

Keck School of Medicine of USC
Program of Nurse Anesthesia



REDTalk:
anesthesia solutions
**Research
Education
Dissemination**

ORAL DECONTAMINATION FOR THE PREVENTION OF POSTOPERATIVE
PULMONARY INFECTIONS IN ELECTIVE SURGERIES: AN EXTENSIVE
LITERATURE REVIEW

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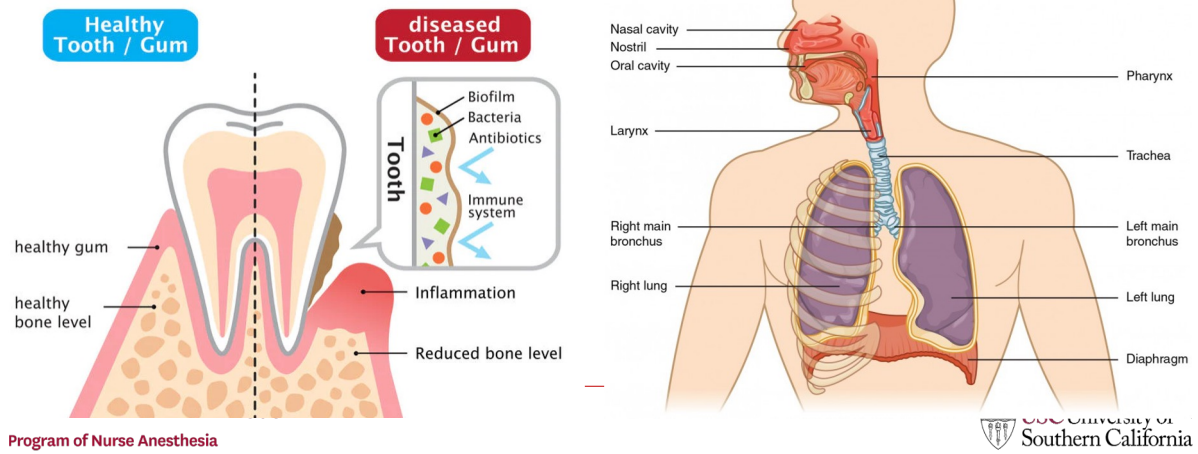
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1



2

Postoperative Pulmonary Pathophysiology



3

Research Question

Does preoperative oral decontamination reduce the incidence of postoperative pulmonary infections in elective surgeries?

4

Operational Definitions

Postoperative Pulmonary Complications (PPC)

Aspiration

Pneumonia

Oral Decontamination

Hospital Acquired Infection (HAI)


Ventilator Associated Pneumonia (VAP)

Microaspiration

Elective Surgery


Bass Method


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5


Deliverables

-  Extensive review of current literature

-  Summary Report

-  Synthesize best practice recommendations into an educational pamphlet

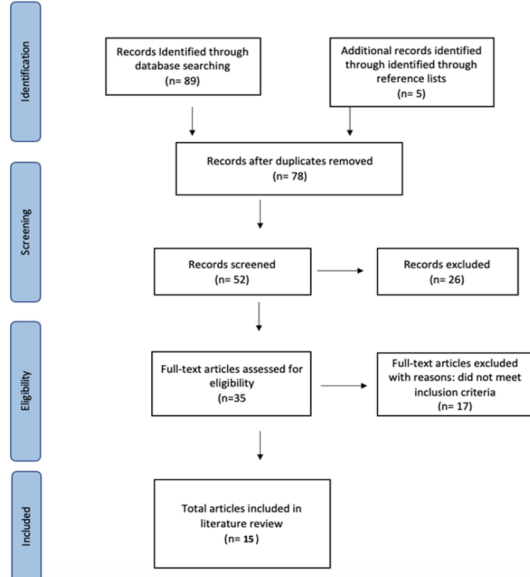
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6

Methodology: Search Terms

- Postoperative complications (PPC)
- Oral decontamination
- Bacterial count
- Oral hygiene
- Aspiration pneumonia
- Perioperative chlorhexidine
- Pneumonia
- Leukocytosis
- Oral bacteria
- Elective surgery



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PubMed database contains: National library of medicine, MEDLINE, PubMed central, and NCBI Bookshelf



7

Strategies for Oral Decontamination

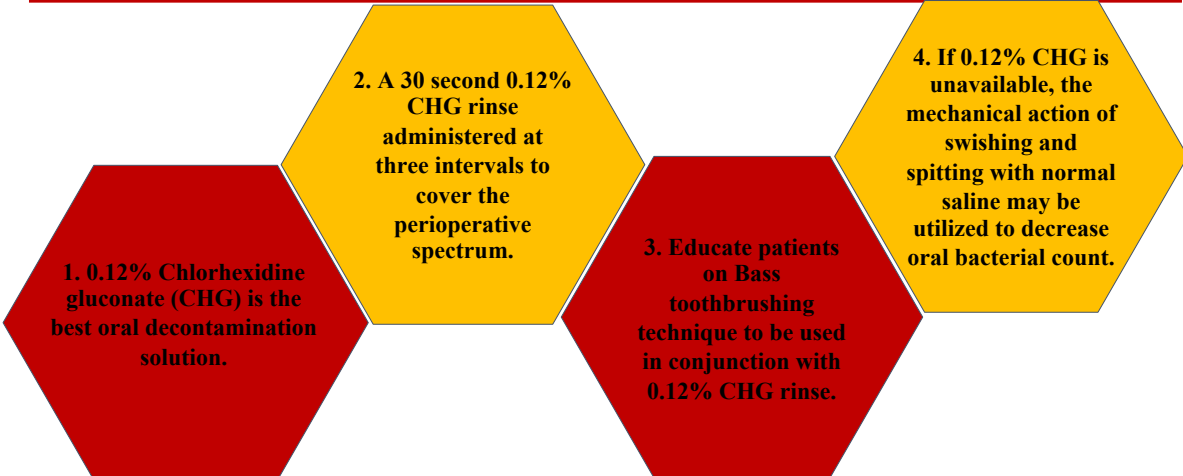
INTERVENTIONS				
<ul style="list-style-type: none"> • Supportive: 3 • Equivocal: 3 	<ul style="list-style-type: none"> • Supportive: 1 • Equivocal: 1 	<ul style="list-style-type: none"> • Supportive: 2 • Equivocal: 1 	<ul style="list-style-type: none"> • Supportive: 1 • Equivocal: 1 	<ul style="list-style-type: none"> • Supportive: 1

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8

Results

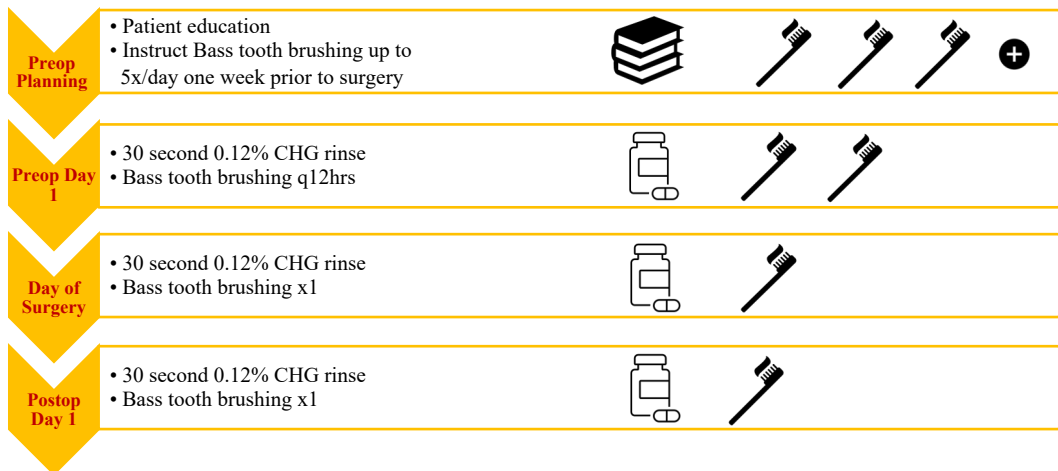


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9

Best Practice Recommendations



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10

Direction of Future Research

- Cost Analysis
- Broader surgical population
- Testing a standardized oral decontamination protocol
- Continue evaluating alternatives



11

Summary

PAMPHLET



REFERENCES





Oral Decontamination for Prevention of Postoperative Pulmonary Infections

Preoperative oral rinses are an affordable and effective tool to decrease bacterial load in the oral cavity.

Why is oral care important?

The oral cavity serves as a prolific reservoir for bacteria and plaque. Bacterial colonization contributes to particles that may be introduced into the respiratory tract; this is significant as endotracheal tubes serve as a conduit for oral bacteria to enter the respiratory system during general anesthesia. Oral care is an affordable, effective method to reduce this risk.

Cost of Postoperative Pulmonary Infections

Increased length of hospital stays prolonged by **13-17 days**

morbidity and mortality if PPI is developed within 30 days of surgery

88.9% of intubated patients experience aspiration which increases the risk of PPI

Practice Recommendations

These practice recommendations are easily adaptable to various healthcare environments and serve as a low-cost, effective solution.

Bass Technique

- Hold the toothbrush parallel to your teeth
- Tilt the brush to a 45-degree angle so the bristles are slightly under the gumline
- Brush back & forth or use a circular motion 15-20 times before moving to the next area
- Brush all teeth on the outer surface & then clean the backside of the teeth
- Hold the toothbrush in a vertical position behind your front teeth and brush up and down
- Brush the chewing surface of the molars and brush your tongue

Preoperative Planning	Preoperative Day 1	Day of Surgery	Postoperative Day 1
<ul style="list-style-type: none"> • Inform patients that 0.12% Chlorhexidine gluconate (CHG) is the best decontamination oral rinse solution • Educate on Bass tooth brushing and flossing, used in conjunction with 0.12% CHG • Instruct patients to manually brush teeth 5x/day for one week leading up to surgery 	<ul style="list-style-type: none"> • 30 second CHG rinse. If CHG is unavailable, swishing and spitting with normal saline may be utilized • Bass tooth brushing every 12 hours • *If CHG is unavailable, swishing and spitting with normal saline may be utilized before tracheal intubation. 	<ul style="list-style-type: none"> • 30 second CHG rinse morning of surgery and on arrival to preoperative unit • Continue utilizing Bass tooth brushing and flossing, in conjunction with 0.12% CHG. 	<ul style="list-style-type: none"> • 30 second CHG rinse • Continue utilizing Bass tooth brushing and flossing, in conjunction with 0.12% CHG.

Created by Terry Chien, Nicholas Stearns, and Phoenix Wong

12