

## HEALTHY LIVING

## Survivor a beacon in cancer research

Diagnosed with a notoriously deadly malignancy, Howard Young has lived longer than he dared expect and helped give others more hope for survival.

BY KEN FOSKETT  
Cox News Service

Howard Young figured the news probably wasn't good when his doctor called to say he was stopping by that evening to discuss some test results.

Hours earlier, the lanky Atlantan had undergone X-ray imaging of his abdomen to identify the source of nagging stomach pain.

He hung up the phone and drove to his parents' home, a location intended to hide the meeting from his three young daughters.

The images of his abdomen, his doctor soon explained, showed a tumor massed on his pancreas, a flat, fish-shaped organ vital to digestion and insulin production.

Surgery to remove the tumor was possible, and there was a chance it could be benign, two pieces of good news. But Young's doctor parted with some advice: Stay off the Internet and away from information on pancreatic cancer.

"So the first thing after he left, we went to the computer," Young said.

In the jumble of information flitting across the screen, Young recalled, three words stood out: "Virtual death sentence."

That was five years ago.

Now 47, Young has joined a class of pancreatic cancer survivors that numbers in the hundreds. He also has sparked new research in early detection so others can beat the odds.

Of the roughly 37,000 Americans diagnosed with pancreatic cancer each year, only 1 percent to 2 percent are alive five years later. Pancreatic cancer has the lowest survival rate of any cancer. Unlike breast, prostate and colon cancer survival rates, which have increased with better detection, those for pancreatic cancer remain largely unchanged.

Young's recovery altered his priorities in life and pushed him to raise money and awareness for pancreatic cancer research.

Five months ago, Young's efforts may have yielded the most meaningful contribution so far. The University of Georgia, Young's alma mater, was awarded a \$2.1 million grant from the National Cancer Institute.

Young's story was the catalyst that prompted UGA to go for the grant, teaming up with an Arizona genetics company that treated Young.

The UGA researchers are pursuing the holy grail of pancreatic cancer discovery: a simple blood test that could flag pancreatic cancer before it becomes untreatable.

Success is by no means assured — the science behind it is among the most complex in the world — and the test could require years and more funding to develop.

But J. Michael "Hawkeye" Pierce, the UGA biochemist leading the research, believes new technology for decoding the surface structure of cells gives them a chance.

Young has provided the team a powerful incentive, living proof that even the deadliest cancers can be beaten back if detected early.

"He's one of the 1 or 2 percent who has survived pancreatic cancer, and his mission is to not have the other 98 percent suffer," said Lance Wells, Pierce's collaborator.

### Critical timing

A combination of skilled care, cutting-edge medicine and sheer luck saved Young's life.

Young, a beer salesman, was returning from a business trip to Mexico in November 2002 when he came down with what he thought was a bacterial infection.

He saw his doctor when the pain persisted. A blood test ruled out hepatitis, setting up the CT scan of his abdomen.

Young's tumor, it turned out, was pinching one of the tiny ducts linking the pancreas to

the liver, causing bile to back up into his liver.

The location of the tumor proved critical for how early it was detected. Had it grown just two centimeters in any other direction, the duct might not have been pinched and the tumor could have grown unchecked.

Young's tumor was classified as stage one, the second lowest on the scale of severity. That made Young eligible for risky surgery to remove the cancerous portion of the pancreas.

But even if the surgery was successful, the surgeon told him, he had only a 20 percent chance of living three years.

In surgery the day after Christmas, doctors removed 60 percent of his pancreas. Complications slowed his recovery, but within months, Young was well enough to undergo chemotherapy followed by radiation.

Doctors prescribed medication to aid his digestion. From that point on, doctors told Young there was nothing left to do except watch and hope.

### A push for no return

Concerned about a recurrence, Young looked for alternatives.

The search took him to the Translational Genomics Research Institute in Phoenix, where a team of scientists and physicians was attempting to treat complex diseases with the latest discoveries in genetics.

Founded by scientists who helped map the human genome, TGen was part laboratory, part clinic. The institute was barely a year old when Young went for a consultation.

Dr. Daniel Von Hoff, the center's physician-in-chief, subjected Young to a battery of tests, looking for proteins and other "biomarkers" to indicate undetected cancer cells.

The tumor removed from Young's pancreas, tests showed, had high levels of epidermal growth factor receptor (EGFR), a protein associated with colon and other cancers.

Young underwent another round of drug treatment. So far, the medication seems to have worked. Last year, Von Hoff told Young he was cancer-free and directed him to his Atlanta internist for a physical.

Young got a bear hug when he walked in the door.

"I don't have many come back like that," the doctor said.

### Sharing and lending support

Time has taken on new meaning for Young since his diagnosis. He has stopped logging so many hours at the family business, and he makes sure he's home at night to see his wife and daughters.

Trite as he knows it sounds, he experiences each day as a gift, not to be wasted or soured with petty complaints. Simple things, like driving a car, are fun again. He doesn't get upset at traffic. "I was just so happy to be out," he said.

As a survivor, Young said he also felt an obligation to other cancer patients. He helped start a support group at his church. He became active in PanCAN, a pancreatic cancer support group, and shared his experiences with others diagnosed with the disease.

Three years ago, he started running the Peachtree Road Race in Atlanta to raise money for TGen, averaging \$50,000 each year.

Then two years ago, he mentioned his interest in cancer research to a contact at



Work takes up less of Howard Young's time. Five years after being diagnosed with pancreatic cancer, Young embraces his survival. PHOTO BY POUYA DIANAT / COX NEWS SERVICE

UGA, whose husband worked at the university's new Complex Carbohydrate Research Center. The university invited him to tour the labs, where he was introduced to Pierce and Wells.

Pierce, whose father died of cancer, told Young the center hoped to play a major role in the discovery of genetic and biomarkers associated with cancers. Young instantly thought of TGen.

He called Von Hoff, who invited Pierce and his team to Phoenix in the summer of 2006.

In Phoenix, the scientists and the doctors immediately hit it off. Pierce had state-of-the-art equipment in the UGA lab, but little access to serum and tissue samples on which to conduct tests. Von Hoff and TGen had access to hundreds of tissue samples, but not the equipment to quickly and methodically analyze them.

A third member of the group was Dr. John Cunningham, an endoscopist with the University of Arizona, who was able to collect pancreatic fluid from a variety of patients, including those with pancreatic cancer.

Over the next two months, the group put together a funding proposal for the National Cancer Institute.

Von Hoff warned his UGA counterparts not to get their hopes up. NCI funding was extremely competitive, he said, and it could take several tries.

The timing of the grant, however, coincided with a new push at NCI to put more emphasis on early detection for pancreatic cancer, using the kind of biochemistry studied in UGA's lab. The grant was funded.

### Road to early detection

The potential to save lives through early detection of cancer continues to be a tantalizing possibility, particularly for pancreatic cancer.

The disease is so deadly — 33,000 Americans die every year — because it efficiently eludes early detection.

Von Hoff believes that cancerous cells first started multiplying inside Young's body 20 years before showing up in his CT imaging scan in 2002.

"The only chance for cure right now is early detection and removal," Von Hoff said.

Today, the Prostate-Specific Antigen test for prostate cancer comes closest to realizing the dream. But the test by itself is sometimes

difficult to interpret. Men can have abnormal PSA levels without having prostate cancer.

Part of the difficulty has been that science has only begun to understand the infinite characteristics of cell biology and what changes take place when cells become cancerous.

Scientists now know that cancerous cells produce diseased proteins, or patterns of proteins, that don't resemble normal ones. The trick is figuring out the defining characteristics of the cancerous ones and isolating them from other proteins in the body.

To do that, UGA researchers plan to focus on carbohydrate threads attached to proteins produced by the pancreas.

Known as glycans, these threads exist in hundreds of variations, but the researchers believe they each have unique chemical sequences, or chains. Though the body contains thousands of individual proteins, the pancreas produces only about 300, simplifying the job of isolating them.

Nonetheless, the task is formidable. "This is probably the most difficult biochemistry in the world," Von Hoff said. "It's so difficult to understand the rules of these proteins and how they are put together."

Using samples collected by TGen and the University of Arizona, Pierce and his team will smash the proteins to bits, isolating each of their molecular parts. They want to find the signature of cancerous proteins. Then they will figure out how that unique signature shows up in the blood stream.

Howard Young plans to mark his five-year anniversary as he has every year — a family dinner with his Atlanta surgeon. He also helped organize the second annual "TeamHope Walk" in Atlanta on Nov. 11, a fund-raiser for pancreatic cancer.

In an odd way, his second lease on life has filled him with survivor's guilt.

He said he often feels that he hasn't done enough and ends a day at work wondering, "Did I really help someone today?"

He continues to attend cancer support group meetings. Many of those with whom he talks face a far different outcome than his own.

But he said that's why it's important.

"It's good for these other people to see you," he said. "All you need is one survivor for someone to say:

'That could be me. I could be the next guy.'"