Scarborough Health Network Paediatric Fracture Care Pathway

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Purpose: To determine the expectations, roles and care pathways for paediatric patients with fractures and orthopaedic injuries presenting to the Emergency Department at any of the three Scarborough Health Network (SHN) sites.

Rationale: Management of paediatric fractures at SHN has historically been variable, without standardized care pathways. Location and timing of definitive management of fractures have been dependant on several factors, including the comfort level, past experiences and other concomitant workload of both the treating Emergency Physician and the Orthopaedic Surgeon on call at that site. The variability in management has led to delays in care, increased administrative burden for the emergency physician and the orthopaedic surgeon, and an increased number of patients being referred to SickKids and treated outside of their home community. Additionally, SHN has received negative feedback from The Hospital for Sick Children around lack of appropriate communication for patients being transferred.

With the onboarding of a new Paediatric Orthopaedic Surgeon at SHN and the ongoing building of a Paediatric Orthopaedic surgical program, there is an opportunity to standardize care and ensure that children and adolescents with orthopaedic injuries at SHN receive timely, appropriate and expert care within their home community. The objective of this pathway is to provide clear, concise and practical guidance for the treating emergency physician and orthopaedic surgeon on-call to follow when managing paediatric orthopaedic fractures.

Pathway:

When a paediatric patient presents to any of the SHN Emergency Departments with a musculoskeletal injury, the treating Emergency Physician should classify them into one of the following three groups:

Group 1 – Fractures that are clearly non-operative
Group 2 – Fractures that may require surgery, but can safely wait for up to seven days for definitive management
Group 3 – Fractures that require operative management within the next 48 hours

For guidance as to what group a fracture should fall into, the emergency physician can refer to the *Royal Children's Hospital Paediatric Fracture Guidelines*. This resource also provides guidance as to appropriate management immobilization plans.

https://www.rch.org.au/clinicalguide/fractures/

If the treating emergency physician is unsure what group a fracture should fall into, they should classify it in the higher group (for example, if the treating physician is unsure if a fracture should fall into group 1 or group 2, they should treat it as group 2).

Group 1 – Fractures that are clearly non-operative
Examples – Distal Radius Buckle Fractures, Proximal Humerus Fractures, Clavicle Fractures, nondisplaced tibia and forearm fractures, nondisplaced supracondylar humerus fractures

a) Treating emergency physician assesses patient, performs appropriate investigations and identifies injury type
b) Treating emergency physician provides appropriate initial treatment (including immobilization and closed reduction if needed)
c) Treating emergency physician refers to SHN fracture clinic through EPIC internal referral
d) OrthoNavigator triages referral to appropriate clinic (Friday at Centenary with Ryan Katchky if space available; any other clinic if space not available)

Group 2 – Fractures that may require surgery, but can safely wait for up to seven days for definitive management
Examples – Type II supracondylar humerus fractures, displaced lateral condyle fractures, displaced medial epicondyle fractures, displaced forearm fractures, displaced tibia fractures

a) Treating emergency physician assesses patient, performs appropriate investigations and identifies injury type
b) Treating emergency physician provides appropriate initial treatment (including immobilization and closed reduction if needed)

c) Treating emergency physician refers to SHN fracture clinic through EPIC internal referral
d) OrthoNavigator contacts Ryan Katchky to review case
e) If fracture does not require surgery, Ryan advises OrthoNavigator to triage to his next Friday fracture clinic
f) If the fracture requires surgery, Ryan adds patient to teams, contacts OTL and trauma coordinator, and advises OrthoNavigator how to triage referral (sometimes into his next fracture clinic and sometimes into a different clinic if earlier assessment required)

Group 3 – Fractures that require operative management within next 48 hours

Examples – Type III supracondylar humerus fractures, femur fractures, slipped capital femoral epiphysis, posterior sternoclavicular joint dislocations, any open fracture, any fracture with neurovascular compromise

a) Treating emergency physician assesses patient, performs appropriate investigations and identifies injury type
b) Treating emergency physician contacts Orthopaedic Surgeon on call at their site
c) Treating emergency physician and On-Call Orthopaedic Surgeon collaborate on emergency management of fracture (antibiotics, tetanus, time-sensitive closed reductions)
d) On-Call orthopaedic surgeon contacts Ryan Katchky to review case
e) If Ryan Katchky is available to provide timely management, he admits and books the patient with appropriate priority through the on-call board. Patients at Centenary or General can be admitted and treated on site; patients at Birchmount will be transferred to Centenary or General at Ryan Katchky's discretion
f) If Ryan Katchky unavailable or unreachable within 1 hour, patient can be transferred to SickKids. All transfers for fracture management from SHN to SickKids should start with a discussion from the SHN Orthopaedic Surgeon on Call to the SickKids Orthopaedic Resident on Call

Additional Considerations

1) Treating Emergency Physicians should provide appropriate initial management for paediatric fractures. For guidance on appropriate initial management, please refer to *Royal Children's Hospital Paediatric Fracture Guidelines* or call the orthopaedic surgeon on call at your site
2) We have the capability to manage the vast majority of paediatric fractures (operatively and nonoperatively) at SHN. It is rare that a child will need to be transferred to SickKids for management
3) Patients should not be transferred to SickKids without involving the Orthopaedic Surgeon on Call. The Orthopaedic Surgeon on Call should contact Ryan Katchky prior to any decision to transfer patients, and when patients do require transfer, a discussion is

required between the SHN Orthopaedic Surgeon and the SickKids orthopaedic resident on call prior to initiating transfer

4) In rare scenarios where SHN does not have the capability to provide care for paediatric patients (medically complex patients, need for specialized implants or equipment), Ryan Katchky will work with SickKids to coordinate appropriate transfer of care.