

Research - R174

Poster

Abstract Title:

Title: Daily AM Wake Up Assessment Decreases Unplanned Extubation and Ventilator Associated Pneumonia (VAP) in the ICU

Authors:

Michael Lloyd, MS, RN, Ercele Reyes, MSN, Celso-Ramon Garcia, MSN, Kelly Whartnaby, RN

Background & Purpose:

Background: Unplanned extubations and VAP were identified as a clinical issue in the Trauma ICU. A daily wake up assessment protocol was developed to decrease the number of unplanned extubations and VAP. The protocol, developed by a multidisciplinary Trauma team, included weaning of sedation and use of the Richmond Agitation Sedation Scale (RASS). All ventilated patients from 2010 (non-protocol) to 2011 (protocol) were compared. Our hypothesis was the protocol driven process would decrease the number of unplanned extubations, VAP, ventilator/ICU days, and hospital length of stay (HLOS).

Study/Project Design:

Study Design: Retrospective observational study.

Setting:

Setting: Single-institution, Academic, Level 1 trauma accredited urban hospital.

Sample:

Sample: All ventilated patients admitted to the Trauma ICU from July 1, 2010 to June 30, 2012.

Procedures:

Methods: Beginning in 2010 we retrospectively collected the following data points on all ventilated patients in the Trauma ICU: unplanned extubations, need for re-intubation, VAP, injury severity score (ISS), injury type (blunt/penetrating), age, use of tracheotomy, ventilator days, ICU days, HLOS, and discharge status (live/die). In 2011 we implemented the daily wake up assessment protocol for all ventilated patients. We then compared the non-protocol group (181 patients) versus the protocol driven group (191 patients). For the protocol group we also reviewed the following indicators to determine their impact on the ability to extubate: seizure activity (new onset/history of), alcohol (level >.08/ history of), hemodynamic instability, and intracranial pressure (ICP) if measured.

Findings/Results:

Results: We found that the need for re-intubation decreased from 50% to 13% (p value <.001). VAP decreased from 3% to 1%, ICU LOS decreased from 9.9 to 8.5, HLOS decreased from 16.4 to 15.1, ventilator days decreased from 6.8 to 5.5, and unplanned extubation decreased from 8% to 4%, but none of these were statistically significant. Age, type of injury, ISS, discharge status, and use of tracheotomy were similar in both groups. Multivariate analysis demonstrated no evidence of a relationship between the ability to extubate and seizure activity (new onset/history of), alcohol (level >.08/ history of), hemodynamic instability, intracranial pressure (ICP) if measured, weaning, and the use of sedation for the protocol group.

Discussion/Conclusions/Implications:

Discussion/Conclusions/Implications: Given the potential risk associated with unplanned extubations, VAP, extended ICU LOS and HLOS for patients, we plan on revising and implementing the daily AM wakeup assessment driven process to all ventilated patients in all ICU's. Additional factors that would be concurrently measured would be: compliance with the protocol, unplanned extubations and re-intubations, VAP, use of sedation, active weaning, ventilator days, ICU LOS, HLOS, use of tracheotomy, clinical complications, costs, and discharge status.