

Poster Session II (cont.)

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IMPACT OF A CHECKLIST ON ATLS TASK PERFORMANCE DURING PEDIATRIC TRAUMA RESUSCITATION

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Purpose:

Although Advanced Trauma Life Support (ATLS) improves outcomes related to trauma resuscitation, deviations from the protocol are common. Other medical domains have used checklists to increase protocol adherence and improve outcomes. In our previous work, a checklist was developed for pediatric trauma resuscitation and found to improve compliance with ATLS tasks during simulated resuscitations. The purpose of this study was to evaluate the impact of a pediatric trauma resuscitation checklist on the frequency and timing of ATLS task completion in clinical practice.

Methods:

Data was prospectively collected for trauma resuscitations of injured children during two 15-week periods before (n=187) and after (n=166) trauma checklist implementation. Video-recordings of resuscitations were reviewed for time to completion of specific ATLS primary (n=14) and secondary (n=15) survey tasks. The frequency of and mean time to completion of tasks were calculated for each cohort. Differences were calculated using Pearson's chi-square and Student's t-test.

Results:

The mean number of primary, secondary, and overall tasks completed was higher ($p < 0.001$, all) in the post-implementation period. Oxygen administration (42.3% vs. 70.0%, $p < 0.001$), evaluation of pulses (85.6% vs. 94.0%, $p = 0.01$), clothing removal (78.6 vs. 89.2%, $p = 0.008$), and eight secondary survey tasks ($p < 0.005$, all) were all completed more frequently. The time required for task completion improved for vital sign measurements (temperature, heart rate, respiratory rate, and oxygen saturation; $p < 0.006$, all). No tasks were completed less frequently after checklist implementation, and only time to assessment of Glasgow Coma Scale was slower (2.4 vs. 2.8 min, $p = 0.03$). The average resuscitation time was similar in each cohort (25.8 minutes for both). No differences were observed in event or patient characteristics between cohorts, including activation level, team composition, and number of high-acuity patients requiring life-saving interventions.

Conclusions:

Use of a checklist during pediatric trauma resuscitation significantly improves ATLS task completion without increasing resuscitation duration.

NOTES: