PULLED ELBOW - MANAGEMENT IN THE EMERGENCY DEPARTMENT

PRACTICE GUIDELINE ©

DOCUMENT SUMMARY/KEY POINTS

This document details the management and reduction of pulled elbows within the ED using best practice guidelines.

- There are currently no NSW Ministry of Health Paediatric Guidelines for the reduction of pulled elbows.
- This Practice Guideline can be utilised by RN's accredited in the reduction of pulled elbow, Nurse Practitioners (NP) and medical staff within the ED.
- Inclusion and exclusion criteria must be strictly adhered to.
- Refer to Appendix A for Pulled Elbow Reduction Manoeuvres and Appendix B for Pulled Elbow Pathway.
- **At SCH**, this document is to be read in conjunction with the SCH CIN Position Description.

CHANGE SUMMARY

- Joint SCH and CHW ED document. SCH Pulled Elbow CIN Guideline rescinded.
- No change in practice at either site.

READ ACKNOWLEDGEMENT

- Emergency Department Clinical staff at SCH and CHW should read and acknowledge they understand the contents of this document.

This document reflects what is currently regarded as safe practice. However, as in any clinical situation, there may be factors which cannot be covered by a single set of guidelines. This document does not replace the need for the application of clinical judgement to each individual presentation.

Approved by:	SCHN Policy, Procedure and Guideline Committee	
Date Effective:	1st April 2019	**Review Period**: 3 years
Team Leader:	Department Head	**Area/Dept**: Emergency Department [SCH & CHW]

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This Guideline may be varied, withdrawn or replaced at any time.

1 Definition

- Pulled elbow, also known as radial head subluxation, is a common complaint of children aged 1-5 years presenting to Emergency Departments.
- The mechanism of injury is usually longitudinal traction on an extended, pronated upper extremity. This sudden traction results in the annular ligament around the radial head being displaced. A history of a fall is generally NOT suggestive of a pulled elbow.
- Clinical examination finds the affected arm hanging limp by the patient's side, with limited function at the elbow.

2 Inclusion Criteria

- Children between 1-5 years with a definite history of a pull to the arm.

3 Precaution and Exclusion Criteria

- Any child with an unwitnessed injury
- Any child with an injury as the result of a fall or where there is NO history of traction to the arm.
- Any children outside the age specified without Senior Medical Officer/NP (NP)review.
- Any child with obvious swelling, deformity, redness, bruising or pain in the affected arm.

4 History documentation should include the following

- A concise history from parent /caregiver.
- Witnessed sudden traction on the affected arm followed by refusal to use the affected arm. Examples include:- a child being held by the hand and who has the arm pulled as the child and adult go in different directions or a child pulled up and over an obstacle or out of danger or a child being swung by the arms.
- Any treatment received prior to arrival in ED.
- Other attempts at reduction possibly by the GP.
- History of previous pulled elbow
- Other medical conditions or recent illnesses.
- Routine and recent medications.
- Immunisation status, infectious status and allergies.

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5 Assessment

- Clinical assessment findings must be documented.
- Primary assessment and focussed secondary assessment. This includes neurovascular assessment of the affected arm.
- Examine the affected arm from clavicle to hand to exclude other injuries.
- Often the child is not distressed and appears content with the exception of a refusal to use the affected arm. Children will often be anxious on examination and protective of the affected arm.
- Forearm is usually flexed at 15-20 degrees at the elbow and forearm is partially pronated
- Often the weight of the arm is supported by the other hand.
- There may be mild tenderness over the elbow.
- Some children may complain of referred pain in the wrist or forearm: careful examination is required to exclude a fracture.
- Other signs of trauma should be absent.
- Consider non-accidental injury or other differential diagnoses- e.g. septic arthritis, osteomyelitis.

6 Investigations

- Pulled elbow is a clinical diagnosis. X-rays are not required if the assessment and history fit the classic picture.
- X-ray may be considered in children with an unwitnessed injury or unusual mechanism such as twisting or rolling of the arm.

7 Procedure [3]

See Appendix B for Pulled Elbow Pathway.

- Determine the need for pain relief prior to manipulation. Unless there has been a delayed presentation analgesia is not generally required. Pain will cease following the reduction manoeuvre
- Explain the procedure to parent and child and obtain verbal consent.
- Have the child sit in parent/caregiver's lap facing you.
- The clinician should cup the affected elbow and place their thumb over the radial head. This stabilises the elbow and allows the clinician to feel the characteristic 'click' that accompanies successful reduction.
- With the other hand, grasp the child's wrist/hand (handshake grip is effective):
  - Apply light traction.

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- Fully pronate- hyperpronate. Note that a 'click' is often heard or felt at this stage
- Fully supinate
- Follow this with full flexion of the elbow pushing the forearm up into the biceps.
- A click or snap may also be felt or heard at this time if not previously elicited (See Appendix A).

- Pain should resolve and normal range of motion should return within 30 minutes.
- Reduction may be more difficult if there has been a delay in presentation

There should be only one attempt at reduction. If the initial attempt is unsuccessful, liaise with the Medical Officer or NP (if attempted by a RN).

8 Outcomes

- Observe the child in the waiting room following reduction. Encourage the child to use the arm.
- The child may be discharged after full use of the arm has returned. If there is an unsuccessful reduction attempt by triage/CIN RN, the child must wait to be seen by an ED medical officer or NP.
- If the child does not use the arm post attempted reduction and the history is consistent with a pull, consider placing affected arm in sling if tolerated, advise on simple analgesia and plan for the child to be reassessed the next day. Spontaneous reduction may occur in a day or two. Any unresolved concerns prior to discharged should be addressed with a Senior Medical Officer
- Document number of reduction attempts and return of full use of affected arm.

9 Discharge Information

- Consider presence and treatment of mild pain for the next 24hrs.
- Discuss possibility of recurrence and need to seek medical attention as soon as possible.
- Educate parent/care giver re lifting techniques in the future. Consider a fact sheet.

10 References

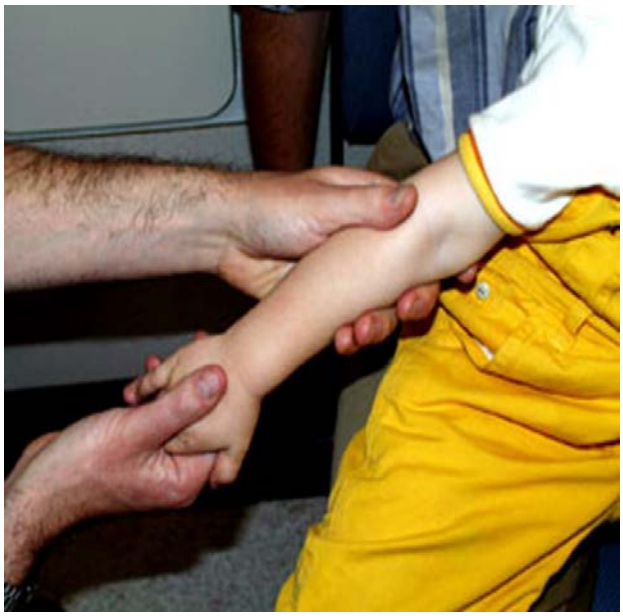
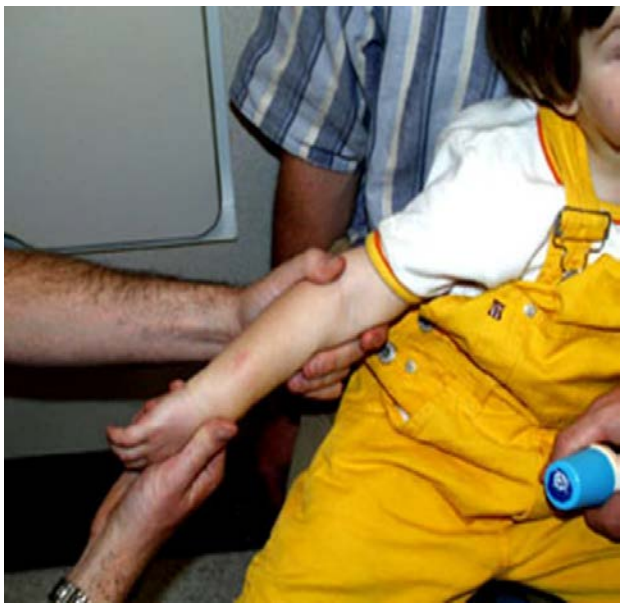
1. The Royal Children's Hospital, Melbourne. Pulled Elbow Clinical Guideline: http:/www.rch.org.au/clinicalguide/cpg.cfm?doc_id=5293
2. Wolfram,W. & Boss,D. 2010. Pediatrics, Nursemaid Elbow. http://emedicine.medscape.com/article/803026-overview .
3. Johnson, F & Okada,P. 2008. Chapter 105 in *Textbook of Pediatric Emergency Procedures*. Editors King, C & Henretig, F. 2nd Edition.Lippincot , Williams & Wilkins

11 Appendix A: Pulled Elbow Reduction Manoeuvres

Either of the following methods may be effective

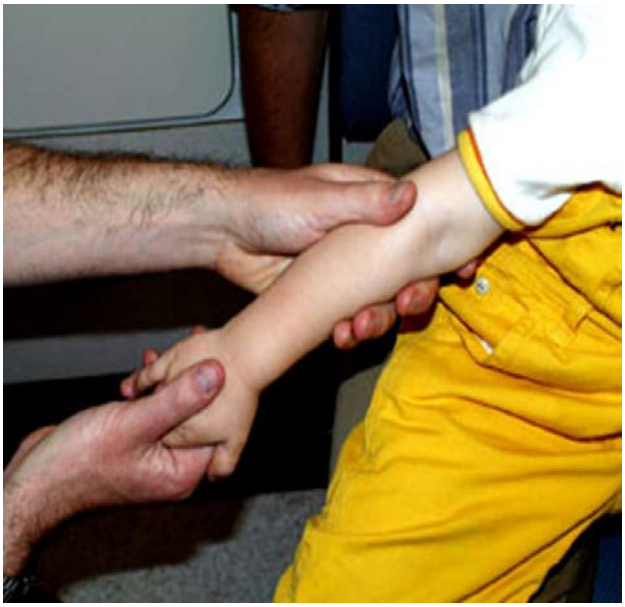
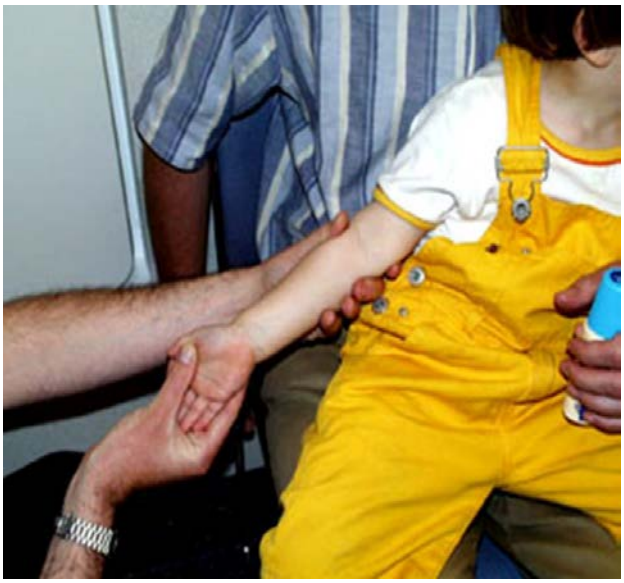
11.1 Hyper-pronation manoeuvre

Sit the child on the parent's lap

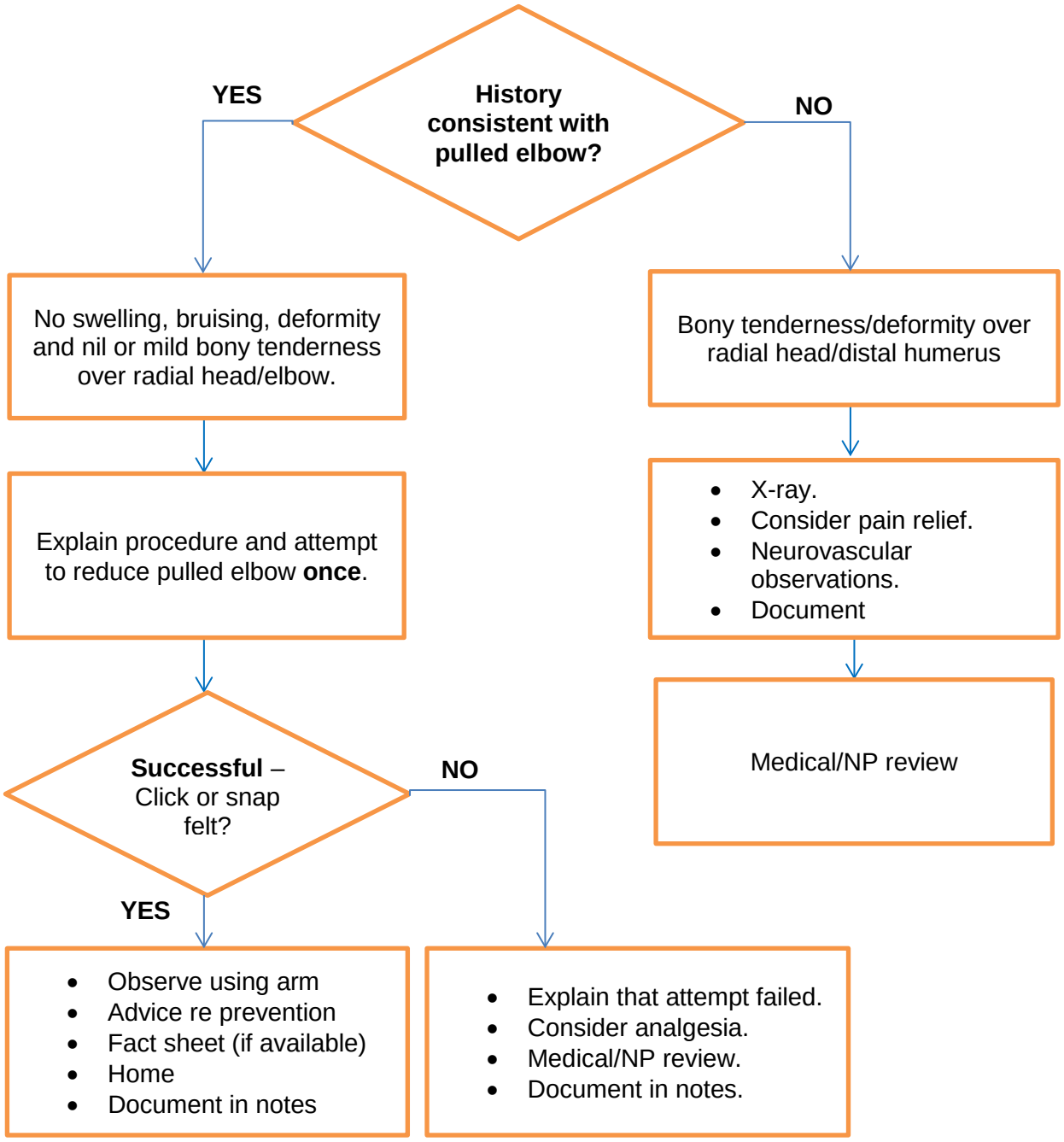
	Description
	Cup the elbow and place thumb over the radial head
	Fully pronate forearm (pictured).

11.2 Supination/flexion manoeuvre

Sit the child on the parent's lap

	Description
	Cup the elbow and place thumb over the radial head
	Fully Supinate the forearm (pictured). If no click, flex the elbow pushing the forearm into the bicep (not pictured).

12 Appendix B: Pulled elbow pathway



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