sites / apps. Students received the list 7 days prior and were instructed to set up the resources on their smartphones. Pre-readings also covered the hierarchy of evidence and formulating a good clinical (PICO) question. All students participated in the high-fidelity simulation, with one volunteer leader. The case involved a stable patient. Residents proceeded with initial case assessment until they faced a management decision that required a literature search. All residents participated on their smart phones. Collectively, it took 5 minutes to find a study that adequately addressed the clinical question. The patient was managed accordingly and symptoms resolved. Feedback on the simulation was abundantly positive. Students found it engaging, practical and realistic. It helped them learn to efficiently search the literature while managing a stable patient. **Conclusion**: Using a multi-modal teaching strategy that includes simulation makes teaching EBM literature searching more interesting, engaging and applicable to EM practice. Future work will look at creating further sessions to reinforce and promote retention of key concepts and integrate them into EM practice.

Keywords: evidence-based medicine, Innovations in EM education, simulation

P058

Impact of an early mobilization protocol on outcomes in trauma patients admitted to the intensive care unit: a retrospective cohort study

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Introduction: Long-term immobility has detrimental effects for critically ill patients admitted to the intensive care unit (ICU) including ICU-acquired weakness. Early mobilization of patients admitted to ICU has been demonstrated to be a safe, feasible and effective strategy to improve patient outcomes. The optimal mobilization of trauma ICU patients has not been extensively studied. Our objective was to determine the impact of an early mobilization protocol on outcomes among trauma patients admitted to the ICU. **Methods**: We analyzed all adult trauma patients (>18 years old) admitted to ICU over a 2-year period prior to and following implementation of an early mobilization protocol, allowing for a 1-year transition period. Data were collected from the Nova Scotia Trauma Registry. We compared patient characteristics and outcomes (mortality, length of stay [LOS], ventilator days) between the pre- and post-implementation groups. Associations between early mobilization and clinical outcomes were estimated using binary and linear regression models. **Results**: Overall, there were 526 patients included in the analysis (292 pre-implementation, 234 post-implementation). The study population ranged in age from 18 to 92 years (mean age 49.0 ± 20.4 years) and 74.3% of all patients were male. The pre- and post-implementation groups were similar in age, sex, and injury severity. In-hospital mortality was reduced in the post-implementation group (25.3% vs. 17.5%; p = 0.031). In addition, there was a reduction in ICU mortality in the post-implementation group (21.6% vs. 12.8%; p = 0.009). We did not observe any difference in overall hospital LOS, ICU LOS, or ventilator days between the two groups. Compared to the pre-implementation period, trauma patients admitted to the ICU following protocol implementation were less likely to die in-hospital (OR = 0.52, 95% CI 0.30-0.91; p = 0.021) or in the ICU (OR = 0.40, 95% CI 0.21- 0.76, p = 0.005). Results were similar following a sensitivity analysis limited to patients with blunt or penetrating injuries. There was no difference between the pre- and post-implementation groups with respect to in-hospital LOS, ICU LOS, or the number of ventilator days. **Conclusion**: We found that trauma patients admitted to ICU during the post-implementation period had decreased odds of in-hospital mortality and ICU mortality. Ours is the first study to demonstrate a significant reduction in trauma mortality following implementation of an ICU mobility protocol.

Keywords: intensive care unit, mobilization, trauma

P059

Early mobilization of trauma patients admitted to intensive care units: a systematic review and meta-analysis

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Introduction: Previous systematic reviews suggest early mobilization in the intensive care unit (ICU) population is feasible, safe, and may improve outcomes. Only one review investigated mobilization specifically in trauma ICU patients and failed to identify any relevant articles. The objective of the present systematic review was to conduct an up-to-date search of the literature to assess the effect of early mobilization in adult trauma ICU patients on mortality, length of stay (LOS) and duration of mechanical ventilation. **Methods**: We performed a systematic search of four electronic databases (Ovid MEDLINE, Embase, CINAHL, Cochrane Library) and the grey literature. To be included, studies must have compared early mobilization to delayed or no mobilization among trauma patients admitted to the ICU. Meta-analysis was performed to determine the effect of early mobilization on mortality, hospital LOS, ICU LOS, and duration of mechanical ventilation. **Results**: The search yielded 2,975 records from the 4 databases and 7 records from grey literature and bibliographic searches; of these, 9 articles met all eligibility criteria and were included in the analysis. There were 7 studies performed in the United States, 1 study from China and 1 study from Norway. Study populations included neurotrauma (3 studies), blunt abdominal trauma (2 studies), mixed injury types (2 studies) and burns (1 study). Cohorts ranged in size from 15 to 1,132 patients (median, 63) and varied in inclusion criteria. Most studies used some form of stepwise progressive mobility protocol. Two studies used simple ambulation as the mobilization measure, and 1 study employed upright sitting as their only intervention. Time to commencement of the intervention was variable across studies, and only 2 studies specified the timing of mobilization initiation. We did not detect a difference in mortality with early mobilization, although the pooled risk ratio (RR) was reduced (RR 0.90, 95% CI 0.74 to 1.09). Hospital LOS and ICU LOS were decreased with early mobilization, though this difference did not reach significance. Duration of mechanical ventilation was significantly shorter in the early mobilization group (mean difference −1.18. 95% CI −2.17 to −0.19). **Conclusion**: Our review identified few studies that examined mobilization of critically ill trauma patients in the ICU. On meta-analysis, early mobilization was found to reduce duration of mechanical ventilation, but the effects on mortality and LOS were not significant.

Keywords: intensive care unit, mobilization, trauma

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