

The Utilization of a Sub-Glottic Endotracheal Tube to Reduce Ventilator Associated Pneumonia Rate

Kenneth Miller MEd, RRT-NPS

Lehigh Valley Health Network, Kenneth.Miller@lvhn.org

Robert Leshko BS, RRT

Lehigh Valley Health Network, Robert.Leshko@lvhn.org

Angela Lutz BS, RRT-NPS

Lehigh Valley Health Network, Angela.Lutz@lvhn.org

Linda Cornman BS, RRT-NPS

Lehigh Valley Health Network, Linda.Cornman@lvhn.org

Follow this and additional works at: <https://scholarlyworks.lvhn.org/patient-care-services-nursing>



Part of the [Circulatory and Respiratory Physiology Commons](#), [Equipment and Supplies Commons](#), and the [Nursing Commons](#)

Let us know how access to this document benefits you

Published In/Presented At

Miller, K., Leshko, R., Lutz, A., & Cornman, L. (2011, November). *The utilization of a sub-glottic endotracheal tube to reduce ventilator associated pneumonia rate*. Poster presented: The AARC 56th International Congress of Respiratory Care, Tampa, FL.

[Research Day 2012: Transforming Culture Through Evidence-Based Practice](#), October 29, 2012, Lehigh Valley Health Network, Allentown, PA.

This Poster is brought to you for free and open access by LVHN Scholarly Works. It has been accepted for inclusion in LVHN Scholarly Works by an authorized administrator. For more information, please contact LibraryServices@lvhn.org.

The Utilization of a Sub-Glottic Endotracheal Tube to Reduce Ventilator Associated Pneumonia Rate

Kenneth Miller, MEd, RRT-NPS, Robert Leshko, RRT, Angela Lutz, RRT-NPS, Linda Cornman, RRT-NPS, Lehigh Valley Health Network, Allentown, Pa.

Introduction

- VAP is the 2nd most common nosocomial infection.
 - 15% of all hospital acquired infections
- Incidence:
 - 9% to 70% occurrence in patients on ventilators
- Increased ICU stay by several days.
- Increased avg. hospital stay 1 to 3 weeks.
- Mortality:
 - 13% to 55%
- Added costs of \$40,000–\$50,000 per stay.

Centers for Disease Control and Prevention, 2003. Rumbak, M. J. (2002). Strategies for prevention and treatment Journal of Respiratory Disease, 21 (5), p. 321;

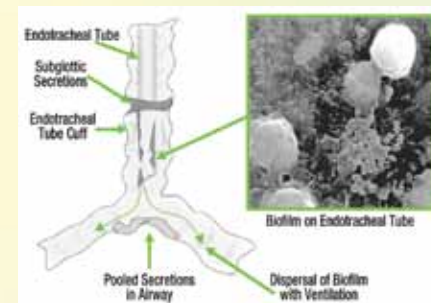
Changing Views of Ventilator Associated Pneumonia

- No longer just an “unfortunate” occurrence.
- Viewed as medical error:
 - Institute of Medicine
 - Leapfrog Group
- TJC – hospitals required to show VAP prevention/reduction measures:
 - Act 52 requires family notification!

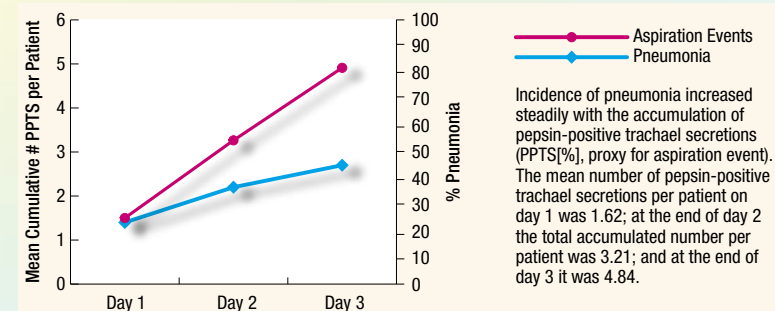
Methods: Steps to Reduce VAPS

- Implementation of Ventilator Bundles.
- Diligent ventilator management.
- Utilization of non-invasive ventilation.
- Early tracheostomy?
- Hi/Lo Evac endotracheal tube.
- Need to monitor, strong arm approach!

BioFilm

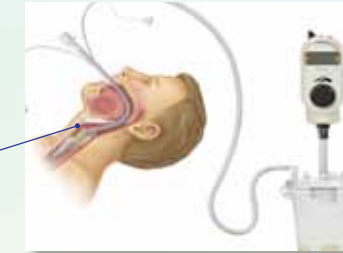


Correlation of Aspiration to Pneumonia



Subglottic Secretion Drainage with Integrated Suction Line

Subglottic space

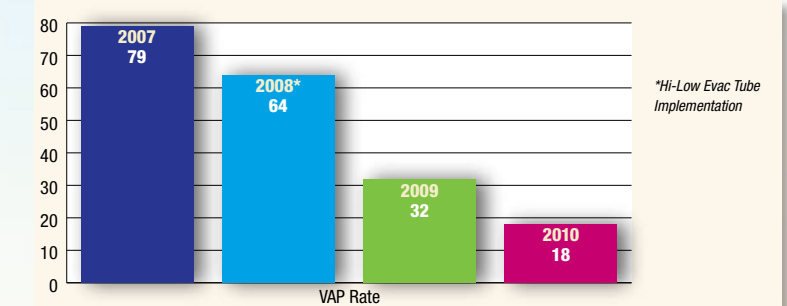


Advanced Cuff Technology Seal Guard

- Unique, tapered-shape cuff made from stronger, ultra-thin polyurethane
 - Reduces leakage past the cuff by at least 95% compared to conventional, high-volume, low-pressure cuffs*.
 - Improved sealing performance occurs at a 20% lower intra-cuff pressure*.



Results: LVHN VAP History



Conclusion

- VAP rate reduced from 78 from 64 from 2007-2008.
- Potentially 6.44 lives saved.
- Potentially \$560,000 saved.
- VAP rate now 18!
- VAP rate below national standard!
- **STILL ROOM for IMPROVEMENT!**