

DEPARTMENT OF DEFENSE
DEFENSE ATOMIC SUPPORT AGENCY
Medical Division
WASHINGTON 25, D. C.

DASAMD 319.2

19 May 1961

MEMORANDUM THRU: DEPUTY CHIEF OF STAFF, WEAPONS EFFECTS AND TESTS *Handwritten initials*FOR: CHIEF OF STAFF, HEADQUARTERS, DASA *Rmt*

SUBJECT: Report of Temporary Duty Travel

In accordance with DASA Directive No. 16-1, 29 February 1960, a report of temporary duty travel is submitted:

- a. Inclusive dates of travel: 15-16 May 1961.
- b. Purpose of travel:
 - (1) To conduct semi-annual inspection of DASA-sponsored research at the University of Cincinnati on the effects of whole body radiation in humans.
 - (2) Discuss preliminary plans for DASAMD sponsored Whole Body Radiation Conference to be held at the University of Cincinnati in early October 1961.
- c. Persons and Places Visited:
 - (1) Places visited included:
 - (a) Radioisotope Department
Cincinnati General Hospital
 - (b) Radiation Therapy Department
Cincinnati General Hospital
 - (c) Electrophoresis Laboratory
Children's Hospital

(All of the University of Cincinnati, Cincinnati, Ohio)

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(2) Persons visited included:

- (a) E. L. Saenger, MD
Director of Radioisotope Laboratory
Cincinnati General Hospital, and
Assoc. Clinical Professor of Radiology
University of Cincinnati
- (b) James Keriakes, PhD
Asst. Professor Radiology, and
Director of Physics,
Department of Radiology
University of Cincinnati
- (c) B. I. Friedman, MD
Asst. Clinical Professor of Medicine
University of Cincinnati
- (d) Helen Berry, MS
Research Associate in Pediatrics
Children's Hospital
University of Cincinnati

d. Subjects Discussed

- (1) Progress to date in DASA-sponsored research project on biochemical, hematological, and immunological study of patients exposed to whole body radiation (Co^{60} with 50 to 100 RAD midline dose). Work has progressed well for the first year of this project and a detailed annual report is in preparation covering the first six patients. Several other patients have been irradiated subsequent to this initial group and are being studied now and an additional three patients will receive radiation in about one week. These patients will probably conclude the exposures at 100 RAD. After the data from these patients are analyzed, studies will commence at the 150 RAD levels.

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An interesting finding has occurred in one patient. That is a late drop in the white blood cells (5-6 wks. after exposure) with no initial drop. This followed 100 RAD exposure and appears to have been a result of the radiation. Further investigation is being done on this finding.

The electrophoretic urine studies for urinary amino acids on these patients is progressing well and samples are still being analyzed. The job of coordinating these results with the clinical course of the patients is just beginning. Glutamine seems to increase after irradiation in a number of patients and some unidentified substances have been found which are being evaluated. Whether this increase is directly related to dose remains to be determined as well as its relation to chemotherapy in place of radiation.

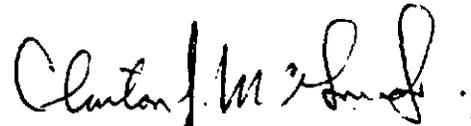
The immunoelectrophoretic studies on serum from these patients have been started with crude equipment and techniques. New precise equipment has just been obtained and the techniques will be refined as the equipment is put into use soon. Then the blood samples (which have been preserved) from all previous patients will be reanalyzed and the results compared with other data on these patients.

- (2) A 2 day conference will be held in the second week of October at the University of Cincinnati on the Effects of Whole Body Radiation. This will include the three DASA contractors, Baylor University, Memorial Hospital in New York, and the University of Cincinnati. In addition, it will include 10-12 other military and civilian institutions who are interested in whole body radiation research (ORINS; Cooperstown, New York; NNMC, Bethesda, Maryland; Walter Reed Army Medical Center, Washington, D. C.; Brookhaven LASL; Argonne; University of Rochester; Ft. Knox; School of Aviation Medicine; and UCLA). In addition to papers being presented by the various institutions on their work, a presentation on the problem of Radiation in Space will be included. The possibility of having Dr. Maurice Tubiana, a radiotherapist from France, present his work was discussed.

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Dr. Saenger visited Dr. Tuhiana's laboratory last year and feels that the methods used by the French are very different than in the United States and that Dr. Tuhiana probably knows more about the Effects of Total Body Radiation on humans at high doses than anyone in the United States. If Dr. Tuhiana came to the United States for 1-2 weeks, he would probably speak at the American Roentgen Ray Society meeting in September and serve at several Universities as a consultant to DASA's whole body radiation research contractors. Since these other institutions and groups would pay for a portion of his expenses, DASA contractors would only be required to pay for about \$400.00 to \$600.00 of the over all travel expenses. Feasibility and details of having Dr. Tuhiana as a consultant at the conference will be discussed with the contracting officer of DASA.



CLINTON J. MC GREW JR.
Lt. MC SN
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