Ashford and St. Peter's Hospitals NHS Foundation Trust

Paediatric Guideline:

Manipulation of fractures and dislocations in Paediatric Emergency Department

History

Issue	Date Issued	Brief Summary of Change	Author
1	Dec 2018		
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Department/Directorate	Women's Health and Paediatrics
Date of issue	Dec 2018
Review due	Dec 2023
Ratified	Nov 2018
Audience	Paediatric Department

Background

Fractures considered appropriate for manipulation in Paediatric ED fulfil the following;

1. Simple fracture which is angulated or partly displaced

2. The fracture is easily reducible with a simple reduction manoeuvre preferably at the first attempt

3. The fracture position can be improved to avoid a general anaesthetic.

Examples:

Angulated diaphyseal fractures of forearm

. Angulated metaphyseal fractures of wrist

. Salter Harris 1 and 2 fractures that have not shortened (ie will thumb back)

Angulated humeral fractures

Fractures NOT to be manipulated in Paediatric ED:

1. The fracture is in an acceptable alignment or will remodel without intervention

2. The manipulation will require traction and complex reduction manoeuvres

3. There is a complex injury which will require operative stabilisation regardless of manipulation

4. Open fractures that require operative debridement

Analgesia

Intranasal diamorphine is used as analgesia according to the dosing schedule in the BNF for children.

Joint dislocations

Shoulder and elbow dislocations without fracture need to be reduced as soon as possible in the ED. Shoulder dislocation is less common in children than adults and may require additional sedation with for example midazolam. Elbow dislocation is more common and can normally be reduced with analgesia plus entonox alone. Check carefully that there is no radial head or neck fracture.

Procedure

1. After referral to orthopaedic team, orthopaedic registrar needs to discuss manipulation with the Orthopaedic Consultant and senior Paediatrician on the shop floor to agree suitability

2. Orthopaedic team to obtain consent from parents and document this clearly in the notes.

3. Procedure must take place in the Paediatric ED, in a cubicle, or resus if sedation is to be given, not in the adult plaster room

4. A Paediatric ED nurse must be present to administer entonox and ensure the child is tolerating the procedure

5. Child must be 5 years or over – younger children cannot manage self-administered entonox)

6. Once the orthopaedic registrar is ready to do the procedure the child must be given intranasal diamorphine if they have not had a dose within the last 2 hours. They also need 10 minutes preparation time with the nurse, familiarising themselves with Entonox and developing an appropriate level of analgesia. The procedure cannot be commenced until the nursing staff is happy with the level of analgesia. The manipulation is to be done by a registrar or above, not an SHO.

7. If at any time the child becomes unacceptably distressed or the parents are unhappy to continue with the procedure then there should be no further attempts at manipulation in ED. It must be remembered, however, that one successful attempt despite manageable distress is better than a failed procedure and a subsequent general anaesthetic

8. After reduction in ED, a full plaster must be applied and check X-ray performed

9. After X-ray, split plaster and check finger movements

10. Book into next available fracture clinic appointment

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Reference: Manipulation of fractures in Paediatric ED, Nottingham Children's Hospital, Dr Clare Dieppe May 2015.