

# Editorial

## Bursting the chewing gum bubble

Under the guise of "Research Update," the Wm Wrigley Jr Company has launched a new advertisement in its ongoing global campaign to indoctrinate the profession with the outrageous notion that chewing sugared gum assists in the prevention of dental caries.

The Wrigley posture is based on the argument that chewing gum after meals will elevate the plaque pH out of the accepted zone of demineralization, that is to say above pH 5.7, and that the plaque pH will remain at this safe level after cessation of gum chewing. A paper by Lee and Schachtele in this issue of *Quintessence International* raises serious doubts about Wrigley's self-serving argument.

When the graphs used by Wrigley to make its point are compared with those obtained by Lee and Schachtele, it is manifest that the Wrigley position strains credulity. The Wrigley advertisement would have us believe that plaque pH can be brought up to a level higher than the initial resting pH just 30 minutes after chewing gum. After cessation of chewing, we are supposed to believe that the plaque pH remains steady at this level of about pH 7.5. Wrigley is stubbornly steering the low road course and so far has refused to comment on its unconvincing campaign.

Lee and Schachtele's thrice-repeated study documents that the plaque pH shows only a transient elevation, remaining in the demineralization zone after gum is chewed for 20 minutes after food ingestion. After cessation of chewing, the plaque pH rapidly resumes its downward plunge to levels of greater acidity and thus of greater danger for demineralization. The graph for sorbitol-sweetened gum is not significantly different from that for sucrose-sweetened gum.

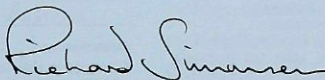
A new Wrigley advertisement is now promoting *sucrose-sweetened* gum as "a partner in preventive dentistry." It ends with the appeal to all dentists, "... you may now wish to recommend chewing gum after meals and snacks to neutralize plaque acids and promote remineralization." Dream on Wrigley!

Regrettably, this seedy trend seems to be becoming more prevalent in dentistry. Den-Mat Corporation led the way with its still-used pseudoscientific front, the American Society for Clinical Research. Then the

Princeton Dental Resource Center tried to promote the caries-preventive virtues of chocolate ("might even inhibit cavities"). A not-so-sweet move that led to howls of derision from the lay press. It turns out that the Princeton group has nothing to do with Princeton University, but is funded by M&M/Mars Company.

I imagine the corporate gum-chewers at Wrigley are hard-pressed to admit that they are producing and marketing a product that studies suggest is harmful to dental health when used as intended. Maybe they should read the paper by Finn and Jamison<sup>1</sup> from 1967, which documented that chewing as much as five sticks of gum a day does not prevent caries. Or the paper by Glass,<sup>2</sup> which shows that subjects who chew sugared gum just twice daily have a significantly higher incidence of caries (36% higher over 2 years) than a group who chews no gum. One study the people at Wrigley undoubtedly have read, since they funded it, is the study by Slack et al.<sup>3</sup> The results of this study demonstrate that one group of boys had an increase in caries from daily gum chewing. Wrigley does not quote this study since even its own data cannot support its claim.

It is time for corporate responsibility to take precedence over turning a profit. For Wrigley to continue its global campaign in the face of contrary evidence and at a likely cost to the dental health of its customers is the ultimate manifestation of corporate greed.



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1. Finn SB, Jamison HC: The effect of a dicalcium phosphate chewing gum on caries incidence in children: 30-month results. *J Am Dent Assoc* 1967;74:987-995.
2. Glass RL: Effects on dental caries incidence of frequent ingestion of small amounts of sugars and stannous EDTA in chewing gum. *Caries Res* 1981;15:256-262.
3. Slack GL, Duckworth R, Scheer B, et al: The effect of chewing gum on the incidence of dental diseases in Greek children. *Br Dent J* 1972;133:371-377.