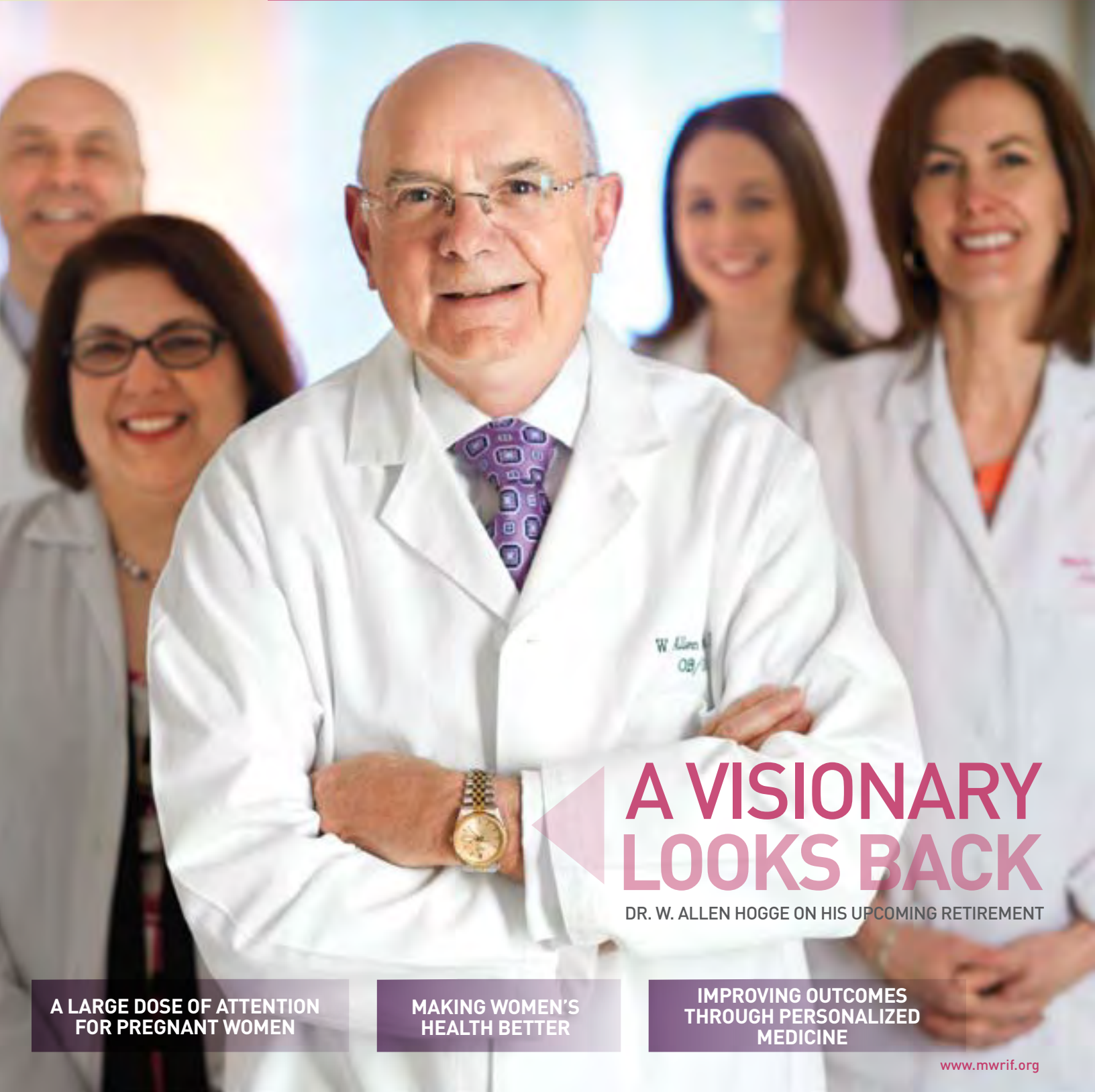


MAGEE

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A VISIONARY LOOKS BACK

DR. W. ALLEN HOGGE ON HIS UPCOMING RETIREMENT

A LARGE DOSE OF ATTENTION
FOR PREGNANT WOMEN

MAKING WOMEN'S
HEALTH BETTER

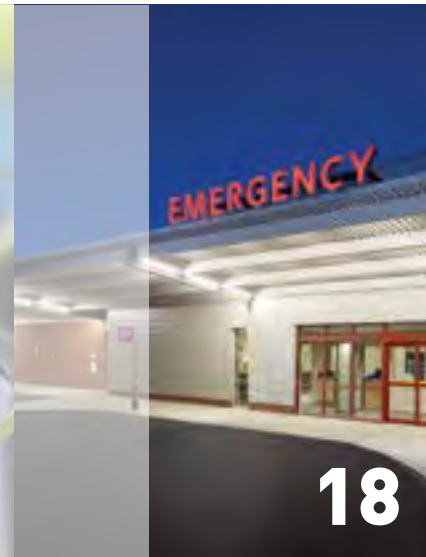
IMPROVING OUTCOMES
THROUGH PERSONALIZED
MEDICINE

MAGEE

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A VISIONARY LOOKS BACK

W. ALLEN HOGGE, MD, REFLECTS ON HIS JOURNEY FROM RESEARCH TO RETIREMENT.

Some doctors choose their specialty based on a recommendation from a colleague. Others base their career path simply on their personal interests. And still other physicians choose their area of focus based on a patient who touched their lives early in their career.

For Dr. W. Allen Hogge, it was a sick child that ultimately led him down the path to specialize in genetic research. But sadly for Dr. Hogge and his wife Joan, that child was their own.

When their son Marcus Allen Hogge was two years old, they began to notice changes in his motor skills and behavior. He was diagnosed with a progressive neuromuscular disorder that would require around the clock care until he died shy of his 8th birthday.

From that point on, the Hogges' felt they had a calling to help make the road they had just traveled easier for other parents in any way they could. But when Dr. Hogge decided to leave his private practice in Virginia to pursue the field of reproductive genetics, his partners were skeptical of his choice.

"They said to me, 'There's nothing to do in genetics. Nothing has changed much since Mendel.'" For those of you who don't remember your high school science, Gregor Mendel was the 19th century scientist who worked with pea plants to demonstrate the idea of dominant and recessive genes. He's considered the father of modern genetics. ▶



“Magee has become a leader in genetics under his direction, but the most important thing we’ve learned from Dr. Hogge is that the patient is always first. Our patients go through very stressful situations and Dr. Hogge approaches each one with an incredible empathy that can be as important to the patient and their family as the care we provide.”

- Michele Clemens, MS, genetic counselor, Magee-Womens Hospital of UPMC

Dr. Hogge adds, “They were right in 1982. But over the course of the next decade, the field of genetics changed rather dramatically and continues to be a leading part of all medicine and most research.”

► Discovering a new vocation

Hogge moved to California and did a fellowship in reproductive genetics at the University of California San Francisco (UCSF). “At that point, in the early 80s, it was the premier obstetrics and gynecological department in the country, in terms of its academic successes.”

The happenings at UCSF fascinated Dr. Hogge. “It was a time of very early treatment of diseases in the fetus, and San Francisco was one of the locations that was leading the way.” He was excited by what new techniques like ultrasound and amniocentesis could mean to his patients. He got involved in research on early prenatal diagnosis of genetic diseases, while his wife became a genetic counselor. They worked closely and even co-authored papers on reproductive genetics.

And then he received a phone call that would change his life.

► The road to Pittsburgh

In 1992, the incoming chair of the Department of Obstetrics, Gynecology & Reproductive Science (OB/GYN/RS) at Magee, Dr. Richard Sweet, called and asked if Hogge would be interested in coming to Pittsburgh to develop what he called the UCSF of the east. Sweet himself had come from UCSF and understood the culture of academic OB/GYN there. Hogge was game. “What was attractive to me was that Magee was a leader in developing genetics testing and research within the hospital, which was almost unheard of in 1992. The only place that was similar was UCSF where I trained. Dr. Sweet gave me the opportunity to run the Division of Genetics at Magee. It was a job I couldn’t turn down.”

At Magee, Hogge got right to work. His goal? Develop a strong genetics program that would be a leader across the country in prenatal diagnosis and fetal treatment. He also began to recruit research investigators who were interested in prenatal diagnosis and screening for genetic diseases in pregnancies. “Part of the attraction to come to and remain at Magee has been the ability to develop a program that is, at this point, unlike any OB/GYN/RS department in the country, in terms of the number of people who are OB/GYNs and geneticists, and the number of people who do research specifically in those areas.”

► The building blocks of his success:

Consolidation

When Hogge first arrived in Pittsburgh, there were three separate chromosome testing laboratories. One at Children’s Hospital of Pittsburgh. One at Magee. And one at UPMC Presbyterian. Under his leadership, and with a lot of political and financial maneuvering, Magee was able to convince the system that it made sense to develop a single lab called the Pittsburgh Cytogenetics Lab, housed at Magee. “That’s unique about Magee,” says Hogge. “All aspects of reproductive genetics are combined in one location. So the lab that does chromosome testing and the lab that does testing for genetic diseases in pregnancy are all under the auspices of a single location. Starting this year, we will also have a genomics lab. It’s a full service organization, and there’s nothing quite like that.” Hogge points out that Magee is also unique in that it offers a fully dedicated Ultrasound Department. “Patients basically have one stop. They can come in, get their ultrasound, prenatal testing and lab work all in one location. At most other places, developing a complete program of genetics like that isn’t possible.”

Team-building

What would a world-class genetics department be without a world-class team? Hogge claims to have “some of the very best researchers.” His first major research recruit was Dr. David Peters, who is responsible for some groundbreaking work that led to a change in how genetic diseases are diagnosed in a fetus. “When I began in the field,” says Hogge, “a procedure was introduced known as Chorionic Villus Sampling, or CVS.” CVS is an invasive procedure that collects a sample from the placenta either through a catheter or thin needle through the belly. “In my early career, much of my publications were on the introduction of that procedure. My claim to fame was that, at one point, I had done over 10,000 CVSs.” Thanks to researchers like Peters, in the last two years, Magee has introduced techniques where a blood sample from the mother can give the same information as the invasive test. “I’ve gone from doing 10 to 12 CVSs a day in my early years at Magee to doing one CVS a day at this point,” remarks Hogge. “It’s rarely done, because we can do the blood sample and get almost identical information.” This is the type of work done at Magee that can have a far-reaching impact across the globe.

Another more recent recruit is Dr. Aleksandar Rajkovic, who is one of the top researchers in OB/GYN, and also happens to be a geneticist. “Those two folks have really changed the way we do things here at Magee,” says Hogge. “Now we have two investigators who are changing the way we provide clinical care both with new genetic technologies and these noninvasive ways to diagnose genetic diseases.”

Networking

To build the genetics program to where it is today, Hogge knew he needed to build a reputation with doctors in the region. To accomplish that, he established satellite locations in communities throughout the area. “I spent much of my first 10 years here traveling around western Pennsylvania setting up these satellite genetics clinics to establish strong referral relationships with the docs in the community.” His typical weeks would have him traveling from Monroeville to Clarion to Franklin, PA, collecting genetic samples and taking them back to Magee. Later on in his career, those relationships worked out extremely well. Hogge remarks, “Many of those referring physicians have become part of the UPMC system, and we developed this integrated system of having practices throughout western Pennsylvania that are closely aligned with the academic department and have allowed us to build a very unique OB/GYN department around that.”

“To say Dr. Hogge is leaving a legacy is an understatement. His vision and leadership have helped establish Magee as a leader in women’s health. The Magee community has a tremendous admiration for him and will miss him greatly.”

- Leslie C. Davis, president, Magee-Womens Hospital of UPMC

Dr. Devereux Saller, director of Clinical Genetic Services, has known Dr. Hogge for more than 25 years, and came to Pittsburgh because of Dr. Hogge's reputation for leadership.

"Dr. Hogge's academic credentials and interpersonal skills were what brought me to Magee. He's not only greatly admired as a colleague, but has been instrumental in attracting the best faculty and getting the most out of his researchers," Dr. Saller said.

And it didn't take Dr. Saller long to realize he wasn't alone in his admiration of Dr. Hogge. When Dr. Saller joined Magee, he tried to organize a group outing to a Pirate game for his division.

"The first thing everyone asked was, 'Is Dr. Hogge going to be joining us?' And when everyone found out Allen would be attending, many of those who were on the fence decided to come. It just goes to show how well liked and respected he is."

▶ **Amazing accomplishments**

Hogge has a lot to be proud of. For 11 years, he was the director of Reproductive Genetics and medical director of the Department of Genetics at Magee. Then, in 2003, he became the chair of the Department of Obstetrics, Gynecology & Reproductive Sciences.

"In the two decades I've been here, the program has grown from seeing about 1,000 people a year to seeing about 10,000 a year, specifically in the area of reproductive genetics."

He adds, "When I took the job as chair at Magee, I wanted us to be seen as something more than just a big hospital that delivered babies. I wanted us to be recognized for all the other things we do. I'm most proud of the fact that we're now the number one OB/GYN Department in terms of NIH funding. And we raised our reputation as the Best Hospital in Gynecology, moving up 25 spots in the last 10 years to number four. I'm really proud of how well this department has grown and established national recognition."

Now, Dr. Hogge's typical day is filled with meetings and coordinating a faculty of 250 people. When asked about what breakthroughs he's had throughout his career, he humbly remarks, "The best thing I learned is that I'm not a good investigator. I'm a much better administrator. And program building is my strength. It took a few years to figure that out. My career is not going to be looked at as my success in research, but hopefully as my success in putting together teams of people that can do things that I wasn't able to do successfully."

"Dr. Hogge epitomizes the ideal doctor-patient relationship. He has been a source of knowledge, guidance, compassion, truthfulness and empathy for us. In the challenging field of medicine, he is one of a kind and we are grateful for the way he touched our lives."

-Christopher Hughes, grateful patient



But one of his researchers, Dr. Aleksandar Rajkovic, professor in the department of Obstetrics and Gynecology, thinks Dr. Hogge deserves all the credit and praise directed at him.

"When I first came to Magee, I thought I was an excellent clinician, when it came to doing prenatal procedures. But I soon realized I had a lot to learn, and Allen is an exceptional teacher," Dr. Rajkovic said. "He has built one of the best research institutes in the country. He clearly had the vision of what science needs to be done here, and he played a critical role in making Magee's research institute what it is today. His vision has allowed for a vibrant and productive institute. Yet, he has incredible humility, and it's so refreshing to see someone who isn't arrogant and understands how to build a top notch research team."

Beyond his work in genetic research, he and his wife also have a very personal legacy to leave behind. Before his new career as a researcher began, he and his wife helped establish the nation's first free-standing pediatric hospice in Virginia called Edmarc. It still stands today as a best-practice program that helps families with a child who is facing a life-threatening illness. In addition, the Marcus Allen Hogge Chair in Reproductive Genetics at Magee was created to honor their son.

Clearly, Dr. Hogge has had a great impact on many lives. And he's reminded of that constantly by the many patients who send him pictures of their children. "Every year at the holidays, I get updated pictures. They believe I had some role in the success of that pregnancy. I have a number of patients who have 30-year-old children, and I'm now getting pictures of the kids of the kids I was involved with. That's been the delight of my career."

▶ **Predictions for the future**

In terms of genetics, Dr. Hogge is positive that the future looks brighter and brighter for at-risk births. "I think almost all disorders will be diagnosed in some fashion using a blood sample from mom." Hogge also believes we will be evaluating people before they get pregnant with a broad screen that shows what genetic diseases they are at risk for. Through techniques such as pre-implantation genetic testing or a blood test to confirm that the fetus is unaffected, Hogge predicts we'll allow for pregnancies that will not be at risk for a particular genetic disease. "I believe we will be able to look at everybody's genome, determine what things their offspring might be at risk for, and hopefully give them options to prevent those particular things. So instead of having a 3 percent risk of a birth defect in your child, we would bring it to as low as possible. Hopefully, we'll eventually get to 0 percent, but much, much lower than 3 percent."

So much for the future of genetics. What about Dr. Hogge's personal future, now that he is set to retire? "I love Pittsburgh," says the doctor. "But I have six grandkids—all in Virginia. My intention is to transition to being a grandfather in Virginia. My retirement will be travel and the grandkids."

That sounds like a perfect plan – as long as this very productive researcher can find the ability to relax in his genes.

Dr. Hogge will officially be stepping down from his role at Magee in December of 2014. To learn how you can support the legacy of clinical and research excellence that Dr. Hogge has dedicated his career to, call 412-641-8977 or donate online at MWRIF.org/Donate.

HOW DO YOU MAKE THE NATION'S PREMIER INSTITUTE FOR WOMEN'S HEALTH RESEARCH EVEN BETTER?

Dr. Yoel Sadovsky can think of seven ways.

Focusing is something that Yoel Sadovsky, MD does really well. And not just when he's indulging in his love of photography. Dr. Sadovsky has been the director of Magee-Womens Research Institute (MWRI) for six years now, and while he has expanded everything from talent and training programs to funding and fundamental research, he and his colleagues have also better defined the areas of discovery that MWRI's research centers on.

"Helping a woman stay healthier throughout her life will have a positive impact not only on her," says Sadovsky, "but also on her community as a whole. The research we do here can improve life for women at every stage. And if you think about it, 100 percent of the world's population is affected by pregnancy – at some point in their lives – at least once. That's the origin of life-long health: from 9 months to 90 years."

Sadovsky is proud to be a part of Magee's legacy of providing exceptional care to pregnant women and infants. With that in mind, his vision moving forward includes broadening and enhancing key areas among the seven existing discovery areas of focus, to guide the groundbreaking studies that occur at MWRI.



"WE ARE REDUCING BIRTH DEFECTS."

"Birth defects are every family's nightmare," says Sadovsky. "Understanding the mechanisms that underlie genetic abnormalities is crucial to reducing birth defects and improving the health of infants." Through trail-blazing genomic, epigenomic, stem and progenitor cell research and animal models, our scientists are deciphering reproductive development, novel tools for prenatal testing, and pathways that lead to premature gonadal aging.

"WE ARE HELPING WOMEN HAVE HEALTHIER PREGNANCIES."

"At MWRI, we know that giving babies a healthy start in life is paramount," remarks Sadovsky. Our scientists study key diseases such as preeclampsia, fetal growth abnormalities, preterm birth, prenatal genetic disorders, and the lifelong impact stemming from these diseases through research spanning fetal development, pregnancy, and pregnancy outcomes that shape maternal and neonatal health.

"WE ARE IMPROVING TREATMENTS FOR WOMEN'S HEALTH."

"Unique health issues impact the quality of life for millions of women nationwide," says Sadovsky. MWRI is one of the few research institutes in the country with a dedicated center for family planning research, where family planning and the development of new contraceptive methods are studied.

MWRI is focused on finding better treatments for conditions that affect women of reproductive age through maturity. Sadovsky adds, "One example is improved therapies for women suffering from *(continued)*

**"The research we do here
can improve life for women
at every stage."**

-Dr. Yoel Sadovsky



“Infertility is heartbreaking to the couple who desperately wants a child.”

–Dr. Yoel Sadovsky

pelvic floor disorders who require modern interventions to correct urinary incontinence. We strive to improve their quality of life and restore their health through innovative therapies, research and education.”

“WE ARE DOING MORE TO UNDERSTAND AND PREVENT INFERTILITY.”

“Infertility is heartbreaking to the couple who desperately wants a child,” says Sadovsky. “Our group examines the fundamental mechanisms that govern germ cell biology, hormones, and complex pathways that lead to human infertility to discover means for restoring fertility to diverse populations, including young cancer survivors. Our approach is comprehensive, and spans female and males.

“WE ARE HALTING THE SPREAD OF SEXUALLY TRANSMITTED DISEASES.”

HIV and sexually transmitted diseases continue to be a real threat to women’s health and society as a whole. The Center for Disease Control estimates 19 million sexually transmitted disease infections occur every year with more than 1.5 million infected with HIV/AIDS. “Our research team is trying to halt the HIV/AIDS epidemic that has plagued a generation of women across the globe, and empower women to control their own risk of acquiring HIV,” says Sadovsky. “Other investigations center on common infections such as vaginitis, microbes acquired during pregnancy and the neonatal period, and those that affect adolescents, women of reproductive age, and postmenopausal women.”

“WE ARE FINDING BETTER WAYS TO PREVENT AND TREAT CANCER IN WOMEN.”

Nearly everyone has been touched by cancer, a disease of genes gone awry. Sadovsky believes we can do more to prevent and treat this deadly disease. “With recent breakthroughs in genomics and the genomic response to cell’s environment, we now have the tools to identify biomarkers for cancer risk, severity, and prognosis. Through large-scale clinical trials performed as a part of the national consortia, we investigate ovarian and other pelvic cancers, examine the causes, prevention, and treatment of breast cancer, and assess the impact cancer has on a woman’s quality of life.”

“WE ARE HELPING ALL WOMEN HAVE A BETTER QUALITY OF LIFE.”

A shocking one in three women in this country lives in a fearful world of domestic abuse. MWRI is addressing this, and other quality of life issues to bring excellence in health care to all women. Specific areas of focus include intimate partner violence, teen pregnancy, obesity, prenatal care, and postpartum depression. Sadovsky adds, “We’re also studying the gaps in the quality of health and health care across racial, ethnic, and socioeconomic groups that result in higher incidence of chronic diseases, higher mortality, and poorer health outcomes for women.”

MAGEE’S PHYSICIAN-SCIENTISTS ARE DEDICATED TO CHANGING THE LANDSCAPE OF WOMEN’S HEALTH LOCALLY AND ACROSS THE GLOBE. TO PARTNER WITH US, CALL 412-641-8977 OR DONATE ONLINE AT WWW.MWRIF.ORG/DONATE.

HPV Vaccines Reduce Cancer Risk But Vaccination Rates Lag



Dr. Richard Scott Guido

Protecting your child from certain forms of cancer is simple, yet despite recommendations from the Center for Disease Control (CDC) and the American Academy of Pediatrics, many Americans do not immunize their children or themselves against genital Human Papillomavirus (HPV), the leading cause of cervical and other types of cancer and the most common sexually transmitted infection in the United States.

Richard Scott Guido, MD, associate professor of obstetrics and gynecology at Magee-Womens Hospital of UPMC, believes this is due in part to parents’ general leerness of vaccinations and their unfounded fears that children who are vaccinated become more promiscuous. Misunderstanding of the vaccine’s effectiveness or benefit, low perceived risk of HPV infection, and misinformation about HPV in general also contribute to low inoculation rates.

“As physicians, we must spread the word about the importance of HPV immunization” Dr. Guido says, “We are missing a great opportunity to reduce cervical cancer and genital warts. We should promote this vaccine just as we did polio and other vaccines. In Australia, 80 percent of the population has been vaccinated and they have seen a dramatic decrease in the incidence of genital warts.”

According to the CDC, 14 million new cases of HPV are diagnosed each year; 79 million Americans, mostly in their late teens and early 20’s, are currently infected. Spread through skin-to-skin contact during sexual activity, HPV is so prevalent the CDC projects nearly all sexually active men and women will contract it at some time in their lives. While not all types of HPV cause cancer, high risk types are responsible for more than 20,000 HPV-related cancers in women and 12,000 HPV-related cancers in men each year—cancers that could have been prevented through vaccination.

Magee was one of 62 sites that participated in the worldwide HPV vaccine clinical trials. Tested on thousands of people without any serious side effects, HPV vaccines were proven effective against HPV virus types that cause 70 percent of all cervical cancer and 90 percent of all genital warts. The vaccine offers the most protection when given during pre-adolescence—affording the child time to build immunity long before becoming sexually active—yet only half of all girls and far fewer boys receive the first dose of vaccine. The CDC recommends all children receive a series of three vaccinations when 11 to 12 years old; the vaccine also is recommended for teens and adults before the age of 26 who were not vaccinated when younger.

The Quadrivalent vaccine, which was tested at Magee, has the widest coverage of the two HPV vaccine products available today. Magee continues to have a voice in the HPV discussion and actively participates on Pennsylvania’s Cancer Control, Prevention and Research Advisory Board (CAB). “We are currently trying to further new initiatives to improve vaccination coverage for all eligible girls and boys,” says Robert Edwards, MD, director of Gynecologic Oncology at Magee and vice chair of CAB. “Right now, the vaccination rate among girls in Pennsylvania is 30 percent and less than 5 percent for boys,” he says.

Unvaccinated, sexually active adults can reduce the risk of HPV infection by being in a mutually monogamous relationship with an uninfected partner, limiting their number of sexual partners, being with a partner who has had no or few prior sexual partners, and by using condoms during every sexual encounter.

Regardless of whether they have received the HPV vaccine, all women between the ages of 21 and 65 should have routine Pap tests, the best way to prevent cervical cancer. Pap tests detect pre-cancers that may develop into cervical cancer if they are not treated.

Through cutting-edge laboratory discoveries and clinical trials, Magee is making a difference for women around the world. We invite you to partner with us in this exciting work by making a gift today. With your support, we will propel research forward, advancing medicine and saving lives.

For more information, call 412-641-8977. To make an online donation, visit mwrif.org/donate.

Improving Outcomes Through Investment in Personalized Medicine



Dr. Adrian Lee

A 5'3" ballerina wouldn't buy the same size sneaker as a 6'4" football linebacker. But, in cancer—before physicians had the ability to analyze the genetic makeup of a patient's cancer—treatment regimens for specific forms of cancer were basically a "one size fits all" approach and often subjected patients to unnecessarily aggressive or unproductive treatments.

Today, physicians examine cancer cells at the molecular level, identifying genetic changes that drive cancer growth—a process that has ushered in the era of personalized medicine. Armed with new knowledge, scientists are developing drugs that target specific genes linked to cancers. Nowhere is this truer than in the treatment of breast cancer.

"One could argue that breast cancer started personalized medicine with anti-hormone therapy," says Adrian V. Lee, PhD, director of the Womens Cancer Research Center (WCRC) at Magee-Womens Research Institute (MWRI). Doctors can now categorize breast cancers based on their genetic makeup and tailor treatment for each individual. Two drugs, Tamoxifen (for estrogen receptor positive breast cancer) and Herceptin (for HER2 positive breast cancer) have revolutionized treatment for thousands of breast cancer patients, improving outcomes and saving lives.

The "right therapy for the right patient at the right time" is quickly becoming a reality and scientists at the WCRC are leading the way through innovative research that will change the way we treat patients tomorrow.

Dr. Lee believes Pittsburgh is uniquely positioned to advance medicine in the area of personalized treatments for women's cancers. "There has been a fundamental change in how we do medicine. It now involves people from all scientific disciplines," Dr. Lee says. "Here in Pittsburgh—with physicians, scientists, bioethicists and experts in all related areas working in collaboration—we are poised to move medicine forward."

Through multidisciplinary research collaborations Magee physician-scientists at the WCRC have access to patients and the critical mass needed for research. In addition, the generational uniqueness of Magee's location—where multiple generations within families reside in southwestern Pennsylvania—affords our researchers the rare opportunity to investigate hereditary and familial diseases and disorders. Together, these factors give rise to a synergistic environment that fosters unprecedented scientific discoveries, leading to better and more personalized therapies.

Nationally recognized for his research on how insulin-like growth factors regulate changes in breast tissue and how this knowledge can be used for successful treatment of patients, Dr. Lee recently received \$240,000 from the Breast Cancer Research Foundation (BCRF) to investigate differences found in breast cancer tumors. According to Dr. Lee, there can be areas inside a single tumor that act

differently; one area might have aggressive disease, another area might be benign. Lee hopes that by understanding these differences, more personalized treatments for breast cancer patients can be developed.

Nancy E. Davidson, MD, director of the University of Pittsburgh Cancer Institute and UPMC Cancer Center; and Steffi Oesterreich, PhD, director of education at WCRC, also received \$240,000 each to further their investigations to improve treatment and survival outcomes for women with breast cancer.

A BCRF funding recipient for the past 15 years, Dr. Davidson investigates the epigenetic changes in cancer cells that influence the development of breast cancer. Currently she and her team are evaluating methods to counteract these changes in hopes of developing a new treatment for breast cancer.

The "right therapy for the right patient at the right time" is quickly becoming a reality and scientists at the WCRC are leading the way through innovative research that will change the way we treat patients tomorrow.

For the third consecutive year, Dr. Oesterreich received BCRF support of her investigations of invasive lobular carcinomas (ILC), the second most common type of invasive breast cancer. Her recent findings on ILC were published in the 2014 January issue of *Cancer Research*. In general, Dr. Oesterreich's research focuses on understanding hormone action in breast cancer, specifically, how the estrogen receptor functions and is regulated, and on identifying genetic and epigenetic markers which might give physicians the ability to predict a patient's response to endocrine therapy, allowing them to personalize therapy for these patients. "We are optimistic that the research being done at the WCRC will ultimately be beneficial for breast cancer patients, and women at high risk for the disease" says Dr. Oesterreich.

Thanks to better, more personalized therapies, increased awareness, and early detection through screening, more women are winning the fight against breast cancer. Five year survival rates have improved significantly over the last 30 years—from 75 percent in 1975 to more than 90 percent in 2005. Through continued scientific advancements, targeted therapies specifically tailored for each individual will one day make cancer a chronic, rather than deadly, disease.

As these and other scientists at Magee expand their understanding of cancer to find better treatments and cures, UPMC is fostering the development of personalized medicine by investing \$100 million in a best-in-class data warehouse and analytics. This investment will ensure that clinicians and researchers have real-time access to data and analytic tools to guide treatment options and improve patient outcomes.

You, too, can impact the lives of women everywhere through your support of these and other innovative studies at Magee. Behind every advancement in diagnosis and treatment lies a host of discoveries leading to it. With your financial partnership and investment in this work, you will enable us to advance medicine through scientific discovery, leading to personalized therapies to make women stronger and save lives. To make a gift, visit mwrif.org/donate or call 412-641-8977.



Ending the Silence

Magee Researchers Tackle Intimate Partner Violence



Dr. Judy Chang

It is the most common cause of injury to women in the United States, affecting women of all ages, incomes, abilities, ethnic backgrounds, and sexual orientations. It is most prevalent in women of childbearing age. It is intimate partner violence (IPV).

“Although IPV is often hidden or kept secret, it is a highly prevalent issue,” says Dr. Judy Chang, associate professor, Department of Obstetrics, Gynecology &

Reproductive Sciences, Magee-Womens Hospital of UPMC. “It’s important to realize that the fear women experience is real. If an abusive partner threatens her life, often he will carry it out. But as troubling as the fear of violence is, victims also are more susceptible to long-term health issues, such as mental health, anxiety, depression, chronic pain, poor reproductive health, gastrointestinal problems, sexually transmitted diseases, and drug use,” she says.

Responding to the need

IPV is a crime in this country, punishable by law. And because it threatens the well-being of women and their families, Magee is involved. The Center for Disease Control estimates that 30 percent, or one in three women, have experienced some history of physical, sexual, emotional, or psychological abuse by an intimate partner. In Pennsylvania alone, 1,532 deaths were related to IPV from 2001 to 2010. That’s why physicians and researchers at Magee, like Dr. Chang, are working to increase awareness about IPV and studying it to develop better methods of intervention.

“Only a small percentage of women experiencing IPV seek medical care for physical injuries, but they do tend to seek emergency, mental health, and outpatient health services more frequently than women in

non-abusive relationships. They also experience a higher incidence of premature death. As health care providers, we have a responsibility and opportunity to educate our patients and provide support for those that are affected,” she says.

To that end, caregivers at all levels at Magee are trained to recognize the symptoms of abuse and to work with women who are in unhealthy relationships. Magee also conducts ongoing training programs for the public and health care professionals and has a Domestic Violence Task Force that raises awareness about IPV and helps connect people living in abusive relationships with resources to help them end the cycle of abuse. The hospital’s new emergency department, which opened in January, includes a new room for sexual assault patients, which was created in consultation with Pittsburgh Action Against Rape. The room, which is equipped with forensic testing equipment and designed to provide privacy and comfort to victims, with a private bathroom and shower and a private waiting area, is the only one of its kind in the region.

“Because IPV is a punishable crime, historically, it has been seen as an issue to be handled by law enforcement, but in the last 20 years, health care organizations have realized it’s a health care issue. Because of its focus on women’s health, Magee has been on the forefront of identifying and supporting patients who suffer from IPV. Our caregivers have support and resources that other hospitals may not have,” says Dr. Chang.

IPV is a challenging issue to treat, as even once it’s identified, many women feel unable or afraid to break from their situation. Among the common barriers a woman faces when considering ending her relationship with her abuser is fear for her safety, fear for her children, limited financial resources, losing links to her cultural or social community, and love for her abuser when he’s not acting in the role of an abuser.

Continuing the dialogue

“Often, women struggle because there are times when their partner does not act abusive. Women often take responsibility for the abuse and believe that their partner’s actions are a result of their own behavior. That’s why it’s key for health care providers to support and validate women as they work through the process of admitting to the situation they are in and deciding how to handle it. The key message for these women is that no one deserves to be hurt by the person they love,” says Dr. Chang.

Communication about universal support is key to the work of Dr. Chang and her colleagues. One emphasis is raising awareness among health care providers, who can then in turn raise awareness among their patients. Because many women do not present to their physician with visible injuries, Dr. Chang believes a key to identification and intervention is providing IPV information and resources to all female patients.

“In addition to the health care team being prepared to broach the subject of IPV, there should also be information – fliers, posters, and pamphlets – easily accessible in waiting rooms and exam rooms. Once a patient has disclosed an issue or experience with IPV, providers should respond with validation, support, respect, and information, including phone numbers for IPV hotlines or counseling services,” she says.

The key in managing – and ultimately eliminating – IPV is reinforcing messages to both men and women from an early age that physical, sexual, emotional, or psychological abuse are never acceptable. The more dialogue there is about IPV and the more perceptions change, the less women will suffer in silence. If you or someone you know is a victim of IPV, there are resources that can help. The National Domestic Violence Hotline is a national resource for addressing IPV, which is funded by the United States Department of Health and Human Services.

Visit www.thehotline.org or call 1-800-799-SAFE for more information.

Join the fight against IPV

As part of its commitment to enhance the health and well-being of women, Magee provides clothing and shoes to sexual assault victims if the clothes they wore to the emergency department are no longer able to be worn. You can help by:

- Donating new sweat suits of all sizes and slip-on shoes or flip flops
- Donating used cell phones to be reprogrammed to allow women to call IPV hotlines or emergency help
- Sponsor educational programs about IPV
- Help fund Dr. Chang’s research

For more information, call 412-641-8977. With your support, we can win the fight against IPV.

Magee Unveils New Emergency Department

While no one ever wants to make a trip to the emergency room, Magee provides expert emergency care in a patient- and family-centered environment to deliver the ideal experience to each patient. Now located on Craft Avenue (across from the Magee-Womens Research Institute), the new emergency department (ED) is 50 percent larger with 22 private exam rooms to help the hospital better serve an increasing volume of patients who come to Magee for medical care, with a focus on women's health.

As part of the expansion, Magee also has added a new room for sexual assault patients. Created in consultation with the Pittsburgh Action Against Rape, the room was designed to provide privacy and comfort with a private bathroom and shower. The staff is specially trained to treat sexual assault patients and have easy access to the forensic testing equipment that may be needed in these cases. There also is a private waiting area for assault patients to gather with family and law enforcement, if necessary. (For an in-depth look at how Magee is leading the way in research and awareness about intimate partner violence, see page 16.)

Advanced, innovative care

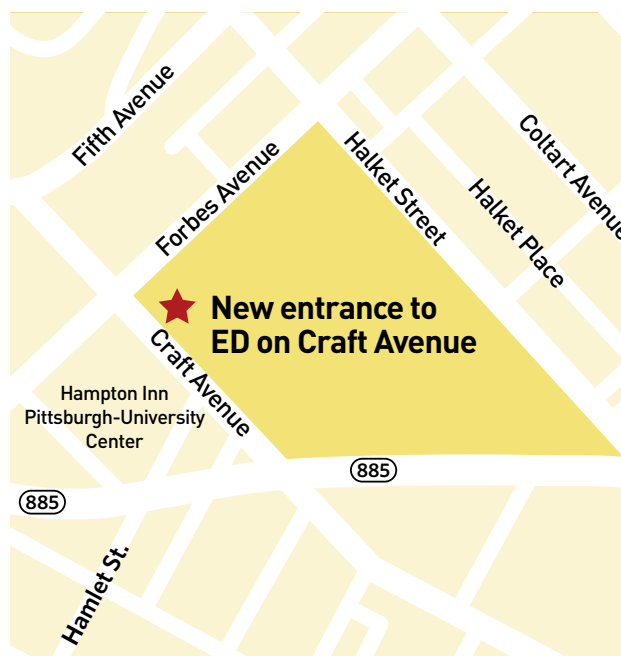
On the forefront of geriatric care, the new ED also has made accommodations – slip resistant flooring and lower stretchers – to increase safety for older patients. In addition, there is now an exam room with obstetric ultrasound equipment so patients do not need to travel to another area of the hospital for testing.

Whether you experience a minor laceration, fracture, severe injury, or chest pain, the new emergency department at Magee is equipped to provide you state-of-the-art care in a patient-centered environment. For more information, visit www.upmc.com/magee.



New Emergency Room Features

- Patient-centered room design
- State-of-the-art imaging services
- Critical care room designed for obstetric emergencies
- Advanced medical equipment to aid in more timely diagnosis and treatment
- Patient bedside testing
- Open design for better visibility and caregiver collaboration
- 22 private exam rooms to provide more comfort for patients and their families
- Specialized exam room for sexual assault victims with private bathroom and shower
- Access to specialists at Magee and Oakland campuses



Dr. Arun Jeyabalan

Clinical Trials at Magee Make Breakthroughs in Treatment Possible

"One of the really impressive things about Magee is that it is an academic powerhouse with strong basic, translational, and clinical research," says Arun Jeyabalan, MD, director, Clinical and Translational Research Center at Magee. "The concentrated volume of patients in all aspects of women's health and the hospital's reputation as a leader in this area lend itself to clinical trials. The academic environment and clinical research opportunities attract top doctors to the area."

Clinical trials are critical to advancement in medicine as they move laboratory discoveries to the patient's bedside so that breakthroughs in treatment can happen. The close collaboration between Magee-Womens Hospital and the Magee-Womens Research Institute affords the opportunity to take the knowledge gained through research into the clinic and from the clinic back to the lab to accelerate the pace of discovery.

A tremendous asset to this research is Magee's Clinical and Translational Research Center (CTRC), which is a part of the University of Pittsburgh Clinical and Translational Sciences Institute. Located in the hospital

for patient convenience, the center has exam and consultation rooms, an infusion area, and a laboratory, and has facilitated more than 100 separate studies. In the last four years, there have been approximately 5,000 to 6,000 outpatient visits annually. Preeclampsia, endometrial cancer, preterm labor, drug use in pregnancy, postpartum depression, HIV, family planning and contraception, reproductive infectious diseases, reproductive endocrinology and infertility, bariatric surgery, and complementary medicine are among the health issues studied at the CTRC while extensive research in all types of women's cancer is conducted at the Womens Cancer Research Center.

Preeclampsia affects 6 to 8 percent of all pregnancies, putting both mother and baby at serious risk of complications including death. Approximately 30 percent of preeclampsia in our population is attributable to obesity. In a recently concluded study funded by the National Institutes of Health, Magee physician-researchers Drs. Carl Hubel, Arun Jeyabalan, Robert Powers, Robin Gandley, and James Roberts followed 700 obese and overweight women throughout their pregnancy and six to 24 months post-delivery to investigate the mechanisms by which obesity increases risk of preeclampsia. Common features of obesity and preeclampsia such as dyslipidemia, metabolic syndrome, inflammation, angiogenic dysregulation, and oxidative stress are currently being studied.

Researchers at Magee are taking the lead in a major effort to halt the global HIV/AIDS epidemic that has devastated families and claimed the lives of millions of people around the world. Today in the United States, more than 1.1 million people are living with HIV; globally, 34 million people are infected. As a part of the Microbicide Trials Network, Drs. Sharon Hillier, Richard Beigi, Beatrice Chen, and Katherine Bunge are testing the effectiveness and safety of microbicides for the prevention of HIV sexual transmission, including studies of pregnant and lactating women to evaluate maternal-child safety in this understudied population. NIH Microbicide Trials Network was recently awarded \$70 million to continue development of microbicides over the next seven years.

Each year, more than 53,000 babies in the United States are born pre-term, placing them at risk for serious health complications. Dr. Steve Caritis and researchers from the Magee Maternal Fetal Medicine Division are investigating the safety and efficacy of *(continued)*

medications used during pregnancy, including how progesterone and progesterone-like medications might reduce the rate of preterm labor. This study is a part of a multi-center trial of the Obstetric-Fetal Pharmacology Research Unit Network. (Read more about Dr. Caritis' work on page 26.)

In an ongoing NIH-funded study, Dr. Judy Chang is using qualitative methods to investigate how health care providers including physicians communicate with their patients. Through data analysis, Dr. Chang aims to characterize these variations and patient perceptions to determine how communication might affect health outcomes.

The CTRC is currently recruiting male and female participants (including healthy individuals) for approximately 30 different studies; investigations span family planning, pregnancy, HIV prevention, bariatric surgery outcomes, and infectious diseases to name a few. If you are interested in participating in a study and are between the ages of 18 to 65, you can learn more by visiting www.clinicalresearch.pitt.edu/SPP/Studies.

"Clinical trials have the potential to impact and change patients' lives," says Dr. Jeyabalan. "These studies are essential in answering specific scientific questions and finding better ways to prevent, detect, and treat diseases or improve care for people with certain medical conditions."



Interested in Participating in a Clinical Trial?

These are a few of the studies at the CTRC actively recruiting participants:

Mountain 24: Recruiting for post-menopausal women 45-65 years old who want to help women through an important research study of a vaginal ring to prevent HIV. This would include five visits at MWH over a five-month period. Please call 412-641-5496 if interested.

Fame 4 Study: Recruiting for women 18-45 years old, who are in good health and not pregnant, and who are interested in participating in a research study to evaluate a vaginal gel and film. This would include four clinic visits over 30 days. Please call 412-641-4242 if interested.

HIV Prevention Registry: Many studies draw participants from the HIV Prevention Registry. If you are interested in becoming a part of local research efforts to prevent HIV worldwide, TEXT BeAHero to 313131 to have information sent directly to your phone or call 412-956-9686. Additional information about the program may be found at www.HIVpreventionstudies.com.

For a complete list of clinical trials, visit www.clinicalresearch.pitt.edu/SPP/Studies.

To make a gift, visit mwrif.org/donate or call 412-641-8977.

Turning life's lemons into Lemon-AID-for-the-Cure



The Crawford family presents the staff of the Women's Cancer Center with the money raised through Lemon-AID-for-the-Cure.



Grateful patient, Kate Crawford, with her husband, Steve and son, Stephen.

With three-year-old twin daughters and a two-year-old son born with serious health issues, Kate Crawford hardly had time to think about anything other than caring for her children. Her own health was the last thing she worried about. When

she felt a lump in her breast in 2012, she assumed it was a clogged milk duct and dismissed it without another thought.

Kate and her husband, Steve, had more than their share of worry and sadness. The Belle Vernon couple lost their first child, Shannon, just a year before the twins were born. During the birth of their son Stephen, Kate almost died following a uterine abruption. Seven blood transfusions, multiple surgeries and three weeks in the hospital put Kate on the road to recovery, but little Stephen—born eight weeks premature—had serious complications that kept him in the Magee NICU for six weeks and would necessitate months of rehabilitative therapy.

At age two, Stephen was in therapy six days a week and Kate's days were consumed with medical appointments and caring for her three children.

In December 2012, everyone in Kate's family came down with a cold, during which time Kate's breast became red and swollen. Kate assumed the cold had settled in her breast—it never crossed her mind she could have breast cancer.

Kate made an appointment at Magee. Subsequent ultrasounds and a mammogram revealed a large mass in Kate's breast and a biopsy was ordered. On Jan. 25, 2013, she received the initial diagnosis – stage 2, grade 3 invasive ductal carcinoma.

A fighter by nature, Kate steeled herself for the battle ahead but in her heart, she was waiting for the "other shoe to drop." It didn't take long. At her surgical consultation two weeks later, Kate related other symptoms to her surgeon—an increasingly severe pain in her back and a bad cough. Following a body scan, the surgeon confirmed Kate's fears—the cancer cells that began forming in Kate's milk ducts had spread to her liver, shoulder, ribs, spine, pelvis and both breasts. Surgery at this stage was not possible.

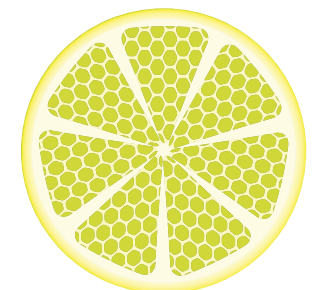
Kate and her husband met with Dr. Adam M. Brufsky, director of the Women's Cancer Center at Magee, who specializes in metastatic breast cancer. She learned she would probably need chemotherapy for the rest of her life and that survival rates were slim. Stunned, Kate stared her own mortality in the face.

Over the ensuing months, through family, friends, and her faith, Kate found the strength to fight for her life, all the while knowing it might be cut short. She created a bucket list of things she wanted to do (or wanted her family to know she had wanted to do) with her children—some elaborate, some quite simple—like having a lemonade stand with her children.

Fast forward to October. Kate was coping with the bad days and crossing off bucket list items on good ones. As she learned more about the disease that threatened her life, Kate was determined to raise money for life-saving research and was passionate to spread the word that breast cancer can strike young women. The idea of a lemonade stand began to take on a greater purpose.

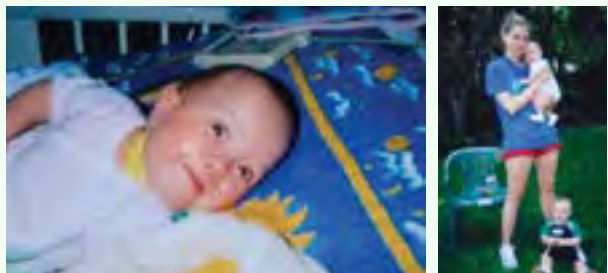
Dubbed "LemonAID the CURE," the family set up the booth two to three days a week to raise breast cancer awareness and funds for research and patient care. The LemonAID Stand appeared all around their home town at businesses and high school football games with its final appearance at Magee—where Kate and her family had come for hope and healing. When the last drop of lemonade was sold, more than \$5,500 had been raised, blowing away the family's goal of \$3,000. A \$1,000 donation was made to the Women's Cancer Center at Magee. An additional \$500 bought coffee gift cards as encouragement for cancer patients, and \$500 purchased brightly colored decals for IV bags to bring a little cheer into the chemotherapy room. And to help find a cure for the deadly disease ravaging the young mother, \$3,000 was given to Magee-Womens Research Institute & Foundation.

"Donating directly to Magee ensures the money will be used for metastatic breast cancer research," Kate says. "We love Magee. I don't know where we would be today without them."



Noah Angelici Foundation Offers Hope in the Fight Against Pregnancy-Related Diseases

In 2005, Jane Klimchak's daughter, Jennifer Angelici, told her mother she was expecting twins. She also told her not to worry, but that one fetus appeared to be smaller than the other and that her doctor ordered an ultrasound to check on the health of the twins. "They told me baby B was a lot smaller than baby A, but I don't think I was prepared for what I was about to learn or experience," says Jennifer, who now works as a nurse in Labor and Delivery at Magee-Womens Hospital of UPMC.



Noah smiles for the camera and poses with his mother, Jennifer Angelici, and twin brother, Jackson.

At 15 weeks into her pregnancy, Jennifer was diagnosed with twin-to-twin transfusion syndrome (TTTS) through an ultrasound. TTTS is a condition in which twins share a single placenta, causing the blood supply of the twin fetuses to become connected so that they share blood circulation through interconnecting blood vessels. A life-threatening condition, the only cure for TTTS is an *in utero* surgery to disconnect the twins' blood vessels. At the time of Jennifer's pregnancy, Magee did not offer this high-risk surgery and Jennifer had to travel to Florida. After a successful procedure, Jennifer returned home to Pittsburgh and her care team at Magee for the remainder of her pregnancy. Placed on bed rest at home, Jennifer had two to three ultrasounds every week until she delivered Jackson and Noah on June 24, 2005 at 34 weeks of pregnancy.

"There were many peaks and valleys in Jennifer's journey, but we will be forever grateful to our Magee family for supporting us. From Tonya who performed Jen's ultrasounds every week to Dr. Daniel Edelstone, who came in from home on his evening off to be there for the delivery, to Dr. Frederick Sherman who monitored Noah's heart every day, to the staff who helped care for the boys and Jennifer – we were incredibly blessed," says Jane.

While Jackson had some initial health issues, he was able to be discharged within 10 days. Noah, who had given his doctors, Jennifer and husband, Adam, concern from early on, faced many health challenges. He required continuous oxygen, feeding tubes, and multiples surgeries, including coarctation of the aorta. While Noah was able to stay at home for brief periods of time, much of his time was spent in Magee's Neonatal Intensive Care Unit (NICU), Children's Hospital of Pittsburgh of UPMC, and the Children's Home Transitional Infant Care. Noah bravely fought for his health for two and a half years, before he passed away in December 2007.

"Noah was a very sick little boy, but he had a ton of personality. He was always smiling, and when he could hear his mommy coming

into the NICU, his heart would beat faster with excitement. Noah brought us such happiness. I learned a lot from him. I learned that if you only look at the negative, life is filled with doubt and fear. But, if you look at the positive, you can always find hope. Noah was and still is a source of hope for us." says Jane.

Feeling unbelievably blessed for the time they shared with Noah and the support of the Magee care team and family and friends, Jennifer and Jane wanted to take their experience and turn it into something that would help others. With the goal of touching as many lives who are affected by TTTS as possible, the family founded the Noah Angelici Hope Foundation, which provides financial resources and emotional support to families facing similar health crises. The foundation also raises funds to support cutting-edge research and clinical care at Magee. With the addition of Dr. Stephen Emery in 2006, Magee established the Fetal Diagnosis and Treatment Center and is now a regional leader in fetal conditions, including TTTS. A primary focus for the Noah Angelici Hope Foundation is to establish an endowment to continue to support Dr. Emery's work.

"It's very important to us that we support the work at Magee. As a parent and as an employee, I know first-hand that Magee has the ability to make medical advances so that fewer families have to go through what we did with Noah," says Jennifer. "I know that the work that Dr. Emery and other physicians who treat high-risk pregnancies are doing is making a difference in twin-to-twin and other pregnancy-related diseases. Whether it's by purchasing equipment or funding research, we want to be part of that in Noah's honor."

Each year, the foundation hosts two events – Follow the Star Gala and the Noah Angelici Hope Foundation Memorial Golf Outing. To date, the foundation has graciously supported two local children's organizations in addition to contributing \$20,000 to Magee. On June 22 and 23, they will host the 7th annual golf outing at Mystic Rock Golf Course at Nemaacolin Woodlands Resort.



"We're really lucky to have support of sponsors, like the Torriero family of Nello Construction, the Hardy family of Nemaacolin Woodlands, and JAB Jewelers who designed a pin with the logo for Noah's foundation, and individuals like Jerry Taggart and Craig Wolfley of the Pittsburgh Steelers and our families and friends – it's their support of Noah and our cause that allows us to make a difference in the lives of so many," says Jane. "From every interaction with employees in the cafeteria to the nurses and doctors – everyone at Magee gave us an incredible sense of hope and we want to share that hope with others."

You can honor Noah by joining Magee, Jennifer, Jane (Noah's Mima), and the Noah Angelici Hope Foundation in the fight against pregnancy-related disease. To make a donation to Magee, visit wmrif.org/Donate or call 412-641-8977. To learn more about the Noah Angelici Hope Foundation Memorial Golf Outing, visit www.noahshouseofhope.com.

GENEROSITY IN ACTION

First National Bank Sponsorship Guarantees Golf Outing Success



Grateful patient, Debbie Barbarita, and her husband, Michael with her physician, Dr. Joseph Kelley and his wife, Karen Dunn Kelley

Last year, Michael Barbarita may have been a newcomer to First National Insurance Agency, an affiliate of First National Bank of Pennsylvania, but he and his wife, Debbie, were certainly not newcomers to Magee. Ever since Debbie's successful treatment for breast cancer at Magee, where she was under the care of Dr. Joseph Kelley, the Pittsburgh couple has been involved in fundraising efforts that benefit the hospital and research institute.

But Michael and Debbie wanted to do more—something meaningful to honor the physician who had done so much for them and something to help move research forward so other women would be spared the worry and heartache Debbie had experienced.

Stepping up their philanthropic efforts, they decided to host a golf outing, On the Right Course for Curing Women's Cancer at Laurel Valley Golf Club, to benefit cutting-edge women's cancer research. To enhance the event's success, Michael approached his new employer, First National Bank, to sponsor the event.

"Shortly after Deb and I decided to host the outing," Michael says, "Vince Delie, who is president and CEO of F.N.B. Corporation, stopped by my office. I mentioned our involvement with Magee and our plans for the golf outing. I knew FNB values people-to-people contact, and that the bank is heavily involved in the community," Michael recalls. "When I asked Vince if FNB would like to be the corporate sponsor for the event, there was no hesitation. He was very positive about

the work done at Magee and felt it was important to support an organization that contributes so much back to the community."

First National Bank, headquartered in Hermitage, PA, has more than 280 community banking offices throughout Pennsylvania, West Virginia, Ohio, and Maryland. Named a Top Workplace and a Best Place to Work for three consecutive years by the *Pittsburgh Post-Gazette* and the *Pittsburgh Business Times*, respectively, FNB is focused on enhancing the lives of the people and the communities it serves.

"FNB's generous sponsorship kicked off our fundraising efforts, setting us up for a tremendously successful inaugural event," Michael says. "Nearly \$40,000 was raised to help in the fight against cancer." Watch for additional details in the coming months regarding the 2nd Annual On the Right Course for Curing Womens Cancer event, slated for September 27 and 28, to benefit women's cancer research and education at Magee.

Recently, the Magee-Womens Foundation recognized Michael and Debbie's philanthropic work with the Elisabeth B. McCullough Fundraisers of the Year Award, which honors a deserving group of individuals or organizations that have demonstrated remarkable energy, dedication, and success in fundraising for Magee.

A Glimmer of Hope Foundation Supports Pre-Menopausal Breast Cancer

A Glimmer of Hope Foundation presented Magee with \$132,775 to continue its support for the fight against pre-menopausal breast cancer. The funds will be used to sustain Magee's patient navigator program and will help establish the Multi-disciplinary Pre-menopausal Breast Cancer Consultation Center. One of only a handful across the country, the new center will be a multispecialty clinic offering treatment for women with complicated breast cancers.



A Glimmer of Hope Foundation presents physicians and staff at Magee with a check to support breast cancer research and clinical care.

Smail Auto Donates \$125 for Every Vehicle Sold

Each October, Smail Auto Group in Greensburg, Pa., plasters its dealerships with bright pink ribbons in support of Breast Cancer Awareness Month, as part of its "Smail Auto Group Cares" campaign to raise awareness about breast cancer. The campaign supports breast cancer programs in the community by donating proceeds from automobile sales. This year, Smail donated \$125 for every new and used vehicle sold in October toward the battle against breast cancer - \$30,000 of which was generously donated to Magee to advance cutting-edge breast cancer research.



MWRI MORSELS



Sharon Achilles, MD, PhD received an additional \$500,000 to her grant, "HIV-target Cell Response in Women Initiating Various Contraceptive Methods in High HIV-incidence Areas," funded by The Bill & Melinda Gates Foundation. These additional funds will enable the team to expand the evaluation of the estonogesterel contraceptive implant, which is likely to be adopted as a method in South Africa and surrounding counties.

Lisa Bodnar, PhD, MPH, RD, and Hy Simhan, MD were cited in *The New York Times* about a study that showed that women with blood Vitamin D levels greater than 50 nM had a 40 percent reduction in the incidence of severe preeclampsia.



Francesca Facco, MD, received a \$3.4 million, five-year grant entitled, "Sleep Disordered Breathing, Obesity, and Pregnancy Study."

Susan Farabaugh, PhD, was awarded a three-year, \$300,000 grant from the Department of Defense Breast Cancer Research Program entitled, "Oncogene Induced Changes in Mammary Cell Fate and EMT in Breast Tumorigenesis," from the Department of Defense Breast Cancer Research.



Sharon Hillier, PhD, Ian McGowan, MD, PhD, and colleagues at the Microbicide Trials Network (MTN), received a seven-year, \$70 million grant renewal from the National Institutes of Health to study new and innovative ways to prevent HIV transmission.

Yi Huang, MD, and Nancy Davidson, MD, received a three-year, \$1,078,000 grant from Department of Defense to study the molecular mechanisms underlying the epigenetic changes in breast cancer.

Pam Moalli, MD, PhD, received an additional \$300,000 from A-Cell to study the biology of pelvic meshes in animal models.



Ian McGowan, MD, PhD, and a team of researchers led by RTI International, received a 5-year, \$12 million grant from the U.S. Agency for International Development (USAID) designed to develop a sustained delivery thin film polymer device for pre-exposure HIV prophylaxis.

Kyle Orwig, PhD, received a perfect score on a five-year grant, "Cellular Mechanisms of Chemotherapy-induced Male Fertility," from the National Institutes of Health.



Aleksander Rajkovic, MD, PhD, received a perfectly scored, five-year, \$1.6 million grant, "Transcriptional Regulation of Early Folliculogenesis," from the National Institutes of Health.

Yoel Sadovsky, MD, and Carolyn Coyne, PhD, and their research team were awarded the Cozzarelli Prize in the biomedical sciences for a July 2013 paper published in the Proceedings of the National Academy of Sciences (PNAS). The paper showed the cells of the placenta may have a unique ability to prevent viruses from crossing from an expectant mother to her growing baby and can transfer that trait to other kinds of cells. Dr. Sadovsky was also elected president of the Society for Gynecologic Investigation for 2016.



Anda Vlad, MD, PhD, joined the Immunology Program of the Graduate Faculty at the University of Pittsburgh.

Alex Yatesenko, MD, PhD, did a presentation on his work on "Intact full length RNAs were well preserved in undamaged sperm, irrespective clinical semen parameters" at the 2013 American Society of Andrology meeting, and on "A genome-wide mutation study of familial azoospermia using whole exome sequencing" at the 2013-Utah Florence conference on Genetics of Male Infertility.



Halina Zyczynski, MD, and the Division of Urogynecology received recognition for papers, presentations, and posters at the 34th annual meeting of the America Urogynecologic Society.



A LARGE DOSE OF ATTENTION FOR PREGNANT WOMEN



Dr. Steve Caritis

Maternal Fetal Medicine; and pregnant women are a different matter all together.

“People caring for pregnant women have worried about medications causing malformations, but fetal malformations are not the real problem any more. We pretty well know which drugs may cause fetal malformations. The real problem now is drug efficacy and safety. If a pregnant woman receives a dose of needed medication that’s too high, unwanted side effects may occur. If the dose is too low the medication will be ineffective,” says Caritis. “There can be a dramatic difference in drug absorption, metabolism, and elimination between pregnant women and men or non-pregnant women.”

And he should know.

Dr. Caritis started his career in 1975 and has had a lifelong passion for his work. Eight years ago, Dr. Caritis was awarded NIH funding to set up one of four Obstetrical Fetal Pharmacology Research Units (OPRU) in the country. “My colleague, Raman Venkataramanan, PhD, and I have been working for over 25 years performing studies on medications taken by pregnant women, especially labor inhibiting drugs. We submitted our grant proposal, and NIH agreed that we had the track record and expertise to contribute to any effort to study the pharmacology of medications during pregnancy.”

What’s the safest, most effective dose of medication you should take if you’re pregnant? Steve Caritis, MD, a long-time researcher at Magee, wants to know.

And thanks to a National Institutes of Health (NIH) grant, he and his team are making headway on this important subject.

“Children and women metabolize drugs differently than men,” says Caritis, fellowship director and former director of the Division of

Magee’s large patient population was a plus. Even though Caritis’ studies require smaller groups of subjects, he is looking for an optimal population with specific diseases. “Having a large patient base with many high-risk women with multiple or different problems is a strength of Magee. It also helps that we have a strong division of maternal-fetal medicine as a resource.”

Already the OPRU’s research has yielded a number of important findings, and Dr. Caritis is confident the programs will be funded for another five-year cycle. Caritis and Venkataramanan have published multiple papers each year since the network began in publications including *Drug Metabolism and Disposition*, *Clinical Pharmacokinetics*, *Journal of Pharmaceutical and Biomedical Analysis*, *Journal of Chromatography*, and the *American Journal of Obstetrics and Gynecology*, *Molecular Endocrinology*.

He offers three examples of ways this research is benefiting pregnant women:

For influenza — “The primary medication suggested by the United States government for H1N1 influenza prophylaxis and treatment is Oseltamivir (Tamiflu). We’ve demonstrated that the recommended dose is probably too low for pregnant women.”

For diabetes — Another published paper by the Pittsburgh OPRU showed that the dose for a commonly used blood sugar medication (Glyburide) probably needs to increase for pregnant women. *(continued)*

“Children and women metabolize drugs differently than men, and pregnant women are a different matter all together.”

-Dr. Steve Caritis

For pre-term birth prevention — Recently, Caritis co-authored a paper demonstrating that the dose of the only medication proven to reduce the risk of pre-term birth may need to be increased to be beneficial in a high percentage of patients.

“We need to study each medication in pregnancy. Factors change not only between pregnant and non-pregnant women, they can also change during pregnancy. So, for example, if you are taking a seizure medication that does not need to be increased in the first trimester, it may need to be increased a lot more in the second and third trimesters.”

Dr. Caritis and his team have a lot more they'd like to accomplish. After all, the pharmaceutical industry bases most of its drug dose recommendations on men and non-pregnant women. “The pharmaceutical industry does not want to be involved in research with pregnant women,” Caritis believes. While the government was able to pressure industry into performing studies on children and medication, they were unsuccessful when it came to pregnant women. “Industry balked,” remarks Caritis. “So the NIH decided the only way to optimize medication therapy in pregnant women was to have academic researchers perform those studies. That was the impetus for establishing the OPRU.”

The focus on obstetrical pharmacology at Magee is unique in that Drs. Caritis and Venkataramanan are the only investigators in the country with a training grant in obstetrical pharmacology. That means they are funded by the NIH to train the next generation of researchers in obstetrical pharmacology; and that's good news for both pregnant women and Magee.

“Our long-term objective is to optimize pharmacology therapy for pregnant women, regardless of what complications they have. We want to make sure that any time a pregnant woman is taking a medication that she and her physician know that she is taking it the right way with the proper dose.

“If we can do that,” he adds. “That is an accomplishment.”

To make a donation to help fund maternal-fetal medicine research, call 412-641-8977 or donate online at MWRIF.org/Donate.

“We need to study each medication in pregnancy as pregnancy can affect every aspect of how the body handles medications. Medication dosing regimens derived from studies in men or non-pregnant women cannot be applied to pregnant women.”

-Dr. Steve Caritis



Integrated Approach Heals Body, Mind, and Spirit



For more than 100 years, Magee has been at the forefront of innovations to improve women's health, striving to ensure women receive all the help that science can give and all the comfort that kind hands and hearts can impart. Today, this is truer than ever as Magee integrates traditional medicine with complementary therapies designed to treat the whole person, not just the condition. In a place where stress, illness, and great challenges can overwhelm patients, it is becoming apparent that these therapies provide respite, relieve pain, and empower patients — improving outcomes and patient satisfaction.

According to Janet Leahy, CRNP, nurse practitioner for the palliative care service and director of the Sara Jean Biankowsky Palliative Care Fund at Magee-Womens Hospital of UPMC, emerging evidence indicates complementary therapies, such as massage and acupuncture, music, art and pet therapy, and yoga significantly reduce a patient's stress and anxiety levels, while contributing to better pain and symptom management and overall well-being.

For patients dealing with a chronic or life-limiting illness, the palliative care team at Magee develops a tailored treatment plan that helps the patient maintain a high quality of life for as long as possible. Massage and music therapy improves the patient's state of mind while helping to reduce pain and helping them relax. But complementary therapies are not limited to palliative care. In April 2013, Frances Desmone, DA, LAc., a classically trained, licensed acupuncturist joined the Magee team. Desmone says, “Magee is ahead of the curve in offering holistic medicine for its patients. Life, stress, and the environment impact your health; acupuncture is able to balance your mind and body for optimal health and reduce your stress levels.”

This spring, Jennifer Rozell, MA, AT, joined Magee as a full-time art therapist, tasked with implementing a creative and expressive arts therapy program. Last year, while completing her internship at Magee, Ms. Rozell brought art therapy to the high risk obstetrics unit—and later to other units throughout the hospital—to help patients and their families emotionally process their situations, increasing their self-awareness and improving self-care. Patients reported reductions in stress and positive mood changes as a result of their participation.

When the art therapy program is fully implemented and funding can be secured, Ms. Rozell hopes to conduct qualitative research to explore the experiences and perceptions of the program from the perspectives of patients, medical providers and medical staff to demonstrate the effectiveness of art therapy for hospitalized women.

Leslie Gostic MSN, RNC-MNN, CBC, unit director for high risk obstetrics at Magee sees the benefit complementary therapies have for the expectant mothers under her care. “These women may be admitted for a few days or for weeks,” Ms. Gostic says. “For patients who are here long term, anxiety, worry and loneliness sets in because their families cannot be here all of the time. Our nursing team brought forth great ways to connect the patients with opportunities for them to spend time together outside of their rooms. “Prenatal education classes for expectant mothers are offered free-of-charge on the unit and pre-natal yoga classes — benefitting body, mind and spirit— have been a great hit with the mothers-to-be. Recently, pet therapy, already in use in the oncology unit, was introduced on the obstetrics unit. “The animals not only help the patients,” says Ms. Gostic, “but they brighten the days of the staff, as well.” As a national leader in women's health, Magee takes pride in providing innovative patient care and is committed to improving patient outcomes by combining traditional and complementary therapies. Although proven effective, complementary therapies are often not covered by insurance, preventing many patients from benefitting from these innovative treatments.

By making a gift to the Patient Care Fund or the Palliative Care Fund, you can help women receive complementary therapies at Magee. **To make a gift, visit mwrif.org/Donate or call 412-641-8977.**

May 17

Aiden J. Strack Golf Classic
Where: Indian Springs Golf Course, Indiana, PA
 Proceeds benefit the neonatal intensive care unit at Magee
www.aidengolf.com

May 30

Research Day in Reproductive Biology in Women's Health
Where: Magee-Womens Hospital of UPMC

June 1

Kids and Critters: Annual NICU Reunion
Where: Pittsburgh Zoo & PPG Aquarium, Pittsburgh, PA

When: 11:30 a.m. to 2:30 p.m.
 Proceeds benefit the neonatal intensive care unit at Magee
www.mwrf.org

June 5

PAR-TEE for HOPE
Where: Treesdale Golf & Country Club, Gibsonia, PA

When: 9 a.m. to 5 p.m.
 Proceeds benefit A Glimmer of Hope Foundation in support of pre-menopausal breast cancer research at Magee-Womens Research Institute
www.symbolofthecure.com

June 8

25th Annual Cancer Survivor's Day Celebration
Where: Sheraton Station Square, Pittsburgh, PA

When: 9 a.m. to noon

June 22 and 23

7th Annual Noah Angelici Memorial Golf Outing
Where: Mystic Rock at Nemaacolin Woodlands Resort, Farmington, PA. Proceeds benefit the Center for Advanced Fetal Intervention at Magee
www.noahshouseofhope.com

July 16 and 17

Clays for the Cure
Where: Seven Spring Sporting Clays Lodge
 Proceeds benefit A Glimmer of Hope Foundation in support of pre-menopausal breast cancer research at Magee-Womens Research Institute
www.symbolofthecure.com

Aug. 21

SAVOR Pittsburgh
Where: Stage AE, Pittsburgh, PA
 Proceeds benefit prematurity research at Magee. See ad on the next page.

Sept. 11 and 12

Fly Fishing Classic
Where: Homewaters Club, Spruce Creek, PA
 Proceeds benefit the Magee's Women's Cancer Research Center
 For more information, call Arthur Scully at 412-641-8977.

Sept. 27 and 28

On the Right Course to Cure Women's Cancer
Where: Laurel Valley Golf Club, Ligonier, PA
 Proceeds benefit women's cancer research and education at Magee
www.mwrf.org

Oct. 23

Alumni Reception
Where: Mansions on Fifth

Oct. 24

39th Annual Alumni Day
Where: Magee-Womens Hospital of UPMC

Nov. 1

The Cradle will Rock, A Platinum Affair
Where: The Duquesne Club
 Proceeds benefit the neonatal intensive care unit at Magee.

For more information, visit www.mwrf.org or call 412-641-8977. For sponsorship opportunities, call Denise Wickline at 412-641-8911.



Former Pittsburgh Penguin, Brian Trottier, signs autographs for fans at this year's Skate with the Greats.

2014 "Skate with the Greats" presented by 84 Lumber

In January, Penguins fans had the chance to skate with popular Pens alumni including Randy Hillier, Mark Recchi, Bryan Trottier, Jay Caufield, Troy Loney, Peter Taglianetti, and Penguins Head Coach, Dan Bylsma at CONSOL Energy Center. The event raised \$14,960, which will benefit breast cancer education and research at Magee-Womens Research Institute & Foundation.



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For more information, to purchase tickets, or to make a donation, visit www.savorpgh.com or call 412-641-8977.

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please contact Aruthur Scully at ascully@magee.edu or 412.641.8973.

