

# The University of Texas Health Science Center at San Antonio



## Kolitz Family Gift

*Funding a Safer Way to Treat a Deadly Condition*



From left, Dr. Andrew Brenner, Nicole Brenner, Sandi Kolitz and Bob Kolitz

Mark Kolitz, a graduate of The University of Texas at Austin and the UT School of Law, was only 42 when he died from a glioblastoma—a deadly brain tumor.

In the nearly 10 years since that time, researchers have made no significant advances in treating glioblastomas. But Mark's brother, Bob Kolitz, and his wife, Sandi, see hope in the work of Andrew Brenner, M.D., Ph.D., a neuro-oncologist at the Cancer Therapy & Research Center (CTRC) at The University of Texas Health Science Center at San Antonio. The Kolitz family, therefore, decided to provide financial support so Dr. Brenner's work could continue. The resulting gift—from Sandi, Bob and Aaron Kolitz, along with Karee, Loren and Millie Jones—totaled \$1 million.

### A New Approach

While radiation has long been the most effective method for treating glioblastomas, the procedure is not without drawbacks. Beams of radiation still must pass through healthy brain tissue to reach the tumor and patients can only tolerate small amounts before developing serious side effects.

A group of researchers at the Health Science Center developed a new way to deliver nanoparticle radiation directly to the brain tumor and keep it there. The method doses the tumor itself with higher levels of radiation, 20 to 30 times the current dose to patients.

"We were able to give it safely and we were able to completely eradicate tumors," Dr. Brenner said.

The radiation comes in the form of an isotope called rhenium-186. Once placed inside the tumor, the rhenium emits radiation that only extends out a few millimeters.

Simply putting the rhenium into a brain tumor would not be effective without a way to keep the substance there, however. The tiny particles would be picked up by the bloodstream and carried away. That problem was solved by a Health Science Center team led by nuclear medicine physician William T. Phillips, M.D., biochemist Beth A. Goins, Ph.D., and Ande Bao, Ph.D., a medical physicist and pharmaceutical chemist. They encapsulated the rhenium in fat molecules, or liposomes, about 100 nanometers across.

"The technology is unique," Dr. Brenner said. "Only we can load the liposomes to these very high radioactivity levels."

Taking the new technology from the lab to patient studies involved costly regulatory hurdles, however, and that slowed the pace of research to a crawl.

### Enter the Kolitzes

At the invitation of Ian M. Thompson, Jr., M.D., the CTRC's director, the Kolitzes met with Dr. Brenner. They were touched by his passion and impressed by his ability to explain the technology.

"Dr. Thompson and Dr. Brenner are an example of a team we can have confidence in," Bob Kolitz said. "We want to make sure that their work makes it to the next level so other families won't have to go through what we went through with Mark."

Part of the gift, \$750,000, established the *Sandi and Bob Kolitz Chair in Neuro-oncology Research* at the CTRC, with Dr. Brenner as the inaugural holder of the chair. The other portion, \$250,000, created a research fund that supports Dr. Brenner's work in rhenium 186.

Dr. Brenner said the gift came at a crucial point in the research. "The rhenium 186 technology would have gone nowhere without this support," he said. "Grants provide funds for research, but not for meeting regulatory requirements. If it weren't for the Kolitz gift, we would not be preparing to put participants on a study right now."