Clavicular Fracture in Children – Assessment and Management - UHDB - Full Paediatric Clinical Guideline

Reference no.: CH CLIN C40

1. Purpose

This is an ED guideline for the diagnosis and management of clavicular fracture in children intended to guide clinicians in their decision making. If concerned, please seek senior advice.

2. Background

Fracture of the clavicle is the commonest fracture seen in children. The fractures are classified according to location, with middle third being the most common (ranging from 80-90%). The most common mechanisms are from a fall, either onto the shoulder or onto an outstretched hand, direct blow to the clavicle or injury during sports. Complications are rare but include brachial plexus injury and pneumothorax. Most heal well with little intervention.

3. History and presentation

- History of trauma or fall
- Acute pain/tenderness over fracture site
- Decreased use of the injured arm
- Swelling and bruising of site

For each child take a thorough history of the mechanism of injury as well as the symptoms above. Don't forget to ask about any neurological symptoms in the affected limb and well as any problems with breathing. Also take a normal paediatric history, including PMH, medications, allergies etc.

If at any point in time there is concern about None Accidental Injury or safeguarding please alert the senior in the department. This might include an injury in a very young child, late presentation or one where the mechanism given does not fit the injury you see in front of you.

4. Examination

Examination in paediatric clavicular fracture helps to confirm or exclude the presence of symptoms that can indicate potential complications.

1. Palpate the clavicle, identifying the area of tenderness
2. Examine the rest of the shoulder, including SCJ, ACJ and scapula to rule out further and more serious injury (particularly in high impact trauma such as sports/RTC)

3. Perform a neurovascular examination of the affected limb as far as tolerated:
    a. Pulses of the upper limb including capillary refill
    b. Assess the function of the radial, ulnar and median nerve including power and sensation
    c. Assess the function of the axillary nerve by testing sensation over the deltoid muscle
4. Auscultate the lungs to rule out pneumothorax
5. Examine for any other injuries as appropriate

After completing the above please refer to the departmental guideline below.

Undisplaced, mildly angulated and incomplete fractures of the clavicle should be discharged from CED with a broad arm/polysling with written advice and no fracture clinic follow up is needed.

5. References (including any links to NICE Guidance etc.)

1. http://emedicine.medscape.com/article/92429-overview#a0156
2. http://www.rch.org.au/clinicalguide/guideline_index/fractures/Clavicle_fractures_Emergency_Department/
3. http://www.orthobullets.com/trauma/1011/clavicle-fractures
4. http://www.patient.co.uk/doctor/clavicle-fracture
5. http://www.wheelessonline.com/ortho/clavicular_fractures_in_children
6. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2504174/

5. Documentation Controls

Reference Number CH CLIN C40	**Version:**		**Status** Final	
Version / Amendment History	Version	Date	Author	Reason
	V001	October 2023	Dr J Mott	Review & Update
Intended Recipients: Paediatirc consultant and nursing staff at Derby				
Training and Dissemination: Cascade the information via BU newsletter and address training				
Development of Guideline: Dr Julie Mott **Job Title:** Consultant Paediatrician				
In Consultation with: (Relevant peer review) Mr S Tafazal, Trauma & Orthopaedic consultant.				
Linked Documents: (Nice guidance/Current national guidelines)				

Keywords: (Search term for KOHA) Clavicular fracture	
Business Unit Sign Off	**Group:** Paediatric Guidelines Group **Date:** 22nd Nov 2023
Divisional Sign Off	**Group:** Women's and Children's Clinical Governance Group **Date: 23rd November 2023**
Date of Upload	24/11/2023
Review Date	October 2028
Contact for Review	Dr Julie Mott

6. Appendices

See below documents.

Patient Information

NHS
University Hospitals of Derby and Burton
NHS Foundation Trust

Advice for parents

Fractured clavicle

Your child has a fractured clavicle (collar bone). This is a very common injury in children and young people. An x ray is not always necessary to make the diagnosis. Fractured clavicles usually heal very well.

The best treatment is to support the affected arm in a sling. Regular pain relief such as paracetamol or ibuprofen is recommended.

Your child may have to wear the sling for two to six weeks depending on their level of comfort. Older children may need to wear a sling for longer than younger children.

Young children may refuse to wear the sling. We may make a sling for you to try again at home but if your child still refuses don't worry as children tend to splint the affected arm by holding it against their side. You might want to dress younger children with that arm inside their clothes for a few days for comfort.

As part of the healing process a lump can be seen or felt at the fracture site with an area of redness. This will reduce over time but your child may always have a lump at the site of the healed fracture.

Follow up is not always necessary.

If in the next 24 hours you require further advice relating to this attendance, please telephone the Children's Emergency Department on 01332 787694 at Derby, or 01283 511511 ext 5001 at Burton and ask to speak to a qualified nurse.

After this time please contact 111.

Patient Information

NHS
University Hospitals of Derby and Burton
NHS Foundation Trust

Advice for young people

Fractured clavicle

You have a fractured clavicle (collar bone). This is a very common injury in children and young people. An x ray is not always necessary to make the diagnosis. Fractured clavicles usually heal very well.

The best treatment is to support the affected arm in a sling. Regular pain relief such as paracetamol or ibuprofen is recommended.

You may have to wear the sling for two to six weeks depending on your level of comfort. Older children may need to wear a sling for longer than younger children.

As part of the healing process a lump can be seen or felt at the fracture site with an area of redness. This will reduce over time but you may always have a lump at the site of the healed fracture.

Follow up is not always necessary.

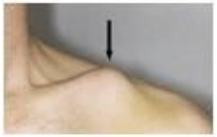
If in the next 24 hours you require further advice relating to this attendance, please telephone the Children's Emergency Department on 01332 787694 at Derby or 01283 511511 ext 5001 at Burton and ask to speak to a qualified nurse.

After this time please contact 111.

Taking pride in caring

University Hospitals of Derby and Burton NHS Foundation Trust

Clavicular Fracture Pathway



Child with a suspected closed clavicular fracture

Is the child 12 years old or over?

N → Is there tenting, breach of the skin, or obvious deformity?

Y → X-ray

Is there tenting, breach of the skin, or obvious deformity?

Y → Discuss with ED senior as may require X-ray or more specialist management

N → Was there a high force mechanism of injury?

Was there a high force mechanism of injury?

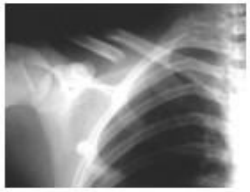
Y → Discuss with ED senior as may require X-ray or more specialist management

N → Are they neurovascularly intact?

Are they neurovascularly intact?

N → Discuss with ED senior as may require X-ray or more specialist management

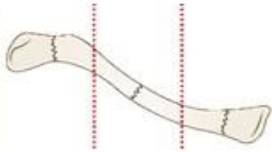
Y → Discharge WITHOUT X-ray.



Is there displacement, comminution or shortening >1.5cm on the X-ray?

Y → BAS and referral to fracture clinic

N → Does the X-ray show a middle third fracture?



Does the X-ray show a middle third fracture?

N → BAS and referral to fracture clinic

Y → Place child in a broad arm sling (if tolerated), give and read through the advice sheet with the family, and give advice on analgesia.

This is an ED guideline, please consult a senior doctor if unsure.