

## Six-year Follow-up of an Acute <sup>241</sup>Am Inhalation Intake

R.L. Kathren\*, T.P. Lynch+, and R.J. Traub+

*\*Department of Pharmaceutical Sciences, Washington State University, Richland, Washington 99352; +Pacific Northwest National Laboratory, Richland, WA 99352*

A 38-y-old Caucasian male who suffered an acute accidental inhalation intake of 6.3 kBq of <sup>241</sup>Am was monitored over 2,135 d using periodic in vivo measurement of the activity in the lungs, liver, and skeleton. Lung clearance was described by a two-compartment exponential model with half-times of 110 d and 10,000 d. The observed uptake of <sup>241</sup>Am in the liver (72 Bq) and skeleton (170 Bq) was significantly greater than predicted by the ICRP models for liver (5 Bq) and skeleton (8 Bq). The half-time in the liver was approximately 850 d. Estimates of skeletal activity based on head, wrist, and knee counts generally agreed within 25% over the course of the monitoring period. The half-time in the skeleton was approximately 20,000 d.

USTUR-0195-04