

# ZAP THE VAP!!!



(Sole, ML, 2002)

# Ventilator-Associated Pneumonia Task Force

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# What is VAP?

- Ventilator Associated Pneumonia
- Most common nosocomial bacterial infection among patients requiring mechanical ventilation
- Increases morbidity and mortality in critically ill patients
- Increases cost of care
- Increases length of hospital stay





# Costs of VAP



Did you know these factors are positively associated with VAP:

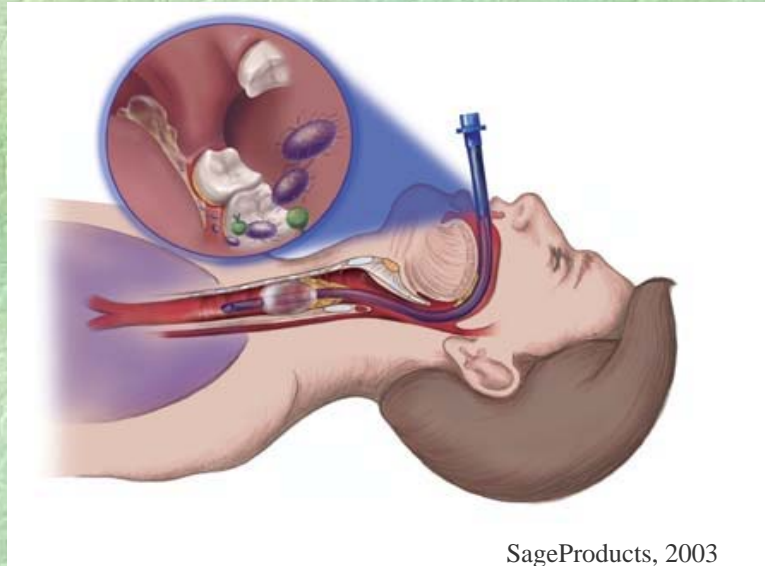
- ➔ Duration of intubation, duration of ventilation, duration of tube feeding
- ➔ 16-day increase in length of stay and \$29,369-\$40,000 increase in cost per case

(Byers et al., 2000. American Journal of Critical Care; Rello et al., 2002. Chest)



# Objectives

- Identify who is at risk for VAP
- Discuss contributing factors for VAP
- Describe pathophysiology of VAP
- List goals of the ZAP the VAP initiative
- Discuss evidence-based practices to reduce VAP



# Risk Factors for VAP

- Artificial airway
- Oropharyngeal colonization
- Aspiration of subglottic secretions
- Aspiration of stomach contents
- Dental plaque
- Head of Bed < 30 degrees



# Principle Objective of Oral Care

To maintain the mouth in good oral condition

- ☞ Comfortable
- ☞ Clean
- ☞ Free of Infection

# Oral Care Facts

- ➔ Oral care is often a neglected area of nursing (assessment, actual care given)
- ➔ Healthy oral status is crucial for comfort and well-being of patients
- ➔ Only 50% of population receives regular dental care (Adams, 1996. Journal of Advanced Nursing.)
- ➔ Many patients enter hospital with existing dental problems
- ➔ Patients with dry mouth may have difficulty speaking
- ➔ Cracked lips can be painful!!

# Evidence Based Practices to Zap the VAP

- ➡ Utilize Oral Care Guidelines
- ➡ Maintain regular hand washing
- ➡ Use protective gowns, eyewear, and gloves
- ➡ Avoid large gastric volumes
- ➡ Keep HOB >30 degrees

# Evidence Based Practices to Zap the Vap

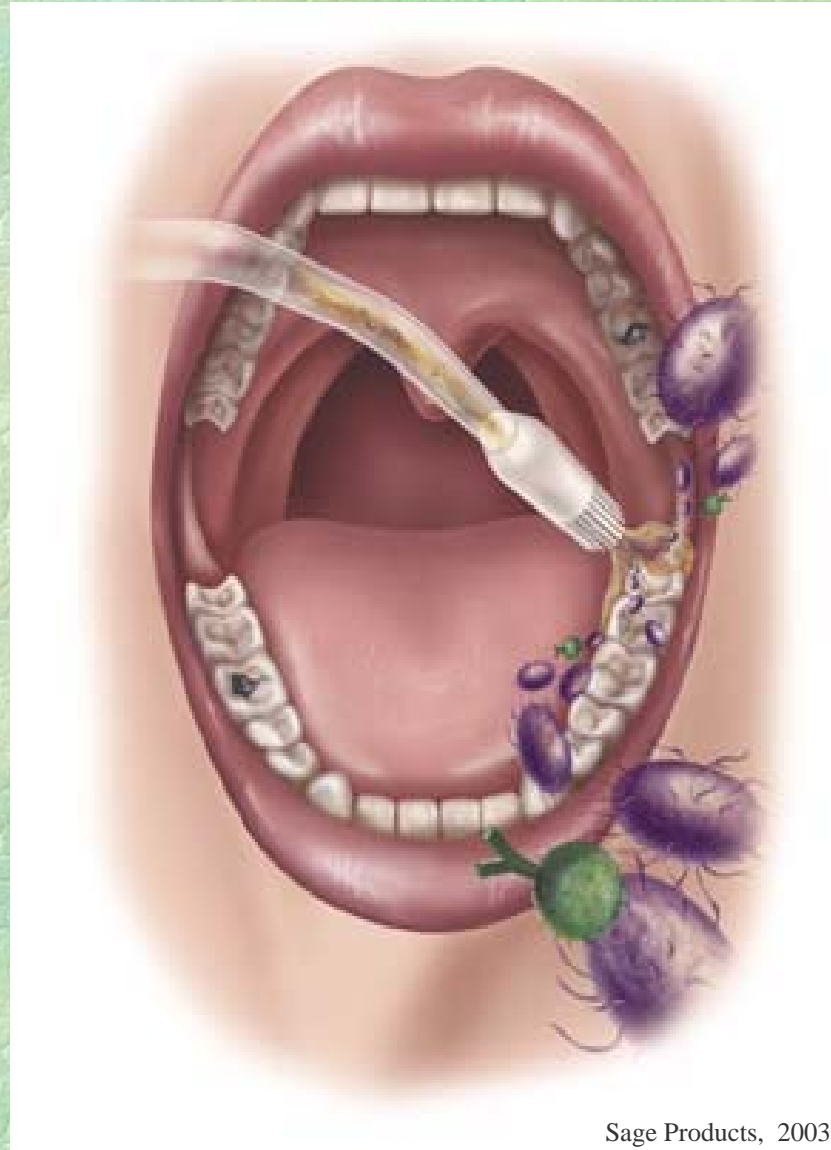
- Avoid prolonged nasal intubation
- Prevent self-extubation
- Monitor and remove condensate accumulation
- Administer vaccines
- Provide continuous subglottic suctioning
- Check pressure of ETT cuff regularly
- Record daily weaning parameters

# Oral Care Guidelines

- Assess mouth on admission and q shift
  - Brush teeth q12 hrs with NaHCO<sub>3</sub> toothpaste
  - After brushing, rinse mouth with 1/2 strength H<sub>2</sub>O<sub>2</sub> on foam swabs; suction mouth
  - Swab mouth q2 hrs using 1/2 strength H<sub>2</sub>O<sub>2</sub> on foam swabs
  - Suction back of throat q2 hrs and prn
  - Moisturize mouth and lips with water soluble moisturizer
- (Holland, 2003)



# Oral Care Fights off Bacteria!



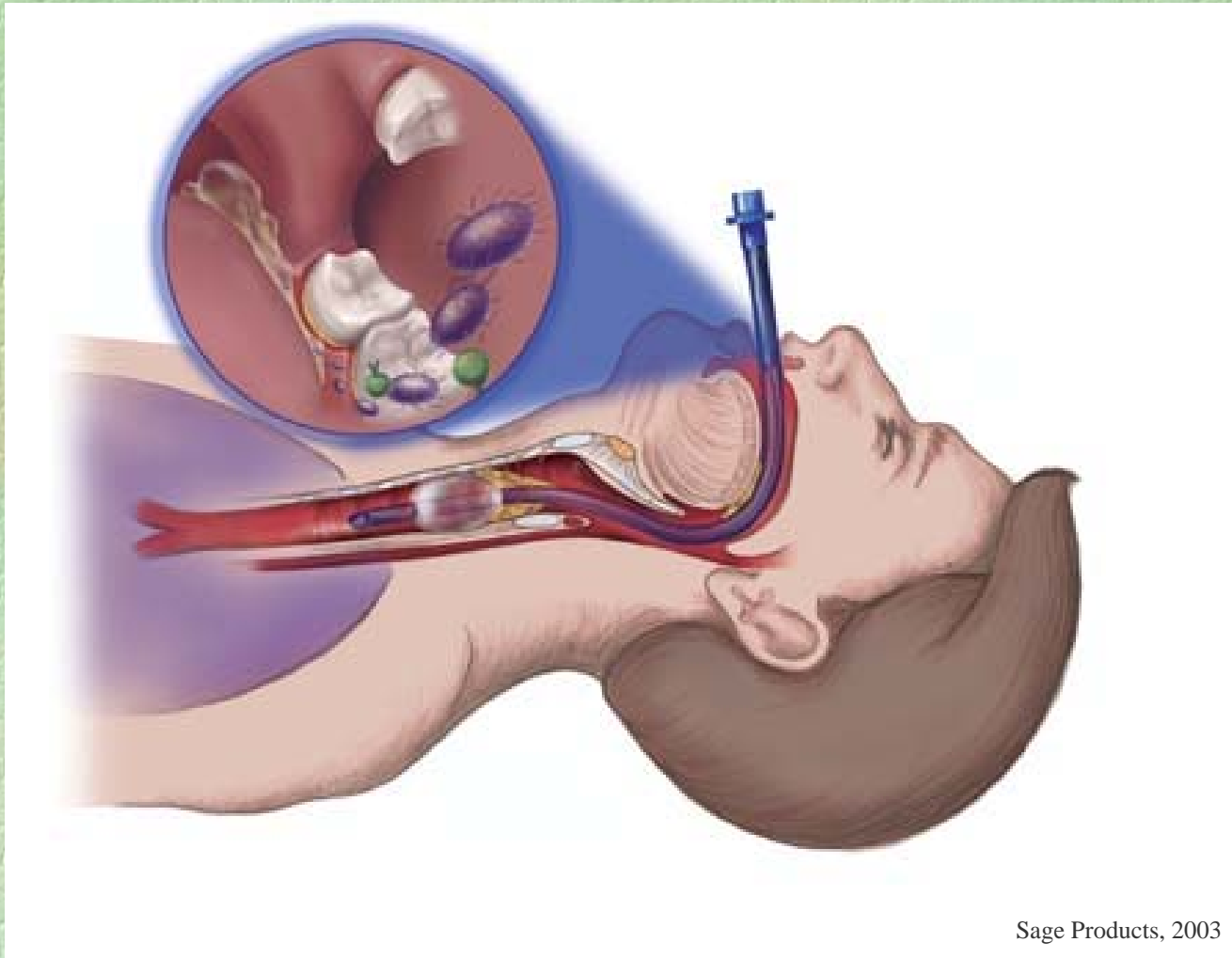
# Care of Yankauer Suction Tube

- ☞ Keep Yankauer suction tube covered when not in use
- ☞ Tape Yankauer cover to siderail
- ☞ Flush suction tube after each use and when suctioning is completed by slowly squeezing saline unit dose vial and holding down suction valve until catheter and tubing are clear

# Oral Care Kit



# Bacteria Entering the Upper Airway



# Handwashing

- ➔ Widely recognized as important
- ➔ Underused among healthcare workers
- ➔ Alcohol hand antiseptic: see picture of Calstat below
- ➔ Soap & water method: Moisten hands and wrists under water. Using a circular motion, work lather over hands and wrists, between fingers and under fingernails for 10-15 seconds (Infection Control Policy #27)



# Protective Gowns, Gloves, & Eyewear



Did you know...?



- ➡ Gown & gloves are required when caring for patients with antibiotic resistant pathogens
- ➡ Gloves & face protection are required when suctioning patients (Infection Control Policy #10)



# Positioning

Most important thing nurses can do to prevent VAP is to:

- ☞ Maintain HOB > 30 degrees

Why?

- ☞ Decreases risk of aspiration



# Postural Changes

- Patients on bedrest have increased risk of VAP
- Turn patients q 2 hrs to lower risk of VAP
- Keep HOB at least 30 degrees

# Prevent Self-Extubation

Strategies to prevent self-extubation include:

- ☞ Utilizing chemical and/or physical restraints when appropriate
- ☞ Ensuring ETT properly secured to patient

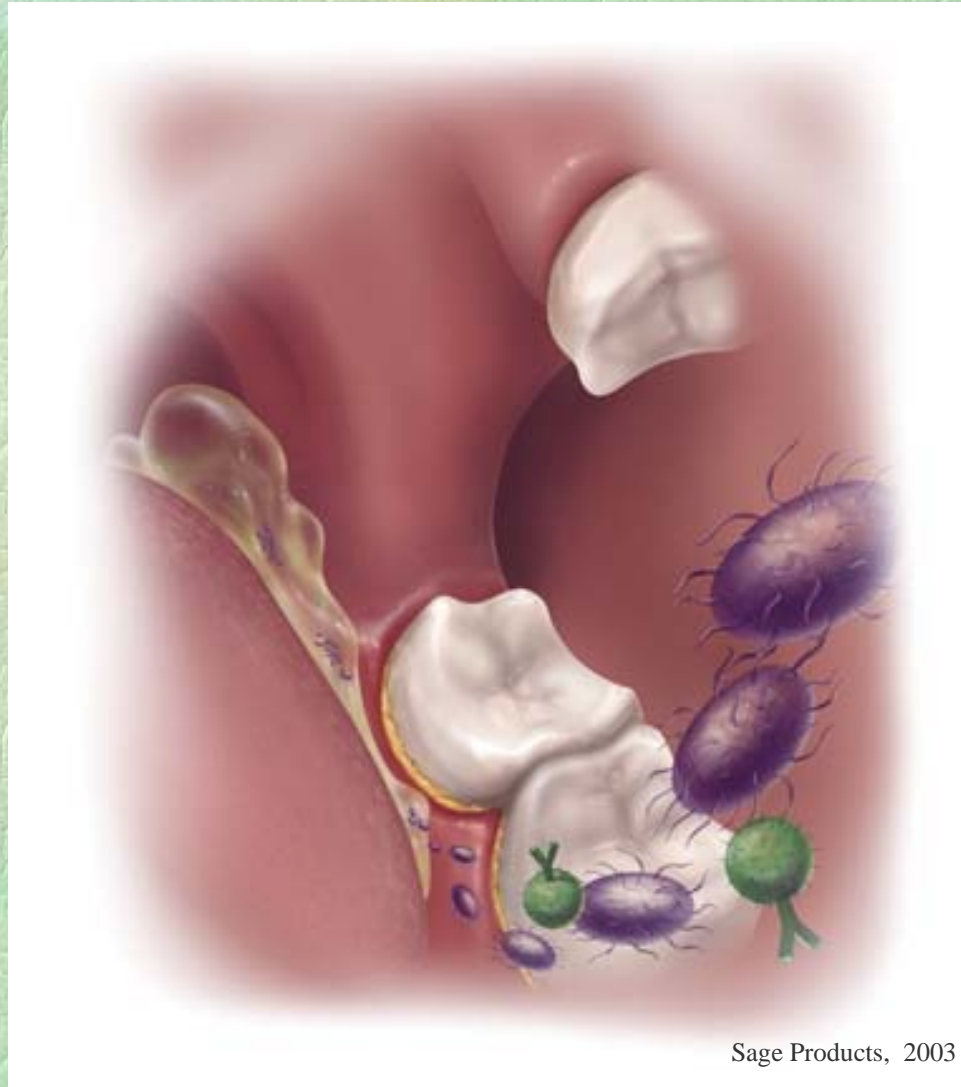
Self-extubation increases:

- ☞ Risk for aspiration of pooled oral secretions above the cuff
- ☞ Trauma to mucous membranes

# Oral Care Fights off Bacteria!



# Bacteria Entering the Oral Cavity



Sage Products, 2003



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