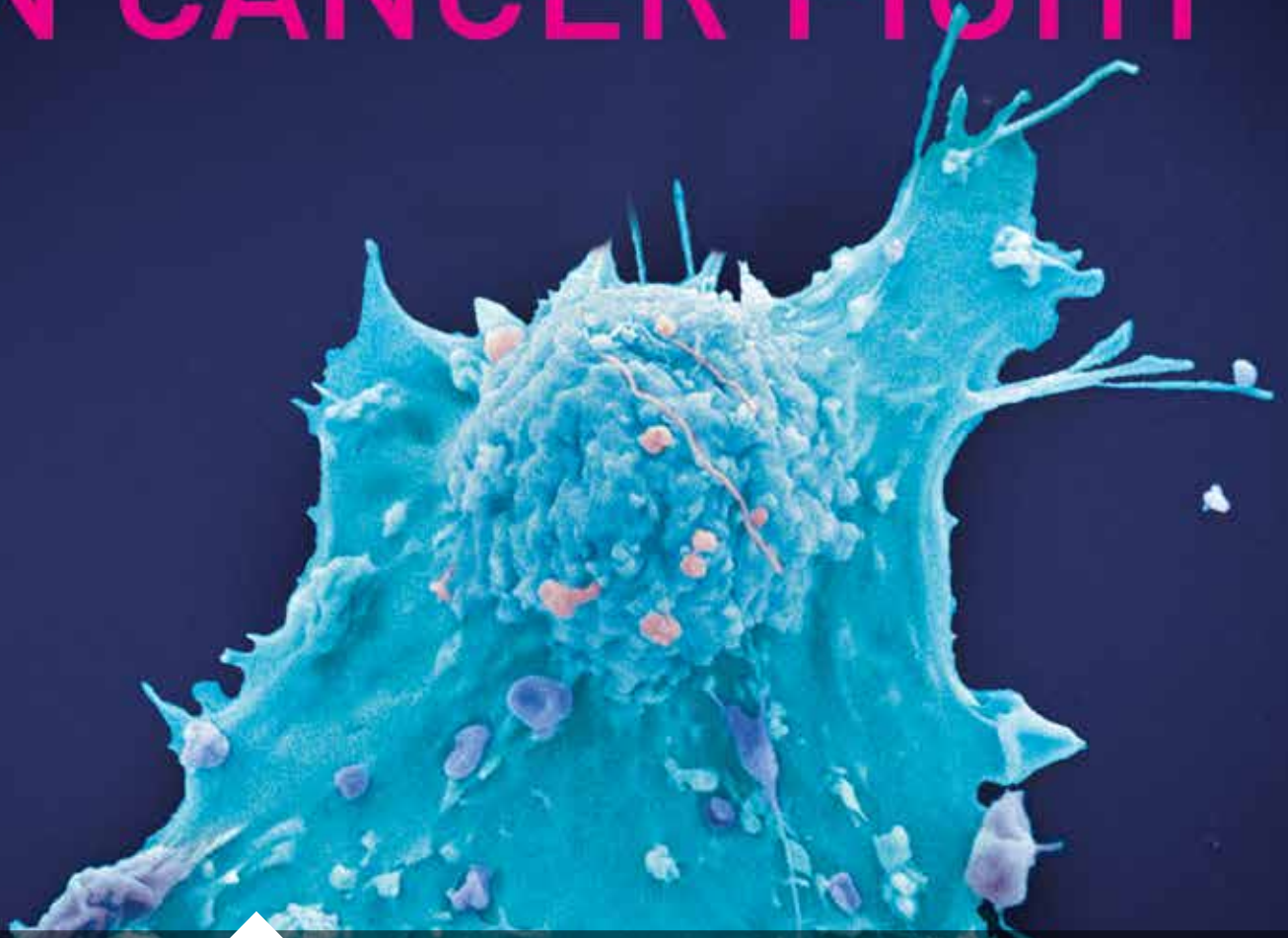


MAGEE

SPRING 2011

A PUBLICATION OF MAGEE-WOMENS RESEARCH INSTITUTE & FOUNDATION

INTRODUCING THE NEW HEAVYWEIGHT IN CANCER FIGHT



Magee-Womens Hospital of UPMC
EXPANDING UPWARD



PANERA BREAD
Raises Dough for Research

FETAL THERAPY PROGRAM
Delivers Miracles

06

MAGEE

VOLUME 1 | SPRING 2011

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If you have comments regarding the publication or would like additional copies, please email info@mwrif.org.

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Thank you for your continued support of Magee-Womens Research Institute & Foundation.

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Postplacental or delayed levonorgestrel intrauterine device insertion and breastfeeding duration

Chen BA, Reeves MF, Creinin MD, & Schwarz EB

Accepted for publication in *Contraception*

[APR. 2011]

Genomic analysis using high-resolution single nucleotide polymorphism arrays reveals novel microdeletions associated with premature ovarian failure

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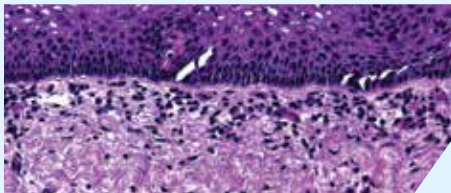
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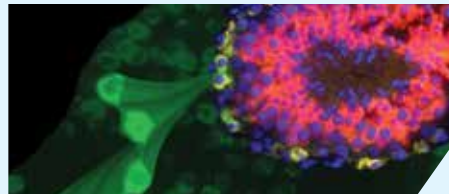
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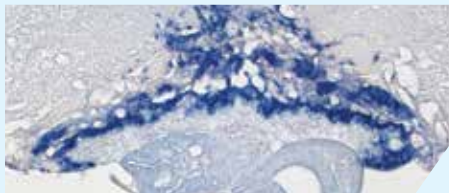
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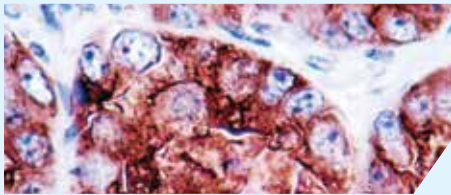
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Bodnar LM, Himes KP, Venkataramanan R, Chen JY, Evans RW, Meyer JL, & Simhan HN

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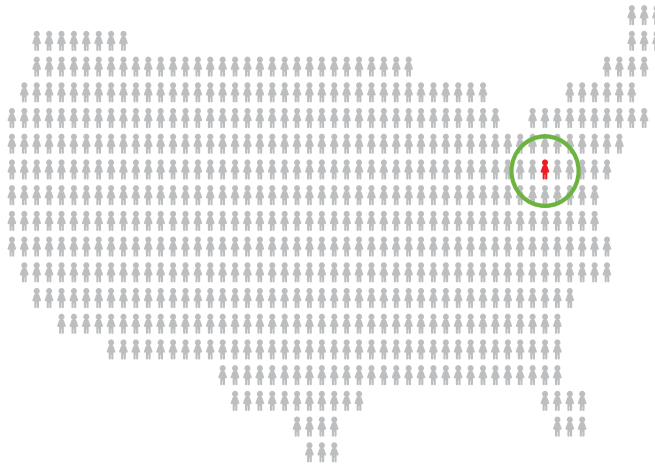
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[IN PRESS]

Fatty acid binding protein 4 regulates intracellular lipid accumulation in human trophoblasts

Scifres CM, Chen BS, Nelson DM, & Sadovsky Y

J Clin Endocrinol Metab



Hyagriv Simhan, MD, MS, and Arun Jeyabalan, MD, MSCR, of Magee-Womens Hospital of UPMC are involved in the National Children's Study in Westmoreland County, Pennsylvania, the largest long-term investigation of children's health, growth, and development ever conducted in the U.S. The study is a project of the Department of Epidemiology at the University of Pittsburgh.

In the News



Beatrice Chen, MD, MPH,

Was interviewed by Reuters Health about her study, "Post-delivery IUD an option: study," as published in the November issue of *Obstetrics & Gynecology*. The study found that inserting an intrauterine device (IUD) immediately after vaginal delivery is a reasonable option.

For the most up-to-date news and happenings, visit www.mwrif.org.

Rising Stars

MWRI Researchers Take Center Stage at National Meeting on Women's Cancers

The following Magee-Womens Research Institute trainees presented at the annual meeting of the Society of Gynecologic Oncologists, held in Orlando, Florida, in March.

Ebony Hoskins, MD, a 3rd-year gynecologic oncology fellow

Detection of tissue derived biomarker Peroxiredoxin 1 in serum of ovarian cancer patients: a biomarker feasibility study

Epithelial ovarian cancer tumor microenvironment is a favorable biomarker resource

Jamie Lesnock, MD, a 2nd-year gynecologic oncology fellow

Consolidation Paclitaxel is more cost-effective than Bevacizumab following upfront treatment of advanced ovarian cancer

Palliative care education in gynecologic oncology: a survey of the fellows

Proteomic analysis demonstrates *BRCA1*-deficient epithelial ovarian cancer cell lines activate alternative pathways following exposure to Cisplatin

Bunja Rungruang, MD, a 2nd-year gynecologic oncology fellow

Should stage IIIC ovarian cancer be further stratified by intraperitoneal vs. retroperitoneal only disease?

Malgorzata Skaznik-Wikiel, MD, a 1st-year gynecologic oncology fellow

Abnormal cervical cytology in the preoperative diagnosis of uterine papillary serous carcinoma: Earlier detection of a poor prognostic uterine cancer?

Cervical cancer screening in elderly patients: Should we discontinue screening at age 70?

Intraperitoneal chemotherapy for recurrent ovarian cancer appears efficacious with high completion rates and low complications

Dissertation

Nisa Ghonem successfully defended her PhD dissertation under the guidance of Raman Venkataramanan, PhD, in December. The dissertation was titled "Treprostinil for protection of liver graft against ischemia and reperfusion injury during orthotopic liver transplantation-A translational study."

Institute News

Core Equipment Upgraded

The Histology and Microscopy Core at Magee-Womens Research Institute has been upgraded. It now boasts a Bond-Max immunostaining system from Leica and a Palm MicroBeam laser capture micro-dissection (LCM) system from Zeiss. The upgrade was made possible by individual gifts, winnings from a PUMA contest, and grant money.

The LCM system enables researchers to isolate specific cells (e.g., ovarian cancer cells) from a complex tissue specimen such as a biopsy. A built-in laser cuts out the cells of interest, leaving the rest of the specimen intact for further analysis. The technique produces an uncontaminated sample that is optimal for protein and gene analysis.

The immunostaining system allows researchers to examine 75 cancer tissue samples at a time, as opposed to 10 to 12 in the past, with increased



consistency and improved quality control. The equipment will be used for projects evaluating more than 800 ovarian cancer patients' tumors.

What do these equipment upgrades mean?

These upgrades provide opportunities for our researchers to participate and collaborate in additional large-scale national clinical trials, which are critical to cancer prevention, detection, and treatment. For information about supporting our researchers' equipment needs, contact Ann Felter, major gifts officer, at 412.641.8923 or feltera@mwri.magee.edu.

— Andrea Romo

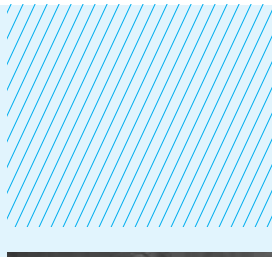
For the most up-to-date news and happenings, as well as funding opportunities, visit www.mwrif.org or call 412.641.8977.

Recognizing Excellence



Thomas Krivak, MD,

was featured in the December issue of *Whirl* magazine and appeared on Pittsburgh Today Live on January 5. The article and news segment focused on an October event that benefited his ovarian cancer research.



James M. Roberts, MD,

will be involved in an international research project funded by a four-year \$7 million grant from the Bill & Melinda Gates Foundation. The researchers will test new strategies for the monitoring, prevention, and treatment of pre-eclampsia, a disease that causes more than 500,000 fetal and newborn deaths annually.

He also received the 2011 President's Distinguished Scientist Award on March 18 during the presidential address and awards ceremony at the Society for Gynecologic Investigation's 58th annual meeting in Miami Beach, Florida. The annual award is given to a senior investigator who has made significant and lasting contributions to scientific research and reproductive medicine.



Mitch Creinin, MD,

is leaving the University of Pittsburgh's Department of Obstetrics, Gynecology & Reproductive Sciences. He has accepted a position as chairman of the Department of Obstetrics and Gynecology at the University of California Davis, effective July 1.



Brian Hermann, PhD,

will be leaving Magee-Womens Research Institute to start his own lab at the University of Texas at San Antonio. He has accepted a tenure-track assistant professor position in the Department of Biology, effective July 1.



Kristin Zorn, MD,

was appointed to the National Cancer Institute's Gynecologic Cancer Steering Committee.



Kyle Orwig, PhD,

was the subject of an Associated Press article, "Doctors aim to save fertility of kids with cancer," that was widely published.



Raman Venkataramanan, PhD,

received the American Pharmacists Association's Tyler Prize for Stimulation of Research in March. He was also elected as an Executive Committee member of the American Association of Pharmaceutical Scientists from November 2010 to October 2013.



Katherine Wisner, MD, MS,

received the American Medical Women's Association's Woman in Science Award for 2011. The award is given to a female physician who has made exceptional contributions to medical science, especially in women's health, through basic and/or clinical research, publications, and leadership in her field. The award was presented at the Association's annual meeting in Washington, D.C., on April 2.



Yoel Sadovsky, MD,

and David Kanter, MD, a maternal-fetal medicine fellow, received pilot funding from the Center for Medical Countermeasures Against Radiation for a study, "The influence of ionizing radiation on trophoblast differentiation and function," that will assess radiation-induced trophoblast injury and the impact of external radiation on pregnancy through investigation of mouse models.

MEET THE NEWEST MEMBER OF THE TEAM



MinJae Lee, PhD

Magee-Womens Research Institute welcomes MinJae Lee, PhD, a research instructor in Obstetrics, Gynecology & Reproductive Sciences specializing in biostatistics.

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



Growth Spurt

No longer just a “baby hospital,”
Magee will celebrate its centennial
by adding two state-of-the-art units.

— By Anna Dubrovsky

Architectural sketch
of rear hospital expansion

When Rose Weadon began her nursing career at Magee-Womens Hospital, dads weren't allowed in the delivery room.

The year was 1968, a trolley barn stood next to the hospital, and patients slept in wards—large rooms with as many as 10 beds. Weadon, who worked the night shift in the labor and delivery unit, timed contractions by placing her hand on women's bellies.

Now, as she approaches retirement, dads are more than welcome in the delivery room. Almost all patients get private rooms. The trolley barn has given way to a parking lot, and sophisticated monitors measure the time between contractions. "I've seen a lot of changes," says the 64-year-old nurse, who now works in the operating room. Some of the advancements blow her mind. "A few weeks ago there was a case where one twin was getting more blood than the other one [in utero], and the surgeon did this laser procedure. My God, it was amazing. I had never seen anything like that." (See "Surprise Surprise" on Page 16 for more on twin-to-twin transfusion syndrome and Magee's fetal intervention program.)

Once known as Pittsburgh's "baby hospital," Magee now offers treatment for breast and gynecologic cancers, imaging services, plastic surgery, orthopaedics, and more. Today, as it celebrates its 100th anniversary, the hospital is at the threshold of another big change: a \$33 million expansion prompted by an increase in birth volumes and heavily influenced by feedback from patients and their loved ones. The project, which is expected to be completed in May 2012, will add two stories to a three-story section of the hospital and more than double the number of critical-care beds. It will be the first in Magee history to meet the U.S. Green Building Council's LEED (Leadership In Energy and Environmental Design) standards.

Once known as Pittsburgh's "baby hospital," Magee now offers treatment for breast and gynecologic cancers, imaging services, plastic surgery, orthopaedics, and more.



When Weadon began working at the hospital, "we had babies galore," she recalls. "We were very, very busy. And then there was a decline." Indeed, as Pittsburgh's population plummeted in the latter half of the 20th century, so did the number of births at Magee. Annual deliveries dropped from 10,000 in the 1980s to 6,500 in the 1990s. In response, the hospital transformed a 28-bed obstetrical unit into an oncology unit.

In recent years, however, the number of deliveries has returned to 10,000 annually, despite the fact that Pittsburgh's population continues to decline. "It's not because there's an increase in the birth rate in this area. It's because other hospitals have closed their obstetrical services," explains Linda Antonelli,

vice president of facilities at Magee. UPMC Passavant, UPMC Shadyside, and UPMC McKeesport are among the hospitals that have gotten out of the baby-delivery business. Magee, which became part of the University of Pittsburgh Medical Center in 1999, now handles nearly half of all births in Allegheny County.

The two-unit addition will hold 42 beds, bringing Magee's total to 360. The fourth-floor unit will be a 14-bed state-of-the-art intensive care unit, or ICU. The fifth-floor unit, with 28 beds, will accommodate patients with breast and gynecologic cancers. An existing oncology unit will be transformed into an obstetrical unit, increasing the number of ob-gyn beds to 112. The expansion will create roughly 100 full-time hospital jobs.

The two new units will hold 42 beds, bringing Magee's total to 360.

The fourth-floor unit will be a state-of-the-art intensive care unit.

The fifth-floor unit, with 28 beds, will accommodate patients with breast and gynecologic cancers.

“We’re down to a patient in a room by themselves with a sofa sleeper — unbelievable.”

— Rose Weadon, Magee nurse

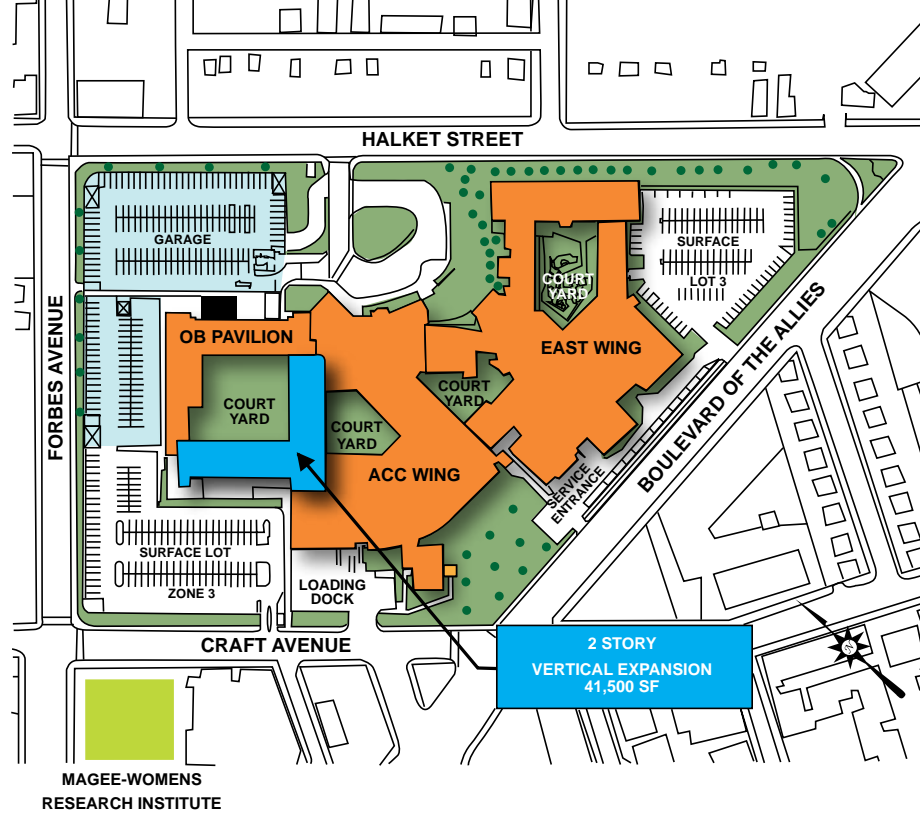
The new ICU rooms will be unlike any Weadon has seen in her 43 years of nursing. Like regular ICU rooms, they will be equipped with the technologies needed for tending to the most critically ill patients. Unlike regular ICU rooms, each will have an attached bathroom and other features of a typical patient room. Known in the health care industry as acuity-adaptable rooms, they dramatically alter the patient experience. Instead of enduring a transfer every time they require a different level of care, patients can stay in the same room from admission to discharge.

“Normally, as patients begin to recover, they would be transferred from the ICU to step-down and then transferred from step-down to a regular unit,” Antonelli says. “They have to move three times. That means you have to clean that room three times. Acuity-adaptable rooms are supposed to save all of that effort. Plus, from an infection-control perspective, it’s much better to keep the patients in one location.”

Keeping patients in one location also enhances employee safety. “A lot of employee injuries are from lifting patients—or trying to,” Antonelli says. Each of the ICU rooms will have a ceiling-mounted patient lift, which is especially useful in bariatric cases. Magee performs nearly 1,000 surgeries for morbid obesity each year.

Weadon believes the new-generation rooms, with all their bells and whistles, will bring back the patient-caregiver camaraderie of olden days. “Just think about the patients: They don’t have to move from place to place. They get to know their nurse and the people sharing the floor with them. That always helps a lot as far as recovery. And families feel more secure if they know who the nurse is. They’ll be more confident.”

Families will also be more comfortable. Each of the new rooms will have a sofa that converts to a bed. Rooms in the oncology unit will feature a “family zone” with a table, outlets for charging laptops and other devices, and lighting that doesn’t disturb the patient. Both of the new units will boast a family lounge with comfortable furniture, a television,



lockers, and a kitchenette. Plans call for two meditation rooms where patients and families can find a serene atmosphere and pamphlets with health and counseling information.

Construction plans also take into account patient concerns about room temperature and noise levels. The new rooms will have thermostats so that patients can adjust the temperature. Designers are looking into acoustical ceiling tiles and other sound-absorbing products.

Weadon plans to hang up her scrubs at year’s end, but she’s looking forward to seeing the new units as a visitor. The hospital rooms of tomorrow have more in common with hotel suites than the wards she once worked in. “We’re down to a patient in a room by themselves with a sofa sleeper—unbelievable,” she marvels. “That is really wonderful.” ☐ ☐

Naming Opportunities for Donors

Magee's expansion creates opportunities for donors to leave a lasting legacy by naming a patient room, family lounge, or other space in the two-story addition.

Educational Work Rooms

Magee's medical professionals will receive additional training in these rooms, which will have:

- AV equipment
- Wi-Fi access
- Work stations
- Conference area

Family Lounges

These comfortable and intimate waiting areas will have:

- TV
- Wi-Fi access
- Comfortable seating
- Kitchenette

Meditation Rooms

Designed for patients and visitors of all faiths, these rooms will have:

- Peaceful atmosphere for private prayer and conversation
- Pamphlets with vital health and counseling information

Private Patient Rooms

Private Patient Rooms will include:

- Full bath with shower
- Flat-screen TV
- Sleeper sofa
- Thermostats for climate control
- Hand washing sink for medical professionals

Specialty Patient Rooms

These larger rooms will comply with Americans with Disabilities Act requirements and will have:

- Patient lifts
- Features that allow for isolation of infectious patients

To discuss naming opportunities which start at \$10,000, contact Ann Felter at 412.641.8923 or feltera@mwri.magee.edu.

SURPRIS SURPRIS

Magee has one of the nation's top fetal intervention programs.
But hardly anyone knows it.

— By Anna Dubrovsky



EE



Kelly Finley embracing her babies
Irelynn and Cassandra

Kelly Finley's year has been full of surprises. Last April, she was surprised to learn that she was pregnant. The New Castle, Pennsylvania, native already had a 2-year-old daughter, a 4-month-old son, and an appointment for an intrauterine contraceptive device. A couple of weeks later, she was surprised to learn that she was carrying twins.

These were unhappy surprises; her family of four was everything she'd hoped for. "I cried the first three months," she says. "I was selfish, thinking, how am I going to do this?"

The next surprise turned her world upside down. Seventeen weeks along and increasingly uncomfortable, she paid a visit to a high-risk obstetrician in Boardman, Ohio, just across the state line from New Castle. "I was throwing up all the time, and I couldn't understand why I felt so heavy. They weighed me, and I had gained 10 pounds in two weeks." An ultrasound revealed why: twin-to-twin transfusion syndrome, which occurs when blood is transferred disproportionately from one fetus to the other. The rare complication, which only affects identical twins that share a placenta, can result in the death of both. "I had what the doctor called the worst case of twin-to-twin transfusion he had seen at 17 weeks, and he's been in practice for 30 years," Finley recalls. "He shook his head, and he hugged me, and he said you have until tomorrow morning to make a decision."

Suddenly, she was no longer terrified at the prospect of having two more children. She was terrified at the prospect that she wouldn't. She cried the whole way home.

The doctor had enumerated several options, one of which — aborting one of the fetuses — the Finleys weren't willing to consider. The deeply religious couple called their pastor before anyone else.

"He gave us really good advice," Finley says.

"He said, 'If you had two children who were drowning, would you just go after one, or would you try to save them both?' And he prayed with us." The obstetrician had also given her the option of going to the Children's Hospital of Philadelphia for laser surgery to interrupt the flow of blood from one fetus to the other. The final option was do nothing — and likely lose them both.

"I started packing my bags," she says.

Late that evening, distraught at the thought of leaving her two little ones, Finley asked her husband to call Dr. Kelly Palumbo, the local ob-gyn who had delivered their first two children and referred her to the high-risk specialist in Ohio. "I was really torn about going to Philadelphia, and I thought, I can't believe this isn't done around here."

Dr. Palumbo called Magee-Womens Hospital of UPMC, hoping to consult with a high-risk obstetrician there about the rare case. Stephen Emery, MD, a specialist in maternal-fetal medicine and director of Magee's Fetal Diagnosis and Treatment Center, was on call that night. Dr. Palumbo and her patient were surprised — very happily so — to learn that Dr. Emery could perform the laser surgery in Pittsburgh.

A Little-Known Fact

Magee's fetal intervention program has a problem: Few people know it exists. "People don't know we're here yet," acknowledges Dr. Emery, who started the program after joining Magee in 2006. "We publish papers, and we talk to the media, and we visit hospitals, but it just takes time for people to realize, 'Wow, there's a fetal therapy program in Pittsburgh. We don't have to travel to Cincinnati or Philadelphia.'"

Dr. Emery can transfuse blood to fetuses. He can treat fetal posterior urethral valves (a congenital defect in males that impedes urine outflow) and congenital cystic adenomatoid malformation (abnormal lung tissue). Thanks to him, Magee is one of about 15 hospitals in North America offering in-the-womb surgery for twin-to-twin transfusion syndrome. It's one of only two performing in utero valvuloplasty for aortic stenosis, a condition in which the aortic valve is too narrow to allow adequate blood flow from the heart.

Before joining Magee, Dr. Emery spent 15 years in Cleveland. After completing an ob-gyn residency and a fellowship in maternal-fetal medicine at MetroHealth Medical Center, he was recruited to help build an obstetrics program at Cleveland Clinic. "It was an opportunity to get on the ground level of something very significant because when the Clinic does something, they do it well," Dr. Emery says. He developed a successful fetal intervention program, pioneering an animal model for in utero valvuloplasty along the way. But in 2005 Cleveland Clinic moved obstetric services to a community hospital to make way for a new bariatric surgery program on its main campus.

Dr. Emery put himself on the job market. "I knew that my fetal therapy program was over. You can't do fetal surgery in a community hospital."

Why did he join Magee? "Because it's perfect," he says. "First of all, it's a women's hospital. The fetal therapy programs geographically nearest to us — Children's Hospital of Philadelphia, Cincinnati Children's Hospital — are in children's hospitals. They're run by pediatric surgeons. Ours is in a maternity hospital run

by maternal-fetal medicine. It has a whole different character. Secondly, we have a very robust infrastructure here. We have ultrasound, genetics, pediatric cardiology, and MRI to make the right diagnosis. We have the maternal-fetal medicine service to help care for the patients in the outpatient and inpatient settings. We have obstetric anesthesia to ensure maternal safety during the procedures. Finally, we have the largest and best NICU [neonatal intensive care unit] in the state of Pennsylvania to care for the newborns.

"And then you combine that with the research infrastructure of Magee-Womens Research Institute — it puts us in the top tier of programs."

No Time to Waste

The next morning, Kelly Finley and her husband, Tom, made the hour-long drive from their home to Magee. She was no stranger to the hospital, having had a splenectomy and hernia surgery there. After a three-hour ultrasound, Dr. Emery explained that the disease had taken a toll on the female twins.

"Baby A didn't have a visible bladder," their mother recalls. "She had very, very little amniotic fluid. So she could basically pass away at any time. Baby B had too much fluid. Her heart was overworking."

Dr. Emery offered to perform the laser surgery the following day. "The Finleys came to me with advanced disease," he says. "Both fetuses were gravely ill. Laser therapy was the only option that provided hope for the survival of both babies."

Until a few years ago, the standard treatment for twin-to-twin transfusion syndrome was amnioreduction, or removal of excess amniotic fluid from around the recipient twin. Often the fluid accumulates again and again, requiring multiple procedures. "Amnioreduction took the survival rate from roughly zero to 50 percent," Dr. Emery says. "But 25 percent of those survivors had neurologic damage because we didn't address the underlying problem."



Dr. Stephen Emery

The underlying problem is irregular vascular anastomoses, or blood vessels in the placenta that connect the twins. In 2004 researchers in Europe conducted a randomized trial comparing serial amnioreduction to laser surgery targeting the offending anastomoses. The evidence was overwhelmingly in favor of the latter. "Laser photocoagulation is superior to anything else that we've tried, and it gives us survival rates approaching 85 percent," Dr. Emery says. "We're not talking about just survival, though. We're talking about intact survival — normal kids — which is the real goal."

On July 30, the day after their first meeting, Kelly Finley was in Dr. Emery's operating room. Before he could complete the procedure, bleeding within the amniotic sac obscured the view through his scope and forced him to stop.

Ten days later, he tried again, and this time, the surgery went without a hitch.

When Dr. Emery delivered the news, "he had the biggest smile on his face," Finley recalls. "He's a doctor who really cares about what he's doing. I got that feeling all along — that he actually cared about my babies, that he wanted to get them here as much as I wanted to get them here."



“A fetus isn’t some inanimate object inside a woman’s womb. Fetuses are people, and some of them have medical or surgical conditions that need to be managed in order to avoid death or lifelong disability.”

— Dr. Stephen Emery

Finley had been warned that the twins’ recovery might take days or even weeks, so the results of the next morning’s ultrasound came as a huge surprise. Baby A — by then named Cassandra — already had a visible bladder. The accumulation of fluid around baby B — Irelynn — had already diminished.

Leading the Way

The way Dr. Emery sees it, fetuses are patients, too. “That’s how I see the world,” he says. “A fetus isn’t some inanimate object inside a woman’s womb. Fetuses are people, and some of them have medical or surgical conditions that need to be managed in order to avoid death or lifelong disability. The goal of our Fetal Diagnosis and Treatment Center is to identify those conditions and manage them. Some can be managed medically. Some can be best managed after delivery. A very small percentage of them will benefit from some type of in utero intervention.”

In-the-womb surgery is a relatively new field — only about 30 years old — and Dr. Emery sees plenty of room for improvement. He also sees Magee leading the way. The clinician meets regularly with investigators from Magee-Womens Research Institute, the hospital’s across-the-street neighbor, to discuss potential areas of research. “I hope that in 20 years we look back at laser surgery for twin-twin transfusion and think, ‘You cavemen, what were you thinking?’ That’s what’s so cool about medicine: It always gets better.”

Last year, Dr. Emery and two Magee colleagues published a study showing that twin-to-twin transfusion syndrome can be diagnosed at an earlier stage if women carrying monochorionic twins (identical twins that share a placenta) undergo more frequent ultrasound screening. The paper could potentially change practice in the United States.

Dr. Emery is the principal investigator on a North American Fetal Therapy Network (NAFTNet) investigation on the natural history of stage I twin-to-twin transfusion syndrome. NAFTNet is a consortium of 20 academic centers involved in fetal

therapy. “The question at hand is what to do with stage I disease: observe or treat,” he says. “By analyzing our data, we will see what percent of stage I patients progress, how rapidly they progress, to what stage they progress, and what happened to those who were observed versus those who were treated. The answers will help define how we treat the disease.”

On the evening of November 30, at 35 weeks along, Kelly Finley went into labor. Her husband drove her to Magee through pouring rain, and in the early hours of December 1, she gave birth to Cassandra and Irelynn by repeat cesarean section. Cassandra, formerly known as the donor twin, weighed 4 pounds, 12 ounces. Her younger sister, who’d received so much blood before Dr. Emery’s laser surgery, was 5 pounds, 13 ounces.

Here was the biggest surprise of all: There wasn’t a thing wrong with the preemies.

When Dr. Emery came to work that morning, he was delighted to find his patients — all three of them — in the same room. “Most of the babies I deal with are not in the postpartum room with their mothers. They’re either in the NICU or they’ve been transferred to Children’s. But there they were, all bundled up with their little pink hats on, happy and healthy as could be. I thought, this is truly amazing.”

The Finleys see it as a miracle. “I have two babies that weren’t supposed to be here,” Finley says. “We had all odds against us, and they’re here, and it’s because of the surgery. I believe God brought Dr. Emery to us.” □ □

To support fetal intervention research and treatment at Magee, visit www.mwrif.org/49 or call 412.641.8977.

GIVING IN ACTION



From left: Dr. Joseph Kelley, Karen Kelley, Peggy Joy, Elisabeth B. McCullough

Couple Who Raised \$1.1 Million for Magee Receives McCullough Award

For the past four years, in conjunction with the Pittsburgh Wine Festival, Magee-Womens Foundation has hosted a wine dinner to acknowledge supporters who have given \$10,000 or more in the past year. In 2010 the exclusive event was held at the home of Joseph Kelley, MD, of Magee-Womens Hospital of UPMC and his wife, Karen, both of whom serve on the Magee-Womens Research Institute & Foundation (MWRIF) board. In addition to their donation, they helped to raise \$1.1 million to benefit Magee-Womens Hospital and Magee-Womens Research Institute. In recognition of their tremendous achievement in volunteer fundraising, the Kelleys received the 2010 Elisabeth B. McCullough Award.

Peggy Joy, MWRIF board chairwoman, presented the prestigious award at the MWRIF Board Reception on December 1. Established in 1996, the award is named for Elisabeth “Libby” McCullough, now a MWRIF board member, in recognition of her steadfast support for Magee. The annual award is given to an individual(s) or organization that has demonstrated remarkable energy, dedication, and success in fundraising for Magee.

— *Andrea Romo*

College Student's Prize Pig Nets \$1,100 for Cancer Research



Nicole Willis's love for animals — and her grandmother — inspired an unconventional act of philanthropy.

Now a freshman at Westmoreland County Community College, Nicole began raising and training livestock through 4-H, a national youth development organization, when she was 8 years old. She has raised steer, pigs, sheep, and lambs, competing against others her age near her home in Rices Landing, Pennsylvania.

Last spring, Nicole's grandmother Pearl was diagnosed with liver cancer. She had been Nicole's biggest supporter, attending all of her 4-H competitions. Pearl had conquered breast cancer nearly 25 years earlier, and her family had high hopes that she would win this battle, too. She became a long-term patient at Magee-Womens Hospital of UPMC.

On October 15, the night before a 4-H show, Pearl passed away. Nicole, who had been training her hog Manning for the show, decided to donate proceeds from the sale of the animal to the hospital and Magee-Womens Research Institute in memory of her grandmother.

The day of the competition was difficult but gratifying for Nicole. She placed third in her class and received \$1,100 from the sale of her hog. “It was a very good experience for me because I know the money went to finding a cure for breast cancer,” she says. “I got to keep the memory of my grandmother alive.”

— *Christina Zbrozek, A.R.*

Biking for Breast Cancer



Each summer, Joe Scarpaci bikes 325 miles to Magee-Womens Hospital of UPMC as a tribute to his mother, Josie, who was a prominent real estate agent in Mount Lebanon before succumbing to breast cancer in 1998. Proceeds from the bike ride benefit the Josie Scarpaci Breast Health Access Fund, which helps to provide comprehensive patient handbooks for women newly diagnosed with the disease. The Scarpacis have raised more than \$25,000 in his mother's name.

— *A.R.*



After Battles With Breast Cancer, Family Throws Support Behind Magee Nutrition Program

Breast cancer has played a major role in David Kaplan's life. The Pittsburgh native, forensic accountant, and two-year Magee-Womens Research Institute & Foundation (MWRIF) board member lost his mother to the disease in 1973. His wife, Fran, was diagnosed with it in December 2006. Eager to help advance prevention and treatment of breast cancer, the Kaplans pledged \$25,000 over three years in support of a nutrition-based support program for cancer patients treated at Magee-Womens Hospital of UPMC.

The Nutrition Counseling, Education and Support Program of the Magee-Womens Cancer Program of UPMC Cancer Centers provides nutrition education and individualized strategies for cancer patients and survivors, with the aim of reducing their risk of recurrence. Services include monthly "Ask the Nutritionist" sessions, a "Call a Dietician" hotline, cooking demonstrations, and scholarships to attend wellness programs.

In her fight against invasive lobular breast cancer, Fran underwent major surgery, radiation therapy, and chemotherapy. Like many cancer patients, she struggled to maintain good nutrition between chemotherapy treatments. "We used to sit there at dinner while I urged her to take just one more bite of chicken," David recalls.

"The Kaplans' gift played a significant role in launching this important program," says Judy Herstine, administrator, Women's Cancer Program at Magee. "We believe that nutrition, which is very important to cancer patients, often goes overlooked. We created this program to allow patients access to information in a format that's most convenient for them."

Today the Kaplans' number one goal is to spend more time together. David, who has a rigorous work schedule, has arranged to work out of their home in Sarasota, Florida. They're excited that Fran has almost reached the five-year cancer-free mark and can now enjoy golfing, going to the theater, and visiting their daughter, Nicole, and her husband, Graham, and their son, Randy, and his fiancée, Emily.

With a new outlook on life, Fran and David have turned their passion to help others with breast cancer into a reality. Says Fran: "Giving to Magee helps them do what they do best."

— A.R.

To support Magee-Womens Research Institute & Foundation, visit www.mwrif.org/49 or call 412.641.8977.

Panera Bread Raises Dough for Women's and Infants' Health

This year marks the 100th anniversary of Magee-Womens Hospital of UPMC. In celebration, Panera Bread has teamed up with the hospital and Magee-Womens Research Institute & Foundation to support women's and infants' health research.

The 26 Pittsburgh-area Panera bakery-cafes raised about \$15,000 in February by hosting three fundraising campaigns. On the first of the month, 100 percent of proceeds from the sale of Cinnamon Crunch bagels went directly to supporting Magee's tiniest patients. The eateries placed donation boxes near registers so that customers could donate their spare change. Panera also donated \$1 from the sale of each bagel pack to Magee.



"We believe in giving back to neighborhoods in which we are present," says Bernadette Santucci, marketing director for Pittsburgh-area Paneras. "Panera supports Magee Womens-Hospital in hopes of impacting the future health and wellbeing of women and infants."

The fundraisers have allowed Panera to expand its vision from "a loaf of bread in every arm" to helping Magee provide better health care.

— C.Z., A.R.

Events / Happenings

MAY

MAY 4

FREE
EVENT

Women's Cancers Livewell Survivorship Workshop: Taking Control

Where: Churchill Valley Country Club

For more information and to RSVP, visit www.mwrif.org/352/survivorship-workshop.

MAY 14

FREE
EVENT

Ladies Day Out: Secrets to What's Going on Down There, Urogynecology Conference

Where: Churchill Valley Country Club

For more information and to RSVP, visit www.mwrif.org/353/urogynecology-conference.

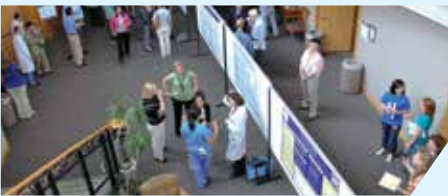
MAY 20

INVITE
ONLY

Research Day & Residents Awards Dinner

Where: Magee-Womens Hospital of UPMC, Auditorium, zero level

The program showcases the newest data from our faculty researchers, as well as selected presentations by our clinical fellows and residents. We are also honored to host two internationally recognized visiting professors.



JUNE

JUNE 5

NICU Reunion

Where: Pittsburgh Zoo & PPG Aquarium

Visit www.mwrif.org and click on "Calendar" for more information as it becomes available.



JUNE 12

INVITE
ONLY

22nd annual Magee-Womens Cancer Survivor Day

Where: Sheraton Station Square

Visit www.mwrif.org and click on "Calendar" for more information as it becomes available.

JUNE 23-24

2nd annual Home Depot Clays for the Cure

Where: Seven Springs Mountain Resort

Visit www.mwrif.org and click on "Calendar" for more information as it becomes available.

For a full calendar of events, visit www.mwrif.org and click on "Calendar." If you have questions regarding any event, please contact Denise Wickline, event coordinator, at 412.641.8911 or dwickline@magee.edu.



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The Magee Society



*Honoring Our History
Celebrating Our Present
Anticipating Our Future*



The Magee Society provides a unique opportunity for an elite group of donors who contribute \$500 or more annually. Each leadership gift helps to ensure that the compassionate spirit of our founding donor, Christopher Magee, will live on.

Members of the Magee Society help Magee-Womens Hospital and Magee-Womens Research Institute provide the most highly developed medical care, fund the needs of patients and advance our cutting-edge research on women's health issues.

We invite you to join this passionate group of people this year as Magee celebrates its 100th anniversary! For more information, visit www.mwrif.org or contact Colleen Gaughan, director of development, Magee-Womens Foundation, at 412-641-8978 or cgaughan@magee.edu.

Are You A Member? Join Today!



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MAGEE'S

CENTENNIAL CELEBRATION

NOVEMBER 10, 2011

Make plans now to attend the culminating event of Magee's centennial.

WHEN: November 10 WHERE: Circuit Center, SouthSide Works

Be there as we unveil the Magee 100 Mosaic! For a small donation to Magee, you can include a photo of your favorite baby (or another special person in your life) in a one-of-a-kind artwork that will hang in the main lobby of the hospital.

Visit www.mageemosaic.com for more information or to upload your photo(s). Reserve your place in Magee history today!

More details about this once-in-a-lifetime event will be shared via our monthly newsletter. Sign up at: www.mwrif.org/225/our-publications.