25. Effects of chewing sorbitol gum on human salivary and interproximal plaque pH.

Interproximal wire-telemetric appliances were used in this study to obtain interproximal plaque pH data from the distal surface and salivary pH data from the buccal surface of lower mandibular molars. Five different test foods - a granola bar, a fruit bar, a Danish pastry, an apple and a jelly sandwich - were used as test food substances. The pH changes from these test foods were recorded continuously for 120-minute periods in each of five human volunteers. Subsequently, two separate series of test sessions were conducted using peppermint flavored sugarless gum or a grape flavored sugarless gum to observe the effects of chewing these gums for a ten-minute period on both the salivary and interproximal plaque pH. Dramatic pH drops were observed using test foods from interproximal using a varying rate of return toward the resting values. Minimum plaque pH values were similar for all test foods. Salivary pH values, however, differed markedly. Minimum pH values achieved for the salivary responses were not statistically different from the minimum plaque pH values for the fruit bar and apple. The other three test foods showed a higher minimum salivary pH level, which was statistically significant. Both peppermint and grape flavored chewing gums, chewed for a ten-minute period after ingestion of the challenge food, resolved from a relatively rapid pH return, for both saliva and plaque, to the resting values. Salivary and plaque pH remained above a mean pH level of 6.4 during a 30-minute post chew recording period.