Purpose

- To determine if lowering the head of bed from a goal of 30-45 degrees to 20 degrees would increase staff compliance with ventilator-associated pneumonia (VAP) bundle without increasing VAP rate or pressure ulcer incidence.

Background/Significance

- Struggle to achieve and sustain bundle compliance with head of bed elevation in Pediatric Intensive Care Unit (PICU):
  - VAP prevention bundle head of bed (HOB) elevation 30 to 45 degrees: 79% compliance rate
  - Clinical nurses’ concerns:
    - At 30-45 degree HOB elevation patients were sliding down in their beds.
    - Friction and shearing forces from up-and-down position changes could lead to pressure ulcers and/or endotracheal tube dislodgement.

Literature Review Findings

- To minimize shear and friction forces, HOB elevation should not be greater than 30 degrees. Quality of evidence for HOB elevation at 30 to 45 degrees was found to be low (Grade III): based only on expert consensus without rigorous studies conducted.

Plan

- PICU VAP committee implemented innovative practice change to 20 degree HOB elevation for ventilated patients.
- Education was developed and a slogan was created: Heads Up, Twenty Up based on the childhood game, Heads Up, Seven Up.
- Educational flyers were displayed throughout the PICU.
- Small stickers were placed on patient charts and on ventilators as bedside reminders.

Outcomes

- Since implementation, bundle compliance has averaged 93% with elevating HOB to 20 degrees.
- Zero VAP rate since November 2013
- Unable to directly correlate changes in pressure ulcer incidence to this project due to multiple pressure ulcer prevention strategies implemented during same timeframe
- Implementing an innovative change in clinical practice, PICU nurses improved the safety of their ventilated patients while increasing VAP bundle compliance.

References