For Anthony Shields, M.D., Ph.D., the desire to be a doctor manifested at a young age.

"I had to write about a career in ninth grade, and actually I wrote about becoming a surgeon," says Shields, who is now the associate center director for clinical research and program leader for developmental therapeutics at the Barbara Ann Karmanos Cancer Institute in Detroit. "I liked the combination of working with people and science that medicine brings to bear, and that led me to the clinical area."

After graduating from MIT in 1974 with B.S. degrees in biology and chemistry, Shields, a Michigan native, attended Harvard Medical School while pursuing his Ph.D in cell biology at MIT. His thesis as a Ph.D. was on the viruses that cause cancer, but, Shields says, it was the patients he worked with as a medical student that convinced him to make oncology his life's work.

"When I was in medical school, the patients I remember best are the patients who had cancer," he says.

At the time, there weren’t as many treatment options for cancer patients, and Shields recalls paying a house call to a woman with pancreatic cancer. As a student, he couldn’t do much more than hold her hand, but he was moved by the family’s appreciation of his efforts.

Since then, there have been many advances in the way cancer is treated, and Shields, who primarily treats patients with gastrointestinal tumors, including many with advanced colon cancer, is on the forefront of the medical community’s continuous efforts to better combat cancer.

His work with the Karmanos developmental therapeutics program focuses on the development and testing of tracers for use with positron emission tomography scans. As Shields explains, unlike computerized axial tomography (CAT) scans or magnetic resonance imaging (MRI), which primarily measure the size and location of tumors, PET scans provide a measurement of the tumor’s metabolism and growth. These scans are used not only to help detect tumors earlier but also to measure a patient’s response to different cancer treatments.

"If you can save the patient [from] an expensive and potentially toxic drug, the scans become very worthwhile," Shields says, noting that the drugs he prescribes can cost as much as $10,000 per month while PET scans, which used to be rare and very expensive, are now a couple of thousand dollars per scan.

With all the changes that are occurring in oncology, Shields, who is a professor of medicine and oncology at Wayne State University, says it is exciting to pass his knowledge on to the next generation of doctors.

"The successes that we’ve had – although I consider them still limited in oncology – to be fostered and improved upon," he says, "really need the next generation of students to take up the torch and figure out how to best employ what we’re doing right now and learn from it."

– Rebecca Stevens

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