Guideline



CCHMC Trauma Service Operation Guidelines

Title: Neurosurgery Minor Head Injury Flow Diagram

Effective Date: 06/2018 Number: TR-26 Page: 1 of 3

1.0 SCOPE

1.1 Care of the Trauma Services patient at CCHMC.

2.0 DEFINITIONS

2.1. Minor head injury: Glasgow Coma Score (GCS) 13 - 15

3.0 GUIDELINE

- 3.1. Complete primary and secondary survey per guidelines.
- 3.2. Refer to Minor head injury flow diagram next page

CCHMC Neurosurgery Minor Head Injury Algorithm Specific Criteria Non-Specific Criteria GCS 13 - 15 Recommend CT Consider CT LOC > 5 minutes Abnormal mental status GCS < 13 any time since injury Headache GCS 13-14 2 hours post-injury Amnesia All children < 3 months of age Behavioral changes(s) Decision for CT per EM All children < 2 years of age Asymmetric neuro exam Suspected basilar skull fx Indeterminate Criteria High velocity injury CT Findings Vomiting Unwitnessed injury Post-contact seizure Suspected non-accidental trauma Abnormal CT Abnormal CT **Negative CT** Low Risk High Risk (No Intracranial hemorrhage) Epidural (<2 mm) Epidural (>2mm) SAH (Fisher grade 1-2) Minimal Risk Subdural hematoma Intraventricular hemorrhage Absent extra-axial or parenchymal Intraparenchymal hematoma without ventriculmegaly lesions Petechial contusions or shear Petechial contusions or shear Linear/non-displaced fxs (≥3 in number) (<2 in number) Facial / orbital fxs Ventricular enlargement Pneumocephalus Soft tissue injury Ischemia, focal edema Abnormal brain attenuation Diffuse brain swelling Notify on-call Neurosurgery provider: No Neurosurgery Complex comminuted depressed fxs -Request AM consult consult -May request NS to review images Neurosurgical consult in ED Clinically stable: No repeat CT Potential ED Inpatient Rehab consult if Consider repeat CT within 12 hours based discharge on clinical exam altered mental status or functional deficits > 48 hours No repeat CT if patient meets dc criteria post injury 12 hours post injury Minor TBI Protocol See EPIC order set Repeat CT CT findings resolved Worse Clinically stable CT unchanged; Clinically stable Discharge Criteria OR if indicated GCS 15 Tolerating po Discharge Criteria Activity restrictions: No gym, sports, PICU then A7 NS GCS 15 recess until cleared by practitioner at Or 4C Rehab Tolerating po follow-up Activity restrictions: No gym, sports, recess until cleared - Skull fx: 6 weeks & asymptomatic; by Neurosurgery and/or Peds Rehab at follow-up: reevaluate before return to high risk Minimum of at least 4 - 6 weeks Discharge Criteria - PCS: Graded return to activity - PCS: Graded return to activity Per Neurosurg for A7 - School: When PCS are manageable - School: When PCS are manageable Rehabilitation for 4C Follow-Up Follow-Up - Trauma Clinic vs PMD 1-2 weeks - Neurosurgery: - Symptomatic > 7 days referral to Non-op: 1 - 2 weeks NP clinic Operative: 1-2 weeks w/ attending Head Injury Clinic - Pediatric Rehab: 1 – 2 weeks

- Repeat CT scan: When asymptomatic & no

focal neuro deficits

4.0 REFERENCES

- 4.1. Bressan, S, Romanato, S, Mion, T, Zanconato, S, & Dalt, LD. (2012). Implementation of adapted PECARN decision rule for children with minor head injury in the pediatric emergency department. *Academic Emergency Medicine*, 19, 801-807
- 4.2 Kuppermann, N, Holmes, JF, Dayan, PS, Hoyle, JD, et al.. (2009). Identification of children at very low risk of clinically-important brain injuries after head trauma: A prospective cohort study. *Lancet*, *374*, 1160-1170.

5.0 APPROVALS

All revisions of this guideline are approved by the Trauma Service Department. This guideline is reviewed every three years or sooner if deemed necessary. Policy authority for this document resides with the Trauma Service Department. This guideline is approved by the Trauma Services Manager and the Director of Trauma Services.

	HISTORY	
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02/2006		
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06/18		