

DENTISTRY

# New Dental Anesthetic Paste Prevents Pain in Many Cases

## Dental Meeting Also Learns of Test for Dentifrice; Man With 52 Teeth Had To Wear A False Set Besides

A NEW paste-like dental anesthetic, which has been nearly 83 per cent. successful in preventing tooth filling pain in 361 carefully checked cases, was announced to the dental profession by Dr. Harold A. Osserman of New York City, at the sessions of the American Dental Association in Atlantic City.

The paste anesthetic mixture is applied by dentists when they are drilling into the dentin of a patient's tooth. It is especially useful when working on people with sensitive or hyper-sensitive dentin.

Dr. Osserman reported experimentation on 135 other formulae before he obtained the one he announced. The anesthetic's name is thymol aminobenzoate. He announced also the synthesis at Columbia University of a drug with comparable properties known as p-propyl m-cresol aminobenzoate, by Prof. A. Taub of the college of pharmacy, who was associated with Dr. Osserman in the work.

The new dental anesthetic has been used not only by Dr. Osserman in his private practice but in the dental clinic at Beth Israel Hospital, New York City. Perfect success was obtained in nearly 83 per cent. of the cases. Fourteen per cent. showed partial success and the drug mixture failed in three per cent. of the cases.

Dr. Fred R. Adams of New York City mentioned in a separate paper on general dental anesthetics that Dr. Osserman's new development "was one of the most successful in his own experience."

### Caution Urged

Dr. Samuel M. Gordon of Chicago, chairman of the Therapeutic Council of the ADA, in discussing Dr. Osserman's anesthetic, advised caution in its widespread acceptance at the present time and until independent surveys of its clinical usefulness could be obtained.

The major criticism of all anesthetics supposed to reduce sensitivity to pain in teeth, pointed out Dr. Gordon, is that the results usually are obtained by im-

pressions from the patient or from the dentist's impressions of pain in the patient. Actually "blind tests" are the true way to test anesthetics; tests in which the patient is not told that the anesthetic is being used and therefore can not use his imagination to develop pain, or freedom from pain. Said Dr. Gordon:

"Any product introduced for reducing the sensitivity of dentin during the commonly practiced dental procedures must be evaluated on an objective rather than an impressionistic basis. Unfortunately, many of the reports which have become available are still impressionistic. Tests under way in certain clinics indicate the new products (Dr. Osserman's) will also have limitations. Their

usefulness in the hands of every dentist still remains to be determined. Even the presence of nerve fibers in the dentin is still in dispute. (The new anesthetics are designed to desensitize these supposed nerve endings in the dentin.)

"Hence, dentists would do well to apply this suggested mixture of drugs with honest skepticism until investigations in independent clinics by individuals capable of carefully evaluating such elusive data show that it reduces sensitivity in enough percentage of cases to make the preparations useful. Only tests carried out by the 'blind method' can be considered adequate."

### Test Toothpaste

With a nickel and a piece of glass you can make a simple test that will tell you whether your favorite toothpaste will scratch the enamel of your teeth.

The test is one that the United States Government requires for all toothpaste purchased and it was described at the meeting of the American Dental Association by Drs. Wilmer Souder, physicist, and Irl C. Schoonover, chemist, of the National Bureau of Standards.

Uncle Sam buys large quantities of



### SIMPLE TEST

*Dr. Wilmer Souder, National Bureau of Standards physicist, makes the test that was given to 25 popular brands of toothpaste to discover scratching. A microscope slide with the toothpaste on it is rubbed with the edge of a piece of alloy metal the hardness of a five-cent piece. Anyone can make the test on his favorite toothpaste.*

toothpaste. When an order for some 14,000 dozen tubes was contemplated, a committee was appointed to write specifications for a safe and effective cleanser for the teeth. These specifications, now adopted for use, were reported to the meeting. The committee was composed of Capt. H. E. Harvey, of the Navy Dental Corps, Dr. M. M. Fowler of the Veterans Administration, and Dr. Souder.

Safety for the tissues of the mouth and the teeth was the first consideration of these men when they met to decide what must be contained in Uncle Sam's toothpaste. Next came the question of efficiency in removing foreign materials from the teeth. Last in importance was the matter of flavor or perfume.

A toothpaste must not be excessively either alkaline or acid, it was decided. It must not be caustic. It must not contain arsenic or other poisons. It must have a preservative that will insure that it keeps in good condition until used.

#### Turn Down Half

Twenty-five popular brands of toothpaste were tested against the specifications as adopted for use in Government purchasing. More than half failed to meet the requirements, Drs. Souder and Schoonover said. Hardening, separation of ingredients, and fermentation or spoiling were the most common faults. Some showed signs of chemical attack upon the tube container, and that was considered undesirable.

Ten toothpastes among those tested failed on the test for scratching. This test, as developed at the National Bureau of Standards, can be used by anyone who wants to be sure his dentifrice is not scratching the enamel of his teeth. A piece of glass and a piece of alloy metal of the size and hardness of a five-cent piece are all that are needed for the experiment. First test the glass for hardness by rubbing the edge of the metal piece over it to be sure that the metal alone does not scratch the glass. Human enamel and glass both vary in hardness. The grade of soda-lime glass used in a non-corrosive microscope slide was found to be harder than any of the enamel tested at the Bureau.

Place some of the toothpaste to be tested on the glass and rub again with the coin. If scratches result, then you may expect scratches on your teeth. This test is sensitive enough to detect one part of emery in one hundred thousand parts of paste.

#### False Teeth Cause Deafness

Most people when they acquire artificial dentures usually feel that their tooth troubles are over. But in one case at least, reported to the dental meetings, the incorrect fitting of false teeth led to deafness that was cured only when a new set of dental plates were made.

Dr. Harold L. Harris of St. Paul, Minn., described the case history of a woman, 50 years old, who came to his office with a loss of hearing of 56 per cent. in the left ear and 57 per cent. loss in the right ear. The woman wished to have a new denture made.

The old false teeth, it was found, thrust backward the mandible of the jaw, and decreased the amount of tongue room. This in turn lessened the activity of the tongue and all its associated parts in the mouth. The muscles in the neighborhood of the ear and its intricate working parts were also affected in activity and it is believed that this created the "dental" deafness.

The new plates made for the woman increased the vertical dimensions of her mouth by about one-half inch and gave "a rather strained appearance of the patient's face due to the lengthening of the striated muscle fibers of the muscles of expression."

But whatever the patient's expression the result, in terms of hearing, was vastly improved. Immediately after getting the new dentures the patient took another hearing test and showed a 44 per cent. improvement in the left ear and 41 per cent. improvement in the right. At the end of a year hearing in the left ear was completely normal and the loss of hearing in the right was only 9 per cent.

#### Facilities Inadequate

Combined facilities of schools, public clinics, and private practice are not sufficient to care for the enormous number of dental defects among the people of the United States, Dr. F. C. Cady, of the U. S. Public Health Service, told the dental association in reporting the results of a dental survey of 1,400,000 school children in 26 states and another survey of dental facilities.

"Combined educational and clinical facilities of governmental and private practice are unable to cope with the high rate of dental defects among the people of this country," said Dr. Cady. "More and better methods will have to be instituted by the dental profession if the number of dental cripples is to be materially reduced."

Evidence of a 52-toothed man was

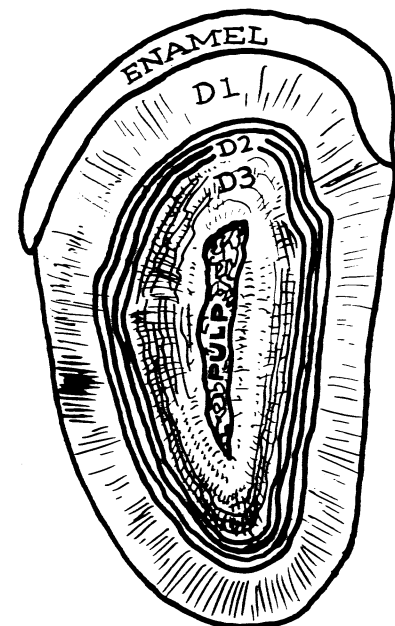
shown by Dr. George B. Winter of St. Louis, past president of the American Dental Association, in the exhibits at the meeting. The normal number for the adult is 32. But Dr. Winter's X-ray shows 52 in this patient, much to his discomfort. All 52 were imbedded in the bone, some were almost microscopic in size and they had to be removed surgically. The man wore a complete set of artificial teeth, in addition.

#### Ancient Sufferers

Jaw bones from the Egyptian pyramids allowed Dr. Winter to demonstrate to fellow dentists that ancient dwellers near the Nile suffered from impaired wisdom teeth.

"Like men and women living today," said Dr. Winter, "the Egyptians and other ancient people evidently suffered not only the inconvenience or pain that such teeth may cause when retained, but even deafness or insanity, which have been known to result from impacted wisdom teeth."

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TOOTH RINGS

*Drawn as seen under a microscope, the rings in a rat's tooth show a marked likeness to tree rings. D<sub>1</sub> shows the normal dentin just under the hard enamel. D<sub>2</sub> is the dentin, with ring structure, formed during experiment. D<sub>3</sub> is again normal dentin formed after the experiment. The four dark bands represent fluoride injections. Fourteen light and hard bands can also be counted (in original photograph) which are the daily growth rings formed during the days between the last fluoride injection and the death of the animal.*