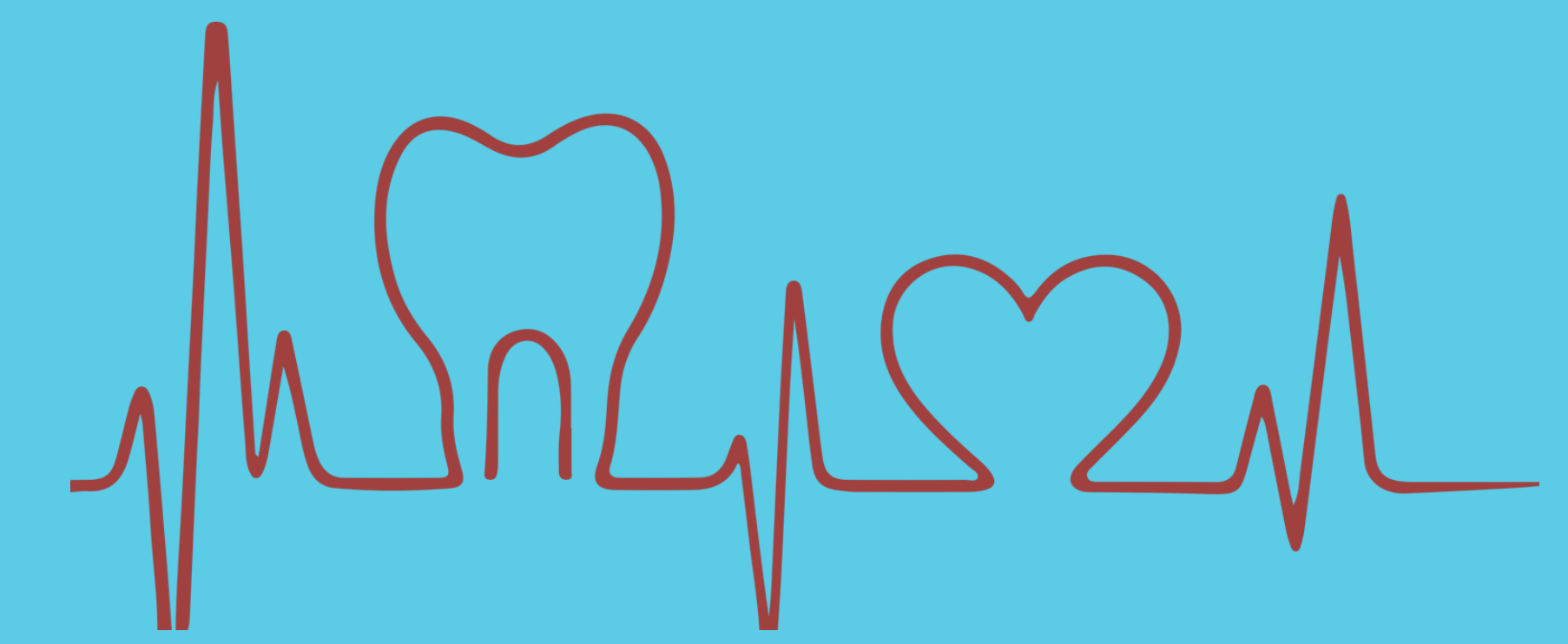


# Oral Hygiene in the Intensive Care Unit

Emily Johnson, Meagan Robison  
Kimberly Jensen, RDH, MS  
Dental Hygiene Department  
Dixie State University



## INTRODUCTION

- Over 5 million individuals are admitted into the ICU annually
- Secondary infections are a common occurrence
- These infections can be prevented/reduced with oral hygiene professionals providing oral hygiene regimen



Ventilator-Associated Pneumonia



Lower Respiratory Tract Infection



Esophageal Cancer with Fever

## STUDIES

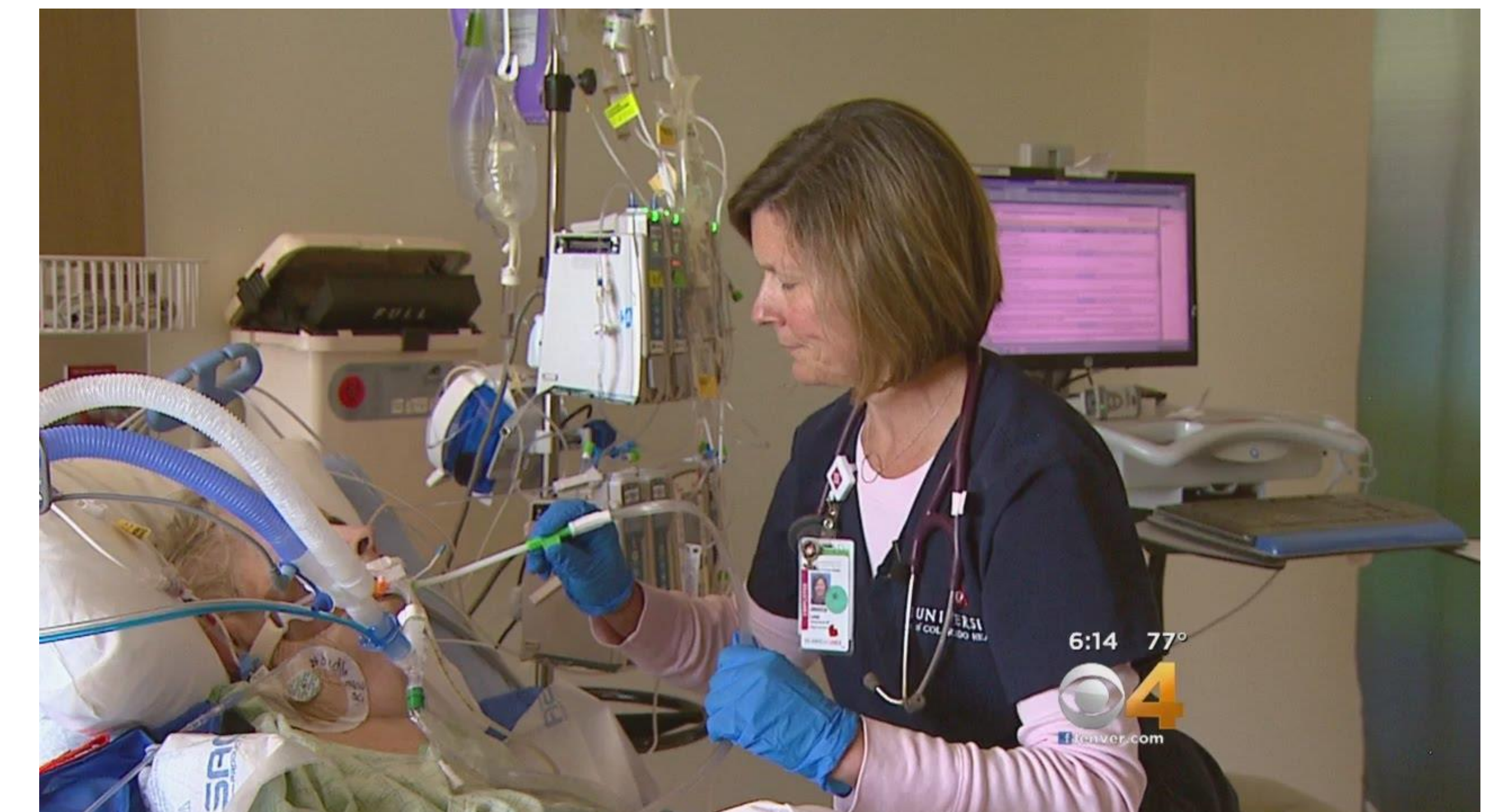
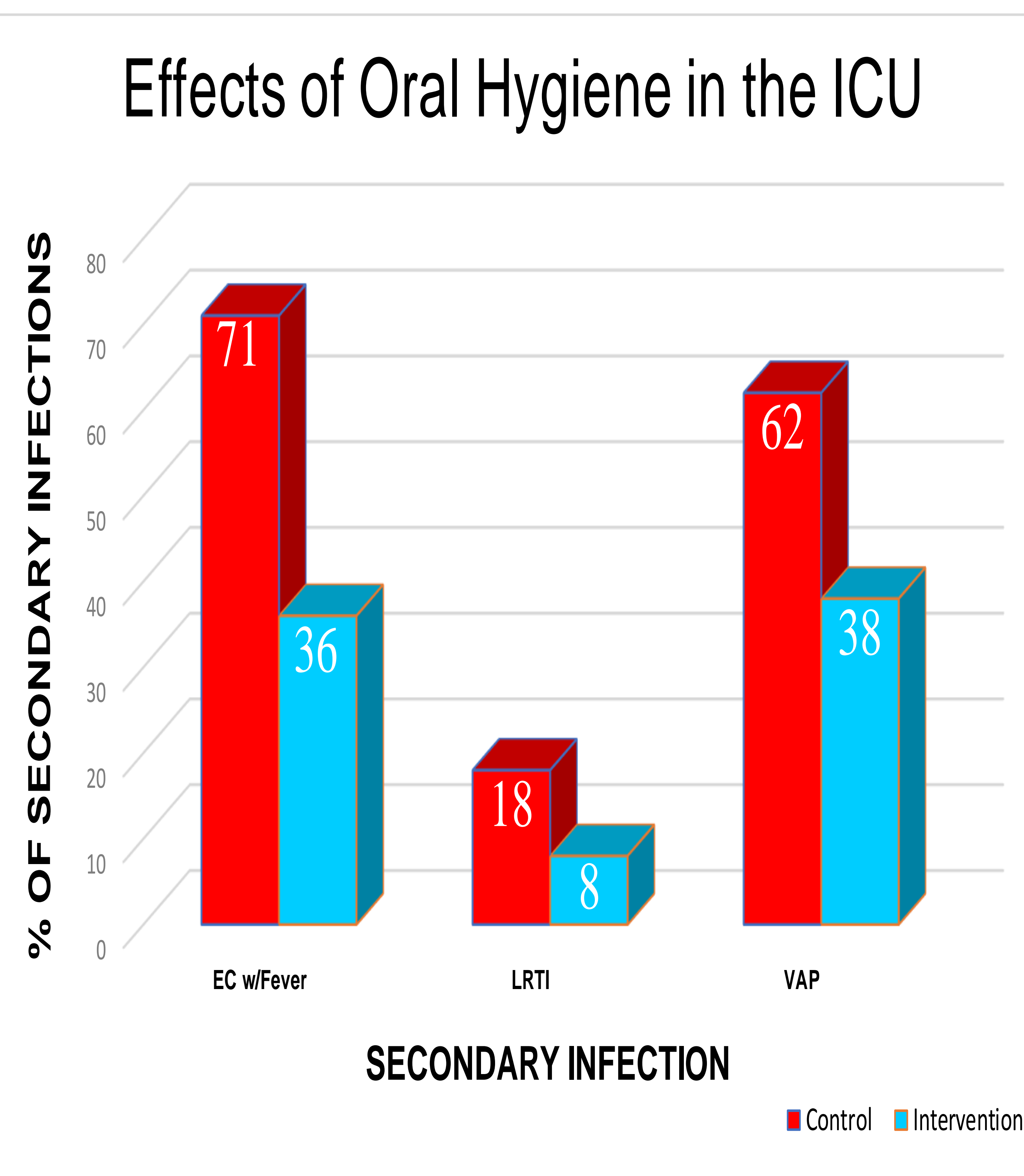
- Used various studies showing the effects of having an oral hygiene regimen
- Used other studies to determine what oral pathogens are correlated with secondary infections
- Another study on the relationship between periodontitis and CVD, RD, DM

## RESEARCH FINDINGS

- Professional oral hygiene care decreased ICU stays with VAP patients by a difference of 8.9 days.
- One study of n=182, 51.1% has moderate-severe periodontitis and 48.9% with severe periodontitis
  - Positive association with CVD
- *C. albicans*, *S. aureus* and *P. aeruginosa*, a bacteria identified in plaque, are associated with respiratory infections.
  - *A. baumannii*, associated with VAP, found on lingual biofilm
- Meta-analysis had 28% reduction in VAP with oral hygiene care

## CONCLUSIONS

- Between the intervention and control group of the studies
  - 62% decrease in VAP with oral hygiene care
  - 48% decrease in LRTI between intervention and control group
  - 51% decrease in high fevers with esophageal cancer patients
- Removal of plaque biofilm in ICU reduces cytokines: IL-1, IL-6, MMP-2
- Studies were conclusive that an oral hygiene regimen decreases secondary infections
- Oral health professionals should carryout the oral hygiene instead of having to train ICU nurses



## REFERENCES

- Albuquerque, B. N. et al. (2018). Periodontal conditions and immunological aspects of individuals hospitalized in the intensive care unit. *Brazilian Dental Journal*, 29(3), 301-308.
- Bellisimo-Rodrigues, W. et al. (2018). Is it necessary to have a dentist within an intensive care unit team? Report of a randomised clinical trial. *International Dental Journal*, 68(6), 420-427.
- De Lacerda Vidal, C. F. et al. (2017). Impact of oral hygiene involving toothbrushing versus chlorhexidine in the prevention of ventilator-associated pneumonia: a randomized study. *BMC Infectious Diseases*, 17(112), 1-9.
- Li, L. et al. (2015). Can routine oral care with antiseptics prevent ventilator-associated pneumonia in patients receiving mechanical ventilation? An update meta-analysis from 17 randomized controlled trials. *International Journal of Clinical and Experimental Medicine*, 15(8), 1645-1657.
- Marion, P. J. et al. (2016). Comparison of foam swabs and toothbrushes as oral hygiene interventions in mechanically ventilated patients: a randomised split mouth study. *BMJ Open Respiratory Research*, 3(1), 1-10.
- Mizuno, H. et al. (2018). New oral hygiene care regimen reduces postoperative oral bacteria count and number of days with elevated fever in ICU patients with esophageal cancer. *Journal of Oral Science*, 60(4), 536-543.
- Rodrigues, B. et al. (2014). Effectiveness of a dental care intervention in the prevention of lower respiratory tract nosocomial infections among intensive care patients: a randomized clinical trial. *Infection Control Hospital Epidemiology*, 35(11), 1342-1348.
- Souza, L. C. D. et al. (2017). Association between pathogens from tracheal aspirate and oral biofilm on mechanical ventilation. *Brazilian oral research*, 31(38), 1-9.