH)

We do not provide cross-cover for weekday on-calls when on annual leave. When the paediatric consultant of the day is away queries for on call patients should be handled as detailed on the attached NUH policy. During the day on weekdays there will be a paediatric consultant available, possibly by phone. The adult trauma consultant will advise out of hours if required. There will always be a paediatric consultant in the morning meeting available for a ward round following an on call.

Mr Chell is often not at QMC on a Friday after his on-call. **All** children admitted when Mr Chell is on-call **must** be discussed with him, either on Thursday evening or early on Friday morning. If he needs to see a child to make a decision he will come to QMC en-route to City Hospital in the morning. He can do nothing about this if informed after the trauma meeting.

Moulded Plaster Protocol

We have a manipulation/moulded plaster protocol agreed with the paediatric ED team. This allows us to straighten simple fractures in ED and discharge to fracture clinic. This covers all children with angulated forearm fractures aged 5 and over. ED will provide them with nasal diamorphine and Entonox so that you can do one quick reduction manoeuvre and plaster. There is no upper limit to the degree of angulation. Children under the age of 5 can still be treated in the same manner if the family and ED are happy – this must be assessed on a case by case basis. You need to get the arm fully straight at the first attempt. You should hear or feel some crunching unless the fracture is wholly plastic. There is a copy of the protocol in the paediatric orthopaedic section of this drive.

Complex injuries such as off-ended fractures should not be manipulated in ED with an attempt to reduce the fracture. These cases will be done in theatre if necessary. You are entitled to straighten out any angulated off-ended fracture to reduce the risk of neurovascular injury whilst waiting for theatre. Again one quick manoeuvre to straighten is all that is done in ED. (see below)

Dislocations should be reduced in ED with appropriate analgesia / sedation as per adults. Time to theatre can be excessive and the majority will reduce closed in ED. If reduction fails then theatre is planned. Please look carefully for associated fractures, particularly of the radial head/neck in elbow dislocation. If there is an associated fracture then should be done in

theatre. Reducing children's joints is urgent; they should not be left any significant length of time.

If you have any issues with ED staff blocking you from performing manipulations as per the protocol please inform the paediatric consultant.

The current paediatric fracture clinic allows a very restricted service for moulded plasters. If you are not sure if a manipulation needs to be performed then please do this in ED or ask the consultant.

Complex hand injuries

We provide a routine hand service for non-surgical hand injuries in children. If a child presents with a complex hand injury / infection which requires surgery then it needs to be discussed with the hand team on-call. For those children aged 14 and over, they can be booked in to the adult hand fracture clinic for follow-up if discussed with the hand team.

Off-Ended Distal Radius Fractures <10 Years

There is evidence that in children under the age of 10 years, straight, off-ended distal radius fractures will re-model and have equivalent outcomes at 1 year to those treated by reduction. For children under the age of 10 years with an off-ended distal radius fracture with good alignment, families should be offered entry into the CRAFFT study which randomises them between:

1. Treatment in plaster – there will be a definite bump when coming out of plaster. This should be well through remodelling by 4 months and should have the same outcome at 1 year as those treated with MUA and k-wire without the risks of surgery
2. MUA and K-wire fixation – will need GA and wires with a minor complication rate of 17%.

Please apply a cast with the wrist straight; pull on the ring and middle fingers whilst the cast is applied using intranasal morphine +/- Entonox. Please direct them to the family information on the CRAFFT website CRAFFT Study – CRAFFT Study (digitrial.com) and alert the consultants at the trauma meeting.

Irritable Hip (Transient Synovitis)

We get a lot of referrals from ED for children with possible septic arthritis or irritable hip. Classical features of an irritable hip are as follows:

- Preceding illness, viral or bacterial
- Child unhappy to weight bear on limb, but generally not too unhappy if sat playing
- Fairly full range of passive motion of hip

The differential diagnosis for this is septic arthritis. If you have seen the child and are completely happy that this is irritable hip then the child should be discharged with advice that if symptoms get worse they should return to ED or their GP. If you feel that infection cannot be excluded then the child should be admitted and discussed with the consultant. These cases should not be referred to fracture clinic.

Please **do not** just book complicated cases into the fracture clinic. In summer the clinics are very busy and we never have any of your notes from ED. The decision needs to be made in ED that they are normal and discharged, or they are admitted for observation or further management.

Slipped Upper Femoral Epiphysis (SUFE)

SUFE is an increasingly common condition affecting overweight peri-pubertal kids (girls 11-12, boys 12-13). The symptoms may be acute or chronic in duration and may be groin pain or purely knee pain.

For any child with knee pain you must check the range of movement of the hips. In a SUFE there will a loss of internal rotation of the hip in relation to the other side and they may have obligate external rotation in flexion. Diagnosis is made from AP and frog leg lateral hip x-rays.

If there is a diagnosis of SUFE the child must be non-weight bearing on crutches and admitted immediately for bed rest. Even if they have walked in with a chronic stable slip they are at risk of an acute slip after a fall. Discuss with the consultant on call as they will not be discharged until pinning is performed.

Supracondylar fractures

Displaced supracondylar fractures should be discussed with the consultant on call early. Often there is an opportunity to do them at the end of Theatre 7 or on the emergency list. If the fracture is displaced the neurovascular status needs to be recorded using the form available on the shared drive; this should be filed with the notes. Angulated supracondylar fractures (AO type 2) can frequently be reduced with flexion and then placed into a collar and cuff using the intra-nasal diamorphine and entonox protocol, and this should be attempted when appropriate – if necessary get advice.

Medial Epicondyle fractures

There is an ongoing national study of these randomising between conservative treatment and fixation. This is called SCiEnCe (www.SCIENCEstudy.org**).** If you see a case then send to the next fracture clinic and alert the consultants. If the elbow is dislocated then that will need reducing in ED – check carefully that the epicondyle is not entrapped on the post reduction view. If there is any doubt discuss with the consultant.

Notes in ED

If you hand write notes in ED these never get uploaded to DHR and are never available in the clinic. Please make notes on Medway using the clinical notes section. There is a category of note called fracture which you can use for all orthopaedic notes. Don't forget to save and "print" so it goes to DHR.

Nottingham University Hospitals NHS
NHS Trust

Trauma and Orthopaedics
Queens Medical Centre
Derby Road
Nottingham
NG7 2UH

Tel: 0115 9249924
www.nuh.nhs.uk

Management of Paediatric Orthopaedic Trauma at NUH

The following points were agreed at consultant directorate, September 2019 and ratified in January 2022

- Paediatric T&O Consultants will prospectively cover weekend on call responsibilities
- Adult T&O Consultants will cover paediatric out of hour on call responsibilities on weekdays (including bank holidays) when the paediatric consultant is on annual leave.
- There will always be a paediatric consultant available for a post take ward round after an on call.
- During weekday working hours there is always a paediatric T&O consultant available for advice to the on call registrar e.g. from fracture clinic etc.
- Paeds T&O Consultants will notify the relevant adult T&O colleagues when they are going to be on leave.
- Adult T&O Consultants covering paeds out of hours can seek informal advice as required from other Paediatric consultant's e.g. neonatal hip septic arthritis. On bank holidays where no paediatric consultant is available then advice +/- transfer may be required from neighbouring trusts.
- Weekday Paediatric trauma will generally be provided by the adult T&O consultants in Th7 or T15. Clinical priorities will be agreed in trauma conference. Most paediatric trauma cases can be operated on by the adult T&O consultants in Th7 or Th15 e.g. supracondylar K-wires, elastic nails forearm and femur, distal radius surgery, abscess management.