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CENTER FOR DISEASE CONTROL
ATLANTA, GEORGIA 30333

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Total Fluoride Intake

- I. In January 1978, the Governor of Michigan asked the Departments of Public Health and Agriculture to conduct a joint study of the ingestion of fluoride in Michigan, to be completed by July 1, 1978. This study, as completed, was supported by 80 references ranging in date from 1942 to 1978. More than half the references were published in the '70's. This study concluded:

"Evidence bearing on the question of an increase in background fluoride intake due to the general use of fluorides in commercial food processing prior to 1965 is scanty. However, the existing evidence is consistent with a hypothesis of a slight increase. Evidence will not support an increase since 1965. No evidence is available to indicate that there have been any adverse health effects that could be attributed to an increase in background fluoride. The possibility that such will occur is remote."

The sections of the report on "Changes in Dietary Fluoride" and "Effect of Increased Fluorides on Health" were summarized as follows:

Changes in Dietary Fluoride Summary

"Estimation of whether or not there has been a general background increase in fluoridation in Michigan due to the use of fluoridated water in commercial food processing is difficult because of the absence of solid, comparable data that spans the time prior to and after general fluoridation of water. There has been an increase in fluoride intake through foods in fluoridated areas due to the use of fluoridated water for food preparation, but this is expected and actually built into the determination of optimal water fluoride levels from field studies.

Review of studies analyzing foods directly raise the possibility of a small increase between the pre-fluoridation era and the mid-1960's, but

there is no evidence to support an increase since then. Review of studies on the effectiveness of fluoridation in reducing dental caries and in producing fluoride dental mottling do not support an increase in background fluoride consumption, but information is sparse. Review of information concerning appearance of fluorides in urine suggest that there may be a slight increase in fluoride excretion (and, therefore, intake) since the pre-fluoridation days.

Overall, it would seem reasonable to accept the premise that there has been a slight increase in fluoride ingestion by the general population since the pre-fluoride days. The amount cannot be accurately estimated but most likely is less than 0.5 mg/day."

Effect of Increased Fluorides on Health Summary

"Review of likely health effects from a slight increase in dietary fluoride fails to materialize any effects of concern. The only adverse effect within reasonable possibility might be bone abnormalities in persons with long-standing kidney failure. There is no evidence now that such has occurred, except for rare instances associated with greatly increased intake of fluoridated water and in connection with dialysis with fluoridated water."

- II. "Fluorides and Dental Fluorosis," by Howard M. Myers, was published in 1978 as Vol. 7 of Monographs in Oral Science by S. Karger, Basel, Munchen, Paris, London, New York, Sydney. Approximately one-half of this monograph is devoted to a critical review of information on fluoride intake. The results, inadequacies, or inappropriateness of various studies of fluoride from all sources are discussed. This current review concludes that there is no convincing evidence that there is an increase in the concentration of fluoride in food. The author indicates that the calculations in Mc Clure's original work on dietary intake, with which current studies are frequently compared, had not adequately allowed for the additional fluoride that was being ingested at that time from fluids other than drinking water."

Dental Disease Prevention Activity
Bureau of State Services