

ties of southern New Jersey. In three of these communities the water supplies contained enough fluorine to favor resistance to tooth decay. In the other two, the water was considered fluorine-free.

**Fluorine Benefits**

Of the 3,000 children, 1,307 had been born outside the five communities and moved into them at various ages. Of those moving into the fluorine communities, the younger the child was at the time he arrived there and the longer he lived there, the less his teeth were attacked by decay. This showed the now generally recognized effect of fluorine in drinking water in favoring resistance to tooth decay.

By contrast, among the children moving into the fluorine-free areas, the most recent arrivals had the best teeth while those who had lived in the area the longest had the worst teeth so far as decay was concerned.

**Decay Cause Sought**

Scientists are now actively searching for the substances in the water of the communities that make teeth more vulnerable to decay. Superficial examination shows that the nonfluorine waters in the communities are acid enough to need treatment with alkali and that they contain so much excess iron that it is necessary to aerate the water to remove it. An unusually high content of nitrates has also been found in these waters.

Regular use of an anti-decay chemical treatment of the teeth of all children is now recommended by the American Dental Association.

The chemical is sodium fluoride. It would be applied by the child's dentist in a 2% solution to the crowns of the teeth twice a year after a preliminary series of at least four treatments for each tooth.



**HANDED DOWN**—Babies fortunate enough to have parents with good teeth are likely to have few toothaches and spend little time in the dentist's chair.

Because sodium fluoride is a poison, the treatment should be given by a dentist who is in position to guard against use of too strong a solution or other potential dangers.

The treatment is advised as a general preventive measure, but does not have any 100% guarantee that it will prevent tooth decay in all children. It has cut down the occurrence of decay as much as 40%, dentists who have tried it have reported.

The treatment is not effective on the teeth of grown-ups, so far as present evidence goes.

The mechanism by which fluorides inhibit tooth decay is unknown. Current theories are that the fluorides provide a protective factor in tooth enamel and that the drug inhibits the growth of acid-producing bacteria believed to be a cause of dental decay.

*Science News Letter, April 19, 1947*

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*Science News Letter, April 19, 1947*

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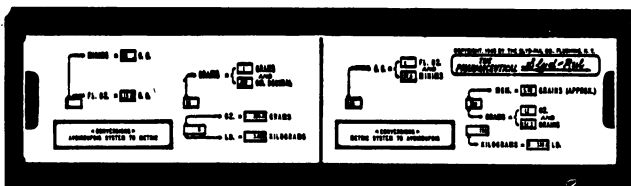
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