

SUMMARY FACTSHEET HUMAN EXPERIMENTATION - SFS5.002

704280

Project Category: Treatment of Cancer with Supervoltage Machines

Funding Source(s): AEC

Institution(s): Argonne Cancer Research Hospital

Principal Investigator(s): M. L. Griem
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Objective(s) of Project: To use new high-energy research machines to apply x-rays and gamma-rays to cancer patients

Short Description: Starting in 1954, with the ACRH 2-MeV Van de Graaff x-ray generator, a treatment field of sufficient size was made available so that patients with certain lymphomas could be treated from the neck to below the waist at one time, including all affected lymph nodes. This resulted in shorter overall treatment times and lowering of total radiation doses.

The cobalt-60 rotational therapy machine, with its small, high-specific-activity source and uranium shield, was designed and built at ACRH. Patients with advanced carcinoma of the uterus and cervix and other malignancies who were treated with this cobalt machine, sometimes in combination with other modalities such as the Van de Graaf, radium implants, surgery, or drugs, had favorable survival and cure rates.

Studies were also carried out on use of a variety of radiation-sensitizing agents, in an effort to achieve cures with lower doses of radiation.

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