
Project Category: Metabolic and Physiological Studies

Funding Source(s): AEC

Institution(s): INEL

Principal Investigator(s): C. W. Still

Objective(s) of Project: The determination of the metabolic fate of radionuclides ingested or inhaled by humans in good health, and calibration of both static and rotational scanning instruments for the direct in-vivo measurement at internally deposited radionuclides.

Short Description: Eight human volunteers were involved with the human studies endeavor, which consisted of thirteen individual experiments conducted during the period May 1965 to January 1972. All of the eight persons involved were employed by the ID-AEC, and all were associated with the Analytical Chemistry Branch of the Health and Safety Division. Four of the experiments involved inhalation of Argon-41 (a noble gas with a half life of 1.8 hours) and nine experiments resulted in the volunteers swallowing insoluble polyethylene capsules containing microcurie amounts of radioactivity.

Follow-up Data: The short half life of Argon-41 and its small residence time in the body resulted in very small radiation doses to the volunteers. The insoluble capsules required about 24 hours to pass through the body and produced very small doses due to the quantities of radioisotopes involved. As a consequence, no follow-up data acquisition was considered necessary.

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