

## DENTISTRY

# Toothbrush Wins Out

Six dental authorities agree that no dentifrice yet developed can prevent tooth decay or gum disorders. They recommend proper use of toothbrush.

► THE TOOTHBRUSH, properly used, does more to keep the teeth and gums healthy than any medicine or chemical put into tooth pastes and powders, from enzymes to penicillin.

This sums up the opinions of six dental scientists at the meeting of the American Dental Association in Cleveland. Among the scientists were some who have been working on dentifrices with special chemicals in them intended to check decay.

All agreed that a dentifrice that has been proved to prevent tooth decay or gum disorders has not yet been developed, although some are being tested with the hope that they may prove effective.

Here, briefly, is what the experts said:

Dr. Leonard S. Fosdick, Northwestern University Dental School, Chicago, who has been studying enzyme "inhibitors":

"During the past 10 years, the American public has been led to believe that by brushing the teeth with various types of preparations, dental caries could be prevented. Unfortunately, the expectations as aroused by clever advertising have not been fulfilled. Before any final conclusions (on the anti-enzyme approach) are reached, clinical tests must be performed wherein the actual incidence of carious lesions (decay) is determined. Actually, clinical experiments of this type are now under way, but as yet no information is available to indicate the effectiveness of these compounds against clinical caries."

Dr. John W. Hein, School of Medicine and Dentistry, University of Rochester, N. Y., on chlorophyll dentifrices:

"Never has a substance been so exploited and prostituted by ridiculous applications. It is evident that the use of chlorophyll derivatives as caries preventive agents is still very much in the laboratory stage. Any inference that these agents are effective against human tooth decay is pure speculation. Since salivary flow rapidly decreases the concentration of agents in the oral cavity, claims which suggest that chlorophyll derivatives give a protective deodorizing effect in the oral cavity of several hours duration should be viewed with suspicion."

Dr. Robert G. Kesel, University of Illinois School of Dentistry, Chicago, who has worked on ammoniated dentifrices:

"The work being conducted and other work which is contemplated are designed to bring out more fully the role of these agents in relation to other potentially caries-inhibiting substances and dentifrices."

Dr. Helmut A. Zander, University of Minnesota School of Dentistry, on antibiotics such as penicillin and aureomycin:

"Unfortunately, I cannot state in the affirmative that any dentifrice ever will be a therapeutic agent. At present penicillin dentifrices are sold only on a prescription basis and are recommended primarily for cases of rampant caries or for use under a strictly supervised regime."

Dr. Albert H. Kniesner, Western Reserve University School of Dentistry, Cleveland:

"Both positive and negative reports concerning the effects of medicated dentifrices on dental caries appear in the literature. Until corroborated clinical evidence from several reliable sources is forthcoming, 'prescription pad' control of dental caries cannot be accepted as an established office procedure. The judicious use of the toothbrush rather than the type of dentifrice will contribute to the maintenance of healthy gingiva (gums)."

Summing it all up, the moderator of the discussion, Dr. Thomas J. Hill, Western Reserve University School of Dentistry:

"It is not definitely established that the dentifrices as used by the public materially decrease the dental caries (tooth decay) rate

because of any specific therapeutic substance incorporated in them. It would appear that the present advertising claims of dentifrices are inclined to lead the public to put too much faith in some incorporated ingredient rather than on the prophylactic (cleansing) value of the dentifrice."

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## Use Anesthetic for First Cavity Filling

► TO PREVENT nervous shock when a child has his first tooth cavity filled, the dentist should use a local anesthetic, Dr. George W. Teuscher, dean of Northwestern University Dental School, Chicago, advised members of the American Dental Association meeting in Cleveland.

This is the rule in the children's dental clinic of one school, he said.

The patient's need, rather than his age, should determine whether a local anesthetic is given when a cavity is filled. In many cases, Dr. Teuscher said, it is best for the child never to experience the "discomfort" of having the cavity drilled to prepare for filling it.

"One such experience is enough in these cases to upset the patient permanently," he declared. "A careful introduction to local anesthesia, even in the very young child, would prove less dangerous than operating without anesthesia."



**SILENCE MADE-TO-ORDER**—Sound absorbing wedges of glass wool are installed in a new echo-free chamber at Indiana University by Prof. James P. Egan of the psychology department. Completely lining the room, they will "soak up" all but a thousandth part of sound striking them.

General anesthesia for prolonged dental operations, Dr. Teuscher said, is particularly useful in very young children with a large amount of dental work to be done, children who cannot be managed successfully in a conscious state, children with cerebral palsy, mentally retarded children, and those with heart conditions who must avoid undue fear.

Children and grown-ups alike can be assured of safe and effective dental anesthetics, Dr. Sidney Epstein of the School of Dentistry, College of Physicians and Surgeons, San Francisco, declared.

But even with the effectiveness of the drugs, the dentist still has to use some psychology with patients who think they feel pain when they actually do not, Dr. Epstein said.

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### Cold Sores, Fever Blisters Hit Over Half Population

► MORE THAN half of the population has suffered fever blisters or cold sores, Dr. John B. Macdonald of the University of Toronto division of dental research declared at the meeting of the American Dental Association in Cleveland.

The condition, termed scientifically herpes simplex, is caused by a virus. Aureomycin ointment, he said, controls many of the symptoms of virus infections, though there is no specific antibiotic treatment for them.

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### Dentists Drill Fast To Hurt Patient Less

► WHEN A dentist drills at high speed to prepare a cavity for filling, it hurts less and is less tiring to the patient, Dr. Donald C. Winans of the University of Michigan School of Dentistry told members of the American Dental Association meeting in Cleveland.

"We now have some newer cutting aids that, if properly used, will reduce to a minimum the most irritating and destructive forces in operative dentistry—heat, vibration and pressure," he said.

An abrasive machine was one of the cutting aids he described. It utilizes gas propulsion to blast an abrasive material through a small nozzle for cutting. The material travels at supersonic speeds of more than 1,000 feet per second to blast out cavities rather than grinding them out.

While airbrasive equipment can not duplicate all the work of the commonly-used rotary drill, it is valuable in cutting through enamel and removing stains and heavy deposits, Dr. Winans said.

With the new high speed drills, greater heat is generated, but this can be controlled very simply by use of a water and air spray.

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#### METEOROLOGY

## Smoother Airplane Rides

► AIRPLANE PASSENGERS would have "considerably" smoother rides than at present if transport planes were equipped with radar, Dr. H. B. Tolefson states.

A meteorologist at the National Advisory Committee for Aeronautics Langley Aeronautical Laboratory at Langley Field, Va., Dr. Tolefson estimates that heavy, passenger-throwing gusts would be met about one-eighth as frequently as now by using the radar equipment. Another advantage of radar in planes, he states, is that designers and operators of transports could safely design airplanes for an approximate 10% reduction in the maximum gust loads.

The radar equipment would aid in two ways: 1. Some thunderstorms could be spotted and completely avoided. 2. The least turbulent paths through unavoidable storms could be charted. A contour attachment for the radar is needed to pick the smoothest route through unavoidable thunderstorms. Dr. Tolefson has found that, within storms, the areas of greatest turbulence are usually found where the rainfall is making a sharp change from light rain to heavy rain.

The number of times an airplane encounters, in clear air, the small and more numerous gusts that eventually cause discarding of airplanes cannot be reduced using radar equipment, Dr. Tolefson concludes.

Sufficient turbulence to throw passengers from their seats is met, according to Dr. Tolefson, when the change in wind speed is about 25 feet per second at the cruising speed of a modern transport, which ranges from 200 to 300 miles an hour. A 25-foot-per-second gust is encountered once in about 80,000 miles under present operating conditions.

If the thunderstorms could be avoided, Dr. Tolefson states in the *Bulletin of the American Meteorological Society* (May), such gusts would be experienced once in about 600,000 flying miles, or only once over a distance nearly eight times as great as that which included flight through thunderstorms.

#### ENGINEERING

### Florida's White Sand To Yield Black Ilmenite

► THE WHITE, sandy land of north central Florida soon will be made to yield greater amounts of jet-black ilmenite, the ore from which tough, heat-resistant titanium metal is extracted. A new mine and processing plant will be constructed near Lawtey to help the Du Pont Company meet the increasing demand for the metal and its pigments. One plant already is situated in the area.

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"By making allowances for the cases where storms could not be avoided, the passenger might still expect a rough ride on approximately 20 to 25% of the rough flights he experiences under present conditions. It would appear, therefore," Dr. Tolefson concludes, "that quite a sizeable increase in passenger comfort would be obtained on radar-equipped transports."

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