Predicting Re-Intubation in Patients Who Self Extubate in the ICU

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Predicting Re-Intubation In Patients Who Self Extubate In The ICU

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Introduction

- To improve quality and safety in the ICU, predicting mechanical ventilation outcomes are vital.
- These outcomes may include:
  - ventilator duration and weaning success
  - complications association with mechanical ventilation
  - ordered vs unplanned extubations
  - the rate of re-intubations
- Re-intubation can carry a high degree of complications

Study Rationale

- In an effort to better understand self extubation in our institution, this abstract reports the characteristics of patients who experience self extubation and describes predictors of patients who may benefit from early re-intubation.

Study Design

- We conducted a retrospective comparative study to describe self extubation at our institution and describe predictors of re-intubation.
- Our institutional IRB deemed the study exempt.
- Data was collect between calendar year 2008-2009 which included 6,288 mechanically ventilated patients.

Results

- Of 6,288 ventilated patients there were 169 episodes of self-extubation (2.8%).
- Of the 169 patients who self extubated, forty-six (27.2%) were re-intubated within a 24 hour time frame.
- The remaining 114 patients (67.5%) remained liberated from mechanical ventilation.
- Nine episodes of self extubation were excluded secondary to insufficient documentation.
- Ventilator severity (mode of ventilation at the time of self-extubation p=.002) and ventilator day (3.3 vs 5.6 p=.001) were statistically significant.
- No other collected variables were statistically significant.

Conclusions

- Patients who self extubate who are on the ventilator greater than five days and are receiving higher levels of ventilatory support are at risk to require re-intubation.
- Other patient and clinical characteristics have minimal impact on re-intubation rates.