

SOUTHWESTERN NEWS

Contact: Heather Stieglitz
(214)648-3404
or e-mail: hstiegl@mednet.swmed.edu

UT SOUTHWESTERN RESEARCHERS TEST STATE-OF-THE-ART CANCER-FIGHTING TOOL

DALLAS – Feb. 11, 1998 – Doctors at UT Southwestern Medical Center at Dallas and Zale Lipshy University Hospital are using an experimental radiation therapy device to treat brain-cancer patients for whom conventional radiation treatments have not been effective.

Dr. Dan Garwood, assistant professor of radiation oncology, has treated 12 patients with the Accuray robotic device during the past nine months. Because many patients had tumors in several areas of the brain, a total of 29 separate tumors were irradiated. UT Southwestern is one of only five sites in the United States testing the apparatus, developed by Accuray, Inc. of Sunnyvale, Calif.

In Dallas, the generosity of local philanthropists, who contributed a total of \$2.8 million, made it possible for UT Southwestern to obtain the state-of-the-art cancer-fighting tool.

"This instrument is particularly useful for treating brain cancer because of the precision and flexibility of the system. The key to effective radiation therapy in these situations is to put more treatment into the tumor and less into the surrounding normal tissue," said Garwood, holder of the Effie Marie Cain Distinguished Chair in Cancer Therapy Research. "The strength of the Accuray treatment is its ability to target many beams of radiation more precisely."

Accuray patient Victoria Shortes of the West Texas town of Ackerly said, "I'd had traditional linear radiation treatment for a brain tumor. When the brain tumor returned, I opted for the Accuray treatment. In my case, I lay on the table for 45 minutes, got up and left. There were no side effects whatsoever." Some patients undergo a series of radiation treatments.

The Accuray is designed to give clinicians much greater control over the beams of radiation that kill the tumor. A miniature linear accelerator, weighing only about 300 pounds and mounted on a robotic arm, can direct approximately 100 different beams of X-rays to a tumor from many angles.

The robotic arm allows the patient to stay in one position as the linear accelerator moves around to

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deliver treatment. A set of X-ray-imaging cameras that are part of the instrument enables physicians to see a tumor as it is treated.

A highly sophisticated computer program generates a three-dimensional image revealing a tumor's precise location, shape and size. Radiation oncologists use the computer to calculate the position and intensity of the individual beams that target the cancer, thus avoiding irradiating the surrounding normal tissue.

As a final step before treating a patient, a Lucite model of the person's head, including a removable block representing the tumor, is built. The treatment program is tested on the model, and the accuracy of the radiation beams is determined using film inserted in the Lucite "tumor."

Treatment using the Accuray is still experimental and limited by U.S. law to investigational use. Only patients who have certain kinds of malignant brain tumors and have undergone conventional treatment unsuccessfully are currently eligible for treatment. For more information, call (214) 648-7684.

The Accuray program would not have been possible without the help of the Dallas philanthropic community," said Dr. Kern Wildenthal, UT Southwestern president. "We are very fortunate to have a concerned citizenry willing to bring the best in medical treatment to its residents."

Several dozen donors contributed a total of more than \$2.8 million, including donations of \$20,000 or more from:

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