

UNITED STATES  
ATOMIC ENERGY COMMISSION  
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March 31, 1966

Dr. Malcolm L. Peterson  
Department of Internal Medicine  
Washington University, School of Medicine  
Barnes and Wohl Hospitals  
660 South Euclid Avenue  
St. Louis, Missouri 63110

Dear Dr. Peterson,

Thanks for sending me Rosenthal's manuscript. I will take you at your word and offer my comments with no holds barred.

I think the most useful purpose that can be served by the analyses of baby teeth is to supply us with information as to the probable levels of Sr-90 contamination of the diet at times and in places for which we have no direct information. Of particular interest to me are diet levels in San Francisco and Chicago prior to 1960 and as I mentioned to you perhaps midwest diet values during the period of relatively large scale testing in Nevada. While I personally feel that our present general knowledge of the relations between fallout and dietary contamination, and bone Sr-90 levels is sufficient to make these retrospective estimates possible, any corroborative evidence that could be obtained would be highly desirable. Specifically, I think it would be useful to continue the Baby Tooth Survey through 1968 so that the 1959 "bump" could be fully documented. I think that the diet monitoring from 1960 to 1961 to the present has been sufficient to make accurate estimates of bone levels in children possible, and therefore I doubt whether continued teeth analyses past 1968 (1960 - tooth formation) would be of interest.

I don't agree with Rosenthal, Kalckar, et al that teeth analyses are a better means of obtaining monitoring data for Sr-90 levels in bone than direct measurements on bone itself. The complexities of bone metabolism discussed in page one are relevant in trying to relate teeth Sr-90 levels to skeletal burdens (as can be seen from page five), but irrelevant if you measure the Sr-90 content of bone itself. In both cases for dosimetric calculations you must know turnover rates and distribution of Sr-90 within the skeleton.

Dr. Malcolm L. Peterson

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I cannot resist the temptation to gibe at Rosenthal's use of certain emotive words in this scientific context,

It is not "self-evident that a thorough knowledge of the body burden . . . is imperative for the entire life cycle of man . . .", (page 7) in fact in page 8 he calls this "utopian". While Kulp's program could be criticized for "haphazard" collections and "emphasizing" adult bone, this is certainly not true of our studies.

Finally, I would like to point out that the Health and Safety Laboratory was not established "for the prime purpose of monitoring the Sr-90 levels in the atmosphere and environment." Our primary purpose is and has been to aid the Division of Biology and Medicine in their studies of health and safety problems related to the activities of the Atomic Energy Commission. Fallout is only one of these problems.

Sincerely yours,



Joseph Rivera  
Environmental Studies Division

Enclosure: Paper by H. Rosenthal