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BURSTING THE BUBBLE

Chewing gum - the good and the bad

BROBSON LUTZ M.D.



JANE SANDERS ILLUSTRATION

My initial hypothesis for this column was that chewing gum has no health benefits. Surely chewing gum was sent to earth by the devil as an instrument to torture grade school teachers. Year after year, beginning in elementary school, I saw otherwise intelligent and beloved teachers go absolutely bonkers when confronted by a gum-chewing student.

Old Mrs. Flanagan, my seventh grade science teacher in north Alabama with eyes in the back of her head, could detect chewing gum even in a non-moving mouth by some sort of extraordinary perception granted to senior teachers.

Like bottled soft drinks, commercial chewing gums emerged in the late 1800s. An Ohio dentist first promoted the use of a chewing gum made from rubber for jaw exercise and gum stimulation, according to the Wrigley chewing gum folks in Chicago. William Wrigley founded the Chicago company that began Juicy Fruit in 1893, followed by Wrigley's Spearmint a few months later. Doublemint with a longer lasting flavor was launched in 1914 and remains a big seller worldwide.

Competition quickly developed. A New York City druggist jumped into the sticky fray in 1899 with Dentyne fusing the words "dental" and "hygiene." A succession of companies then promoted Dentyne to prevent decay, sweeten the breath and whiten teeth. Pink bubble gum, the kind most despised by teachers, emerged nationally in 1937.

What is in it? The chew in most chewing gum sold today has a synthetic man-made latex base. Each variety has its own formula of various binders, bulking agents, flavorings, colorings and preservatives. In more recent years Freedent, a not-so-sticky alternative, appeared. Dietary sugar concerns led to the introduction of sugar-free gums beginning in the 1980s.

Dr. Dov Glazer is the dean of common sense dentistry in New Orleans. I called Glazer at his office on Prytania Street. I expected him to slay quickly all the chewing gum company generated propaganda harping the health benefits of their product. I was wrong.

"Chewing gum stimulates salivary flow, releases immunoglobulins and reduces the incidence of tooth decay. This is true for both regular and sugar-free gums. Any sugar in gum is quickly dissolved and swallowed. It doesn't create the acid environment that promotes tooth decay," says Glazer.

Well-designed international studies support Glazer's statement. In Denmark children 8 to 12 years old at one school were given gum to chew after each meal. Children at another nearby school served as the control group. After two years the children who chewed the gum had 9.7 percent fewer cavities. Researchers from Belize, Puerto Rico and Hungary reported similar findings but most of these studies were conducted with sugar-free chewing gums.

Layers of school bureaucracy and teachers who still hate chewing gum make school-based chewing gum studies almost impossible in the U.S., but such concerns didn't stop a dental school in Lithuania. They picked five secondary schools for children 9 to 14 years old. The students at three schools received different sugar-free chewing gums. The fourth school received a regular sugar-based chewing gum. All children in the chewing gum schools received free gum and ongoing reminders after lunch each day to chew at least five pieces of gum per day for at least 10 minutes, preferably after meals. The fifth school was the control group – no free gum and no encouragement to chew. The study lasted three years.

The overall results of this study were just as reported by Glazer. Gum-chewing children had fewer cavities, and this trend held for both sugar-containing and sugarless gum. This led the researchers to conclude that the preventive effect of chewing gum was related to the chewing process and saliva flow rather itself rather than from additives in sugarless gum.

Xylitol is a naturally occurring sugar substitute with only 40 percent of the calories of sugar. Other research suggests this so-called "tooth friendly" sugar substitute may have an edge in dental plaque and cavity reduction compared to the other sugar substitutes by decreasing the level of plaque related bacteria in addition to increasing saliva flow.

Brand names with xylitol include Trident and Stride.

Gynecologist and longtime physician liaison to the state legislature Dr. Vincent Culotta also weighted in support of chewing gum. "I prescribe it all the time for patients who have abdominal surgery," e-mails Culotta. Data to support this use of chewing gum was published in The Archives of Surgery a couple of years ago. Chewing gum three times a day after abdominal surgery kick-starts the gut and decreases postoperative stays.

What happens if you swallow a wad of chewing gum?

“Regardless of what you heard as a child, swallowed chewing gum doesn’t really stay in your stomach for 35 years,” says Dr. Teddy Winstead, Director of Gastroenterology Clinical Research at Ochsner. “I only found it once during a gastroscopy, but we do find gum often during colonoscopies. I think it’s because we put people on a liquid diet the day before and they want something to chew on.”

“Every once in a while a patient with chronic diarrhea gets a colonoscopy and we find a bunch of chewing gum in the colon. Usually they have been chewing and swallowing two to three packs a day of a sugar-free gum and it is the sorbitol in the gum causing the diarrhea,” adds Winstead.

“Excessive gum chewing may result in trauma and muscular fatigue to the temporomandibular joint and spasm of the muscles of mastication,” says Glazer. Dentists and ENT specialists agree that too much chewing can cause problems.

“Chronic use of chewing gum can and does lead to temporomandibular joint (TMJ) problems. This causes pain in the ears in the upper neck as well as clicking and grating sounds in the ears. Saw two this week,” e-mails otolaryngologist Dr. Ray Lousteau from his Mid-City office. And Dr. Michael Ellis, an otolaryngologist at Tulane adds, “The first thing I ask young patients with TMJ is ‘how much gum do you chew?’”

Physicians of my era still harbor generally jaundiced opinions on chewing gum. “It keeps some people moving their mouths without talking ... that’s a good thing,” e-mails rheumatologist Dr. Merlin Wilson. Retired pediatrician and public health specialist Dr. Louis Trachtman concurs with the teachers: “Who wants to look at a roomful of children chewing gum and looking like a bunch of cows chewing their cud.”

After completing my research for this column, I had an opportunity to put my newfound knowledge to work on a patient who had traveled from Mexico back to New Orleans for gall bladder surgery. I explained the hypothesis to Isaac Musselwhite, a teacher who retired from Archbishop Rummel High School in 1999 after 36 years of teaching.

“Chew what?” says Musselwhite. “We helped turn little Catholic boys into dignified young men by telling them not to chew gum. They would put it under their desks or on the person in front of them. I can’t believe a physician is now telling me to chew gum.”

The bottom line – everything you learned in grade school isn’t true. Teachers need to reassess their long war against chewing gum. Only one problem remains – where to put the chewed-out chew.