



# Evaluating Knowledge Acquisition of Oral Health Information in a 4<sup>th</sup> Grade: Dental Professionals Necessary?

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## BACKGROUND

A prior study by a dentist revealed significant oral health knowledge acquisition to 4th grade students (Fig 1) at a primary school in Florida presented at the NRHA, 2016<sup>1</sup>

## PURPOSE

This follow-up study evaluated if a mentored non-dentist can also be effective utilizing the same presentation.



Figure 1



Figure 2



Figure 7

## Methods

4<sup>th</sup>-grade students agreed to participate in this follow-up presentation. After a baseline pretest of students' brushing and flossing activity and knowledge of the importance of oral health and oral health/systemic disease connections, an hour presentation by a high school senior (AC) mentored by a DMD (RC) was provided (Fig 2). A nearly identical posttest followed coded for individual comparisons. Questions included brushing and flossing behavior; knowledge of cavities caused by bacteria that can be prevented (Figs 3,4,5); oral tobacco and methamphetamine effects (Fig 6); when a child should have a first dental visit and familiarity with the findings of the Surgeon General's report on Oral Health<sup>2</sup> (Fig 8) including oral disease/systemic connections (Figs 9,10, 11) primarily from gum disease (Fig 7). Questions were Likert style (1=Strongly Disagree to 5=Strongly Agree). Wilcoxon Signed-Rank Test was utilized for statistical analysis of baseline and posttest differences.



Figure 3

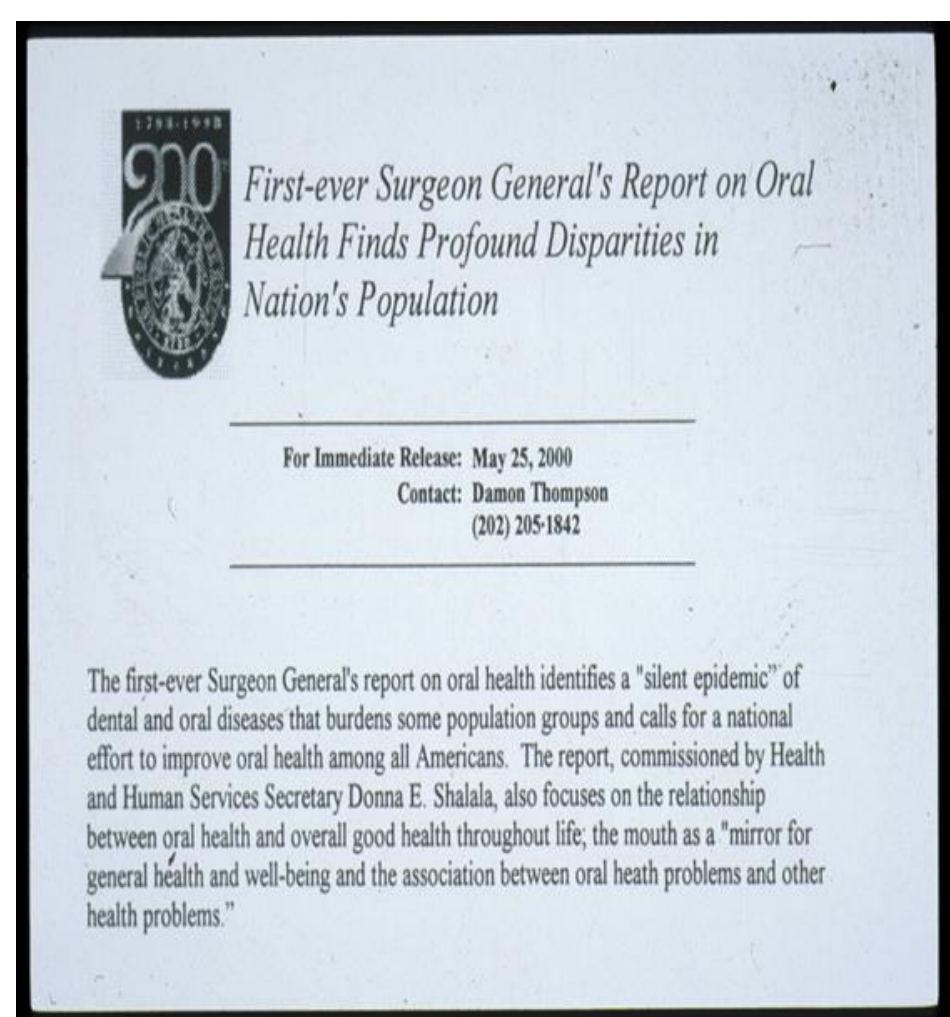


Figure 8



Figure 4

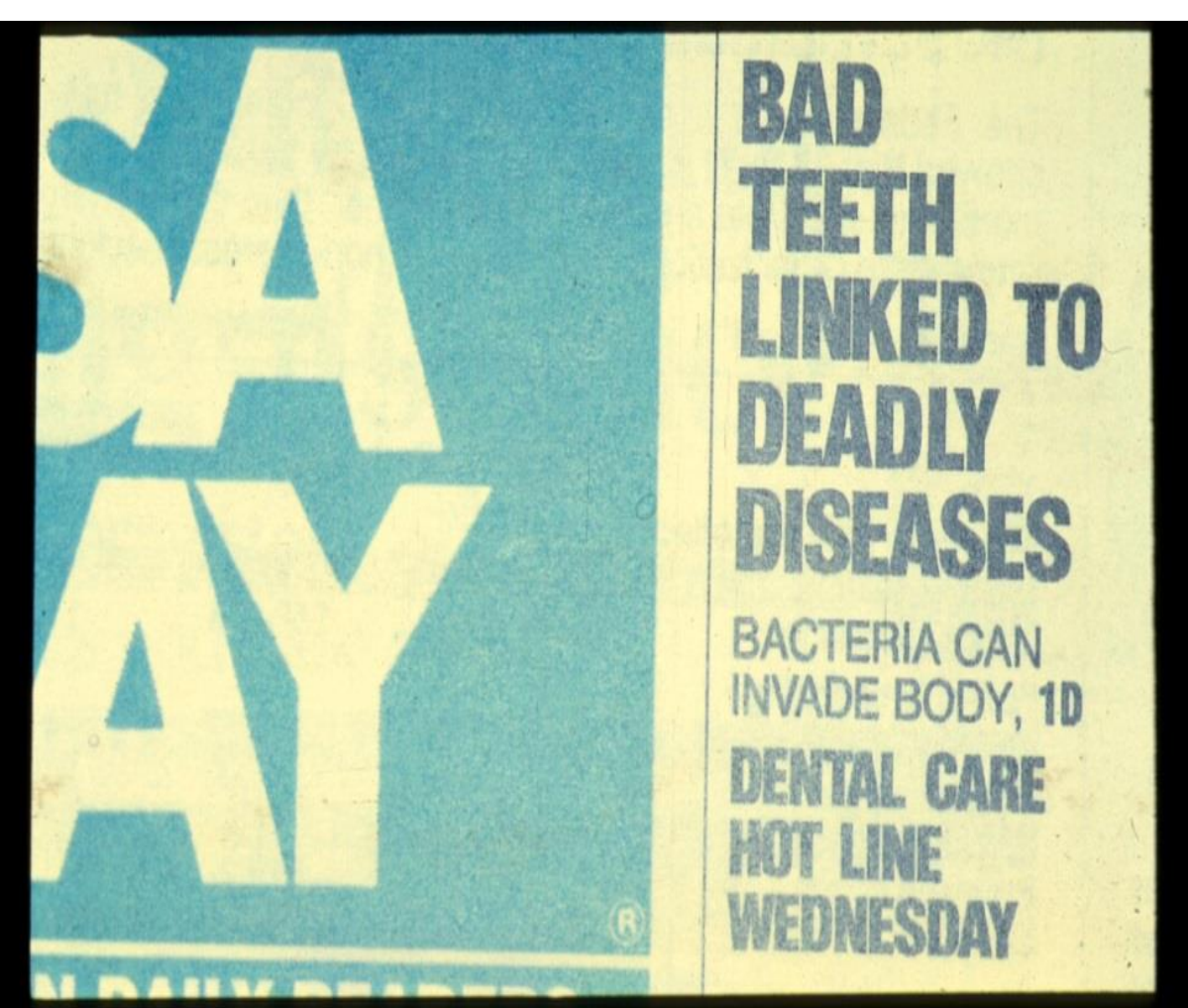


Figure 9

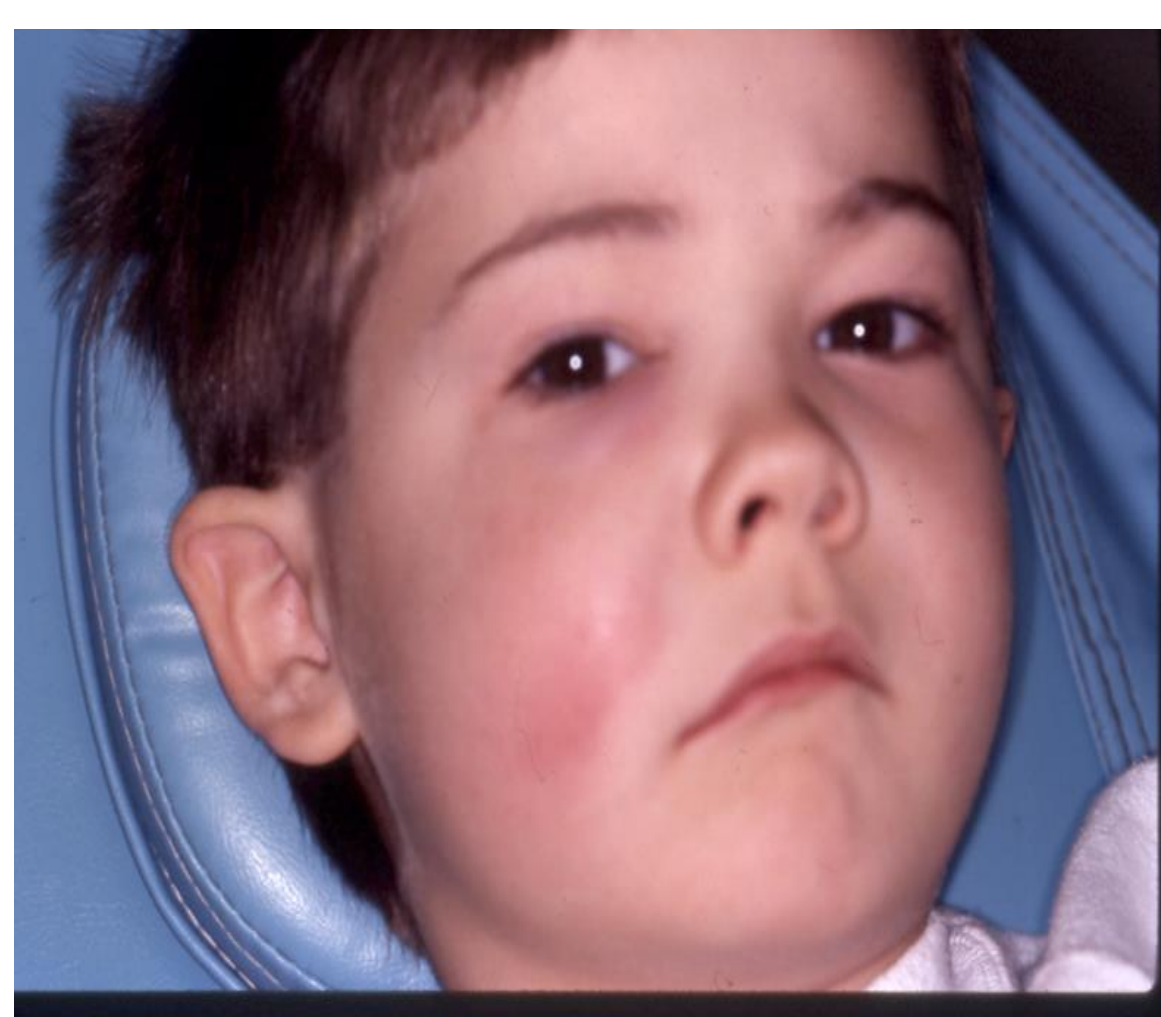


Figure 5

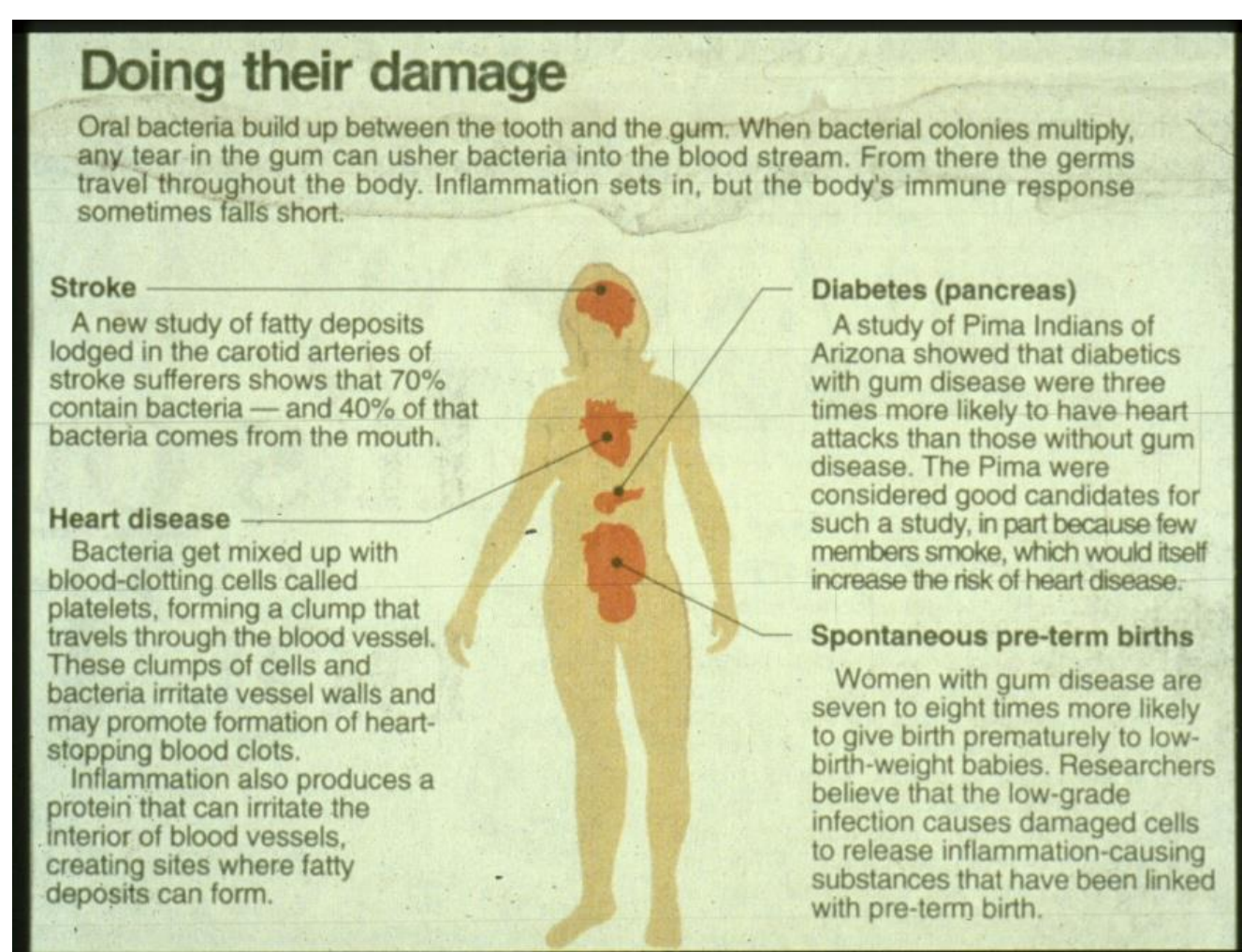


Figure 10



Figure 6



Figure 11

## RESULTS

1. Of 41 students present, 38 (92.6%) filled out questionnaires.
2. Statistical analysis of the comparisons of baseline and posttest questionnaires, revealed that the presentation increased baseline brushing time ( $p=0.001$ ), reasons to brush ( $p=0.001$ ) and reasons to floss ( $p=0.006$ ) to more recommended levels in the future.
3. When it came to knowledge: increased correct agreement was noted for the: Surgeon General's Report on Oral Health ( $p=0.005$ ), connections of oral health/systemic disease ( $p=0.0001$ ) and time for first dental visit ( $p=0.003$ )
4. Post presentation questions included great oral/systemic connection's interest and desire of students to follow-up with family members.
5. Feedback from the fourth graders was extremely positive and included feedback from students suggesting more healthy oral health behaviors to relatives.

## CONCLUSION

A presentation to a 4<sup>th</sup> grade class by a high school senior trained by a dentist was effective in significantly raising knowledge. Since dental professionals are in high demand, further studies are warranted to evaluate if other high school students could be trained by this student to give oral health information.

## REFERENCES

1. Crout, R., Casto, G., Crout, A. (2016) Oral Health Presentation: Evaluating the Knowledge Acquisition of 4<sup>th</sup> graders, presented to the 39th Annual Rural Health Conference, May 12, 2016, Minneapolis, Minnesota.
2. Oral Health in America: A Report of the Surgeon General (2000), <http://surgeongeneral.gov/library/oralhealth>.