Success in Eliminating ICU Ventilator Associated Pneumonia

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Introduction

• Ventilator associated pneumonia (VAP) carries a 10 to 30% mortality rate which is estimated to increase in-patient costs by $40,000 per event.
• In 2004 there were 12 hospital-acquired ventilator-associated pneumonia cases.
• ICU registered nurses, respiratory therapists, and physicians managed ventilator patients without collaboration or delineated processes.

Methods

• 2004-2005—ICU nursing, respiratory therapy, infection preventionist collaboration for managing ventilator patients including device day tracking.
• 2005—In-line suction reduced VAPs from 12/1000 ventilator days in 2004 to 9/1000 ventilator days.
• 2006—In-line treatment adapters and ventilator bundle orders reduced VAP to approximately 1.9/1000 ventilator days.
• 2006—Best practice communication per infection control preventionist further reduced ventilator days.
• 2009—Processes initiated to maintain intact ventilator circuits led to a VAP rate of 0/1000 ventilator days.

• Current state—Ventilator bundle ABCDEF bundle²:
  • Airway assessment/pain management
  • Both Spontaneous Awakening Trial and Spontaneous Breathing Trial
  • Choice of analgesia/sedation
  • Delirium monitoring
  • Early mobility
  • Family engagement

Results

• Interprofessional collaboration and development of a ventilator bundle protocol led to the reduction of hospital-acquired VAPs to zero in 2009.
• To date the facility has achieved 95 months without a hospital-acquired VAP or ventilator-associated event (VAE).

• OMC-NS VAP/VAE 2004 - 2016

Conclusions

• Interprofessional collaboration and use of evidence-based practice bundles has eliminated VAP/VAEs at the facility for 95 consecutive months.
• ABCDEF bundles have been incorporated to promote early extubation and sustain the VAP/VAE-free status.

References


Discussion

• Employees oriented to ventilator bundle process in Respiratory therapy and ICU department-specific orientations.
• Annual competency validation regarding care of the patient on the ventilator for both ICU and Respiratory therapy employees.
• Spontaneous awakening trial (SAT) and spontaneous breathing trial (SBT) criteria prominently displayed at all workstations.
• VAP/VAE instruction card attached to each ventilator to assist interprofessional team manage ventilated patients consistently.
• All efforts have allowed OMC-NS to eliminate VAPs/VAEs.