Case 2- Time Line and Case Review

Primary Review by Trauma Program Manager (TPM):

History - **1530 –** On 4/15/18, 5 year old arrives to the ED, brought in by parents. Parents report she fell off her bike 15 minutes prior to arrival. Obvious deformity noted right forearm. She is quiet and pale.

ED Timeline:

1535 - The nurse rooms the child. History as above. Pulses are present without sensory deficits. Child is lying quietly in mom's lap so child not undressed. Arm is splinted and placed on pillow. VS: BP 96/56 HR 110 RR 20 GCS 15.

1555 - ED provider examines the patient in mom's lap. Child has no other complaints except right arm pain. X-ray ordered. No documentation of complete physical exam noted.

1615 – X-ray completed.

1625 – Repeat vitals BP 88/50 HR 116 RR 22 GCS 15. She continues to complain about right arm pain, appropriate dose of Tylenol with Codeine liquid given.

1645 – X-ray reveals fractured proximal radius and ulna. Due to proximity to growth plate, decision was made to transfer to a center with pediatric orthopedic capabilities. Family requests to transport child via private vehicle secondary to cost concerns. Child demonstrates some relief with oral pain medication. Temporary splint applied to arm.

1720 – Patient leaves hospital for Pediatric Trauma Center (PTC) via private vehicle.

1855 – Family and patient arrive at PTC.

Follow up from Tertiary Care Facility: No issues from the orthopedic perspective with the transfer. Upon admission child complained of abdominal pain, had emesis, and was noted to be pale. Bright red area noted in left upper quadrant and when questioned child states the handlebar "hit her in the stomach." CT of abdomen and pelvis identified grade 3 splenic laceration prompting PICU admission and consultation by pediatric trauma service. In addition the child had eaten a Happy Meal during trip to the PTC.

PIPS process timeline:

Primary review done by TPM and case referred on for secondary review by TMD. TMD reports back verbally that he discussed the case with the ED physician involved regarding the exam, mode of transport, and discharge instructions. The PI documents states that education was done with the ED physician. The center closes the case as a track and trend.

Critical opportunities for improvement identified through the PIPS process included but are not limited to:

- Missed injury- delay in care
- Standard of care (ATLS/CALS) for complete exposure and physical exam not met
- Lack of adequate discharge/transfer instructions
- Time in the ED

Actions discussed in tertiary review:

- Invite faculty from regional PTC to do case review at provider meeting
- Follow up conversation TMD to ED provider involved regarding importance of following established standards of care – document conversation in PI notes.
- Education session on ATLS/CALS resuscitation scheme with pediatric trauma cases
- Do 1-2 month review of all trauma patients for completion of physical exam – provide data at provider trauma meeting.
- Revise current transfer instruction booklet with input from tertiary care facility.

Describe evidence of event resolution (aka "loop closure")

- Next patient transferred for further care arrives NPO if appropriate.
- Prior to education and counseling the rate of documentation of completion of a physical exam was 75% and 2 months later is 95%.
- Documentation of face to face discussion between TMD and ED provider.
- Documentation of simulation or pediatric case review attendance and participation.

Michigan Statewide Trauma System
Site Review Report

Case Summaries

Category: Transfer
(Please format case summary as follows):

Date of Service: 4/15/18
Level of Activation: None
ICU Patient: Yes **No**

Admission Service (if applicable): Transfer
Injury Severity Score (if available): 4

Case Summary:

Initial VS: **BP:** 96/56 **P:** 110 **RR:** 20 **Initial GCS:** 15

This was a young child that was brought to the ED by parents after falling off her bicycle. Her only complaint was pain and deformity to her right forearm. Vital signs were WNL for age except for a tachycardia of 110-116. Radiograph confirmed a fracture of the right proximal radius and ulna that was in close proximity to the growth plate, orthopaedic surgeon requested transfer to a higher level of care with pediatric trauma capabilities. The patient's arm was splinted and the family transported the child to the trauma center per their request due to cost. Follow up from the pediatric trauma center indicated that the patient had an additional injury on CT abdomen of a grade III splenic laceration that was treated non-operatively.

PI Findings (clinical, system or process):
Primary review completed by TPM. She noted that the child was never examined for other injuries other than the isolated right arm fracture. She verbally communicated the case along with the follow up from the pediatric trauma center to the TMD. The following day the TMD states that he called the ED physician involved in the care and relayed the following educational points: performing an examination and documenting discharge instructions. The case was closed by the TMD with action to periodically review pediatric transfers.

Reviewer Comments:
The review of the case by the TPM and TMD was timely. The discussion between the TMD and ED physician was not documented and was only reported by the TPM as a hallway conversation took place within two weeks of the transfer. There should have been clear documentation by the TMD of the discussion held with the ED physician of record. This case identifies an opportunity for education on pediatric trauma patients in a hospital that would typically see a low volume of these patients. There was no documentation in terms of follow up with staff on the mode of transport and discharge instructions on any patient being transferred and not eating in transit. There might be an opportunity to invite the pediatric trauma center to present the case in an educational forum at the level IV center. The patient did not suffer any harm but the ATLS standard of care was not met.