

Abstract Title:

Initiative to Decrease Ventilator Associative Pneumonia in NICU

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Introduction: Initiative To Decrease Ventilator Associated Pneumonia In NICU VAP is second most hospital acquired infection among PICU and NICU patients. VAP occurs in 6.8-32 % of neonatal population. Hospital acquired infections increase length of stay, hospital cost, mortality and adverse neurodevelopmental outcomes. Risk factors for VAP in premature infants include mechanical ventilation, supplemental oxygen, blood stream infections, number of reintubations, blood transfusions and opiate sedation. In 2012 we had 2 cases of VAP within one month. We did not have a VAP Prevention Protocol nor know our incidence of VAP in our NICU. A committee was formed to investigate our rate of VAP, develop a VAP Prevention Protocol to decrease our incidence of VAP. By decreasing our incidence of VAP we will be able to decrease patients' morbidity, mortality, LOS and hospital cost.

Methods: Interdisciplinary committee developed VAP Prevention Protocol, "Clean Intubation" Protocol, practice changes, educational instruments (power point presentation, video, poster presentation) to implement VAP Bundle. Chart review before and ongoing evaluation after implementation for our

incidence of VAP, CDC's definition. Audits of nursing, RT and NNP compliance with VAP Bundle and "Clean Intubation" technique. Patients 29 weeks or less ventilated for greater than 48 hours were evaluated for VAP in 2010 and 2011 before implementation of our VAP Bundle and ongoing evaluation of current VAP cases from 2012 to present to evaluate significant improvement in our VAP rate.

Results: Reviewed 141 charts from 2010-2011 before implementation with results: 2010, 14 VAP cases for 5.4 cases/1000 ventilator days; 2011, 24 VAP cases for 12.6 cases/1000 ventilator days. Results after implementation: 2012, 4 cases, 4.5 cases/1000 Vent Days 2013, 3 cases, 3.6 cases/1000 Vent Days 2014, 5 cases, 1.5 cases/1000 Vent Days 2015, 4 cases, 2.1 cases/1000Vent Days. LOS of our 2010 VAP cases was 28 days longer than ventilated non-VAP patients and LOS of our 2011 VAP cases was 40 days longer then ventilated non-VAP patients.

Conclusion: We developed a Ventilator Associated Pneumonia Prevention Protocol that included a "Clean Intubation" Protocol that decreased our VAP rate in ventilated ELBW/VLBW infants. Our interdisciplinary committee implemented our VAP Bundle through staff education, practice changes and ongoing staff audits. Our incidence of VAP decreased with acceptance of our VAP Bundle by all NICU multidisciplinary staff. Our VAP committee continue to evaluate cases of pneumonia to diagnose VAP in our NICU. Staff education and acceptance to VAP Bundle is ongoing with new staff. We are expanding our protocol to other departments that are involved in the care of our patients like anesthesia.