

Nutrition and Degenerative Dental Disease

Tooth Decay and Gum Disease are commonly thought of as caused by plaque, or growths of bacteria on the teeth. Oral hygiene is stressed for prevention, and that's good. Fluoride is used to harden enamel and make it more resistant to decay. Research from around the world suggests that use of fluoride, especially if taken systemically through water or vitamins may not be so good because it is absorbed in other tissues. There are reports that link fluoride use to cancer and other degenerative diseases.

Overall the the role of nutrition is not fully appreciated as a causative factor in dental disease, which is generally viewed as having a local cause.

Weston Price, D.D.S. , dental researcher and anthropologist published his classic work NUTRITION AND PHYSICAL DEGENERATION - A Comparison of Primitive and Modern Diets and Their Effects in 1939. He observed that in societies living in isolation, eating a "native diet", the occurrence of degenerative dental disease was uncommon. Introduction of "modern " processed foods led to rampant tooth decay and mal-development of orofacial structures. Such mal-development leads to teeth that look crowded and crooked, and contributes to problems of proper balance and function of the musculoskeletal system.

Therefore when an individual is affected with tooth decay or gum disease consideration should be given to contributory imbalances in the chemistry of the body. One should evaluate the general balance of the biochemistry with particular attention to the pH of saliva and the level of calcium and phosphorous in the blood. The amount and frequency of refined carbohydrate intake is also an important consideration. The overall energy state of the individual should be considered and if defective the imbalance may be treated homeopathically or through other means.



Another early pioneer in the field of the nutritional biochemistry of dental disease was Harold F Hawkins, D.D.S. He published Applied Nutrition in 1947 writing about his research into the role of nutrition in the development of dental decay and gum disease. He demonstrated that imbalances of body chemistry associated with chronic degenerative dental diseases such as tooth decay and periodontal disease could be restored to a balanced equilibrium that promoted health through a program of dietary modification and the judicious use of vitamins and supplements.

His research spanned the course of twenty years studying over eight thousand cases. It has been widely accepted that tooth decay is the result of fermentation of carbohydrates by bacteria in the mouth forming acids that in turn dissolve the mineral salts found in enamel. These mineral salts are tri calcium phosphate (90%) and calcium carbonate (10%) His research was directed to understanding why some were prone to decay and others had relative immunity.

He reasoned that since the process of decay was a biochemical one, perhaps the factors that conveyed immunity against decay could be understood by studying the variability of oral biochemistry. He found that those immune to decay maintained an effective means of neutralizing the acidity caused by the fermentation of carbohydrates in the mouth. This occurs through a number of different mechanisms.

1. The effect of the acids generated could be neutralized by the buffering capacity of;
 1. Soluble alkaline salts of potassium, sodium, and magnesium
 2. Insoluble salts of calcium in fine suspension or in a colloidal state
 3. The presence of mucin a glyco-protein which creates the mucoid quality of saliva
2. The concentration and therefore the effect of the acids could be reduced by dilution. Sufficient dilution of an acid reduces its ability to act chemically on calcium salts.

Hawkins found that 74% of those who were decay prone had a deficiency in the amount of saliva, whereas only 23% of those immune to decay did. Most dentists would agree based on their clinical experience that dryness of the mouth contributes to tooth decay. Therefore drink more water.

It is clear that the saliva must be sufficient in its neutralizing capacity to destroy the acid and afford protection to the teeth. Those prone to decay do not. And the volume and quality of the saliva is an important protective factor as well.

Further investigation allowed Hawkins to demonstrate why a diet high in carbohydrates yielded an increase in tooth decay. He demonstrated that another important variable was the level of ptyalin, a digestive enzyme secreted in saliva that acts upon starches in the mouth. His study showed that 66% of those who were decay prone were deficient in ptyalin whereas only 24% of those immune to decay had equally low levels.

The level of ptyalin was found related to two factors;

1. The amount of vitamin B in the diet which contributed to increased ptyalin production
2. The percentage of carbohydrates or sugars which tear it down

Hawkins stated that " if the above factors are out of balance or below normal they will have to be placed in their normal relationship if caries is to be controlled or prevented. It may call for a change in the level of the minerals, vitamins, digestive and endocrine secretions, or a complete change in the mental attitude of the patient."

Translation:

Eat more raw organic foods that assist in enriching the body's enzyme systems and supply a broad range of vitamins and other essential nutrients