



A DOSE OF OPTIMISM

It was like a tidal wave. Every time someone checked the email, there were hundreds of new ones, more than 2,000 in the first three days alone. The phone calls came in one after the other, each tale more heartbreaking than the next.

"We struggled with it," says Henry S. Friedman, MD '77, R-1981. Friedman is co-director of the Clinical Neuro-Oncology Program at the Brain Tumor Center at Duke University Medical Center. "I'm the guy who always answers calls within 24 hours. It was very hard for me not to be able to do that, but it was just impossible."

In April 2002, *60 Minutes* did a rare double-length profile on Friedman and his cutting-edge therapies for brain tumor patients. More than 25 million viewers watched the broadcast, in which correspondent Ed Bradley tracked three patients over 16 months of treatment. The broadcast thrust Dr. Friedman—already world-renowned among cancer researchers—into the public realm. His message—"You don't have to die with a malignant brain tumor"—struck a chord. Instantly, the tidal wave began to build.

For good reason. If you took a poll of the diseases people most fear, cancer would likely top the list. And of the cancers themselves, brain cancer might just be the most frightening. Of the approximately 185,000

Husband and wife alumni physicians Henry Friedman and Joanne Kurtzberg care for patients with the grimmest diagnoses. They provide more than cutting-edge clinical treatments: Hope.

By Renée Gearhart Levy

people diagnosed with brain tumors each year, the majority die within six to 12 months. "Most physicians believe that patients with many kinds of brain tumors are so hopeless, they basically tell them to get their affairs in order," says Friedman.

Not Friedman. For more than a decade, he's been a leading crusader against brain cancer, researching new strategies and treating patients with cutting-edge and sometimes controversial therapies. He's not trying to buy patients time, but to cure them.

And he's getting results. While most people with glioblastoma, the deadliest of brain tumors, die within a year of diagnosis, 10 to 15 percent of Friedman's patients survive the three-year mark cancer-free, some substantially longer. "Although it's true that many patients with brain tumors die, the only ones who survive are those who were treated in an optimistic, hope-filled fashion," he says.

Friedman is a champion at what he calls "brain tumor volleyball," juggling his time

conducting laboratory research, doing clinical investigation on issues regarding protocol development and analysis, and seeing patients. "I do work in the lab to generate novel ideas, which are then translated to the clinic, where we try to see if these new strategies will work," he says. "When we see problems arise in the clinic, we go back into the laboratory to try to solve those problems. In effect, we go back and forth, lab to clinic, to fine-tune treatments that work."

Standard brain tumor therapies, Friedman says, are largely palliative. His approach includes an aggressive combination of surgery, radiation, immunotherapy, and experimental drugs. He sometimes uses drugs approved by the FDA to treat other forms of cancer before there has been a Phase III trial in brain tumor patients. Colleagues have criticized Friedman for bypassing Phase III clinical trials, but he believes the years it takes to test those drugs in brain cancer patients cost too many lives.



Henry Friedman, MD '77, R-1981

"The assumption is that until you have a strong set of data that something increases survival, you can't use that intervention," he says. "That's all well and good unless you're a patient during those five years waiting for these trials to be done."

Outside the Box

Looking outside the box is nothing new for Friedman. "I've always been a bit of an independent thinker who didn't like authority," he says. "I don't think there should be rules just to have rules, just because that's the way things are."

As a student at Upstate Medical University in the mid-1970s, Friedman lived with a house full of other medical students, a tight-knit group that had a wonderful medical school experience but he says were perceived by many others as being not serious enough students of medicine to ever amount to much. "We skipped too many classes," Friedman says.

Once he moved from the classroom to the clinical setting, however, all that changed. "I would guess I was in the bottom third of my class the first two years and the top 10 percent the last two," he says.

Friedman took pediatrics as the first rotation of third year. By the end, he knew he'd become a pediatrician. "There's a certain

degree of self-selection by personality types among the different specialties and I bonded very quickly with the pediatricians," he says. "I thought they were terrific people."

After medical school, Friedman remained at Upstate for an internship and residency in pediatrics, followed by an 18-month hematology/oncology fellowship, doing hematology laboratory research. He hated it.

"When you offer a patient hope who's been told before that it's absolutely, unequivocally hopeless, you can see almost a swelling within as the fight in them begins to resume," says Friedman.

Friedman sought the advice of his mentor, department chair Frank Oski, MD. "Oski told me that if I was going to be an oncologist to go into neuro-oncology because there was a total lack of progress in the field. If I did anything, at least I'd be the first one doing it," he recalls.

When he went to Duke as a senior research fellow the following year, Friedman remembered Dr. Oski's advice and began training in neuro-oncology. He never left.

The Brain Tumor Center at Duke University Medical Center, one of the largest in the world, sees about 820 new patients annually, 120 of them children, and carries a population of several thousand. While his clinical practice is almost entirely adult, Friedman continues to be very involved nationally in investigative oncology for children as well as adults. As Oski predicted, many of the procedures and treatments Friedman tries on patients have never been done before.

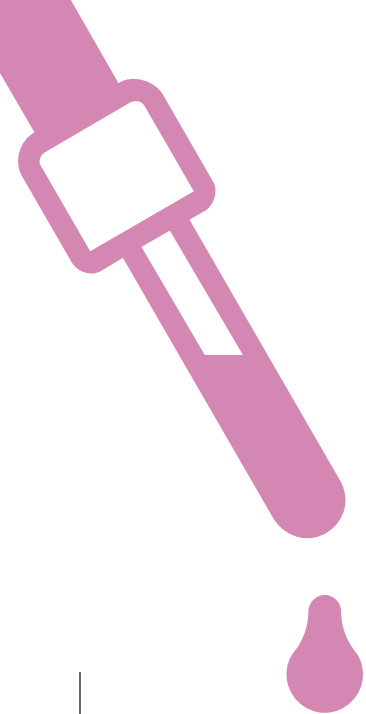
Because brain cancers are incredibly complex, Friedman does not believe there is a single magic bullet to fight them. His major areas of research—and clinical treatment—focus on the areas of drug resistance as well as innovative drug delivery systems. One of the most promising treatments is monoclonal antibody therapy, a type of targeted therapy that uses genetically engineered antibodies to seek out specific cancer cells while leaving the healthy cells around them unharmed.

Friedman breaks the mold in other ways as well. Jeans and sneakers are his preferred attire. Everyone—from patients and staff to friends—calls him Henry. He gives out his pager number freely, to patients and reporters alike.

"I never met a reporter or a camera that I didn't like," says Friedman, who has learned to use the media to his own advantage, be it publicity to get funding for his research or insurance coverage for treatment for one of his patients.

The *60 Minutes* broadcast showed him in action, informing an insurance company representative mid-way through their call that it was being taped by the news-magazine's crew. The company agreed to cover the procedure it had previously denied.

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"I'm here to do whatever I can to help my patients," says Friedman. "Sometimes that's surgery. Sometimes that's getting the surgery paid for."

Even before the *60 Minutes* exposure, the Brain Tumor Center received more patients than it could handle through referrals from other patients and doctors. Still, Friedman says, it's important to get the message out: "Patients with all kinds of brain tumors thought to be fatal are surviving."

All in the Family

Many of the contacts Friedman and this program received after the *60 Minutes* profile weren't from people with brain tumors, but with other forms of cancer or diseases. "We were being looked at by a lot of people with problems outside our domain of expertise as a potential fountain of hope," says Friedman.

No one can empathize with that situation better than perhaps Friedman's wife, Joanne Kurtzberg, MD, R-1980, who Friedman touts as "a much bigger deal than I am."

Kurtzberg, director of the Duke Pediatric Bone Marrow and Stem Cell Transplant Program and director of the Carolinas Cord Blood Bank has been featured on *48 Hours*, *20/20*, *People* magazine, and newspapers across the country, for her work pioneering stem cell transplants for children with cancer and rare genetic diseases.

"It's a mixed blessing," Dr. Kurtzberg says of the attention. "It raises awareness for the diseases we treat and what we have to offer. The problem is that after we appear in the media we get so many calls, we can't handle the volume. It takes time away from the work to be done."

Kurtzberg oversees a staff of 200 physicians, nurses, physical therapists, and other staff members that coordinate the care for the approximately 200 new patients the Transplant Program treats each year. Nearly all the patients come from outside North Carolina and their treatment requires them to stay at Duke University Medical Center for weeks at a time.

"In 10 years... we'll be using cells as therapy in a way we only talk about right now. We'll be doing a lot more in a routine way."

Kurtzberg does approximately 110 bone marrow procedures annually. She conducted the first cord blood transplant in 1993 and now does about 80 such procedures each year. The cord blood procedure enables people who can't find a full-matched bone marrow donor to have a transplant because the cord blood doesn't have to match as closely. "The procedures themselves are very similar except the cells that we obtain for the donor come from cord blood and we actually bank cord blood here at Duke for public use," says Kurtzberg, who was instrumental in establishing the Carolinas Cord Blood Bank and is an advocate of establishing a national cord blood bank.

"Cord blood contains stem cells, which are really seed cells that make the bone marrow grow," explains Kurtzberg. "When a patient needs a transplant, the cells can be infused into their blood and they will go back to the bone marrow and make the cells that circulate in our blood and our immune system."

Stem cells have the capacity to grow into

almost any specialized cell in the human body, such as heart, brain, or liver. Kurtzberg had observed that children with rare metabolic diseases tended to regain organ function more rapidly when given cord blood rather than traditional bone marrow. It appears that cord blood stem cells respond to signals that differentiate them into the needed kind of cell.

"We've examined heart tissue on a cellular level and proven that donor cells are not only present in heart tissue, but have become heart muscle cells," Kurtzberg says.

This summer, Kurtzberg began the first phase of a neural cell trial, growing cells into doses that can be used clinically, something she believes will start in another two years.

The project is partly in collaboration with Friedman. "Some of the things we're working on in the lab will apply to the brain tumor patients," she says.

In 10 years, she predicts, "We'll be using cells as therapy in a way we only talk about right now. We'll be doing a lot more in a routine way."

Kurtzberg developed an interest in caring for kids with cancer while a resident at Upstate. "It was really due to the strong influence of Frank Oski," she says. She began her hematology/oncology fellowship here, before moving to Duke University Medical Center, where she started her stem cell research. "I've always been attracted to the most challenging clinical problems," she says. "The kids that fail standard therapy, both in those days and today, go to transplant."

It was at Upstate that she and Friedman met, although they were both married to other people at the time. After both couples divorced, Friedman followed her to Duke.

The couple has two children, Joshua, a Duke University senior; and Sara, a junior in high school. (Coincidentally, Jim Stockman, MD, who was the pediatric hematology/oncology division chief while Friedman and Kurtzberg were at Upstate, lives across the street from them in Durham. He now runs the American Board of Pediatrics.)

Despite the obvious stresses of both of their careers, Kurtzberg says she and her husband "don't dwell on it at home."

"I think we're actually more forgiving of each other because we're both immersed in it," she says. "If we weren't, I don't think we'd be as understanding of each other."

They both have other outlets as well. Kurtzberg enjoys knitting and needlework. Friedman is a passionate basketball fan who attends all home Duke men's and women's games and manages his daughter's AAU basketball team. A staunch advocate of the benefits sports bring to girls and young women, Friedman is part of a nonprofit that is building a gym to provide free basketball skills lessons to children with medical problems (the subject of an forthcoming *60 Minutes* story).

Both physicians are unusually close to many of their patients. It's not uncommon for Friedman's long-time patients to join him for a Duke game or to come to the house for dinner when in town for a check up. Kurtzberg says forming long-term relationships with her patients' families is one of the most rewarding aspects of her work.

Despite their successes, the reality is that many of their patients die. One has to ask, doesn't developing those close relationships make that even harder?

"The people we save, that's the easy part," says Kurtzberg. "The people who need you most are the people who die. Really, it would be better if nobody needed us."

Although their programs are located a half-mile apart on the Duke University Medical Center campus, Friedman and Kurtzberg bring the same critical ingredient to each: Hope.

"When you offer a patient hope who's been told before that it's absolutely, unequivocally hopeless, you can see almost a swelling within as the fight in them begins to resume," says Friedman.

That's not to offer false hope, but alternate options for treatment and realistic odds. It's all a matter of perspective. After being told there is no hope "a 10 percent chance all of a sudden sounds good," says Kurtzberg.

When the treatment works, it's the greatest gift a family could receive. And when it doesn't, the families, amazingly, are almost always still grateful to have exhausted every option and to have gained any extra time possible.

"If you work with these patients, they inspire you," says Kurtzberg. "It changes your whole outlook on life and what's important."



Joanne Kurtzberg, MD, R-1980