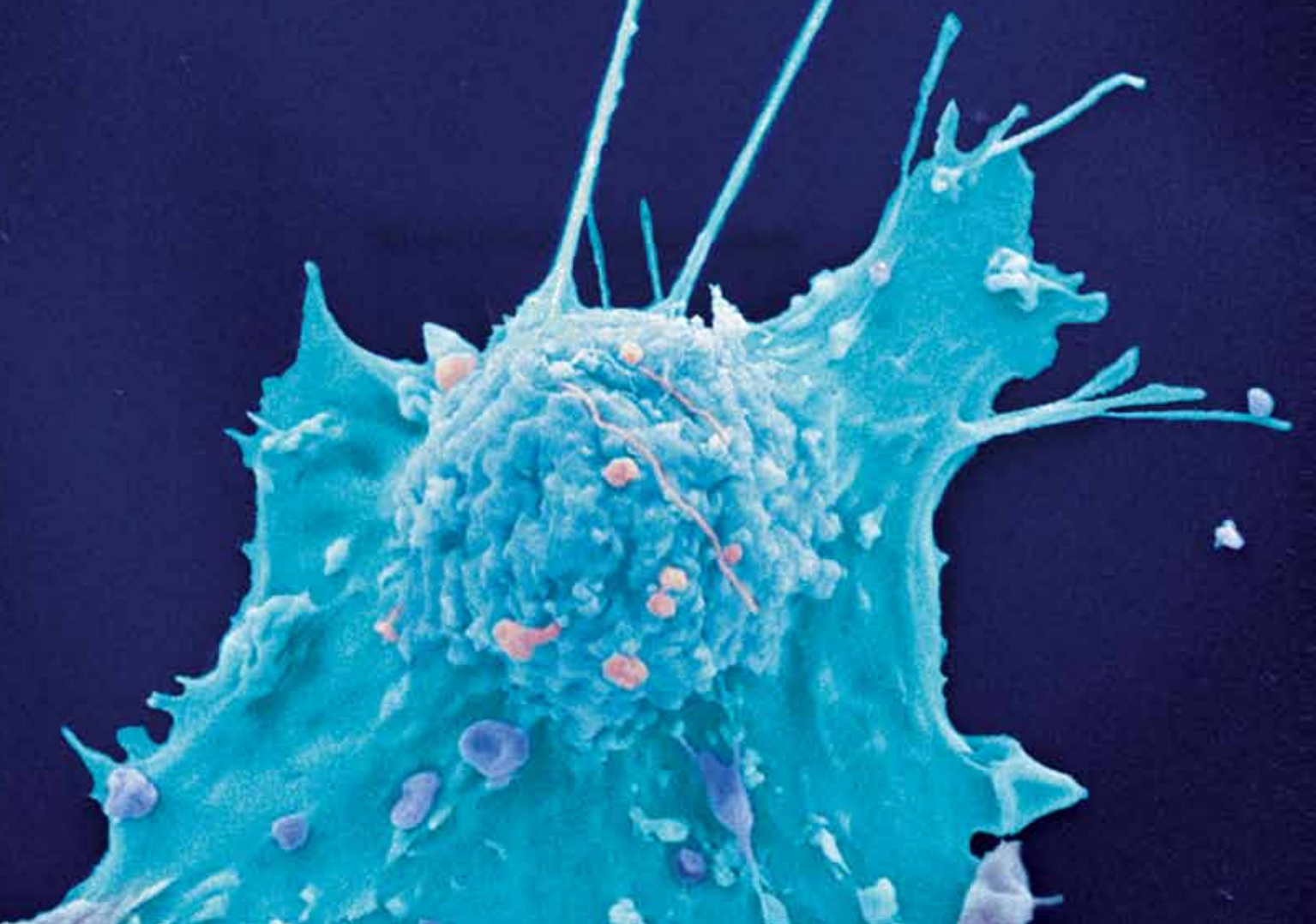


# IT TAKES A VILLAGE

The new Women's Cancer Research Center aims to change the face of oncology. Its strategy: teamwork.

— By Anna Dubrovsky



## On the final Friday of each month, surgeons, medical oncologists, and basic scientists gather at Magee-Womens Research Institute for something akin to a book club.

Instead of dissecting Michael Chabon's newest bestseller or Oprah's latest pick, they study a published paper on breast or gynecologic cancer, glean ideas that may improve their work — and ultimately the lives of women in Western Pennsylvania and beyond.

It may sound mundane, but Journal Club, which kicked off in January, is rather monumental. It's not often that clinicians and scientists come together. The former spend much of their lives in hospitals, while the latter hole up in labs. They may share a common mission but not a common language. Getting them in the same room, on the same page, takes a special talent, and it's one that Adrian V. Lee, PhD, director of the new Women's Cancer Research Center (WCRC), has in spades.

Less than a year old, WCRC has an ambitious agenda: reducing the incidence of breast and gynecologic cancers, developing novel therapies, motivating outstanding MDs and PhDs to dedicate themselves to women's cancer research, and cementing Pittsburgh's reputation as a bastion of cutting-edge health care. Journal Club is part of a strategy that rests on open communication and cross-disciplinary collaboration. "It takes a village to do this," Dr. Lee says. "It sounds corny, but it's true."

WCRC is itself the product of a unique collaboration between Magee-Womens Research Institute (MWRI), Magee-Womens Hospital of UPMC, and the University of Pittsburgh Cancer Institute (UPCI). MWRI and Magee-Womens Hospital are across-the-street neighbors in Oakland; UPCI makes its home in Hillman Cancer Center in Shadyside. Both MWRI and UPCI are national leaders in health research. MWRI has attracted more than \$185 million in funding from the National Institutes of Health and

other sources since its inception in 1992. Founded in 1985, UPCI is one of only 40 National Cancer Institute-designated Comprehensive Care Centers in the country and the only one in Western Pennsylvania. Just two miles apart, the powerhouses kept mostly to themselves before Dr. Lee and his wife, Steffi Oesterreich, PhD, both highly respected breast cancer researchers, were recruited to Pittsburgh last year.

British-born Lee and German-born Oesterreich met in the early 1990s in San Antonio, Texas, then home to one of the world's foremost breast cancer groups. In 1999 the research group was acquired by Baylor College of Medicine in Houston. There the couple helped develop a breast cancer center with clinical and research components.

After 18 years in Texas, Drs. Lee and Oesterreich and their two

daughters were ready for a change.

Though the couple had their pick of breast cancer research centers, they were drawn to Pittsburgh, a city without one. One reason: its ranking as the most livable city in America. The researchers were also impressed with Nancy E. Davidson, MD, director of UPCI and the 38-site UPMC Cancer Centers network. A renowned breast cancer oncologist, Dr. Davidson served as director of the breast center at the

Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins in Baltimore before being recruited to Pittsburgh in 2009.

One of the main attractions was Magee-Womens Hospital, which has been providing woman-focused health care for a century. Recognized as a National Center of Excellence in Women's Health by the U.S. Department of Health and Human Services, Magee performs more than 95,000 mammograms and diagnoses or treats more than 1,300 breast cancer patients per year. Even before the hospital had a sizable clinical program, it was presciently preserving samples of cancerous tissue. "We have archival specimens going back to the 1960s," says Robert Edwards, MD, co-director of WCRC, who started a formal tissue bank when he joined Magee in 1994. "We were way ahead of the curve on that. Not many places had a formal tissue bank in '94." Adds Dr. Lee: "Access to breast and gynecologic cancer tissue is perhaps one of the most important components of the translational research WCRC will perform."

## In creating the Women's Cancer Research Center, they broadcast their conviction that collaboration is king.

### WOMEN'S CANCER RESEARCH CENTER NEW HIRE:



#### Wendie A. Berg, MD, PhD, breast imaging expert

Dr. Berg is an influential imaging expert who led a major clinical trial investigating the roles of ultrasound and MRI as adjuncts to mammography in breast cancer screening. She has joined the Department of Radiology, University of Pittsburgh School of Medicine, as a professor.

Drs. Lee and Oesterreich saw more in Magee than high-volume cancer care and diligent tissue banking. “There’s an outstanding set of collaborative clinicians — oncologists, surgeons, radiologists, pathologists — who are onboard for translational research,” says Dr. Oesterreich, director of education for the research center. “Very often it’s difficult to get the MDs working with the PhDs. If you don’t have clinicians who say, ‘Yes, we want to do this, and we’ll help you to move forward,’ you can’t do good translational research.”

Dr. Davidson seized the opportunity to add Drs. Lee and Oesterreich to UPCI’s roster. But it made more sense for the researchers to be based at MWRI, a stone’s throw from Magee-Womens Hospital, than at Hillman. “It’s a perfect fit to have this research program within a research institute on women’s health that’s next to a hospital that does the majority of women’s cancer treatment,” Dr. Lee says.

## Equal Billing

With the exception of non-melanoma skin cancer, breast cancer is the most common cancer among women in the United States. Last year alone, there were an estimated 207,090 new cases and nearly 40,000 deaths among U.S. women, according to the National Cancer Institute. “Everyone knows someone with breast cancer,” says Dr. Lee, whose mother is a 10-year survivor. Understandably, breast cancer research gets a lot of press — and funding. It wouldn’t have surprised the research community if UPCI and MWRI had announced the formation of a breast cancer research center. But the institutes took a different tack. In creating the Women’s Cancer Research Center, where ovarian and other gynecologic cancers share billing with breast cancer, they broadcast their conviction that collaboration is king. “We have the philosophy that if you can do something together as a team, you will be more successful as compared to working on your own and hiding data with the goal of being the first to report something,” Dr. Oesterreich says. A breakthrough in breast cancer research can shed light on the nature of gynecologic cancers and vice versa.

MWRI has devoted an entire wing of the fourth floor of its seven-story, 125,000-square-foot facility to women’s cancer research. “The close proximity of the hospital to the research, and the fact that all researchers are situated on one floor, is an enormous advantage for communication and collaboration,” Dr. Lee says.

The researchers who make up WCRC have diverse interests. Dr. Lee is known for his work in growth factor signaling pathways in breast cancer. To put it in lay terms, he looks at what drives the growth of cancer cells. Dr. Oesterreich investigates why some breast tumors respond to hormone therapy while

many don’t or become resistant over time. Dr. Edwards, a gynecologic oncologist who splits his time between patient care and lab research, specializes in intraperitoneal (within the peritoneal cavity) therapies for ovarian cancer and therapeutic vaccines for ovarian, cervical, and endometrial cancers.

Other WCRC members include Kristin Zorn, MD, who studies epithelial ovarian cancer, the most lethal gynecologic cancer; Thomas Krivak, MD, whose interests include chemotherapy resistance in ovarian cancer and; Xin Huang, PhD, who identifies biomarkers that can help doctors detect ovarian cancer earlier and better predict patient outcomes. Member Anda Vlad, MD, PhD, has created strains of mice that spontaneously develop ovarian cancer. Such a mouse model “doesn’t exist anywhere else in the country except at Mass General” in Boston, Dr. Edwards says. “It’s very important that donors and the local scientific community realize the importance of having animal models that develop spontaneous ovarian cancer. You can take ovarian cancer and inject it into mice, but it doesn’t behave like ovarian cancer does when it develops in a woman. [Dr. Vlad’s mouse] cancers behave exactly like what we see clinically.”

## The Next Generation

With so many talented investigators under one umbrella, it’s no wonder Dr. Lee expects “to have a rapid and major impact on reducing the burden of these diseases.” But he’s thinking even bigger. A major goal of WCRC is to develop a vibrant training program that increases the ranks of women’s cancer researchers. Ultimately, Dr. Lee envisions a graduate program in cancer biology at the University of Pittsburgh.

As director of education, Dr. Oesterreich has a bag of tricks that includes Journal Club, mentorship committees, a weekly forum for trainees to discuss their own research, and even happy hours. “Something you can’t force but you can certainly foster is social interaction between trainees,” she says. “I think that’s critical. You will go to other places and be amazed to find that trainees don’t know each other. So we would like to make sure that there are platforms for them to interact, which in the long run will help their research.” In May, WCRC is hosting its first retreat. Clinicians and established and budding researchers will mingle, share meals, and discuss cancer research at a local conference center.

Raising money to train young investigators and get their research off the ground is one of the research center’s greatest challenges. “The government funds research, but it really funds research that is already established,” Dr. Lee says. “If you want to get something started from scratch, it’s very hard to get it funded. If you have a brand new, novel idea, then that’s where philanthropy is really critical.”

Philanthropy also affords the sophisticated equipment that makes today’s cancer research possible. “The laser capture microscopes, the flow cytometers, the high-throughput immunoassay system — those are all provided by oncology donors,” Dr. Edwards says. “Donor support helps build the program.”

As Dr. Lee would say, it takes a village. ♦ ♦



## An Ounce of Prevention

Breast and gynecologic cancers are more likely to be curable when detected early. Experts at UPMC Cancer Centers recommend the following measures:

- **Breast exam: Perform one every month.**
- **Clinical breast examination: Undergo one once a year.**
- **Screening mammogram: Beginning at age 40, have one once a year.**
- **Pelvic exam: Begin when you turn 18 or become sexually active, whichever is earlier, and continue once a year.**
- **Pap smear: Begin three years after the start of sexual activity or at age 21, whichever is earlier, and continue as recommended.**

\*These guidelines are for women without symptoms or a family history of breast or gynecologic cancer.

From left: Robert Edwards, MD,  
Steffi Oesterreich, PhD, Adrian Lee, PhD