

**CHILDREN'S HOSPITAL OF EASTERN ONTARIO**

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**1. Name of the Medical Directive:** Reduction of RHS by ED Registered Nurses

**Name of Contact Person:** Medical Director ED

**Area of Practice:** ED(ED)

**Physicians to whom this medical directive applies:** All ED Physicians

**2. Description of Procedure:**

The triage nurse would complete their usual assessment and under appropriate circumstances (outlined below) would proceed to attempt a reduction.

1. Complete and document triage assessment
2. Identify patient appropriateness for RHS reduction under medical directive
3. Explain assessment and procedure to parent and obtain verbal consent
4. Attempt reduction via the following protocol:
  - A. Perform a reduction maneuver via hyperpronation
  - B. Reassess after 10 minutes
    - i) If using arm normally, have physician see child to confirm normal movement and discharge home. Document 1<sup>st</sup> reduction successful and time to normal use.
    - ii) If not using arm normally, reassess for swelling, deformity and tenderness.  
If no contraindications then repeat reduction maneuver via supination-flexion
  - C. Reassess after 10 minutes
    - i) If using arm normally, have physician see child to confirm normal movement and discharge home. Document 2<sup>nd</sup> reduction successful and time to normal use
    - ii) If not using arm normally, place patient in queue as per triage time and triage category to see physician. Assess patient's pain and administer analgesia as per analgesia medical directive(s).

**3. Authorized to:**

Registered Nurses hired in the ED who have completed training course in reduction of RHS.

**4. Specific Patient Criteria (must satisfy all criteria):**

- Age  $\leq$  6 year
- History of trauma in the preceding 12 hours
- Isolated complaint to one upper extremity (ie. can't have RHS PLUS other injury)
- Physical Examination consistent with RHS
  - Not using affected limb
  - No swelling, deformity or bruising of the elbow or wrist
  - On palpation of the arm there is no obvious tenderness
  - Elbow is in extension or very slight flexion and the forearm is in hyperpronation (see photo)
  - Distressed only on elbow movement

**5. Situational Criteria:**

A history of trauma to the elbow in the preceding 12 hours is required. A pull to the arm or fall are the most common mechanisms, but other mechanisms are known to result in RHS.

**6. Contraindications (any one of):**

- Deformity of clavicle or arm
- Swelling of elbow or wrist
- Significant tenderness on palpation of arm
- Metabolic bone disease such as osteogenesis imperfecta
- Neuromuscular disorder that excludes adequate assessment (such as cerebral palsy)
- Presence of other injuries
- Unable to obtain verbal consent

**7. Quality Management Process**

This medical directive is being established in conjunction with a research study (PI Andrew Dixon, funding and REB approval pending) to evaluate the impact and success rate of nurses doing RHS reductions. During the study period, all patients who meet the guidelines for diagnosis of probable RHS will be identified (see Appendix 1) and enrolled in the study. Patients not enrolled will be identified through a medical records review of presenting complaints and discharge diagnoses, as well as review of CHEO's Children's Hospital Injury Reporting and Prevention Program (CHIRPP). A hand review of all ED charts every few days will allow us to track eligible patients and review our enrolment success.

The success of reductions and adverse outcomes will be tracked during the study. This will allow an evaluation of the percentage of patients with pulled elbow who are treated via the directive, the number of patients who failed a nurse reduction and were successfully reduced by a physician and how many reductions were performed on children with alternate final diagnoses.

Upon successful completion of the pilot project an ongoing quality control procedure will be implemented. Incident reports or complaints related to the use or misuse of

this medical directive will be reviewed by the ED Medical Director and Operations Director.

**8. Consent and Documentation**

The nurse will explain his/her assessment findings and the plan for reduction. Verbal consent from the parent will be sought before proceeding. If parents refuse treatment by the nurse, the patient will be assessed and treated by an ED physician as per usual practice. Documentation of nursing assessments, parent consent and interventions will be documented in the usual way.

During the study period, outcomes will be recorded on study forms as well.