

*Beth Overmoyer
functions under
many titles:
medical oncologist,
breast cancer
researcher,
advocate,
administrator,
clinician.*

*Whatever her
role is on a given
day, patient care
remains at the
fore.*



Fight for the Cure

by Patricia Faller

Beth Overmoyer views the dual nature of her work a “beautiful fit” that allows her to be deeply involved with breast cancer from two perspectives.

The medical oncologist divides her time between breast cancer research and patient care. She serves as director of breast cancer research at the Case Comprehensive Cancer Center, the link between research and patient care known as clinical trial research. She also treats about several hundred breast cancer patients as a staff physician at the comprehensive cancer center’s patient complement, University Hospitals Ireland Cancer Center.

In addition, she is an assistant professor of medicine at Case Western Reserve University School of Medicine, where she imparts her understanding of the two disciplines to the next generation of cancer specialists.

Dr. Overmoyer came to the center in 1998, taking a circuitous path from her plan to concentrate on hematology research. During her internship, residency, and research fellowship in hematology and oncology at the Hospital of the University of Pennsylvania, physician-mentors

Kevin Fox and John Glick not only supported her laboratory focus but also encouraged her to broaden her scope to include clinical research, specifically in breast cancer.

She entered the field at a significant time. Over the last twelve years, Dr. Overmoyer says, there has been an “explosion of understanding about the biology of cancer, and the development of an unbelievable array of new drugs: chemotherapy, hormonal therapy, targeting agents, and supportive therapy.” She also notes the rise of additional medications that protect against treatment side effects, and cites the reduction in infection and transfusions.

Then, she gives the bottom line: “Breast cancer patients with advanced disease used to live an average of only two to five years from time of metastasis. Now these patients can live close to ten years.”

Breakthroughs and Benchmarks

Dr. Overmoyer is in a rarefied tier of researchers, or investigators, who have the ability to start investigator-initiated trials. These are the researchers who originate the concepts, unique approaches, and

new applications that can become groundbreaking treatment.

At the Case Comprehensive Cancer Center, Dr. Overmoyer coordinates studies involving anti-angiogenesis agents (drugs that prevent cancer cells from developing blood vessels necessary for their growth), drug resistance, and epidermal growth factor receptor inhibitors or measurement of tumor cell destruction.

She is a member of the center’s Developmental Therapeutics Program, directed by Scot Remick, whose investigators work with the National Cancer Institute (NCI) to evaluate and implement new drugs that may facilitate the prevention and treatment of cancer. The NCI is the federal government’s principal agency for cancer research. Among its duties is to evaluate how to integrate high-tech cancer treatments into clinical practice.

Dr. Overmoyer is the recipient of a prestigious K23 grant from the National Institutes of Health (NIH) to support the development of her clinical research for breast cancer. This career-development grant, worth \$500,000 over five years, ties Dr. Overmoyer closely to her research mentor, Dr. Remick, who

helps facilitate clinical trials through the NCI. In essence, she explains, this clinical grant is designed to give physicians protected time to focus on their research.

“Dr. Overmoyer coordinates individual medicines to know the precise effect of a particular drug on the specific

patient,” says Stanton Gerson, chief of the division of hematology and oncology at University Hospitals of Cleveland. Patients in clinical trials receive the latest treatments before the therapy becomes a standard of care.

Dr. Gerson recruited Dr. Overmoyer for her position at the cancer center, one of only thirty-eight in

the country that hold the NCI’s highest designation of comprehensive cancer center (NCI-CCC). The NCI encourages teamwork within and among its comprehensive cancer centers, considered the leading edge of cancer research.

Some drug therapies work across all diseases. Others have smaller applications. “Our goal is to understand breast cancer similar to how we now understand leukemia, so we can tailor the therapy to the patient,” Dr. Overmoyer says.

The Case Comprehensive Cancer Center core breast cancer research group meets twice a month to discuss new research initiatives, she says, describing the cancer center as a collegial and collaborative environment of medical and surgical breast cancer clinicians and scientists.

On the clinical-care side, she meets frequently with Paula Silverman (MED ’81), director of the breast cancer program at University Hospitals of Cleveland (UHC), to ensure that standard breast cancer treatment proceeds as it should for optimal patient care.

Collaboration continues within the cancer center’s multidisciplinary teams. A medical oncologist often is a patient’s primary physician. As such, Dr. Overmoyer presents patient cases at weekly breast cancer tumor boards where about thirty breast cancer specialists in all related disciplines—from medical oncology to radiation oncology, and from surgery to social work—contribute their own expertise. They review each patient’s history, view pathology slides and mammography films, examine past treatment, consider clinical trials, and discuss therapeutic options. Together, they reach consensus on a treatment approach for each patient.

“Breast cancer is a local and systemic disease,” she explains, “so patients need integration with radiation therapy, surgery, and medical oncology at various stages of their disease. We

are successful at Case/UHC because we talk about the optimal treatment plan for the patient.”

A Personal Touch

In one-to-one relationships with her patients, Dr. Overmoyer tracks tests and procedures. Patients call her to ask questions about everything, she says, adding that she understands patients need reassurance.

That means a high degree of responsibility, but it is comfortable territory for Dr. Overmoyer. The youngest of three children, she grew up in a family that had to work hard to make ends meet. Her mother, Maimu, emigrated from Estonia to the United States after World War II. Her father, Lloyd, often had to travel to find a secure job, so the family moved frequently, finally settling in Rochester, New York.

Dr. Overmoyer believes that the combination of the family’s financial insecurity and her own sense of responsibility played a role in her choosing a medical career. She adds, laughing, “I knew I wanted to become a doctor by the time I was four, but my mother insists she had begun convincing me that my future was in medicine while I was still in the womb.

“But I understood early that being a doctor would provide a productive, solid means of employment, and that was a constant consideration for us. I knew that as a doctor I could take care of my family.”

In 1982, she became the first member of her family to earn a college degree, a B.A. in biology, with honors, and anthropology from Case Western Reserve University. She then entered

THE OVERMOYER FILE

- Residence: Cleveland Heights, Ohio
- Family: husband, Joseph P. Frolkis (MED ’80), chief of general internal medicine and healthcare research, University Hospitals of Cleveland; associate professor of medicine, Case School of Medicine; four children, including two stepdaughters
- Interests: cooking, exercise (“can’t do the second without the first”), listening to jazz, reading novels and history; strongly supports the arts in Cleveland
- People she most admires: “I admire my patients and their strength; my mother, who had a difficult life and still acts like she’s forty; the women who fought for equal rights and birth control.”
- Credo: “I am a strong believer in equality for all people and peace.”

its School of Medicine, earning her M.D. in 1986.

At the University of Pennsylvania Health System, where she completed her residency in internal medicine and fellowship in hematology/oncology, Dr. Overmoyer focused on basic leukemia research until an opportunity in Penn's new Breast Cancer Evaluation Center intrigued her. During a yearlong American Cancer Society Clinical Oncology Fellowship emphasizing translational medicine, she saw the connection between research and clinical care; work with patients in the breast clinic revealed her affinity for it. She returned to Cleveland in 1993, to head the Cleveland Clinic Foundation's breast cancer program, a position that combined research, administrative, and clinical duties.

Five years later, she returned to her alma mater. Her growing reputation had caught the attention of physician-scientists who were committed to developing a cancer-research program of national stature.

New Horizons

At any given time, Dr. Overmoyer is involved with ten to fifteen studies originated by the Case Comprehensive Cancer Center, the NCI, and pharmaceutical companies. One is a phase II study of the anti-angiogenesis drug bevacizumab, in combination with the chemotherapy drug docetaxel, to treat locally advanced breast cancer, including inflammatory breast cancer (IBC), an aggressive cancer of special interest to Dr. Overmoyer.

"IBC is a unique subtype of breast cancer that is even more poorly understood than other subtypes. It poses both a clinical challenge and a

scientific challenge, with potentially great rewards," she says.

Dr. Overmoyer believes the combination of docetaxel and bevacizumab has potential for breast cancer. This, despite bevacizumab's showing toxicity in certain lung cancers when used with other therapeutic agents. The investigator's finesse comes into play when she is able to see potential in a drug or therapy that may ultimately lead to treatment innovations.

"Bevacizumab has been evaluated in many different diseases and has shown small benefits, in terms of halting the development of cancer cells," she says. "Targeting agents, which attach to specific cells, bring another type of benefit by killing cancer in a novel way. We need to see how best to combine these agents with their small benefits in order to produce a larger clinical benefit without toxicity."

Sometimes, though, potential is shortchanged. Despite an early trial showing another anti-angiogenesis drug to be highly effective to treat IBC, the pharmaceutical company ceased manufacture because of the drug's disappointing results in other clinical trials.

"I have many patients who have benefited from this drug," she says. "One patient's husband came to me when the drug was pulled out of the market. He was terribly upset and wanted to know how that could happen and what he could do. I told him to contact his representatives in Congress and let them know how important it is to keep drugs that affect people's lives available, even at a lower profit margin."

How does Dr. Overmoyer cope with situations like this?


"There is something new on the horizon every day. I always like to have a treatment option up my sleeve," she says.

Dr. Gerson agrees, saying, "She is not happy for a day when medical science cannot provide the treatment her patients need. She always tests the limits and comes up with things to try."

The Fight Continues

When Beth Overmoyer talks, she leaves no doubt that she intends to remain on both fronts in the fight against breast cancer. She uses each of the two aspects of her job to balance the intensity of the other. She knows that her passion for science, and the clinical trial results that flow directly from it, can ultimately benefit breast cancer patients everywhere.

On the other hand, she says, "While I have always had a scientific interest, my heart is in clinical medicine, and I need the immediacy of patient care to remind me that, in medicine, science most always has a human face." In the case of breast cancer, that human face can be extremely psychologically demanding, she says. "I become very attached to my patients and their families, and without the break provided by scientific research, I could not continue clinical care."

Science provides her the distance she needs to maintain perspective. As does advocating for and building strong relationships with her patients. "I would be a fool not to learn how wonderful life is from my patients. It is a gift my patients give to me." 

Patricia Faller is a Cleveland-based medical writer.

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