42. Saliva stimulation and caries prevention.

The protective role of saliva is demonstrated by the rampant caries seen in human subjects with marked salivary hypofunction, and in desalivated animals. In normal cases, however, the relationship between saliva flow and coronal or root caries experience is doubtful, and to examine the concept that stimulation of saliva might have protective effects against caries, one must look beyond a simple correlation between caries and flow rate.

Protective properties of saliva which increase on stimulation include salivary clearance, buffering power, and degree of saturation with respect to tooth mineral. These benefits are maximized when saliva is stimulated after the consumption of fermentable carbohydrates, by reducing the fall in plaque pH leading to demineralization and by increasing the potential for remineralization.

Plaque acid production is neutralized, and experimental lesions in enamel are remineralized, when gum is chewed to stimulate saliva after a carbohydrate intake. The pH-raising effects are more easily explained by the buffering action of the stimulated saliva than by clearance of carbohydrates. The remineralization action depends upon the presence of fluoride. These findings suggest that the protective actions of saliva can be mobilized by appropriate salivary stimulation, and that in addition to established procedures such as tooth cleaning and fluoride regimens, eating patterns which lead to saliva stimulation to increase the potential for saliva protection might be included in recommendations for caries prevention. Confirmation of this concept in clinical tests is required.