



Healthcare Organization Commitment

Contact Details

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Position

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Commitment Details

Commitment Name

Commitment to Airway Safety

Participants

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What Patient Safety Challenge does your Commitment address?

Challenge 8B - Unplanned extubation

How Many Hospitals Will This Commitment Represent

1

Action Plan

The Unplanned Extubation Clinical Trial Group consists of Banner University Medical Center Tucson, Hennepin County Medical Center Minneapolis, and Emory University/Grady Memorial Hospital Atlanta. This group of hospitals are committed to improving patient safety and eliminating preventable deaths related to unintentional (unplanned) removal of patients' life sustaining breathing tubes, known as unplanned extubation. Although none of our three participating facilities currently track unplanned extubation, a very clear safety signal in the medical literature suggests that approximately 7.3% of mechanically ventilated ICU patients experience an unplanned extubation. In our three facilities, we care for approximately 4,500 mechanically ventilated ICU patients years, which would predict 330 patients will experience an unplanned extubation each year. These 330 incidences of unplanned extubation will lead to: 1. 93 cases of Ventilator Associated Pneumonia (VAP) a. The rate of VAP in mechanically ventilated ICU patients experiencing Unplanned Extubation is 28% compared to the rate 14% rate of VAP seen in uncomplicated mechanically ventilated patients. 2. 63 Deaths 3. \$13.5 Million in wasted healthcare costs. Therefore, we are committed to clearly defining the problem in our facility and developing processes to eliminate related preventable deaths. Therefore, we will work to develop the following: 1. First, we will develop a system to track extubation data on every intubated, mechanically ventilated patient, including intentional (planned) extubation and unintentional (unplanned). 2. Using the PSMF Core UE Dataset, we will track all incidences of unplanned extubation and develop a quality management system to decrease the rate of UE and eliminate preventable deaths from UE. a. We will perform a root cause analysis of every unplanned extubation 3. We will work to institute the Patient Safety Movement Foundation Actionable Patient Safety Solutions (APSS) 8B for Airway Safety- Unplanned Extubation 4. One of the Actionable Patient Safety Solutions for preventing unplanned extubation is to standardize tracheal tube restraint devices, utilizing the most proven methods/devices. However, the current literature does not clearly identify any device or technique currently on the market that is superior at preventing unplanned extubation. The PSMF Unplanned Extubation APSS 8B Technology PPlan describes a restraint device that was found to restrain against significantly greater forces compared to other systems such as adhesive tape, Laerdal Thomas Tube Holder and the Hollister AnchorFast. Because bench data suggests superiority of the SolidAIRity device in restraining against force, it is also likely to significantly decrease the incidence of unplanned extubation. However, this must be proven. The device, the SolidAIRity Airway Stabilization System is expected to receive FDA 510K market clearance mid-2018. To answer the question, "Is the SolidAIRity Airway Stabilization System superior at preventing unplanned extubation?", The Unplanned Extubation Clinical Trial Group will participate in a multi-center study that will compare the unplanned extubation rate in patients whose endotracheal tubes are restrained by the SolidAIRity Airway Stabilization System versus HCMC's current standard of care tube restraint device, the Hollister AnchorFast.

Commitment Timeline

Impact Details

Lives Lost in Last Calendar Year

0

How many lives do you expect to spare from harm in the next calendar year?

330

How many lives do you expect to save in the next calendar year?

69

Methodology for Determining Lives Saved

The three facilities that make up the UE Clinical Trial Group combined cares for the approximately 4,500 mechanically ventilated ICU patients yearly. Based upon the 7.3% unplanned extubation rate described in an extensive literature review published in *Anesthesia and Analgesia* in 2012, it is expected that 330 patients will experience an unplanned extubation. Of those 330 patients, 93 patients (28%) will develop a ventilator associated pneumonia and 63 patients (19%) will die.