CORONAVIRUS
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NHS
Birmingham Women's and Children's
NHS Foundation Trust

Clinical guidance for the Local Management of Children's Hand Trauma during the Covid-19 (Coronavirus) pandemic

Introduction

Children's hand injuries are common. They cause significant anxiety and distress, not just for the child but also for the family.

Birmingham Women and Children's Hospital provides a Children's Hand Trauma Service for all children from Birmingham and surrounding areas. With the risk of Covid-19 infection now being higher than the risk of many secondary complications, BWC has paused the provision of this service on its site.

In order to mitigate the risks to children, families, and NHS staff at this time, the Birmingham Children's Hand and Upper Limb Service and Plastic Service is issuing advice on how to triage and manage all children's hand injuries locally, so that only the most severe injuries need to be referred to BWC NHS.

Range of hand conditions (in order of most common in children)

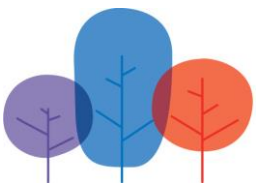
1. Closed Fractures
2. Finger tip injuries
3. Lacerations without skin loss
4. Ligamentous injuries/dislocations/
5. Tendon injuries
6. Open Fractures
7. Lacerations with skin loss
8. Nerve injuries
9. Hand infections including osteomyelitis
10. Other conditions sometimes causing confusion – e.g. congenital
    i. Trigger thumb
    ii. Short metacarpal
    iii. Camptodactyly/clinodactyly

N.B No bruising, no pain, no tenderness - no recent injury

You can contact the team by email/telephone, or for specialist advice, contact the on call plastic surgical registrar at Birmingham Children's Hospital via 0121 333 9999. Send clinical pictures of injury if need for advice to the on call team via email or secure messaging service.

Email: bwc.handsandupperlimb@nhs.net with patient details if necessary,
NB this email is not regularly monitored and will require the on call registrar at BWCH to be informed prior to sending details across

This guidance only applies during the Covid-19 (Coronavirus) Pandemic response phase



Diagnosis

History

1) Timing of presentation, previous medical conditions (e.g. recent infection/injury)

2) Mechanism of Injury. Need detail on what the child was doing at the time of injury. This will give the mechanism of injury. Crush, direct blow, twist, sharp, blunt, clean, dirty.

3) Ask about hobbies of older children.

Why is this important? Some injuries (e.g. crushed fractures) will be more stable than pulled/twisting injuries as the periosteum will remain intact.

Examination

Observe – try and get the child settled and occupied; eg iPad, playing games etc. (it may take a while!). Consider;

- Bruising, Swelling, Redness,
- Deformity – on flexion and extension – look for crossing fingers
- Posture (on wrist flexion and extension) – look for the straight DIP joint or the persistent flexion of a joint in both positions, which may indicate a fixed flexion contracture (e.g. trigger thumb?
- Site and nature of wound
- An older child may offer information on sensory change (not necessarily numbness)
- Find the tender spot if co-operative – watch younger child's face as palpate…

Closed Fractures

No bruising, no pain, no tenderness - no recent injury

Request an X-ray if there is swelling, localised tenderness and/or deformity

a. **The majority of closed phalangeal fractures** in Children's Hands can be managed conservatively with simple realignment and *rest for pain relief for a few days only*

b. ***Rotational deformities*** do not remodel as well as simple angulation deformities
Look for deformity on flexion and extension – look for crossing fingers

c. **Hand fractures will be stable at around 5 days** - Pain usually prohibits movement in the early phase which could cause displacement
Exceptions: oblique shaft fractures and condylar fractures – call for advice

d. **Single metacarpal fractures** usually remodel significantly – rest whole hand for a few days only and mobilise

e. ***Multiple metacarpal fractures*** *– call for advice*

Management:

With Entonox or local infiltration, re-align fingers in all planes, and apply simple buddy strapping.

N.B. – Tips on local infiltration in children:

- Use EMLA or equivalent
- Buffer the lignocaine with bicarbonate – 2mls to 20 mls lignocaine
- Safe and more effective to use lignocaine with adrenaline 1% or 2%

Parents can remove buddy strapping at home after a few days and encourage mobilisation

Fingertip Injuries

Sequelae of the most common injury; the ‘door jam’ injury.

1. **Contusion of nail bed**
2. **Avulsion of nail**
3. **Distal tuft fracture**
4. **Amputation**

1. Contusion of nailbed/subungual hematoma can be managed conservatively. If there is excessive pain and the no avulsion of the nail, trephining of the nail may help

2. Simple avulsion of the base of the nail:

Wash under running water and if possible under local anaesthetic reposition the nail under the nail fold and apply simple dressing for 48 hours – parents to remove

3. Avulsion of the nail and associated fracture

a. Wash
b. Realign
c. Apply Dressing to stay in place for 7-10 days
d. Antibiotics

Suturing of the nail bed or pulp is not absolutely necessary– just realign and dress

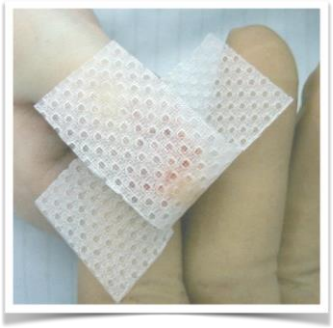
4. Amputations distal pulp

Manage conservatively with dressings as below and then ask parents to redress with duoderm or mepilex every few days after removal of dressing and bath.

Suggested initial dressings for all fingertip injuries

1. Glue and steristrip if possible to realign
2. Primary non-stick dressing e.g. mepitel
3. Gauze for absorption – fold gauze lengthwise and apply once over fingertip
4. Tubinette to tie around wrist
5. Place Elastoplast over edges and ties between fingers over palm and dorsum of hand (not round the fingers)

Primary Dressings



Secondary Dressings

Elastoplast Fixation

- Leave dressing in place for 10 days - most injuries will be healed by then.
- Parents to remove dressings and wash in the bath.

- Apply simple mepilex/Elastoplast for a few days only (See parent advice leaflet)

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Xray findings of the distal phalanx:

1. Tuft Fracture – will heal spontaneously

2. Shaft fracture – may need a k-wire if alignment unsatisfactory - call for advice

3. Seymour fracture (epiphyseal displacement, which can be easily missed in small children. Needs realigning, k-wire not usually necessary – call for advice if realignment not possible

Lacerations without skin loss

Simple, small lacerations do not all necessarily need suturing.

Examine for underlying **tendon or nerve injury**

Wash

Dress

If tendon or nerve injury suspected, wash and dress and call for advice

Lacerations with skin loss

Most small areas of skin loss, particularly on the pulp, will heal without a problem

Larger areas should be dressed and call for advice

Open fractures

Wash dress and call for advice