

Modification to Trauma Team Activation Criteria in a Pediatric Level II Trauma Center to Decrease Undertriage of Head Injuries from Referring Hospital

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Purpose: In 2016, a Level II pediatric trauma program sought to improve under - and overtriage rates by updating the trauma team activation (TTA) criteria using evidence base practice and promoting adherence in a novel way: by empowering ED nurses to activate traumas. The results were astounding. The implemented changes improved the undertriage rate from 15% to 5% (ACS-COT standard is 5%) (J Pediatr Surg. 2016;51(9):1518-25).

In quarter 1 2019, undertriage rates began to show a slight increase with two of the three months being > the 5% target. Utilizing the Trauma Registry, the trauma leadership sought to understand the cause for this observed increase in undertriage. Seventy percent (nine out of thirteen) of the undertriaged patients had head injuries. Eight of the nine head injuries were transferred in from an outside hospital.

Resources: Human resources. This project was accomplished with the participation of the Trauma Medical Director, Trauma Program Manager, and the Multidisciplinary Trauma Quality Improvement Case Review Committee.

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A survey of TTA tools regarding brain hemorrhage was performed by the TPM across Level II Pediatric Trauma Centers. The TTA was subsequently modified to include transfers with a GCS < 13 and an epidural, subarachnoid, or subdural hemorrhage in the Major Activation criteria. An audit of compliance revealed undertriage rates returned to < 5% through September 2019.

Effectiveness: Resuscitation Phase

Jan	Feb	Mar	QTR 1	April	May	June	QTR 2	July	Aug	Sept	QTR 3
5%	12%	3%	14%	10%	0%	5%	4%	3%	5%	3%	4%

Under Triage (Not activated or modified TTA > 15)

Lessons Learned:

- Early identification and involvement of key stakeholders
- Assessing readiness for change
- Continuous feedback and communication is crucial to maintain an undertriage rate of 5% or less.

Conclusions: In conclusion early recognition of changes in undertriage rates through ongoing data review, collaboration within the multidisciplinary team, and as needed modifications to the TTA criteria were key in sustaining a < 5% undertriage rate at a Level II pediatric trauma center.