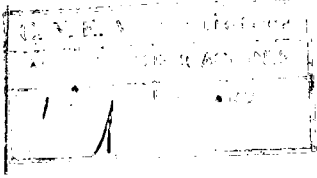


Strontium-90 Levels in the Diets and Bones of Children
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1. INTRODUCTION

The principal objective of the project is the determination of discrimination and turnover parameters relating strontium-90 bone levels to the contamination of diet. The study was aimed at the young ages for which the turnover of bone minerals and the discrimination between strontium and calcium were expected to differ from the values found in adults.

The procedure used in the study has been the measurement of strontium-90 and stable strontium levels in bone samples and in corresponding diets.

During the period covered by the present Progress Report the work continued along similar lines as those of previous publications^(1,2,3,4,5).

a) Determination of skeletal turnover rates and strontium to calcium discrimination factors (Section 2 of this report). The new data confirm previously reported values of turnover rates and strontium to calcium discrimination factors in the very young (0-2 years) and allow a very substantial improvement of estimates of these parameters in the 3-12 years age range. Additionally, a first estimate of discrimination and turnover is made for older ages.

The values of turnover rates and discrimination factors obtained are used in the report in an evaluation of the dose that would be incurred by people of different age groups in the case of an "acute" or a "chronic" diet contamination.

b) Strontium-90 in the diets in 1967 (Section 3). Measurements of strontium-90 and stable strontium in food items were continued in 1967. Strontium-90 levels in total diet of several age groups are estimated from these measurements and the same diet "structure" presented in the previous Progress Report.