

DENTISTRY

Fluoride Tooth Paste

➤ A NEW decay-checking tooth paste is expected to come on the market soon. This one will depend for its anti-decay action on tin fluoride.

"Early reports on new dentifrice are promising; let's hope the promise will be fulfilled" was the editorial comment on it given by the *Journal of the American Dental Association* (Feb.).

A year's trial of the new dentifrice by school children resulted in a decrease in the tooth decay rate of 50.6% in teeth that were free of decay at the time of first examination. Use of the tooth paste by the children was not supervised, so that they were using it just as they would use any dentifrice. It was equally effective at different ages.

The dentifrice was given to 209 children whose teeth at the beginning and end of the year's trial period were examined and compared with a control group of 214 children. These 214 also got a special dentifrice which was identical with the decay-checking one except it did not have any fluoride in it.

These studies were made by Drs. Joseph C. Muhler, William H. Nebergall and Harry G. Day of the School of Dentistry and department of chemistry, Indiana University, Bloomington, Ind., and Dr. Arthur W. Radake of Ohio State University College of Dentistry, Columbus, Ohio. They were supported in part by a grant from the Proctor and Gamble Company, Ivorydale, Ohio.

A similar trial is reported under way in Cleveland. Dental scientists and health authorities will be particularly interested in results of this second test, because so many dentifrices have shown great promise on

their first trial, only to prove disappointing later.

Putting a fluoride into a dentifrice follows the earlier discovery of the tooth decay checking power of fluorides occurring naturally in drinking water. Many communities are now putting carefully measured amounts of fluoride into the drinking water, to give the benefit of its anti-decay action to children as their teeth are forming.

Fluoride is also put onto the teeth of school children by many dentists as an anti-decay measure.

Putting it into a tooth paste might give the "ideal" way to use it, Dr. Muhler and associates said in reporting their studies to the journal.

They favor it because people would get the fluoride on their teeth oftener and more conveniently than by going to the dentist for fluoride treatment.

Whether the fluoride tooth paste would provide too much fluoride for persons living in regions where the water has fluorine in it naturally or by controlled addition is a question still to be decided. The decision of this point which may involve a Food and Drug Administration requirement of special labelling is believed to be one thing holding up marketing of the new tooth paste.

Putting fluoride into the drinking water is favored by health authorities who point out it is the best way of being sure all the people of the community get the decay-fighting benefit of fluorides. Whether or not they brush their teeth or go to the dentist, they all drink water.

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would be too much for conventional counters.

Effect of radiations on plastics is shown to be of two kinds. Nylon proves to be strengthened like polyethylene, due to "cross-linking" which the radioactive rays promote, but plastics similar to Dacron are weakened by such treatment. Heavy doses of radiation, however, harm all plastics, the report stated.

A new building at Oak Ridge, Tenn., will be built soon to separate and purify fission products for these and other uses. It will expand the "hot chemistry" facilities and serve as a pilot plant for industrial installations.

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PHYSICS

A-Waste Put to Work

➤ HOW MAN is learning to live in a more radioactive world is revealed in the 17th semi-annual report of the Atomic Energy Commission.

Fission products which have accumulated in large quantities from atomic reactors have been put to work supplying small portable and potentially deadly sources of radioactive rays which will perform such different services as treating cancer and keeping potatoes from sprouting.

Cesium, an element rarer than gold and known chiefly from analysis of the water from mineral springs, is separated from the fission products for use of the rays it gives off. It is packaged as a disc the size of a fifty-cent piece and about as thick as a woman's powder compact. The case is of stainless steel, made double to protect against leakage of the salt-like contents.

This small package holds the equivalent in treatment power of radium which would be worth \$20,000,000 if there were that much radium in the world.

Other rare elements available from atomic processes, which have been known before only in trace amounts, include gadolinium, europium, and dysprosium. These have found uses, because their oxides glow when heated, resembling lime in "lime-light" quality. They are used as cores in search-light carbons and motion picture projectors. They also combine with glass used in sunglasses to give protective tints, and to give special properties to camera lenses.

For detection of dangerous quantities of radiation, two new instruments have been devised. One is a scintillation counter large enough to surround a person, so that the entire amount of radioactivity in his body is made visible at one time. New chemicals which will shine when irradiated have been developed for use with this counter, so that a total of 77 satisfactory ones are now known.

The other new instrument is a gas-filled counter containing helium with or without nitrogen which works at high speeds which