JOHNS HOPKINS ALL CHILDREN'S HOSPITAL

Trauma Patient Consults & Transfers

JOHNS HOPKINS
All Children's Hospital

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Trauma Patient Consults Clinical Pathway

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Johns Hopkins All Children's Hospital

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Rationale:
This clinical pathway was developed by a consensus group of JHACH physicians, advanced practice providers, nurses and pharmacists to standardize the management of children requiring multiple clinical services and/or transfer to another facility. This guideline will assist bedside practitioners to appropriately consult subspecialist services and transfer patients when indicated.

Background
Trauma patients often require coordination of multiple services to address injuries across different body systems. Coordination of care is necessary to ensure patients receive expert focused injury care and will be coordinated by the admitting service.

The JHACH on-call schedule can be accessed through Qgenda at the following link:
https://app.qgenda.com/lan+dingpage/ach

Emergency Center Management
Consider subspecialist **consultation** for the following injuries:

Injury type	Primary consulting service	Examples of indications for consult	Comments
Traumatic brain injury	Neurosurgery	• Imaging abnormalities (see Closed Head Injury Clinical Pathway for special case of isolated linear skull fractures). • GCS <12 without obvious signs of intoxication. • Focal neurologic deficit.	• Concussion/mild TBI with normal neuroimaging typically does not require Neurosurgery consult. See Closed Head Injury Clinical Pathway for additional information. • Patients with TBI and concern for physical abuse should be admitted to general surgery service. • Patients with isolated head injuries/mTBI (no other injuries, or injuries amenable to discharge home) who require prolonged observation may be admitted to either neurosurgery or general surgery. • See Concussion Management section of this document for details regarding concussion management/ follow-up.
Spine injury	Neurosurgery	• Vertebral body abnormality on imaging • Ligamentous abnormality • Neurologic deficit	• Fill out an ASIA form on any patient with neurologic deficit or body fracture. • Orthopedics may also be consulted in select cases, at NSGY request • For cervical spine injuries, see C-spine Clearance Clinical Pathway
Eye injury	Ophthalmology	• Injury to globe/ocular structure • Injury to tear duct • Concern for retinal hemorrhage	• Certain injuries may require transfer after ophthalmology evaluation (ocular foreign bodies, complex retinal injuries) • For eyelid injury, see facial injury below.

Facial injury	Plastic Surgery	• Complex lacerations • Facial fractures, including orbital fractures	• General/Trauma Surgery, Oral Maxillofacial Surgery (OMFS), Ophthalmology, and Dentistry may also be involved • When the patient has severe facial trauma involving airway and/or multisystem injuries, Trauma Surgery will decide whether Plastics, OMFS or Dental is needed once the patient is stabilized. • Oral & Maxillofacial Surgery (OMFS) can be contacted by the Plastics, Trauma Surgery, or Dentistry teams as needed after initial evaluation. • For isolated dental / dentoalveolar injury: see dental injury below.

Dental injury	Dentistry	Injuries isolated to the teeth only, that do not include jaw fracture, facial bone fracture or airway injury.	• Even if concerned for alveolar bone fracture, Dentists can manage many of these and are still the first call. They can request further imaging and consultation if needed and it is not up to the EC provider to determine this level of assessment. • When the extent of injury is unclear, usually a facial CT can help determine if facial bones are involved. • If CT rules out additional fractures, consult Dental. • If CT identifies facial bone fractures, consult Plastics. They will see the patient but they may still recommend Dental consultation if facial bone fractures are stable. • If there continues to be difficulty assessing the patient's needs, or if there is dental trauma in the setting of concussion/TBI not requiring neurosurgery, consult Trauma surgery.
Extremity/Hand soft tissue injury	Orthopedics	• Mangled extremity • Suspected tendon or peripheral nerve injury • Concern for joint involvement • Significant tissue loss	Plastics or General Surgery/Trauma may also be consulted, at request of Orthopedics.

Vascular injury	General/Trauma Surgery		See Extremity Vascular Injury pathway
Thoracic injury	General/Trauma Surgery		See Thoracic Penetrating Injuries and Thoracoabdominal Penetrating Trauma pathways
Abdominal injury	General/Trauma Surgery		See Blunt Abdominal Trauma and Thoracoabdominal Penetrating Trauma pathways
Fractures – extremities or pelvis	Orthopedics		See Extremity & Pelvic Fractures pathway
Abusive injury/non-accidental trauma	General/Trauma Surgery		See Physical Child Abuse pathway
Straddle injuries	General/Trauma Surgery		• General surgery team will evaluate and consult other services (urology, GYN) as needed. • If injury consists of minimal abrasion or simple superficial laceration without concern for abuse, consultation is optional.

Patients with the following injuries typically require **transfer** to another facility. Transfers are initiated by calling the JHACH Transfer Center at 727-767-7337.

Injury	Transfer to	Comments
Burns	TGH	Any patient with burns that meet ABA burn center criteria, or requiring admission for pain control or care coordination, should typically be transferred to the nearest burn center (TGH). Low-risk burns generally do not require surgery consultation. Follow Burn pathway.
Pregnant trauma patients	Bayfront or TGH	Stabilize and transfer to Bayfront ER (if 16 years or older) or to TGH (if 15 years or younger). Follow Pregnant Trauma Patient pathway.
Intraocular foreign body	TGH	
Traumatic amputation, with anticipated need for reimplantation	TGH	
Known/suspected arterial injury with anticipated need for vascular surgery	TGH	Follow Extremity Vascular Trauma pathway.

For patients being considered for transfer out of the EC who do not have any of the injuries listed in the transfer table above, an attending-to-attending conversation between relevant consulting services should occur and be documented in the medical record prior to transfer.

Admission
Trauma patients must be admitted to a surgical service. Multiple-system injured patients will be admitted to the Trauma service with focused system injuries co-managed with consultants. All patients with suspected/confirmed non-accidental trauma/physical abuse are assumed to be multi-system injured patients until proven otherwise. PICU trauma admissions will be admitted under the trauma service or neurosurgery service and co-managed with the pediatric intensivist.

Inpatient Management
Consider the following consultations for inpatients:

Social Work (SW)

- All trauma activations (whether admitted or not) and patients admitted with injury (whether trauma activation or not) should have a social work referral.

- SW will assist with general screens for social needs, abuse/neglect, and mandatory trauma psychosocial screening (e.g. CRAFFT) as applicable.

Palliative Care

- Critical illness
- Expected poor outcome or death

Rehabilitation Services

- Admission greater than 7 days
- Any change in mobility, self-care, cognitive ability
- Need for inpatient or outpatient rehabilitation at discharge

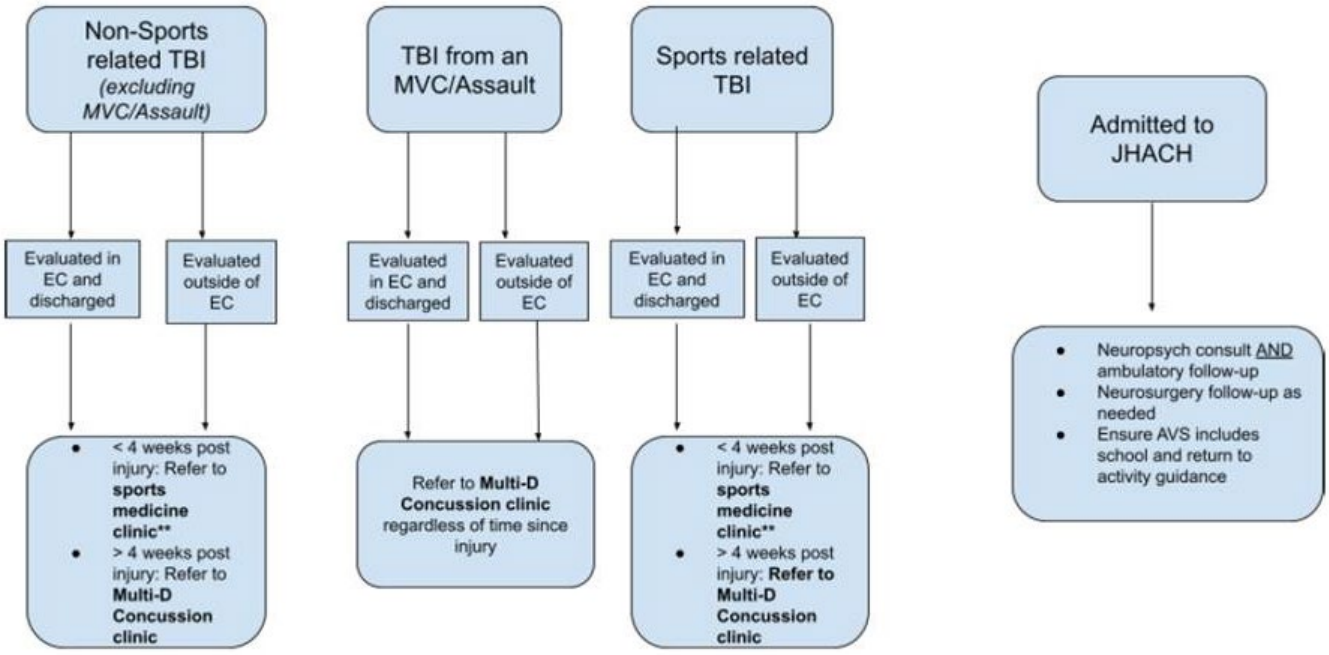
Concussion Management

Concussion / traumatic brain injury is a common occurrence in the pediatric population. Even when mild, TBI may have long-term sequelae that requires ongoing follow-up care.

For patients discharged from the EC, the Emergency Medicine attending will have primary responsibility for ensuring follow-up orders and instructions are placed correctly.

For patients less than 3 years old who are evaluated in the EC and discharged, follow-up will typically be with their primary pediatrician only. Patients <3 y/o admitted to the hospital may have other services (neuropsychology, neurology, neurosurgery, rehab medicine, pediatric hospitalist) involved on a case-by-case basis.

For patients 3 years old and older, follow-up depends on the mechanism and timing of injury as shown in the following figure.



Footnotes:
**Utilize standard sports medicine appointment and/or ACE evaluation to determine who is appropriate for Multidisciplinary Concussion (MDC) Clinic. Motor Vehicle Collision (MVC) and assault patients should not be referred to Sports Medicine acute concussion clinic
-To refer to Multidisciplinary Concussion Clinic, use ambulatory referral to Pediatric Psychology (Dr. Danielle Ransom) and specify “MDC clinic”.
-Unclear situations regarding MDC vs. sports medicine clinic referral should be discussed with the Neuropsychologist on call to determine appropriate follow-up.

Outcome Measures

- Admission to nonsurgical service
- Delayed consultation delaying disposition decision

Clinical Pathway Team

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Disclaimer

Clinical Pathways are intended to assist physicians, physician assistants, nurse practitioners and other health care providers in clinical decision-making by describing a range of generally acceptable approaches for the diagnosis, management, or prevention of specific diseases or conditions. The ultimate judgment regarding care of a particular patient must be made by the physician in light of the individual circumstances presented by the patient.

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