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

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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.

- 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!

Changing Views of Ventilator Associated Pneumonia
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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
- 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*.

Correlation of Aspiration to Pneumonia
- Incidence of pneumonia increased steadily with the accumulation of pepsin-positive tracheal secretions (PPTS [%], proxy for aspiration event).
- The mean number of pepsin-positive tracheal secretions per patient on day 1 was 1.82; at the end of day 2 the total accumulated number per patient was 3.21, and at the end of day 3 it was 4.64.

Subglottic Secretion Drainage with Integrated Suction Line
- Unique, tapered-shape cuff made from stronger, ultra-thin polyurethane
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Results: LVHN VAP History

Conclusion
- VAP rate reduced from 78 to 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!

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