

DENTISTRY

New Saliva Test Indicates Likelihood of Tooth Decay

Six Simple Rules Offered to Insure Tooth Health; Weather Conditions Possible Factor in Endocarditis

EVERY individual carries in his own saliva a clue on how well his teeth will last, according to research reported by investigators at the Northwestern University Dental School before the meeting of the Chicago Dental Society.

By making chemical tests on this previously hidden clue in the saliva, the Northwestern research group has been able to ascertain susceptibility to tooth decay with almost perfect accuracy in more than 750 cases. The technique gives dentists a new research method to study decay.

Dentists said that the new advance in the study of tooth decay will make it possible for future research workers to determine the exact effect of a particular food or a health measure on decay susceptibility. Eventually diet and other factors which may play a part in causing tooth decay can be controlled so that an individual may hope to be relatively free from tooth decay.

Go Easy on Concentrates

Already the Northwestern research group, which includes Dr. Edward H. Hatton, Robert H. Blackwell, Dr. L. S. Fosdick, Dr. H. O. Hansen, Dr. George W. Tauscher and Charlotte Epple, have advanced tentative opinions on diet in a general way and tooth decay. They support these rules for teeth health:

1. Eat the simple, natural foods rather than the refined or processed foods.
2. Reduce refined and highly purified carbohydrates to the necessary minimum. This means cutting down on sweets and other "rich" foods.
3. Eat plenty of fresh fruits and vegetables to obtain the necessary vitamins and minerals.
4. Use a high supply of good grade protein foods, including milk, milk products and glandular meats, such as kidneys, liver and sweetbreads.
5. Take accessory vitamins only in off seasons when fresh fruits and vegetables are unavailable or expensive. Vitamins A and D may be given during the winter months.
6. Use mineral tablets, calcium or

phosphorus only under professional direction.

The Northwestern group discovered differences in the comparative rates of acid production in saliva from decay-immune and decay-susceptible patients. Then they developed a chemical analysis which takes four hours so that the dentist can determine just what an individual's saliva will do.

The test itself is relatively simple. All the patient has to do is chew gum to stimulate saliva and the dentist obtains a small amount for three tests. One portion is used for a calcium analysis; another is tested for quantitative bacteriologic counts and the third is sealed in an eight-inch test tube with one-tenth gram of powdered human tooth enamel. This last test tube is kept at body temperature and shaken for four hours and then examined to see what it has done to the powdered enamel.

The saliva of persons immune to tooth decay dissolves practically no calcium, the scientists found, while the saliva of susceptible persons dissolves large amounts of calcium. It is on the basis of this reaction that the degree of susceptibility to tooth decay is estimated.

A method of checking decay that has already started in a tooth was reported by Dr. Bert G. Anderson of the Yale University School of Medicine. Results are similar to those seen in cases where decay has been arrested or checked spontaneously.

Smoothing Rough Places

Dr. Anderson removes the decay and those portions of the teeth that favor accumulation and retention of food and debris and smoothes them down so they can be used for chewing. This apparently gives a chance for natural forces to prevent any further decay in the particular tooth.

Chewing, Dr. Anderson believes, is an important aid to the arrest and healing of dental caries.

Weather conditions may play a part in causing endocarditis, a form of heart disease that is often related to focal

infections of the teeth, Drs. William F. Peterson and Alexander Nedzel of Chicago stated.

Bacteria, Drs. Peterson and Nedzel believe, are likely to localize on the heart valves in late winter and spring and after periods when the blood pressure levels have been unusually high; in other words, when the valve flaps have been pressed together under greater pressure than normal. Study of case histories suggested the weather factor in the causes of the condition. By way of confirmation, the two scientists reported laboratory studies on animals.

The heart valves of the animals were "sensitized" by giving large doses of pitressin, which raises the blood pressure and "causes more brusque impingement of the heart valves against each other."

Such local injury would cause increased permeability and greater adhesiveness. Staphylococci and streptococci were then injected into the veins. When this was done during the winter a definite localization of bacteria on the heart valves followed and characteristic signs of endocarditis were observed.

The problem is of interest to dentists, it was pointed out, not only because the teeth often are the focus of infection which causes the heart ailment but because the heart ailment influences the type of treatment that is given.

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AVIATION

Two National Soaring Meets Planned for Present Year

TWO NATIONAL soaring meets will be held this year in place of the single national meet which has climaxed previous years of soaring, Dr. Karl O. Lange, vice-president and contest manager of the Soaring Society of America, has announced.

The 50 planes and 150 pilots that turned up at Elmira, N. Y., traditional home of sailplane contests in the United States, last summer so taxed the capacity of Harris Hill and the other points from which flights were made that novices and experienced pilots will be split up and will hold separate contests.

Novices will have their own meet from August 29 to September 7 at Frankport, Mich., under the title of the American Open Soaring Meet. The Ninth Annual Soaring Contest will be held at Elmira between June 25 and July 10. Pilots will have to meet qualifying tests sufficiently stiff to eliminate