

DA/Dr. Berry

AUG 20 1971

DC71/M-91/71 (RH)

MEMORANDUM

TO: DC/Chief, Preventive Medicine Division
FROM: DC71/Radiological Health Team
SUBJECT: Total Body Gamma Spectrometry - Apollo 15

The Apollo 15 astronauts (Scott, Irwin, and Worden) were examined by total body gamma spectrometry, postflight, on August 9, 1971, approximately 48 hours following splash-down.

Radioisotopes were administered to the crew (pre- and postflight) to facilitate evaluation of various physiologic changes. The resulting radioactivity present in the crewmembers precluded evaluation of normal potassium levels (K^{40}) and cosmic ray induced radioactivity. Based on a cosmic radiation dose of less than 0.5 rad indicated by the crew radiation dosimeters, any induced radioactivity present would be well below detectable limits.

The gamma spectrum data were analyzed for total body retention of potassium⁴², which was administered to the crew and three control subjects. The data indicate the mean K^{42} retention by the crew was not statistically different from the mean of the controls. However, individual K^{42} retention values for Scott and Irwin were slightly higher than the mean of the controls (3 percent and 2 percent, respectively), and the value for Worden was lower than the mean of the controls (approximately 6 percent). The results are based on the assumption that each crewmember and control subject received equivalent aliquots of K^{42} , although given at different times. The data were corrected for radioactive decay of K^{42} to the time of total body gamma spectrometry examinations.

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cc:

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