

Radiation Therapy and Research Division Keeps Busy

In our busy medical center one area of bustling activity is the radiation therapy and research division. In less than four years of existence the patient load in this division has increased at such a rate that now over 400 patients are processed weekly for evaluation and treatment.

Cancer is the second largest disease killer in the United States. Until the incidence of cancer can be controlled, the most effective method of reducing the death rate lies in improved treatment. Such treatment is available in this division.

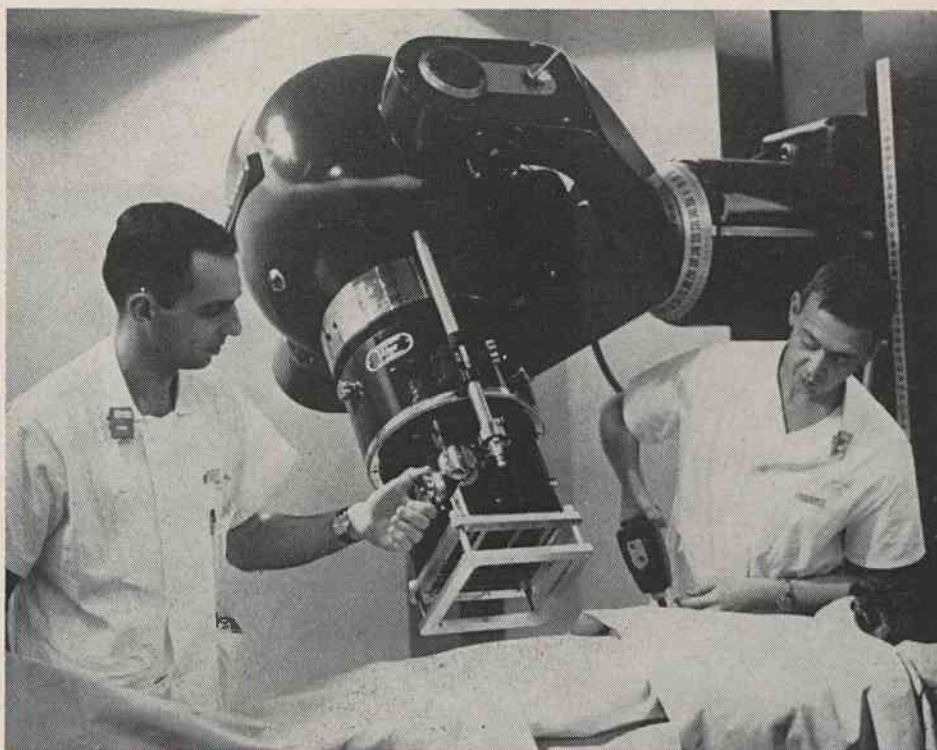
The division is directed by Dr. Patrick J. Cavanaugh, associate professor of radiology. Basic facilities for the treatment of cancer patients include a cobalt 60 unit, a cesium 137 unit, a 280,000 volt X-ray machine, and one other smaller X-ray machine.

The cesium unit was the second of its type to be placed in use in the United States. A pilot model incorporating the most advanced developments in high voltage radiation therapy, the unit was designed specifically for treatment of cancers located just under the surface of the skin. The cobalt unit is particularly designed to approach deep-seated cancers.

Both units produce radiation which has "great penetrating power with maximum effectiveness inside the body tissues rather than at the level of the skin," said Dr. Cavanaugh. They also make it possible to give a high dose of radiation without "injury to the skin and bone."

In undergoing cobalt therapy, the patient is placed on a specially constructed table beneath a projecting arm of the unit. The radiation beam emitted from a lead sphere at the end of this arm is shaped according to predetermined specification and can be moved around the patient's body to attack malignant cells from many different angles.

The beam is directed from outside the treatment room by remote control. Physicians and technicians are



Dr. M. Paul Capp and Dr. Norman A. Thorne are shown positioning the cobalt 60 unit above a patient awaiting radiation treatment.

able to observe the patient over a closed circuit television system. An intercommunication system provides verbal contact between the patient and those outside the treatment room.

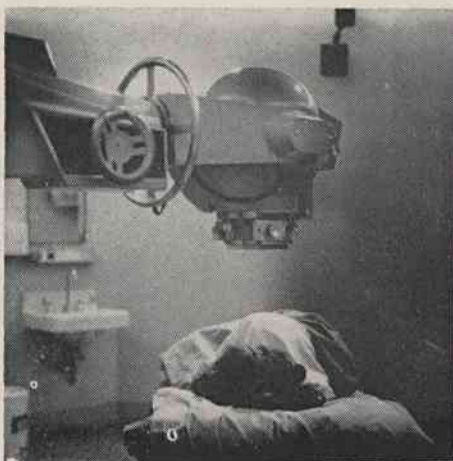
The room itself consists of concrete walls and ceiling which are approximately 40 inches thick. These provide maximum protection against radiation for hospital personnel.

Today the X-ray machine, though used less often than the cobalt and

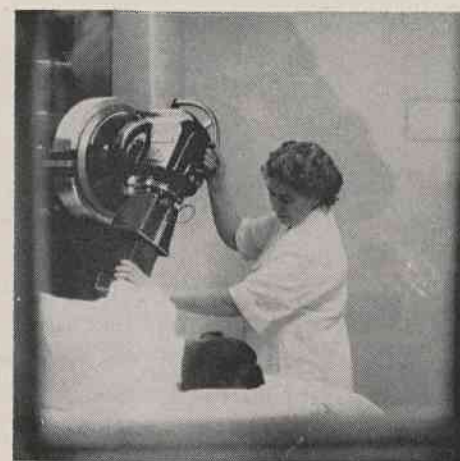
cesium units, is still an essential part of radiation therapy and research. The large machine in the Duke division is employed for general treatment purposes while the smaller machine is used for the treatment of superficial skin and lip cancers.

Dr. Cavanaugh's division, however, does not confine its effort to the treatment of patients. It functions on three levels: treatment, training, and research.

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A patient receiving therapy under the cesium 137 unit.



Mrs. Helen Tillery operates the division's larger X-ray unit.

Duke photos by Sparks