

## DENTISTRY

# Fluorine Precautions

**Fluoride tablets, given to children as a preventive for tooth decay, must be taken in dosages prescribed by a doctor or dentist to avoid mottling the enamel on teeth.**

► IF YOU are giving fluoride tablets to your children in the hope of protecting their teeth from decay, be sure to follow the doctor's or dentist's directions about the dosage. And don't leave the bottle around where the youngsters can help themselves.

This advice comes from Dr. F. J. McClure, of the U. S. National Institute of Dental Research, U. S. Public Health Service.

There is a relatively narrow margin between the amount of fluorine that may help prevent tooth decay and the amount that causes the ugly mottled enamel condition of teeth, he points out in a report prepared at the request of the American Medical Association and appearing in its JOURNAL (March 12).

For preventing tooth decay, best results are associated with one part per million of fluorine in the drinking water. But one and one-half parts per million or slightly more of fluorine in drinking water is the beginning of mottled enamel.

A "great number" of fluoride-containing tablets for daily consumption are now on the market, Dr. McClure reports. The object is to give children fluoride in this way instead of through fluorinated drinking water. They should not be used, he warns, where the drinking water contains from one-half to one part per million of fluorine.

Whether giving fluorine in this way will

actually protect teeth against decay has not yet been determined. The idea has possibilities, Dr. McClure believes.

Drinking water is being fluorinated in at least nine cities: Grand Rapids, Mich.; Newburgh, N. Y.; Brantford, Ont., Canada; Midland, Mich.; Sheboygan and Madison, Wis.; Evanston, Ill.; Ottawa, Kans.; and Marshall, Texas. So far there is no conclusive evidence from these cities that the fluorination is doing any good, or, as Dr. McClure puts it, that "fluorine is an essential element for dental health." But the fluorination programs continue in the hope that in time evidence for or against will be forthcoming.

The idea that foods grown in areas where the local water is high in fluorine will also be high in fluorine content is false, Dr. McClure declares.

Neither can farmers expect to get more fluorine into their cows' milk by adding extra fluorine to the cows' feed or drinking water.

The tea leaf and certain sea foods are high in fluorine but in general no raw foods, Dr. McClure states, can be implicated as either causing mottled enamel from excessive fluorine or preventing tooth decay through their fluorine content.

Certain foods may pick up small amounts of fluorine when cooked in fluorine waters.

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## STS Winner Writes

*"For the past three years, I have spent the summers on Nantucket Island, Mass. During that time, I made a distributional and ecologic study of the mollusks of the area.*

*"The purposes of the study were as follows:*

- (1) To correlate the distributions of the various species with the ecologic zones they occupy.*
- (2) To ascertain to what region Nantucket is most nearly related in regard to the mollusks.*
- (3) To determine the extent of the influence of the Gulf Stream on the molluscan fauna.*
- (4) To prepare the way for a comparison of the Recent and Pleistocene shells.*
- (5) To increase the scanty list of mollusks already known from the island.*

*"Collecting in the different habitats was done in a variety of ways to ensure as complete a faunal picture as possible. Among the equipment used were nets, shovels, rakes, screens of various mesh-sizes, clammer's tongs, and dredges. I did not find all the species previously reported from Nantucket, but the methods used probably gave a fair sample of the populations existing when I collected. Since some flux was observed over the three-year period, it seems possible that the forms I did not find are not now present in as large numbers as they have been.*

*"Prior to this study, 46 species were known recent from the island, as compared to 66 in the Pleistocene. My collecting has increased the recent list to 120 species. The obtainment of accurate results from a comparison between the two is now made more certain."—From the essay of Dwight W. Taylor.*

## MEDICINE

# Dangerous Cough Remedy

► DISCOVERY that a urethane-containing cough syrup, dangerous to users because it might make them easy prey to pneumonia, had gone on the market was due to the off-duty alertness of a U. S. Food and Drug Administration official.

Going into a couple of drug stores in New York City looking for a special kind of razor blade for himself, he noticed the cough syrup, called "syrup of urethane," displayed on the counters. He remembered the concern at Food and Drug Administration headquarters in Washington over a new drug application for a urethane preparation to be used in treatment of leukemia. So he immediately got in touch with headquarters. After a hectic four days of investigation and consultation with medical scientists, the Food and Drug Administration issued a warning on the cough syrup and ordered its agents in the field to seize all known supplies.

Urethane is a very old drug. It was used 100 years ago as a sedative or hypnotic. But it was not very dependable and was replaced by chloral hydrate. This in turn has been replaced by the barbiturates.

Recently urethane came into use in the treatment of leukemia, cancer-like disease in which there are too many white cells in the blood. Urethane reduces the number of these cells, and gives some relief in a chronic form of leukemia. It does not cure the disease, however.

Its effect on white blood cells is what makes it potentially dangerous as a cough syrup. The patient with a cough needs his white cells to help fight off the infection and guard him against other germs, such as those causing pneumonia.

So far, Food and Drug officials have not heard of any injuries or deaths due to use of the urethane cough syrup. Nor have they had any queries about it from physi-

cians. The reason may be that a history of a cold and cough and the taking of cough syrup before coming to the doctor is the usual picture in pneumonia.

While urethane is known to cut down the abnormal white cells in leukemic patients, its effect on normal white cells in normal persons has not been extensively studied. The danger is considered sufficiently great, however, to warrant the Food and Drug action.

Science News Letter, March 19, 1949

## ELECTRONICS

## Electronic Tube Controls Power at High Frequencies

► A NEW type of electronic tube, called an electron coupler and developed for the modulation and control of power at the ultra-high frequencies, was revealed in New York to the Institute of Radio Engineers by C. L. Cuccia and J. S. Donal, Jr., of the Radio Corporation of America laboratories, Princeton, N. J.