Breaking the Mold

Fracture Clinic Redesign in the Emergency Department

Olivia Murray
Clinical Nurse Specialist
Emergency Department

Why

Historically

- Traditionally, minor orthopaedic injuries were referred to fracture clinic causing….

  - Increased workload to fracture clinic staff

  - Inappropriate attendances for patients and their families

  - Unnecessary referrals being made

History

How it came about

- Lara and myself were completing Post Graduate study and needed an initiative change.
- Journal Club with ED and Orthopaedic Clinicians discussed the fracture clinic redesign
- We discussed this with all involved and they were happy for us to be the driving force of this change.

Changes to date that have been made

- Introduction of new management guidelines to Southland Hospital Emergency Department, including:

  - Torus (Buckle) fracture of the distal radius (1-14 years)

  - Clavicle Fracture (14 years)

  - Base of the 5th Metatarsal

  - Neck of the 5th Metacarpal

Guidelines for Children's Buckle Fracture's (Torus) of the Distal Radius in the Emergency Department

(For children between the ages of 1 – 14 years)

- Examination and Assessment
- Diagnostic Test – X-ray
- Diagnosis – Torus fracture of the Distal Radius

Splint

Must meet all criteria
- <15 degrees of angulation
- Neurovascular Intact
- Mild to Moderate pain
- Nil Wounds

ED Management
- Wrist Splint or Removable Softcast Back slab, if child's arm is too small for splint
- Buckle Fracture injury handout

Follow Up
- No follow up required
- Splint to remain in place for 2-3 weeks
- If ongoing pain 2-3 days after removal of splint contact fracture clinic

Full Cast

- > 15 degrees of angulation
- Requires Manipulation
- Severe Pain
- Or at Consultant/Senior MOSS discretion

ED Management
- Colles Plaster of Paris
- Sling

Follow Up
- Fracture Clinic Follow up in 10 – 14 days
- Or Virtual Clinic

Under 12 Months

- All return to Fracture Clinic
- Investigate for NAI (Non Accidental Injury)

Yes/Suspected

ED Management
- Paediatric notified
- CYFS Notification
- Soft cast back slab

Follow Up
- Fracture Clinic F/U

No

ED Management
- Removable Soft cast Back slab

Follow Up
- Fracture Clinic F/U 10 – 14 days

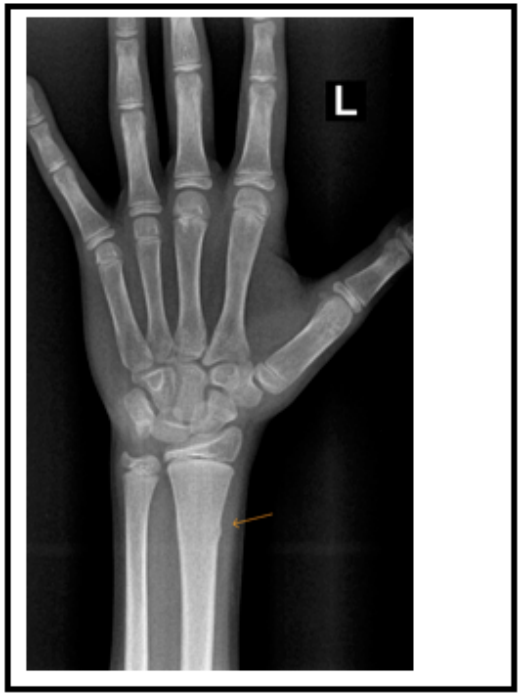
NOTE – If requested by parent or Clinicians. Fracture Clinic F/U is acceptable

Southern District Health Board

Emergency Department

Southland Hospital

Discharge Advice: Paediatric (children's) buckle fractures – wrist



- Your child has suffered a Torus or Buckle fracture (Break) of wrist. Bones are softer in children than in adults and often buckle/bend rather than break.
- The wrist may be tender, slightly swollen and painful to move or crawl on. A buckle fracture is the most common type of fracture in young children.
- These fractures are stable and heal very well. They do not require a splint to assist with the healing, by wearing either a wrist splint or soft cast backslab it is purely for comfort measures only.
- Pain is usually not severe, but your child may still be sore, so it is important to manage the pain with appropriate doses of paracetamol (Panadol). Since these injuries are stable fractures and heal without problems, X-ray and/or follow up appointments with GP, Physiotherapist or fracture clinic are not usually required.

Removal of Splints

- At 3 weeks from the time of the injury, remove your child's splint.
- If your child has a Velcro splint simply loosen the Velcro tabs and then remove the wrist from the splint. To remove the soft cast undo the tape and unravel the covering soft cast, then pull off the back slab. Once this is removed unravel the soft band and pull off the sock.
- Within the first week of the splint removal the wrist is still likely to be a little sore and stiff. Do not play contact sports for the 2 weeks following removal, or until there is no pain with normal wrist movements.

Date to remove your child's splint: - _____

Please Contact Fracture Clinic on (03) 2181949
Monday to Friday 8:30 am
till 5:00 pm

- If you have any concerns
- Your child's wrist remains painful and/or swollen 2 weeks after removal of the splint
- Your child will not use their hand, wrist or fingers within 2-3 days after removal of splint.

GUIDELINE FOR THE MANAGEMENT OF FRACTURED CLAVICLES IN CHILDREN (Age 1-14)

- Isolated injury
- Uncomplicated medial, lateral or midshaft fracture
- Displacement (anything less than 100% i.e. any bone contact)

↓

No Follow Up Required

- Fractures at level of or lateral to coracoid
- High energy injuries and / or with multiple fragments
- 100% displacement
- Practitioner discretion

↓

Refer Fracture Clinic

- Open fracture
- Tented skin
- Signs of neurovascular compromise
- Involvement of sternoclavicular joint

↓

Refer Immediately Orthopaedic Registrar

Discharge Instructions:

- Follow up only if referred to Fracture Clinic
- Broad arm sling for 2/52
- Regular analgesia
- Verbal and written instructions given – paediatric specific discharge information sheet
- If any concerns after discharge contact fracture clinic – see discharge information sheet

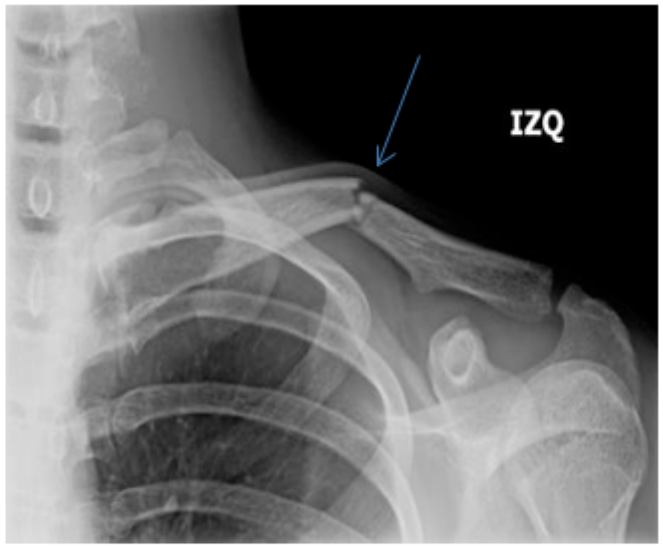
Southern District Health Board

Emergency Department

Southland Hospital

Discharge Advice: Paediatric (Children's) Clavicle Fracture

- Your child has fractured his/her clavicle (collar bone). This type of fracture is common in children.
- Clavicle fractures heal well. The only treatments required are pain relief (Paracetamol and Ibuprofen) and a sling.
- The fractured clavicle is likely to be painful for 4-6 weeks.
- Your child may find it more comfortable to sleep sitting upright for a few days after the injury.
- The shoulder and arm can be moved out of the sling as pain allows. This will usually be about 2 weeks after the injury but can be sooner if comfortable.
- As the fracture heals there will be a bump over the bone. This will disappear but may take up to one year to do so. In children older than ten years a small bump may remain.
- Your child may return to sports such as swimming as soon as comfortable. Contact sports (such as basketball, football and rugby) should be avoided for 6 weeks.
- If your child is still experiencing significant symptoms after 6 weeks, please contact the Fracture Clinic for advice / follow up.

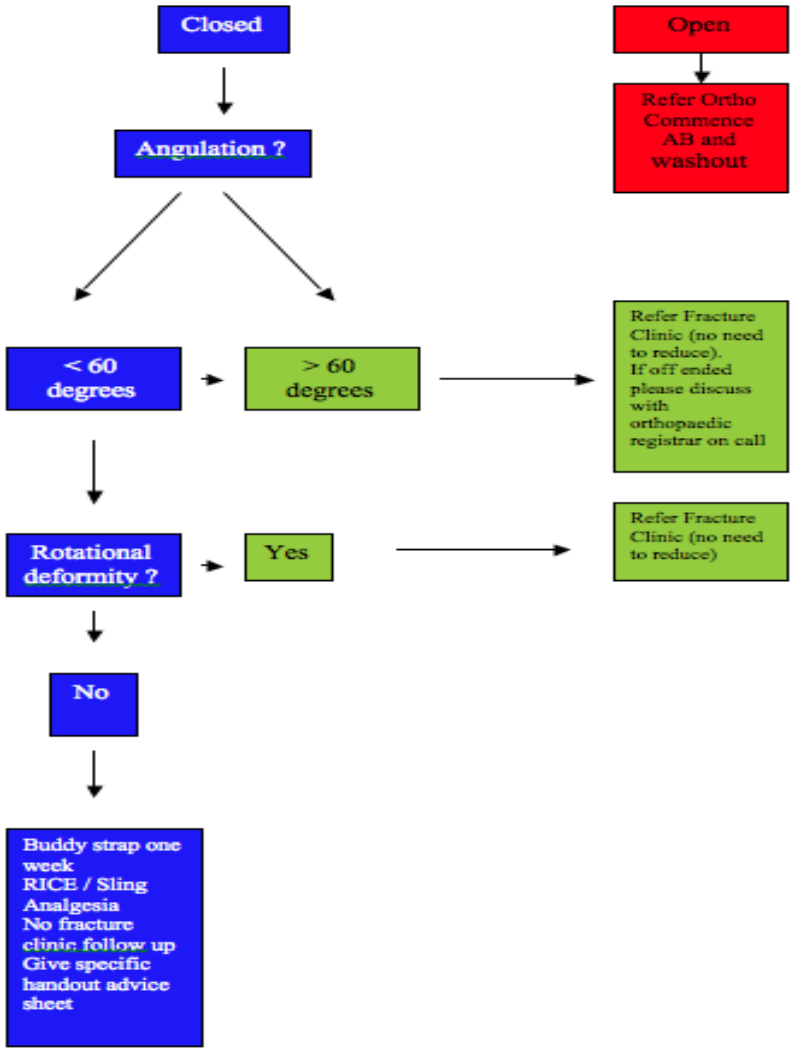


Please Contact Fracture Clinic (03) 2181949

Monday to Friday 8:30 am till 5:00 pm

- If the pain gets worse or lasts more than six weeks
- If you have any concerns about your child's collar bone

Fractured Neck of 5th Metacarpal Guideline



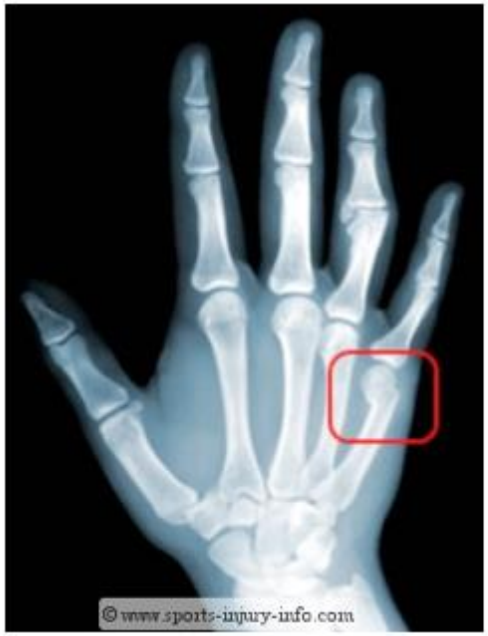
Southern District Health Board

Emergency Department

Southland Hospital

Discharge Advice: 5th Metacarpal Neck Fracture

- You have a minor break near the knuckle and it will usually settle in three weeks.
- It may take six weeks or longer before your hand returns to normal.
- The finger strapping may help with the pain and allow for early movement.
- Follow the RICE (Rest / Ice / Compression / Elevation) method to reduce swelling and discomfort. Take paracetamol and / or ibuprofen as required.
- Because the break is close to the joint you must move your hand as soon as possible, even if this means overcoming the discomfort.
- Remove the finger strapping after one week.
- Use your hand as normally as possible. This will not cause further damage, however heavy lifting may be sore for six to eight weeks.
- Hand grip is generally very good after this type of injury.
- A lump will form at the break site and the knuckle will not be as prominent. There will be some shortening expected as a consequence of the injury.
- Avoid contact sports for six weeks
- No follow up fracture clinic is required unless you have any concerns.



Please Contact Fracture Clinic (03) 2181949

Monday to Friday 8:30 am till 5:00 pm

- If the pain gets worse or lasts more than six weeks
- If you have any concerns about your hand

5th Metatarsal Fracture (including base and shaft)

Avulsion Fracture

- Isolated Injury
- Non-displaced fracture
- Displaced avulsion fracture under 2mm of displacement or10 degrees of angulations.

ED Management

- Stiff sole shoe
- Tubigrip
- Metatarsal fracture injury hand out
- Weight bear as tolerated (can offer crutches if needed)

Follow up

- No follow up required
- Tubigrip can stay in place 4-6 weeks
- If ongoing pain after 12 weeks then contact fracture clinic

Jones Fracture

Non-displaced/Displaced

- Under 2mm
- Below knee back slab
- NWB 6 – 8 weeks.
- -? May need OT for the displaced, will be discussed with orthopaedic doctors at Fracture clinic

Stress Fracture

- Below knee backslab
- NWB 6- 8 weeks

Fracture Clinic Follow Up

Open Fracture

- Washout in ED
- IVAB
- ADT
- **Orthopedic review**
- Admit Surgical

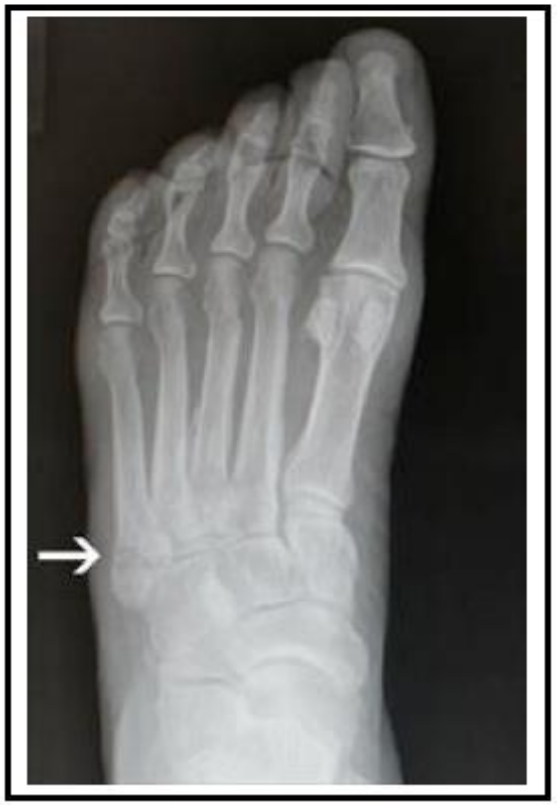
Southern District Health Board

Emergency Department

Southland Hospital

Discharge Advice Sheet
5th Metatarsal Avulsion Fracture (5th toe)
Base and Shaft

- You have fractured the bone on the outer side of your foot
- The fracture has occurred in a part of the bone that usually heals without problems
- The pain, tenderness and swelling you may experience in the foot will gradually settle over a period of weeks.
- You will be provided with support bandaging for the foot and crutches – only if required
- You are able to weight bare as tolerated although we advise nil running or sporting activities for the next 4-6 weeks.
- Research shows that theses injuries heal without problems, however it may take up to several months for your symptoms to completely settle.
- A small significant of these fractures may not heal, if after 3 months you have ongoing significant pain, from the date of your injury then please contact fracture clinic.
- It is important to take regular paracetamol if you require it, to assist with the pain you may experience.
- We also discourage smoking as this can delay bone healing



Please Contact Fracture Clinic on (03) 2181949
Monday to Friday 830 – 530 if

- You have any concerns regarding your foot
- If you have severe pain after several months from the date of your injury

Essential Points

- Important points for this process to work are that both the patient/parent/caregiver are given excellent information and education about injury and discharge.
- We need to ensure that all staff are aware of the importance of education and that the written information is also given.

Benefits to the ED

- Simplified referral pathways
- Standardised treatment and information leaflets
- Reduction in time to manage the patients
- Open communication with Orthopeadics and Fracture clinic

Benefit to Fracture Clinic

- Decreased clinic days
- More time to spend with the more complicated fractures
- Cost savings for the department

Benefits for the patient ensuring quality care

- Travel costs
- Time off both work and school
- Waiting time for the appointment
- No plaster of paris

Education and Teaching

- Literature review undertaken
- Evidenced Based Practice
- Education to Staff

Innovations in Practice Quality

- ED now takes onus of the management and discharges direct from ED
- Patient Satisfaction questionnaires
- Data and Audits
- First Management guideline in Australasia

Financial Implications

- Cost through fracture clinic for one 30 min visit

  - Torus - $223.88

  - Clavicle - $379.88

  - 5th Metacarpal - $379.88

  - 5th Metatarsal - $ 379.88

Reduction in patients through fracture clinic means significant savings in time and money

Communication

Where to from here

References

- www.fractureclinicredesign.org/Royal Glasgow Infirmary