

# Evidence-Based Practice (EBP) - E125

Poster

## **Abstract Title:**

Performance Improvement Coordinators Improve Tracking and Analysis of Unplanned Extubations

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## **Background & Purpose:**

Unplanned extubations (UE) are a complication in ICU's that can have significant consequences. Our institution defines UE as any event that results in the unplanned removal of the ETT including self extubation, loss of tube integrity and tube occlusion. Trauma Performance Improvement Coordinators (PICs) were hired in 2012 to quantify and track trauma registry data and to collaborate with registry personnel in refining the analysis of clinical information such as UE. Benchmarking proved to be difficult as literature searches revealed variable rates.

## **Study/Project Design:**

Trauma registry UE data from July 2010 to July 2013 was reviewed.

## **Setting:**

This project took place in a 404 bed Level 1 Trauma Academic Medical Center.

## **Sample:**

93 patients had UE during the review period.

## **Procedures:**

An 18 month before/after design review of UE prior to and following the implementation of PIC's was performed. Variables analyzed included ventilator mode, restraint use, time of day, sedation/opioid use, and whether or not reintubation occurred. Loop closure forms were sent to unit clinical managers for follow up regarding extubation circumstances. Education on current policies was conducted with physician and nursing staff.

## **Findings/Results:**

PIC pre-hire UE total was 28; the majority of the UE in the pre-hire group were restrained (92%) self extubations (86%) on SIMV (54%). Thirteen patients in the pre-hire group were on CPAP at the time of UE versus 15 on SIMV. Reintubation percentage was 43 with those patients on CPAP being retubed only 30% as compared to the patients on SIMV who required reintubation 47% of the time. Post-hire UE total was 65. Again the review indicated that most UE were self extubations (92%) occurring in restrained (94%) patients who were on SIMV (54%). Twenty one patients (32%) in the post-hire group required reintubation. Patients on SIMV at the time of UE were reintubated 44% of the time. Patients on CPAP had a reintubation percentage of 14. While an increase in post hire numbers was noted, it was felt this was due to real time capture of UE events and not solely dependent on post discharge chart reviews by nonclinical registry staff.

## **Discussion/Conclusions/Implications:**

The PICs continue to review all UE in real time with loop closures to unit managers. Extubation policies are routinely reviewed with physicians, nursing and respiratory staff. This ongoing awareness has also led our facility to discuss and re-evaluate sedation vacation and weaning protocols. In addition to future plans to further evaluate patients that required reintubation, similar methodology to assess other complications and system issues is currently being performed.