

EMSAC Highlights
January 22, 2020

1. Pediatric Airway presentation by Drs. Micky Sofer and Sid Johnson
 - a. Proficiency at pediatric intubation related to 10 intubations per year, which is not feasible in EMS
 - b. Should we add supraglottic airways for pre-hospital use? If so, how would that be reflected in the agency protocols and standing orders
 - c. This will probably be discussed further as State Standing orders are revised for 2020
2. EMSAC Membership
 - a. vacancies for Hawaii consumer, Kauai Allied health and one physician position (if you know of people who have an interest in EMS, please encourage them to apply online)
3. EMSAC Orientation
 - a. Discussed legal obligations (statute) for EMSAC members
 - b. Discussed Sunshine Law and rules for EMSAC members
4. State Standing orders due for updates this year.
5. NHTSA recommendations
 - a. Final report is out and state EMS branch / Dept. of Health has selected 6 initial priorities:
 - i. EMS Workforce study
 - ii. EMS system cost analysis
 - iii. Inclusion of data on all EMS class, including fixed wing air transports, ground interfacility transports and ground 911 ambulance calls.
 - iv. License all qualified first responders that treat patients
 - v. Make Prehospital care licensure independent from employment
 - vi. Hire an EMS Data manager
6. DOH reports
 - a. No legislative initiatives are being proposed by the branch, pertaining to EMS
 - b. A discussion was to follow the meeting regarding Act 140 (HB1453) from 2019
7. Education: conversation about seeking to lower the age for NREMT certification to 16 years, so that high school EMT training programs can be explored.

Next Meeting Wednesday, April 15



2020 KIPPC/Safe Kids Meetings

2:00 p.m. – 3:30 p.m.

Kapi'olani Medical Center
Diamond Head Tower

March 13, Conference Rooms 6&7

June 26, Conference Rooms 6&7

September 18, Conference Rooms 2&3

December 4, Conference Rooms 6&7

For our partners who are unable to make it in person and would like to call in using the Bridgeline the number is 808-485-4471.

Please considering carpooling!



EMERGENCY MEDICAL SERVICES FOR CHILDREN (EMSC) UPDATES

FEBRUARY 7TH, 2020

SARAH Y. PARK, MD, FAAP, EMSC PROGRAM DIRECTOR

ALVIN C. BRONSTEIN, MD, FACEP, EMSC PROGRAM CO-DIRECTOR

KARIN NG, EMSC PROGRAM MANAGER



EMSC UPDATES

- EMSC Advisory Committee
 - Robin Baylosis has been elected chair
 - Next meeting will be held in April
- Carryover Budget
 - Restraints have been distributed to EMS agencies
 - Training and Webinars are being secured through JABSOM and KCC
 - Dosing software has been posted for bidding

PM SURVEYS

- The EMS Performance Measure Survey (PMs 2 & 3) is taken annually
 - The survey was distributed to all EMS agencies at the beginning of this year
 - The survey closes on March 31st
- The Peds Ready Performance Measure Survey (PMs 6 & 7) will occur this summer



PERFORMANCE MEASURE 2 – PECC

- Pediatric Emergency Care Coordinators (PECCs) may result in ensuring that the agency and its providers are more prepared to care for ill and injured children
- PM 2 states that by 2020, 30 percent of EMS agencies in the state have a designated PECC
- All 6 EMS agencies in Hawaii must establish at least one PECC
- The committee has established requirements for the PECC role

PECC REQUIREMENTS

1. Each EMS agency shall designate at least one individual who coordinates pediatric emergency care, also known as the Pediatric Emergency Care Coordinator (PECC).
 - a. Each county must have at least one PECC.
2. This individual need not be dedicated solely to this role and could be personnel already in place with a special interest in children who assumes this role as part of their existing duties.
3. The PECC shall advocate for improved competencies and the availability of resources for pediatric patients.
4. The PECC should be a member of the EMS agency and be familiar with the day-to-day operations and needs at the agency.
5. Roles that the PECC might oversee at an EMS agency include, but are not limited to:
 - a. Ensuring that the pediatric perspective is included in the development of EMS protocols.
 - b. Ensuring that fellow providers follow pediatric clinical practice guidelines.
 - c. Promoting pediatric continuing-education opportunities.
 - d. Overseeing pediatric-process improvement.
 - e. Ensuring the availability of pediatric medications, equipment, and supplies.
 - f. Promoting agency participation in pediatric-prevention programs.
 - g. Promoting agency participation in pediatric-research efforts.
 - h. Liaises with the emergency department pediatric emergency care coordinator.
 - i. Promoting family-centered care at the agency.

MAHALO

Questions?



HTAC Pediatric Sub Council:

Chair: Devin Puapong

Last met on 1/22/2020, 10/30/2019

Protocol Development

1. Recommendation for Cuffed pediatric ETT in EDs and EMS pediatric rescue airways well received at EMSAC, recommendation is also in alignment with National Association of State EMS West region, no objections at National Highway Trauma Safety Assessment of our EMS system
 - a. Next steps working with state to help with EMS SGA training
 - b. Messaging out cuffed pediatric ETT for ED's across the state
 - i. This has been disseminated through HTAC as well as through TPM group;
 - ii. Pediatric Readiness survey opening up in June and requesting action item to move to cuffed ETT
 - iii. Feedback from Dr. Bronstein's presentation at ACEP meeting
2. Feedback/concerns regarding previously presented pediatric imaging guidelines
3. Feedback/concerns regarding previously presented early activation of aeromedical services guidelines
4. Pediatric Neurosurgical coverage remains challenging, and Queen's neurosurgeon was in attendance at 10/30/2019 subcommittee meeting. Kapi'olani and TAMC have continued to attempt to fill neurosurgical gaps. Both Queens and Kapi'olani continue to collaborate and participate in strategies to address this need.
5. With expanded neurosurg coverage at KMCWC, peds subcommittee explored idea of having KMCWC neurosurg call schedule available to EMS dispatch; Group consensus was not to make any system process changes at this time
6. Solid Organ Injury Guideline update

Performance Improvement

7. Pediatric trauma quality case reviews continue while ECHO platform is operationalized



ISOLATED LIVER/SPLEEN INJURY ALGORITHM

ADMISSION

ICU admission if abnormal vital signs after initial volume resuscitation

If admitted to ICU:

Activity – bedrest until vitals normal

Labs – CBC q6hour until vitals normal

Diet – NPO until vital signs normal and hemoglobin stable

If admitted to Floor:

Activity – no restrictions

Labs – CBC on admission and/or 6 hours after injury

Diet – Regular diet

PROCEDURES

Transfusion if:

Unstable vital signs after 20 cc/kg bolus of isotonic IVF

Hemoglobin < 7

Signs of ongoing or recent bleeding

Consider angioembolization if:

Signs of ongoing bleeding despite pRBC transfusion

*Not indicated for contrast blush on admission CT without unstable vitals

Consider operative exploration if:

Unstable vital signs despite pRBC transfusion

*Consider massive transfusion protocol

DISCHARGE

Tolerating a diet

Minimal abdominal pain

Normal vital signs

* Based on clinical condition NOT grade of injury



AFTERCARE

Activity Restriction

Restricting activity to grade plus 2 weeks is safe

Shorter restrictions may be safe, but there is inadequate data to support at this time

Follow up imaging

Consider imaging for symptomatic patients with prior high grade injuries

*Risk of delayed complications following spleen and liver injuries is low

REFERENCES:

Acker et al. Lack of utility of repeat monitoring of hemoglobin and hematocrit following blunt solid organ injury in children. *J Trauma Acute Care Surg* 2015. 79 (6): 991-994.

Gates et al. Non-operative management of solid organ injuries in children: An American Pediatric Surgical Association Outcomes and Evidence Based Practice Committee systematic review. *J Pediatr Surg*. 2019 Jan 31. Epub

Golden et al. Admission hematocrit predicts the need for transfusion secondary to hemorrhage in pediatric blunt trauma patients. *J Trauma Acute Care Surg* 2015. 79 (4):555-562.

Ingram et al. Hepatic and splenic blush on computed tomography in children following blunt abdominal trauma: Is intervention necessary? *J Trauma Acute Care* 2016. *Surg* 81 (2):266-270.

Notrica et al. Nonoperative management of blunt liver and spleen injury in children: Evaluation of the ATOMAC guideline using GRADE. *J Trauma Acute Care Surg* 2015. 79 (4): 683-693

St Peter SD et al. Follow up of prospective evaluation of bedrest protocol in the management of blunt spleen and liver injury in children. *Journal of Pediatric Surgery* (2013) 48, 2437–2441.

Pediatric Trauma Imaging Guidelines for Head CT

Online calculator: <https://www.mdcalc.com/pecarn-pediatric-head-injury-trauma-algorithm>

- Head CT is not indicated unless one or more of these criteria is met

Age < 2	Age ≥ 2
Altered mental status*	Altered mental status*
Palpable skull fracture*	Signs of basilar skull fracture*
Scalp hematoma other than frontal	Vomiting
Loss of consciousness > 5 seconds	Loss of consciousness
Severe mechanism of injury**	Severe mechanism of injury**
Not acting normally according to family	Severe headache

* CT is indicated with any one of these findings (approximately 4% risk of clinically significant TBI)

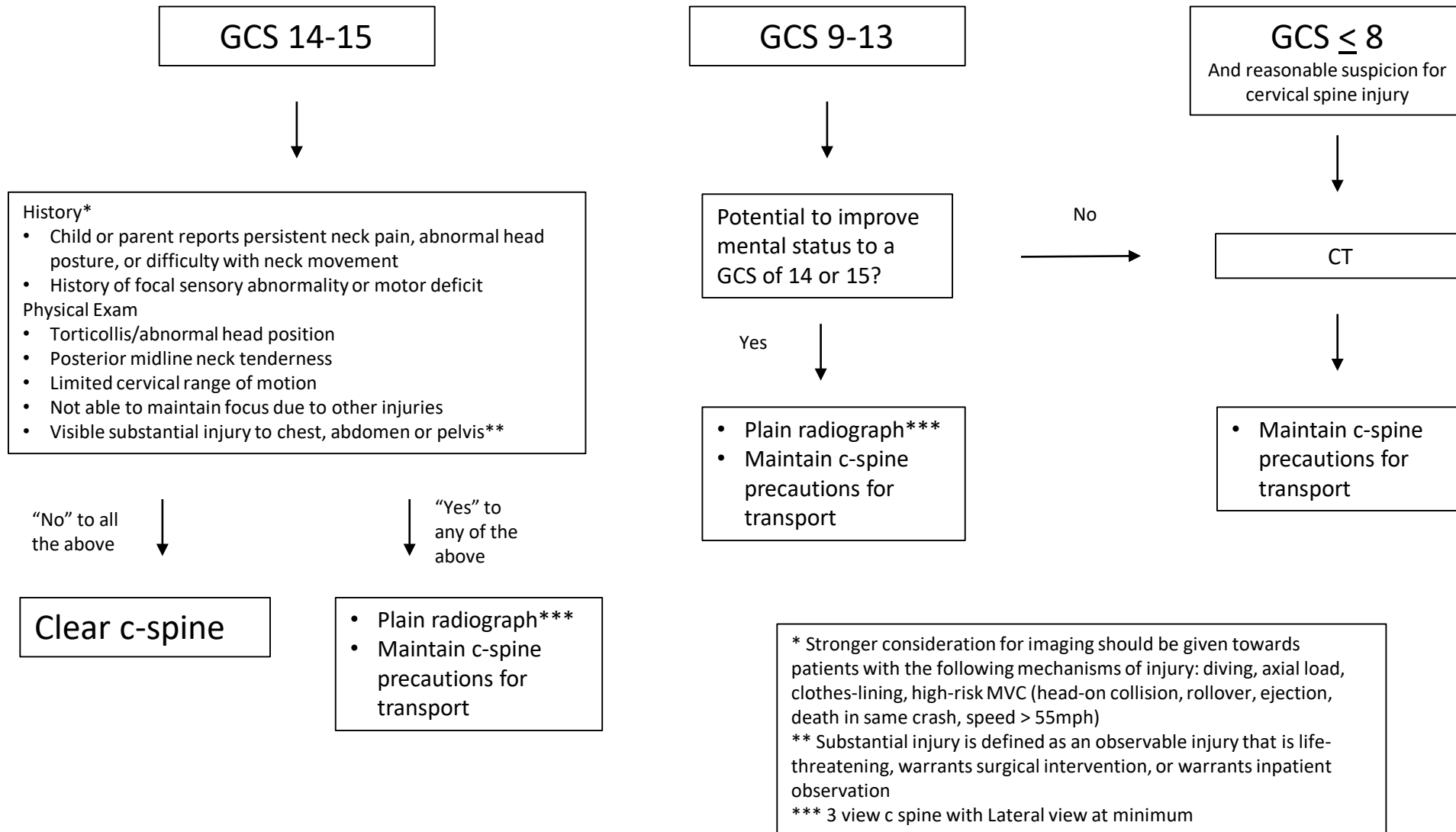
** Severe mechanism of injury:

- Auto vs. Peds
- Fall > 3 ft for age < 2 or Fall > 6 ft for age ≥ 2
- head struck by high impact object

Observation versus CT for one or more of these findings (approximately 1% risk of clinically significant TBI)

- MD experience
- Multi vs isolated findings
- Worsening symptoms
- Parental preference

Pediatric Cervical Spine Clearance Algorithm for Referring Hospitals



Pediatric Trauma Imaging Guidelines for Chest CT

- Obtain CXR
- Chest CT with contrast if there is widened mediastinum

OR

- Vehicle related mechanism with positive CXR finding

References:

Does the incidence of thoracic aortic injury warrant the routine use of chest computed tomography in children? J Trauma Acute Care Surg. 2019 Jan;86(1):97-100

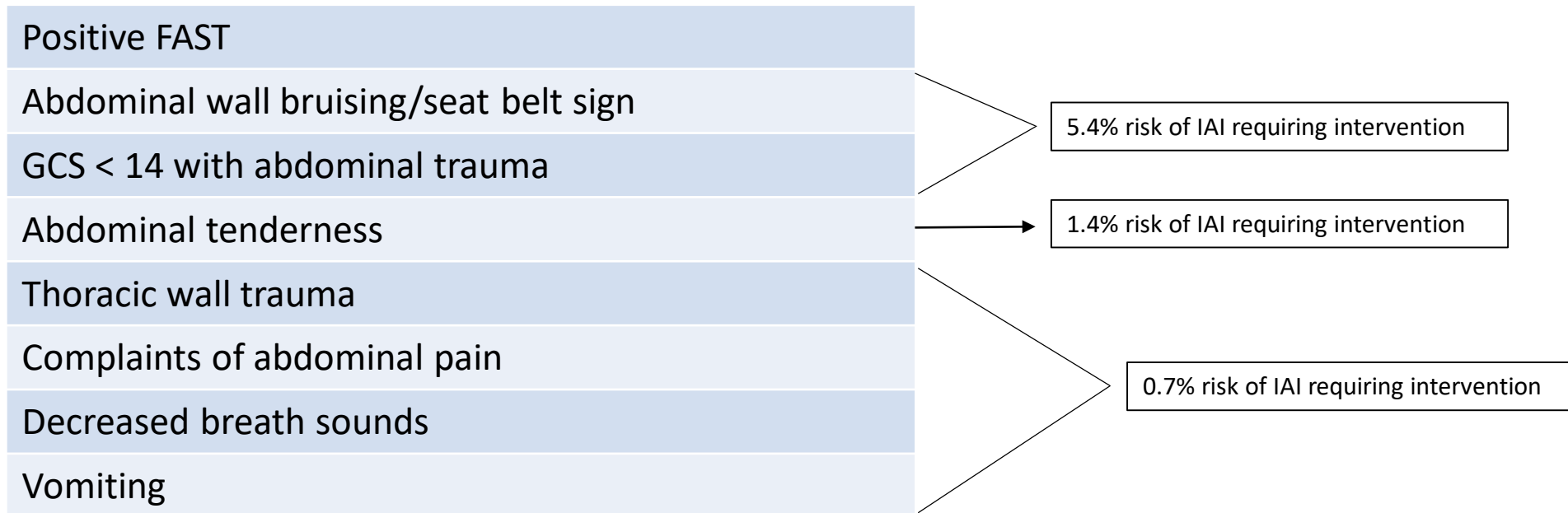
Limiting chest computed tomography in the evaluation of pediatric thoracic trauma. J Trauma Acute Care Surg. 2016 Aug;81(2):271-7.

Chest computed tomography imaging for blunt pediatric trauma: not worth the radiation risk. J Surg Res. 2013 Sep;184(1):352-7.

Chest x-ray as a screening tool for blunt thoracic trauma in children. J Trauma Acute Care Surg. 2013 Oct;75(4):613-9.

Pediatric Trauma Imaging Guidelines for Abdomen and Pelvis CT

- Abdominal CT is not indicated unless one or more of these criteria is met





Guideline for Early Activation of Transport for Pediatric Trauma in Hawaii

Introduction:

Transport of pediatric trauma patients may be delayed if notification to transport entities waits until resuscitation and work up is completed. This trend is highlighted in geographically isolated areas such as Hawai'i where the highest level trauma centers are only accessible via air transport from many intake hospitals.

Purpose:

This guideline serves to help expedite the transfer of critically injured children from neighbor island hospitals to an appropriate trauma center on O'ahu.

Application:

This guideline shall apply to pediatric (<15 years of age) trauma patients who have their initial evaluation done at a neighbor island hospital

Procedure:

With the understanding that this process utilizes important resources and may divert these resources away from sicker patients if applied inappropriately, Early Activation of Transport (EAT) may be considered by referring hospital after initial evaluation if any of the following criteria are met:

1. Patient meets criteria for highest level of activation
2. Patient care needs clearly exceed capabilities of referring hospital and patient's clinical status is unstable

The referring hospital will call air transport entities informing them that they are initiating EAT. The referring hospital will be given estimated times of availability and decide on the air transport entity that will be utilized. A transport team from that entity will be dispatched to referring hospital at that time.

Concomitant resuscitation and work up of the patient will be done and once appropriate resuscitation, lab studies and imaging studies are obtained, the referring hospital will contact the Queens Transfer Call Center to implement the current 3-way triage system for pediatric trauma patients.

The referring hospital will remain responsible for the care and management of the patient until the patient's departure from that facility.

Reporting:

Data reflecting timeliness of transport for pediatric trauma patients will continue to be collected and reviewed to monitor the effectiveness of EAT.