Oral Care Interventions to Prevent Ventilator-Associated Pneumonia in Mechanically-Ventilated Adults

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**PATIENT CARE ISSUE**

- VAP is one of the most common complications seen in the ICU in US hospitals. (Coffin)
- Health consequences for the affected patient:
  - Longer hospital stays
  - Increased morbidity and mortality
  - Associated mortality rate as high as 10% (Coffin)
- Each case costs the hospital an estimated $50,000-$57,000 (Restrepo)

**EVIDENCE-BASED PRACTICE QUESTION**

**Question:** Is chlorhexidine the best method of oral care to prevent ventilator-associated pneumonia in mechanically-ventilated patients?

- **P** - mechanically ventilated adults in an acute care setting
- **I** - use of chlorhexidine to prevent ventilator-associated pneumonia (VAP)
- **C** - use of chlorhexidine versus the use of hydrogen peroxide to prevent VAP, which was compared to toothbrushing versus no-toothbrushing
- **O** - chlorhexidine is a better alternative than hydrogen peroxide to prevent VAP

**TRAUMA RN INTERVIEW**

- Setting: Magnet-designated hospital
- No official policy was found on oral care for ventilated patients
- Expected oral care for mechanically-ventilated patients:
  - Respiratory therapy does subglotic suctioning at 0400/1200/2000
  - RNs do toothbrushing at 0800/1600/2400
  - Mouth swabs are offered every 2 hours by PCT or RN
- This hospital uses suction toothbrushes with a hydrogen peroxide-based gel to provide standard oral care
- Peridex, a chlorhexidine-based oral rinse, is only used if ordered by a physician

**METHODS**

Literature published between 2008 and 2013 was reviewed using PUBMED, MEDLINE, CINAHL, Cochrane, and Up To Date using the key words “oral care,” “ventilator-associated pneumonia,” “toothbrushing,” “VAP,” “oral hygiene,” “hydrogen peroxide,” and “pneumonia.”

**SYNTHESIS OF EVIDENCE**

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<th>Search Strategy</th>
<th>Number of Articles</th>
<th>% of Articles Relevant</th>
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<td>VAP and care</td>
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**EVIDENCE-BASED PRACTICE RECOMMENDATIONS**

We recommend the use of chlorhexidine as a standard in oral care to decrease VAP rates and overall hospital costs. Chlorhexidine as a standard part of the current oral care regimen will have beneficial results to the patient and the hospital. Despite strong evidence of the improved oral care to prevent VAP, hospital protocol continues to overlook the value of chlorhexidine in preventing VAP.

**LIMITATIONS**

- Including studies with small sample sizes
- Differing study designs
- Differing definitions of VAP
- Differing oral care protocols
- Differing methods of data collection

**REFERENCES**

See the full reference list for detailed sources and citations.