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17 The Reliability of Triage Classification as a Predictor of Severity in Major Trauma

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Objective: To determine which clinical parameters can be used to reliably identify severely injured trauma patients in the Emergency Department.

Methods: A retrospective study of all adult patients (>14 years) identified on our prospectively maintained Level I Trauma Center Registry at this inner city hospital over a six-month period. Medical records were reviewed for mode of arrival and triage classification assigned. We calculated Revised Trauma Score (RTS) and Injury Severity Score (ISS) for each patient. Admission to the SICU or to the OR or an operation within 48 hours of arrival was used as identifiers of severe injury.

Results: Of the 208 patients included in the study, 100 (48.08%) met criteria for severe injury. Ninety five patients (45.67%) were brought in by EMS as resuscitations, 76 (36.54%) were brought in by EMS but not as resuscitations, and 37 (17.79%) were walk-ins. Forty-four (46.32%) of the resuscitation patients, 34 (44.74%) of the non-resuscitation patients, and 22 (59.46%) of the walk in patients met criteria for severe injury ($P=0.275$). Nurses assigned 112 patients to Triage Class A, 80 to Class B, 2 to Class C, and 14 were not assigned. Fifty-three (47.32%) of Triage A patients, 41 (51.25%) of B patients, and 1 (50%) of the C patients were severely injured ($P=0.604$). There was a 75.26% concordance between mode of arrival and triage classification ($\kappa=0.578$). The calculated mean RTS of the severely injured patients was 7.59 and of those not severely injured, 7.82 ($P=0.010$, odds ratio 0.1645). The ISS for the severely injured patients was 33.5 and for those not severely injured, 27.2 ($P=0.001$, odds ratio 1.040). Age adjusted logistic regression did not alter the results.

Conclusions: Emergency physicians traditionally rely on mode of arrival and triage classification as predictors of the severity of injury in trauma patients. Both of these parameters are highly unreliable. Ambulatory trauma patients in our study had a greater than 50% incidence of severe injury. Triage classification is well correlated with mode of arrival and poorly correlated with injury severity. RTS, previously indicated for use as a medical triage instrument, proved to be unreliable in our study. The ISS proved to be the most reliable tool. Further study should be undertaken to validate its reliability and consideration should be given to using ISS to evaluate trauma patients on arrival to the Emergency Department.

18 Pediatric Trauma Video Review: An Underutilized ResourceSteven Rogers, MD; Nanette C. Dudley, MD; Eric Scaife, MD; Stephen Morris, MD; Douglas Nelson, MD.
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Background: Traumatic injuries continue to be the number one cause of mortality in patients ages 1-44 years in the U.S. Successful trauma care often requires a coordinated team effort. Trauma video review (TVR) has been identified as an effective method of quality improvement and education.

Objective: The objective of this study is to determine the TVR practices of pediatric trauma centers in the U. S. and their use of video review for quality improvement and education.

Methods: Pediatric trauma centers accredited by the American College of Surgeons ($n=16$) and the National Association of Children's Hospitals and Related Institutions ($n=24$) were identified and surveyed by telephone. Surveys included questions regarding program demographics, residency information and details about past and present TVR.

Results: Forty pediatric trauma centers were contacted over a two-month period; four reported not to be trauma centers. Ninety-four percent (34/36) of trauma centers completed the surveys. Twenty-seven percent (9/34 centers) are currently using TVR; 38% (13/34) previously used TVR, but stopped due to legal concerns or technical problems; and 35% (12/34) never used TVR. Nine reported that a TVR program was under development. Total planned or current use is 53% (18/34). All currently videotaping programs confirmed that TVR has improved their trauma process. Eighty-eight percent (30/34) have emergency medicine (EM) and/or pediatric emergency medicine (PEM) trainees. Two centers specifically use recorded traumas for resident education. Eight programs do not allow EM (7) or PEM (1) trainees to participate in trauma resuscitations; two of these programs allow trainees to attend TVR conferences.

Conclusions: Most pediatric trauma centers are using or planning to use TVR but few are using it for resident education. Emergency medicine trainees may have limited pediatric trauma experience. Future studies should focus on identifying potential uses of TVR for resident education and impediments to TVR program establishment.

19 Short Stay Admissions: Emergency Department (ED) Observation Unit (OBS) Compared to In-Hospital

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Background: Admission to an emergency department (ED) observation unit (OBS) provides an option to hospital (HOSP) admission for selected patients.

Methods: We retrospectively reviewed a cohort of patients >2 months old admitted either to OBS or HOSP who had stays < 24 hrs during a 26 month study period at a Level I trauma center, adult and children's university hospital with 40,000 ED census and a 10-bed ED OBS. Exclusions were: elective, day surgery, and pregnancy-related admits; patients with major procedures; and deaths and zero charges. Using a two-sample t-test for continuous variables and chi-square test for discrete variables, we compared total facility charges (CHARGES) in dollars and length of stay (LOS) in hours for the cohort and for selected diseases using ICD-9-CM categories. Significance was set at $p < 0.01$ or < 0.05 .

Results: Adjusting for age, gender, LOS, ICD-9 category and insurance class, linear analysis of covariance (ANCOVA) demonstrated significant difference in log of charges. A similar model without LOS found significant difference in log LOS. OBS admits had a larger percent of non-sponsored patients (17.4 vs 7.5, $p < 0.05$) and fewer patients returning within 72 hours of discharge for readmission to the hospital (1.5% vs 2.2%, $p < 0.05$).

20 Factors Important to Emergency Medicine Residency Applicants in Selecting a Residency Program

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Background: Little is known about the factors important to applicants when selecting an emergency medicine (EM) residency program. We sought to identify factors important to applicants when selecting a training program, and determine whether there were gender differences in the factors that applicants value.

Methods: This observational study surveyed interviewees at an EM residency program from November 2005 to February 2006. Applicants were asked to rate each of 18 factors from "not at all important" to "very important" in their selection of an emergency medicine residency program. Participation was voluntary and anonymous.

Results: 73 of 82 interviewees (89%) completed the survey. The factors with the top five mean scores were: how happy the residents seemed (3.9), program personality (3.8), faculty enthusiasm (3.7), geographic location (3.6), experience during interview day (3.5) and pediatrics training (3.5).

Conclusions: The top three factors deemed most important to emergency medicine applicants are primarily intangibles, while programs have no control over the fourth most important factor, location. Still, programs aware of these findings may choose to emphasize these intangibles as well as the geographic strengths of their city in order to maximally appeal to potential residents. Further research is needed to investigate in more detail what aspects of the interview-day experience are most meaningful,

as this may be the factor over which program directors have the most control.

21 Attending and Resident Satisfaction with Feedback in the Emergency Department

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Objectives: Effective feedback is a core component of medical education. Little is known of emergency medicine (EM) attending and resident perceptions of the feedback they give and receive in the emergency department (ED). This study aims to characterize the overall satisfaction of EM attendings and residents with feedback in the ED. We hypothesized that attending and resident perceptions of the ED feedback would differ significantly.

Methods: This observational study was conducted in an EM residency program. Attendings and residents received unique but similarly worded web-based surveys. The primary outcome was overall satisfaction with feedback in the ED, measured on a 10-point scale. Additional items assessed satisfaction with specific aspects of feedback and whether attendings or residents were more likely to initiate feedback. The attending and resident responses were compared using a two-sample t-test for continuous variables and a χ^2 test for discrete variables.

Results: 24 of 32 attendings and 15 of 27 residents completed the survey. Attendings were significantly more satisfied overall with feedback in the ED (6.4 vs. 4.5, $p=0.01$). Attendings were more likely than residents to report good or excellent satisfaction with the timeliness of feedback (50% vs. 13%, $p=0.04$), quality of positive feedback (88% vs. 46%, $p=0.01$), quality of constructive feedback (58% vs. 13%, $p=0.01$), feedback on communication and professionalism (63% vs. 20%, $p=0.02$) and feedback on managing patient flow (54% vs. 20%, $p=0.05$). When asked who usually initiates feedback, attendings were more likely to report that the attending usually does (96% vs. 27%, $p < 0.01$). The study achieved 80% power to detect the primary finding ($\alpha=0.05$).

Conclusions: Attending satisfaction with the timeliness and quality of feedback they give in the ED is significantly higher than resident satisfaction with feedback they receive. There is also significant difference in their perception of who initiates feedback.

22 Use of a Single Expert Reviewer Instead of End Users to Evaluate a Decision Support Tool

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