

## SUMMARY FACTSHEET HUMAN EXPERIMENTATION - SFS3.001

---

**Project Category:** Whole Body Irradiation

**Funding Source(s):** AEC (92%) NASA (8%)

---

**Institution(s):** Oak Ridge Institute of Nuclear Studies (ORINS)  
Oak Ridge Associated Universities (ORAU)

**Principal Investigator(s):** Gould A. Andrews  
Clarence C. Lushbaugh  
R. M. Kniseley

---

**Objective(s) of Project:** 1) To explore the possibilities for treatment of chronic leukemia, lymphoma and polycythemia with radiation; 2) To obtain radiobiological data.

**Short Description:** In 1957 ORAU began a program designed for treatment of cancer patients and for assessment of the health effects of total body radiation. In 1964, NASA began to provide additional funds to include measuring the biological effects of low radiation doses and low dose rate exposures. Nearly 200 patients were treated with 50 or 100 R in a Cs-137 whole body irradiation facility. A few patients with acute leukemia were given doses of 300 R or more. Detailed and systematic studies were made of blood cells, bone marrow, clinical effects and selected laboratory tests. In some of the patients with high doses, the effects of autogenous and homologous bone marrow grafts were studied.

**Follow-up Data:** Measurements were continued for at least 6 weeks for each patient. The studies were not designed to analyze the late effects.