

TITLE: Retrospective Analysis of Adult Unplanned Extubation Risk Factors

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Background: Unplanned extubations can have many adverse effects including trauma to the airway, reintubation, increased incidence of VAP (HAI) and complications that range from respiratory distress to increased mortality. VMC unplanned extubation and reintubation rates are within the ranges noted in the literature. Regardless of how our rates compare to the literature, we must decrease unplanned extubations to improve patient outcomes. A collaborative group was formed in 2012 to analyze risk factors for adult unplanned extubations (UE's).

Objective: Determine the main risk factors for unplanned extubations. Develop interventions to prevent/reduce UE's.

Methods: A multidisciplinary approach to analyze the events included physicians, nurses and RCP's. A standardized form was developed for retrospective review of each event. Each patient's occurrence was discussed and a determination made as to possible UE risk factors. If questions could not be answered through group discussion then actual chart reviews (in the EHR) were done during the meeting. After the first 45 UE reviews we found trends that led us to actions for process improvement.

In addition to the meetings, the Respiratory Quality Action Team reviewed many articles related to unplanned extubation risk factors. A Cochrane review by Paulo da Silva, MD, MSc, and Marcelo Fonseca, MD, MSc published in the Society of Critical Care Anesthesiologists (May 2012 Volume 114 Number 5 pgs 1003-1014) was noted to be very helpful in our review of these cases

Results: A total of 45 unplanned extubations were analyzed between Oct 1, 2012 and Jan 20, 2013. Of those 45 - 80% were male (36/45), 81% were in restraints, 65% (28/45) did not need reintubation within 48 hrs (we have noticed slightly higher trends since the original review), and 58% of patients were medicated with either dexmedetomidine 42% (19/45) or propofol 16% (7/45).

Conclusions: The main risk factors found in our study agreed with the previously published identified risk factors: patient agitation/anxiety, sedation withdrawal, no sedation, patient weaning not done efficiently and restraints not effectively preventing patients from self extubation. Our focus is to achieve better communication between the MD, RN and RCP about the plan for medication management and ventilator weaning. The intervention we implemented is a daily standardized/scheduled process of communication between disciplines including a Sedation Vacation/SBT's protocol.