

MAGEE

SUMMER 2013

A PUBLICATION OF MAGEE-WOMENS RESEARCH INSTITUTE & FOUNDATION

THROUGH THE LENS

*OF SCIENTIFIC VISIONARY
YOEL SADOVSKY, MD*

Vitamin D Deficiency
LINKED TO SMALLER BABIES

Longtime Nurse
MAKES MAJOR DONATION

Coming Soon:
WEBCAMS IN MAGEE NICU

16



MAGEE

VOLUME 6 | SUMMER 2013

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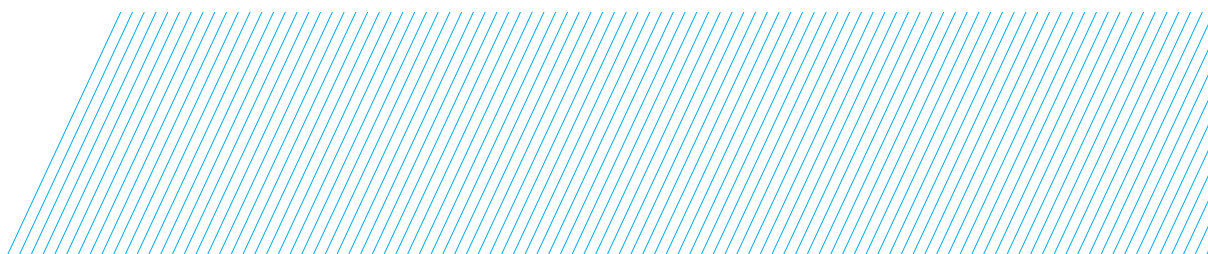
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NOTE WORTHY

OBSTETRICIANS COULD DO MORE TO HELP PATIENTS QUIT SMOKING

Most obstetric care providers are missing the mark when it comes to helping pregnant women quit smoking, according to a new study by Magee-Womens Research Institute investigator **Judy Chang, MD, MPH**.

Studies have shown that patients are more likely to quit smoking when health professionals follow the “5 A’s” treatment model: ask if the patient smokes, advise them to quit, assess their willingness, assist with strategies and resources for quitting, and arrange follow-up visits. Dr. Chang and colleagues reviewed audio recordings of 301 prenatal visits and found that while most care providers regularly asked about smoking, only a third of visits included advice to quit or assistance with strategies, and none of the providers arranged follow-up care to assess smoking cessation efforts. On average, care providers spent just 47 seconds talking about smoking, which is harmful to both mother and baby. Babies born to women who smoke during pregnancy are at higher risk for prematurity, low birth weight, and birth defects such as cleft lip or palate. Nearly half of the women in the study reported being current smokers.

“Prior research shows that knowledge alone is not enough to motivate behavior change,” Dr. Chang said. “Since active help with resources and strategies to quit are a key component to successful cessation, we need to bridge the gap in provider-patient communication so that obstetricians, nurse practitioners, and other providers who interact with patients can more effectively address cessation with their pregnant smokers.”

The study was published in the January/February 2013 issue of the *American Journal of Health Promotion*.



STUDY HIGHLIGHTS NEED FOR PRECONCEPTION COUNSELING

About 6 percent of U.S. pregnancies are exposed to medications linked to birth defects. That's because half of U.S. pregnancies are unintended, and women prescribed these medications rarely receive birth control advice during doctor visits.

In light of these statistics, Magee-Womens Research Institute investigator **Eleanor Bimla Schwarz, MD, MS**, designed a study to see if primary care physicians are more

likely to provide family planning services to women who report that they're pregnant, trying to become pregnant, not trying but wouldn't mind being pregnant, or trying to avoid pregnancy but not using contraception. She found that routine assessment of pregnancy intentions — a so-called contraceptive vital sign — had little effect on the rate of preconception and contraceptive counseling. Only 7 percent of women who reported nonuse of contraception

received family planning advice when prescribed medications linked to birth defects.

Dr. Schwarz and colleagues concluded that “ongoing efforts are needed to improve provision of preconception and contraceptive services.”

The study was published in the November/December 2012 issue of the *Annals of Family Medicine*.



HIV RESEARCHERS REAP \$10.3 MILLION FROM GATES FOUNDATION

The Bill & Melinda Gates Foundation has awarded \$10.3 million in grants to HIV research projects led by Magee-Womens Research Institute investigators **Sharon Achilles, MD, PhD, Ian McGowan, MD, PhD, and Lisa Cencia Rohan, PhD**.

Dr. Achilles received a three-year \$5 million grant to explore the impact of hormone-based contraception on the cells of the genital tract, particularly the immune cells that are targeted by HIV. Some studies have suggested that hormone shots such as Depo-Provera make women more susceptible to HIV, the virus that causes AIDS.

Dr. McGowan received a two-year \$4.5 million grant for a study assessing the acceptability and safety of injecting rilpivirine, a long-acting HIV drug, into muscle of HIV-negative people with the aim of preventing infection.

Dr. Rohan, who received a 15-month \$758,000 grant, is studying the feasibility of thin film dosage forms for vaginal delivery of contraceptive or HIV prevention drugs.

MAGEE MAGAZINE *AROUND THE WORLD*



Michele (Hollyfield) Gilbert, MD, a 2000 Magee ob-gyn residency alumna, poses with the winter 2012-13 issue of *MAGEE* at the Hualalai Resort on the Big Island of Hawaii. Dr. Gilbert is an obstetrician-gynecologist with the Hawaii Permanente Medical Group, which provides care to Kaiser Permanente members.

We are accepting photos like this for future issues. Please submit photos with captions to info@mwrif.org.

MWRI MORSELS

[MAGEE-WOMENS RESEARCH INSTITUTE]



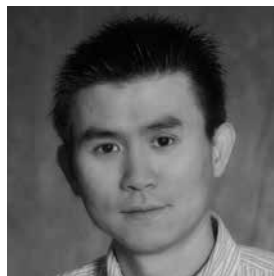
Charlene Dezzutti, PhD, participated in the National Institute of Health Office of AIDS Research Advisory Council. She discussed tissue models to study HIV risk and prevention in women.



Catherine Haggerty, PhD, MPH, was cited in a *New York Times* story on a new recommendation by the American Academy of Pediatrics that doctors talk to teenagers about the morning-after pill. Dr. Haggerty, an associate professor in the University of Pittsburgh Department of Epidemiology, co-authored a recent review of literature on providing girls and young women with advance prescriptions for emergency contraception.



Sharon Hillier, PhD, was invited by Dr. Francis Collins, director of the National Institutes of Health, to lecture on HIV/AIDS at the Celebration of Science in Washington, D.C. Held September 7-9, the conference brought together more than 1,000 scientific and policy leaders.



Xin Huang, PhD, received a three-year \$450,000 grant from the Ovarian Cancer Research Fund for "Novel strategy of metabolic targeting ovarian cancer: focusing on the tumor hypoxia pathway."

Valerian Kagan, PhD, DSc, was named a fellow of the American Association for the Advancement of Science. He was honored for his distinguished contributions to the fields of free radical biology, medicine, and programmed cell death.



Tony Plant, PhD, gave a talk on "The neurobiology of GnRH pulsatility: a mode of hypothalamic activity essential for folliculogenesis, ovulation, and spermatogenesis" at the August 2012 Annual Meeting of the Society for the Study of Reproduction in State College, Pennsylvania. In October he gave several talks in Argentina.



Aleksandar Rajkovic, MD, PhD, gave a talk on "Molecular mechanisms and consequences of premature ovarian aging" at the August 2012 Annual Meeting of the Society for the Study of Reproduction in State College, Pennsylvania. In October he spoke on "Genomic markers for ovarian failure" at Ovarian Reserve: Regulation and Implications for Women's Health, a San Diego conference sponsored by the Eunice Kennedy Shriver National Institute of Child Health and Human Development and the American Society for Reproductive Medicine.

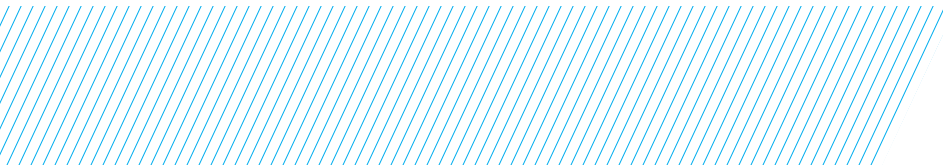
Dr. Rajkovic joined the scientific advisory committee for the March of Dimes Basil O'Connor Starter Scholar Research Awards, which are designed to support young scientists embarking on independent research careers.



Yoel Sadovsky, MD, scientific director of Magee-Womens Research Institute, in collaboration with Carolyn Coyne, PhD, of the University of Pittsburgh Department of Microbiology and Molecular Genetics, received a five-year \$2.4 million R01 grant from the Eunice Kennedy Shriver National Institute of Child Health and Human Development for "Primary human trophoblasts and the transfer of viral resistance."

In September Dr. Sadovsky gave a talk on "How does the placenta get fat?" at Japan's Kobe University. The following month he participated in the annual Gilbert S. Greenwald Symposium on Reproduction at the University of Kansas Medical Center, speaking on "Feto-placental defense: a macro role for microRNAs."

In January Dr. Sadovsky gave a talk about placental microRNAs at the University of Edinburgh in Scotland.



Kyle Orwig, PhD, participated in the annual Gilbert S. Greenwald Symposium on Reproduction at the University of Kansas Medical Center, speaking on “Translating spermatogonial stem cell transplantation to the clinic.”



Hyagriv Simhan, MD, MS, in collaboration with Catherine J. Baty, DVM, PhD, of the University of Pittsburgh Department of Cell Biology, received a one-year \$25,000 BaCCoR (Basic to Clinical Collaborative Research) grant from Pitt’s Clinical and Translational Science Institute for “The role of placental lymphatics in preeclampsia and IUGR.”

Dr. Simhan, chief of Maternal-Fetal Medicine at Magee-Womens Hospital of UPMC, was cited in a *Pittsburgh Tribune-Review* story on new statistics showing a decline in the percentage of babies born prematurely. “It’s important to point out that this is the first five-year period in the U.S. and in Pennsylvania where we’ve seen a flattening out of the preterm birth rate,” he told the newspaper.



Judith Yanowitz, PhD, received a five-year \$1.3 million R01 grant from the National Institute of General Medical Sciences for “Characterization of the meiotic crossover surveillance system.”

Dr. Yanowitz was invited to talk about “Deciphering the recombination landscape” at the University of Virginia in Charlottesville, Virginia. She was also invited to talk about “X and the art of crossover maintenance” at Princeton University in Princeton, New Jersey.

Kathleen Ryan, PhD, was awarded the Distinguished Service in Medical Education Award, the highest honor in medical education given by the University of Pittsburgh School of Medicine.



Alexander Yatsenko, MD, PhD, gave a talk on “UBE2B mRNA mutations and their association with severe oligozoospermia” at the 7th European Congress of Andrology, held Nov. 28-Dec. 1 in Berlin.

SUSTAINABILITY *SCOOP*

UPMC ADDING ‘GREEN’ SHUTTLES, VEHICLE CHARGING STATIONS

UPMC is saying so long to 20 diesel-fueled shuttle buses and replacing them with shuttles that run on compressed natural gas (CNG), a cleaner alternative to diesel and gasoline because it emits little to no mercury, sulfur dioxide, or particulates. CNG is also plentiful and domestically produced.

By switching to CNG vehicles, UPMC is eliminating the consumption of the equivalent of nearly 1,400 barrels of petroleum annually.

UPMC’s commitment to green transportation doesn’t end there. The nonprofit health system is adding vehicle charging stations at several facilities, including Magee-Womens Hospital of UPMC, which is good news for employees and visitors with electric vehicles or plug-in hybrids. They’ll be able to charge their vehicles for just the cost of parking.

+20

COMPRESSED NATURAL GAS

SHUTTLES



RISING STARS → Prizes and praises for our trainees



Jamie L. Lesnock, MD, a former gynecologic oncology fellow at Magee-Womens Hospital of UPMC, won the Society of Gynecologic Oncology's Best Basic Science Poster Award for "Germline versus somatic BRCA mutations: analysis of The Cancer Genome Atlas project in patients with advanced stage serous epithelial ovarian cancer," which she presented at the 2012 Annual Meeting on Women's Cancer in Austin, Texas. She accepted the award at the 2013 Annual Meeting, held March 9-12 in Los Angeles. "This award is reflective of the dedication and hard work of Dr. Lesnock and her colleagues," said Joseph Kelley, MD, division chief of gynecologic oncology at Magee. "As a division, we hope to advance the care of women with gynecologic cancer and to train the next generation of gynecologic oncologists. This award is recognition of our efforts and will help us to attract top-tier faculty and trainees to our program." Dr. Lesnock, who completed her fellowship training in June 2012, now practices gynecologic oncology at Mon General Hospital in Morgantown, West Virginia.

Pawan Puri, PhD, a postdoctoral scholar in the lab of William Walker, PhD, received a one-year \$10,000 grant from the Morris Animal Foundation for "Chemical ablation of SHP2 activity by NSC-87877 to develop a sterilant for cats and dogs."



Steven Abramowitch, PhD, a scholar in MWRI's Building Interdisciplinary Research Careers in Women's Health (BIRCWH) program, received the 2012 Award for Diversity from the University of Pittsburgh Swanson School of Engineering. Dr. Abramowitch, an assistant professor in the Department of Bioengineering as well as the Department of Obstetrics, Gynecology and Reproductive Sciences, was recognized for his work in leading science summer camps for middle school and high school students, his mentorship of undergraduates, and many publications with women and under-represented students.



Gosia Skaznik-Wikiel, MD, a gynecologic oncology fellow in the lab of Kyle Orwig, PhD, received the American Society for Reproductive Medicine's Scientific Program Prize for her work using granulocyte colony-stimulating factor to protect ovarian follicles from the toxic effects of chemotherapy.



Study for the prevention of HIV with monthly injections

In a study called Options Now (ON), researchers will assess the acceptability and safety of injecting rilpivirine, a long-acting HIV drug, into the muscle of HIV-negative people with the aim of preventing

infection. Participants must be:

- Healthy, HIV-negative men or women
- 18 to 45 years of age
- Not pregnant or nursing
- Willing to be monitored for five to seven months

For more information, please call Rita Lisa Labbett, MPH, at 412.852.0390.

Vitamin D Deficiency Linked to Lower Birth Weights

BY ANNA DUBROVSKY

IN RECENT YEARS, VITAMIN D DEFICIENCY HAS been linked to everything from daytime sleepiness to early breast cancer. A new study by Magee-Womens Research Institute investigator Lisa Bodnar, PhD, MPH, RD, adds to mounting evidence that vitamin D may also play an important role in pregnancy.

In an analysis of 2,146 full-term pregnancies, Dr. Bodnar and colleagues found that vitamin D deficiency early in pregnancy may adversely impact fetal growth. Women deficient in vitamin D in the first 26 weeks of pregnancy delivered babies who weighed an average of 46 grams less than babies of women with normal vitamin D levels. More worryingly, women deficient in vitamin D in the first trimester were twice as likely to have small for gestational age (SGA) babies, who weigh less than 90 percent of all babies born in the same week of pregnancy. SGA babies are at greater risk for death in their first month and chronic diseases later in life.

Interestingly, the researchers found no association between vitamin D deficiency in the second trimester and SGA risk. “It points to the fact that although levels of vitamin D may not change from first to second trimester, perhaps something else changes along the very complicated biological pathway of vitamin D,” Dr. Bodnar says. “Perhaps the receptors change or the binding protein or an enzyme in that pathway. One of the things we need to figure out is: Why does the first trimester seem to be particularly important?”

Vitamin D is often called the sunshine vitamin because our bodies make it when we get adequate sun exposure. Trouble is, many of us don’t. “Vitamin D deficiency is incredibly common,” says Hyagriv Simhan, MD, MSCR, chief of the Division of Maternal-Fetal Medicine at Magee-Womens-Hospital of UPMC and a co-author of the study. “More and more people spend less time outside. They wear lots of sunscreen if they are outside.

And Pittsburgh is one of the grayest cities in America. We have a huge prevalence of vitamin D deficiency.”

To avoid deficiency-related health problems, vitamin D is added to foods such as dairy products and breakfast cereals. It can also be taken as a supplement. But Drs. Bodnar and Simhan say it’s premature for doctors to recommend that pregnant women supplement their diets with anything more than prenatal vitamins, which contain a small amount of vitamin D. “Although studies like this one suggest that low levels of vitamin D are related to risk of SGA – and we have some other results suggesting it’s related to risk of preeclampsia – these studies are purely observational. They can’t prove causality,” Dr. Bodnar says. “We need randomized trials in order to determine whether or not vitamin D supplementation will prevent small for gestational age or preeclampsia. It’s certainly possible that these adverse outcomes are not necessarily directly related to vitamin D but are explained by something else that vitamin D deficiency is correlated with,” like physical activity or pattern of diet.

Dr. Bodnar’s study used blood samples and data collected from pregnant women who participated in the Collaborative Perinatal Project, which was conducted in 12 U.S. medical centers from 1959 to 1965. Before proceeding to clinical trials, she believes it would be beneficial to repeat the study in a modern sample of pregnant women. Women today smoke less, weigh more, spend less time in the sun, and get more vitamin D in their foods — all of which could affect their vitamin D levels and babies’ birth weights.

The study was published in the January 1, 2013, issue of *The Journal of Clinical Endocrinology & Metabolism*. Lead author Alison Gernand, PhD, MPH, RD, is a postdoctoral fellow in the University of Pittsburgh Graduate School of Public Health’s Department of Epidemiology.



Dr. Lisa Bodnar

PREGNANT OR TRYING?

Take a daily multivitamin that contains vitamin D if you’re planning a pregnancy.

Take a daily prenatal vitamin during your pregnancy.

If you’re concerned about your vitamin D status, talk to your doctor about having your vitamin D levels checked. People who have darker skin, live in cold climates, or spend most time indoors are more likely to be deficient in vitamin D.



New Wellness Program Gets People Sweating, Socializing

BY ANNA DUBROVSKY



Dr. Vicki March and Dr. Jeffrey Gusenoff

ON FRIDAY EVENINGS, THE THUMP-THUMP OF DANCE MUSIC DRIFTS FROM a second-floor meeting room at Magee-Women Hospital of UPMC. Inside, people are doing something you don't often see at a hospital: getting a good workout.

The weekly exercise class is part of BodyChangers, a new wellness program that also includes yoga classes, support groups, cooking demonstrations, group bike rides, and even belly dancing classes. The program is open to everyone, regardless of fitness level or weight goal.

BodyChangers is the brainchild of two Magee physicians: Jeffrey Gusenoff, MD, a plastic surgeon who specializes in body contouring after major weight loss, and Vicki March, MD, an internist and obesity specialist. Their goal isn't just to get people moving. They're also determined to get people mingling. "Our exercise classes are different from other exercise classes — and I have been to many," Dr. March says. "People stick around afterward and chat and share stories and make friends. They form a sort of community. It is the community that makes people come back for more. It's the sense of friendship, the sense of doing something with like-minded people who have the same problems."

Research suggests that individuals assume the health habits of the people they associate with, Dr. March adds. "There was a study in the *New England Journal of Medicine* showing that people became obese when they associated with others who were already obese. I think if people spend time with folks who are already pursuing a healthy lifestyle, they will do the same."

In other words, if your friends head to a bar after work to drink beer and eat chicken wings, chances are you'll join them. BodyChangers strives to offer fun alternatives — it's no accident that the Friday evening exercise class is called "Happy Hour Redefined" — in a non-intimidating environment.

"For people who haven't done a lot of exercise, or who have never done yoga, or who have never met with a nutritionist, or don't even know what behavior modification is, it's a wonderful opportunity to get a taste of all these things and see what works," says BodyChangers member Jean Haller, who underwent gastric bypass surgery at Magee in 2010.

BodyChangers offers free, \$25-per-month, and \$50-per-month membership levels (see box). Membership has soared to more than 400 since the program was launched last July.

Drs. March and Gusenoff aren't just co-directors of the program. They're also members. They rarely miss an exercise class or other BodyChangers event, and they're hoping to recruit more physicians. "I think if people see that their doctors are walking the walk or running the run, they will do it too," Dr. March says.

They're also hoping to expand the program to other UPMC locations – and beyond. “We would like people in Cranberry or the South Hills to have access to similar programming and not have to drive into Oakland to get it,” Dr. Gusenoff says. “Ultimately, we’d like to be a model for the rest of the nation.”

WANT TO JOIN BODYCHANGERS?

There are three membership levels:

BASIC

Free. E-newsletter, educational seminars, and \$10 fee to attend other events.

GOLD

\$25/Month. All Basic features, plus: exercise classes, cooking and nutrition classes, behavioral support groups, and all other events (a nominal fee may apply for certain events).

PLATINUM

\$50/Month. All Gold features, plus: a monthly 30-minute personalized session with a registered dietitian and a quarterly facial at the UPMC Aesthetic Plastic Surgery Center.

TO SIGN UP, CALL 855.263.9244 OR VISIT WWW.UPMC.COM/BODYCHANGERS.



Dr. Ellen Dillavou

Vein Center Opens at Magee

BY ANNA DUBROVSKY

MAGEE-WOMENS HOSPITAL OF UPMC IS NOW HOME TO A VEIN center that offers treatment of everything from spider veins to potentially fatal blood clots.

The Magee-Womens Vein Center opened last year as the first dedicated vein clinic in the UPMC system. A second vein clinic opened at UPMC St. Margaret in August. “Hopefully by establishing these vein centers we can make it easier for patients to get the focused vein care they need right away,” says Ellen Dillavou, MD, director of the clinics. Specialized vein services are also available at the UPMC Passavant and UPMC Shadyside vascular clinics.

Dr. Dillavou and her colleagues at the Magee-Womens Vein Center spend much of their time treating varicose veins, which occur when faulty valves within the veins fail to keep blood moving toward the heart. Blood then pools in the veins, which can cause them to thicken, twist and turn, and bulge. Varicose veins are most common in the legs and can cause leg fatigue, aching, itching, and other symptoms.

Treatment of these veins has come a long way. “Our options today are so much better than they were 15 or 20 years ago,” says Dr. Dillavou, a board-certified vascular surgeon. “It used to be that if you had varicose veins, you got a vein stripping, which means literally pulling the veins out of your body. That was painful and caused a lot of bruising. Sometimes it worked pretty well, and sometimes it did not work well at all. Now we have treatments that are kinder, gentler and work better.”

The kinder, gentler treatments include radiofrequency ablation, which involves inserting a small catheter into the vein and using radiofrequency energy to heat and destroy it. “That does the same thing as a very good vein stripping, but it only takes an hour, and you can get up and go out for lunch afterward,” Dr. Dillavou says. The vein center also offers sclerotherapy, which involves injections of a medication that shrinks veins.

These minimally invasive procedures can significantly improve a patient’s quality of life, Dr. Dillavou says. “It is really a treat to be able to make such a big difference in people’s lives with an easy, low-risk treatment that they tolerate very well. That sort of combination does not happen that often in medicine.”



THROUGH THE LENS

OF YOEL SADOVSKY, MD

The director of Magee-Womens Research Institute shares his perspective on the past five years and his vision for the future.

IT'S NOT OFTEN THAT SOMEONE BEATS YOEL Sadovsky, MD, to work. Most days, the director of Magee-Womens Research Institute is in his office by 6:30 a.m. He commonly stays for upwards of 12 hours.

It's not so he can avoid rush hour traffic. And it's not to light a fire under his fellow researchers. "I work many hours not because I have to, and not because I am trying to set an example for others," he says. "I do it because I just enjoy what I do."

Dr. Sadovsky has done a lot since taking the helm of the research center in 2007. He has recruited more than 20 investigators, expanded training programs for future scientists, and raised the international profile of America's premier center for women's health research. Last year, the institute's 80-some investigators published more than 250 papers, up from about 100 in 2007. They garnered \$37 million in funding from the National Institutes of Health (NIH). No medical school in the country received nearly as much federal support for research in obstetrics and gynecology.

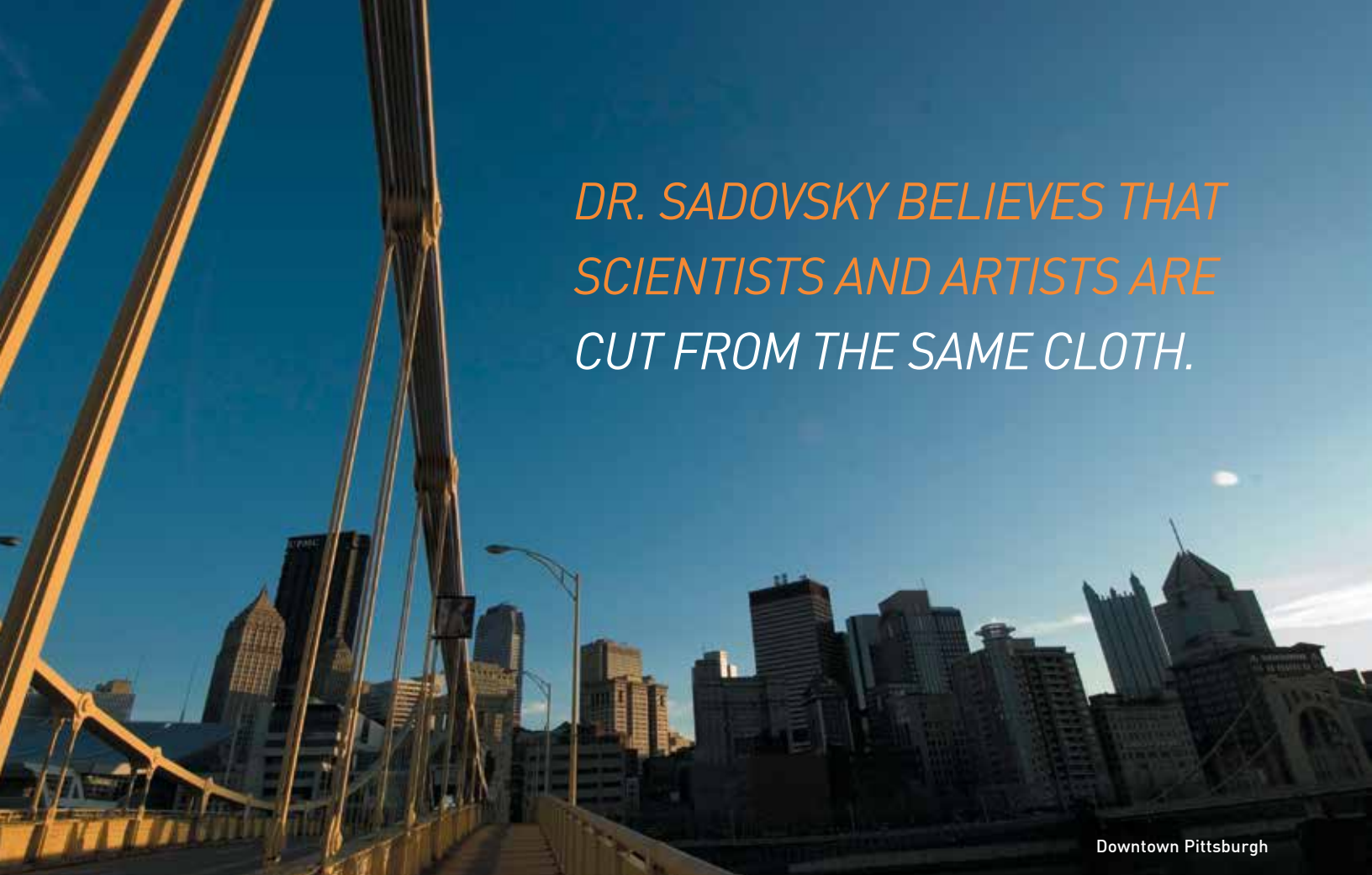
Dr. Sadovsky's administrative and ambassadorial duties have not hampered his own research, which focuses on placental development and function. The third-generation obstetrician-gynecologist has made significant contributions to the understanding of placental function and identified proteins that protect the placenta against injury. Most recently, his lab uncovered some unique functions of small RNA (ribonucleic acid) molecules that are found only in the placenta.

Outside the lab, the Israeli-born physician-scientist enjoys bicycling Pittsburgh's hills, listening to classical music, and visiting area museums. He's also an avid photographer. The halls near his office are hung with his architectural and abstract photographs, along with metal work by his wife, who also works in his lab, and paintings by their artist daughter. His photos can also be found on the cover and pages of this issue of *MAGEE*.

Dr. Sadovsky believes that scientists and artists are cut from the same cloth. "What does it take to be a good scientist? Like an artist, you have to be extremely creative. Science is about thinking about problems in a different way and identifying uncharted territories that have not been explored before. And like an artist, you have to be willing to work hard. Every experience inspires the artist's mind. It's the same for scientists. I think about experiments when I drive, when I shave, or when I am cramped on an airplane."

"YOEL IS NOT ONLY A BRILLIANT SCIENTIST BUT AN INSPIRING LEADER. HIS BOLD VISION FOR WOMEN'S HEALTH RESEARCH HAS HELPED THE INSTITUTE ATTRACT SOME OF THE NATION'S PREEMINENT INVESTIGATORS AND MADE IT A MODEL FOR WOMEN'S HEALTH RESEARCH PROGRAMS AROUND THE WORLD. THE FACT THAT MWRI RECEIVES MORE FEDERAL SUPPORT FOR REPRODUCTIVE SCIENCES RESEARCH THAN ANY PLACE ELSE IS A TESTAMENT TO THE INCREDIBLE CALIBER OF WORK HERE."

MARGARET JOY, CHAIRWOMAN, MAGEE-WOMENS RESEARCH INSTITUTE & FOUNDATION BOARD OF DIRECTORS



Downtown Pittsburgh

DR. SADOVSKY BELIEVES THAT SCIENTISTS AND ARTISTS ARE CUT FROM THE SAME CLOTH.

To mark his fifth anniversary at Magee-Womens Research Institute (MWRI), MAGEE magazine sat down with Dr. Sadovsky to talk about his passion for science, how he has shaped the institute, and where he hopes to take it. The answer to the latter question, not surprisingly, was uncharted territory.

What sparked your interest in medicine?

I can't tell you that I wanted to become a physician from the day I was born. My father and grandfather were both ob-gyn physicians, and I saw many positive as well as negative sides of the profession. But I was always asking questions about things that we would see and were exposed to, and trying to understand why things are the way they are. I guess that's part of my nature. It was after high school and my military service [in Israel] that I decided to go to medical school. Medicine challenges us to understand where we came from and how we can influence our fate. I know these sound like big words, but that's really what I thought at the time and what I think now. I like to think about big questions and important problems affecting mankind.

When you decided to pursue medicine, did you already know that you wanted to focus on research?

Many people go into medicine with the idea of helping people. To me, helping people was a key component but was not everything. I wanted to advance knowledge. Research is not a goal. Research is a tool to advance knowledge, which enables us to make better decisions and create solutions to problems. Here at MWRI, we pursue knowledge that will improve the health and health care of women.

The learning process is most enriching and rewarding for me. When I was a postdoc at the University of California, San Francisco, I felt like a child in a candy store. I made a habit of going to two or three lectures a week that were completely outside of my field. Oftentimes you gain knowledge or ideas that you can bring back into your field. Or you gain an understanding of how other people think about their own problems. I still try to do that. Almost every year, I go to a meeting outside our field. I don't give a talk. I am incognito. I sit in a corner and just listen, and I enjoy it tremendously.

What brought you to Magee-Womens Research Institute?

I was very happy at Washington University in St. Louis. I'd been there for 14 years. I was a tenured professor and was running the division of maternal fetal medicine. We had a very nice, NIH-funded lab, with many good colleagues. When [MWRI founding director] Jim Roberts was considering stepping down, Allen Hogge [chairman of the University of Pittsburgh Department of Obstetrics, Gynecology & Reproductive Sciences] contacted me and asked if I would consider the position. I was not looking for a new position — not at all. Before I came here for my first interview, I was very skeptical.

What changed your mind?

Once I visited, I realized that MWRI is an incredibly unique place. No other research institute in the country is so devoted to reproductive biology and women's health. I was impressed by the intensity and the commitment of the people who work here. I met a number of highly talented scientists who are creative thinkers in an environment that I thought had great potential for buildup and development. It comes back to what I told you about my interest in medical school. I wanted to do things that are impactful for mankind, and I felt this was a place where this could be achieved.

Why is it important to have a research institute focused on women's health?

Women's health and reproductive science have not received enough attention over the years. If you look at where most of the funding goes, it's not to women's health or to reproductive science. If you look at medical schools and their priorities, you aren't likely to find reproductive science as one of the major priorities. Reproduction has been neglected. With respect to pregnancy, there's an attitude of "whatever happens, happens. If all goes well, then a child is born, and life begins there." That's simply not true, and I felt very passionate about the need to change it. If any place can change that perception and tackle important issues in women's and infants' health, it's MWRI. You have to remember that women's health is not just about women. Men and women are born to women, so making pregnancy healthier is not just about women's health; it impacts the future health of each generation.

What were your primary objectives when you took over as director of MWRI?

Jim Roberts did a phenomenal job with the institute. He created an entity that was meaningful and productive — a nucleus that was just terrific. I wanted to take it to a higher level. I came here as the institute was completing an expansion that more than doubled its lab space. My charge was to fill the space with great scientists. We worked very hard at that, and today we have more than 80 scientists. It is an interdepartmental institute, meaning we're not all ob-gyn researchers. We have people from oncology, surgery, environmental health, and other departments. Right now about 65 of our 83 scientists are from ob-gyn, and the rest are from other departments.

One of my initial priorities was to bolster our fundamental biology research. So I recruited more basic biologists in the field of reproduction, who work on

diverse model organisms, from simple ones, like the worm, to the most complex ones, like humans. I feel very strongly that deployment of knowledge to patient care is hampered without the fundamental discoveries of how things work.

It was also very important to me to create an interactive community of scientists. I expect members of our community here at MWRI to reach out to each other and share their knowledge and expertise. I call it "putting your intellect on a cloud." There are multiple ways to create an interactive community, from recruitment of scientists, to cross-pollination during internal grant reviews, to having coffee together, to interactions during our annual retreat.

Another objective was to strengthen our educational programs. MWRI has a very clear, defined mission: **We are here to make new discoveries and to enhance knowledge in the field of reproductive science and women's health. We are here to translate that knowledge to better health, wellness, and disease prevention for women and their infants. We strive to involve our community in women's health. And we seek to train the present and future generations of reproductive biology scholars.**

Jim Roberts had already initiated outstanding training programs, including those for high school and college students. We expanded and strengthened them. We also developed a robust graduate training program in reproductive biology, which includes a graduate-level course as part of the [University of Pittsburgh] School of Medicine's interdisciplinary program. We strengthened our postdoctoral program and garnered additional funds from the NIH to support junior faculty in our field. I am also particularly proud of our partnership with the Women's Auxiliary of Magee-Womens Hospital, which raised a large amount of money to fund the Magee Auxiliary Research Scholar endowment, supporting a junior researcher who embarks on a career as an independent investigator.



Pittsburgh sunset



Railroad bridge across the Monongahela River

Does your affiliation with Magee-Womens Hospital, which is so highly regarded, help you attract top-notch scientists?

Our partnership with the hospital is one of the key reasons for our success. Magee is one of the nation's top hospitals for women's medicine, with more than 250 ob-gyns. That gives our scientists access to an enormous storehouse of clinical expertise and to large numbers of patients for clinical studies. Our research is not only "bench to bedside," which refers to the translation of lab research into better patient care, it's "bench to bedside and back" because in addition to taking research findings into the clinic, we're also taking the questions and challenges that arise in the clinic back to the lab.

When I was being recruited to Pittsburgh, I was very impressed by the fact that the idea of MWRI was conceived at the hospital. It was [then Magee CEO] Irma Goertzen who laid the foundation for this institute in 1990.

Your research focuses on the placenta. What have you learned in recent years?

In most places, the placenta is trashed after delivery. Until recently, it wasn't understood that the placenta is an incredibly important, complex, and active organ. The placenta to the embryo is what our liver, our lungs, our kidneys, our gut, and our endocrine glands

are to us as adults. It is designed to sustain the embryo, so the key question we're asking in our lab is: What are the normal functions that the placenta fulfills – gas exchange, supply of nutrients, removal of waste products, immunological defense, etc. — and what happens when things go wrong? How does the placenta adjust?

We have made some important discoveries in understanding how the placenta handles metabolic fuels, the nutrients that provide energy to the embryo, and what can go wrong. We have uncovered proteins that protect the placenta against injury. Now we're working to understand how these proteins actually function. Recently, we found that the placenta makes some small RNA molecules that are not found in any other part of the body. We think they have unique functions in the placenta and protect the embryo and the mother from a variety of insults. That has become a major trajectory in our lab.

Where do you hope to take MWRI in the next five years?

Our collective goal is to take MWRI qualitatively to a much higher level of excellence. That means pursuing new areas of research. One area that is critically important is the study of genomics, which holds enormous promise for personalized medicine. We are now able to identify genetic changes responsible for birth defects, cancer, and other problems. Additional research in this area could lead to the development of gender-specific, patient-specific therapies. The differences between men and women are not only in the reproductive system. Many diseases, such as heart disease and Alzheimer's, do not manifest in the same way in men and women. If we can interrogate and understand those differences, we can reach a deeper understanding of what defines women's health and wellness. It's a big goal, and I think we're positioned to achieve it.



FIVE facts about Yoel Sadovsky

1

He was born in Jerusalem.

2

He has one son, a computer scientist at Google, and two daughters, one a JD/PhD candidate at Harvard University and the other an artist.

3

His grandfather founded Jerusalem's first midwifery hospital in the early 1940s.

4

He believes in the power of classical music, and Gustav Mahler is one of his favorite composers.

5

He holds the Elsie Hilliard Hillman endowed Chair of Women's Health Research.

Another area we need to pursue is what we call life course science, which is the study of events that occur during intrauterine life or early childhood that can change our likelihood of disease later in life. Our cells are most malleable during fetal life. If we could understand key elements that shape us during pregnancy or infancy, we may be able to prevent diseases, such as obesity or diabetes, and promote prevention.

The field of reproductive aging is also becoming ripe for investigation. Nowadays, we live much longer, so aging is not an end-of-life process. Surprisingly, the process of aging occurs in certain tissues at a relatively young age. The ovaries may show changes associated with aging during reproductive life. Most people associate the placenta with early life, not aging, but the placenta ages after 40 or 41 weeks of pregnancy. Therefore, finding common denominators in the process of reproductive aging could really change our understanding of aging and tissue regeneration in general, and help us improve or attenuate the aging process if it happens prematurely.

You can't pursue any of these ambitious research goals without a great deal of money. What are your funding goals?

Right now, nearly 80 percent of our research is funded by the NIH. This is a great achievement, but it's also a liability, because federal support for research ebbs and flows. When federal support diminishes, as we saw in recent years, philanthropy becomes critically important. As an organization, our goal is to increase the fraction of research support that comes from foundations, corporations, and individuals so we can

accelerate the pace of discovery. A host of scientific discoveries lie behind every advancement in diagnosis and treatment.

We need philanthropy to purchase much-needed equipment, to recruit and retain the best, most intelligent and innovative scientists, and to invest in training programs that attract the best and brightest young researchers to women's health research. Philanthropic partnerships can truly affect the future of many generations of women and men around the world.



Magee-Womens Research Institute



live from the NICU

MAGEE PLANS TO INSTALL WEBCAMS IN ITS NEONATAL INTENSIVE CARE UNIT SO PARENTS CAN “BE THERE” EVEN WHEN THEY CAN’T.

BY ANNA DUBROVSKY

WHEN WENDI CALDWELL’S WATER BROKE ON FEBRUARY 3, her due date was still 10 weeks away. The high school principal was rushed to Magee-Womens Hospital of UPMC, where two and a half weeks later, she gave birth to a girl, Bailey.

At 4.4 pounds, Bailey was admitted to the neonatal intensive care unit (NICU), where infants with health complications are monitored around the clock. Two days later, after 20 days in the hospital, Caldwell was finally sent home.

She left with a heavy heart.

“I was kind of happy to not be in the hospital anymore, but I was leaving without my baby, and that’s so difficult,” says the first-time mother. Unlike healthy newborns, who usually go home a couple of days after birth, NICU babies can stay for weeks or even months. “They tell you that you can come anytime or call anytime, but you don’t want to bother the doctors and nurses.”

Soon, parents with babies in Magee’s NICU will have a third option: log on anytime. The hospital plans to install video cameras that will

allow them to see their wee ones any time and from anywhere, so long as they have an Internet connection.

The idea of NICU webcams is relatively new. The University of Arkansas for Medical Sciences began providing parents with live video of hospitalized infants in 2006. Earlier this year, the technology developed in Arkansas was unveiled at Lehigh Valley Hospital-Cedar Crest in Allentown, Pennsylvania. Magee is opting for a webcam system created by NICVIEW, a Kentucky-based company founded in 2010. The NICVIEW system can be found in about a dozen hospitals, including St. Jude Medical Center in California and UMass Memorial Medical Center in Massachusetts. Cofounder and President Blake Rutherford expects that number to more than double by the end of this year.

The benefits for parents are obvious. Webcams allow them to “be there” even when they can’t. “We allow 24-hour visitation for parents, but oftentimes they have other responsibilities,” says Karen Ewing, MSN, CRNP, patient care services director for Magee’s NICU. “Dads oftentimes will be back at work. Mothers sometimes will go back to work so that they can take time off when their babies come home



Born at 4.4 pounds, Bailey Caldwell spent three weeks in Magee's neonatal intensive care unit.



NICVIEW webcams will be installed throughout the NICU.

from the hospital.” Even non-working parents can find it difficult to get to the hospital. They may be caring for older children. They may lack transportation or live many miles away. Because of its expertise in high-risk pregnancy, Magee draws women from well outside of Pittsburgh, including parts of Ohio and West Virginia.

Caldwell, who lives in Cranberry Township, was advised not to drive for a week after her discharge from Magee, so she had to rely on family and friends for rides to the hospital. Her husband, a lawyer for the oil and gas industry, is on the road so much that he could only visit Bailey every three days or so. “I can’t imagine a parent who wouldn’t want the video option,” Caldwell says. “That would be a service that I would pay for.”

Real-time video is especially valuable in cases where a parent can’t be present at all, such as when dad is serving on active duty or mom is in dire health. “One of the things we experience here at Magee is if a mom is very ill and delivers prematurely, she may be too ill to go see her baby in the NICU, even though they’re in the same hospital,” says Magee systems analyst Lynn Zombeck, who is spearheading the webcam project. “That was a big motivating factor for us. Now we’ll have a way for that patient to be able to connect with her infant.”

The importance of parent-infant bonding is well recognized, and proponents of NICU webcams believe that even virtual visits

help that process. “We’re giving families a window into the care of their children, which is obviously important,” says NICVIEW’s Rutherford. “But what’s more important to us is that the more time you allow parents to be with their child — even if it’s only through a computer screen — the better parents we hope they will become.”

If nothing else, webcams ease the stress that comes with having a child in the NICU. “There are times when mothers wake up at 2 a.m., worried that something’s wrong,” and make a frantic call to the NICU, Ewing says. “If they could just log onto the computer and see their baby, it would relieve their fears.”

Caldwell had her share of middle-of-the-night wakeups. She would immediately check her phone to make sure she hadn’t missed a call from the NICU. “I knew she was in very good hands there, but it would have been so nice to see her.”

Caldwell adds that seeing her baby might have made it easier to express breast milk, which is essential to maintaining milk production. She could lactate when visiting Bailey in the NICU but had little success at home. Studies suggest that mothers are able to express more milk while seeing, hearing, smelling, or touching their babies, and working mothers are often advised to look at a picture of their baby while pumping.

HOW IT WORKS

After cameras have been installed in Magee's NICU, parents will receive user names and passwords that allow them to access real-time video of their new baby. They can choose to share their user name and password with family and friends. The NICVIEW system is designed to comply with the Health Insurance Portability and Accountability Act (HIPAA), which requires confidential handling of patient information. "Our system is secure in the fashion that your banking website is secure," says Chief Technology Officer Dominic Foster. "From the moment you log on, any information that's going back and forth is encrypted, such that a hacker would be unable to see any of that information. We don't want images of the baby being broadcast to any person who isn't authorized to see them."

NICVIEW allows users to access their baby's video feed via any Internet-enabled device, be it desktop or laptop computer, a tablet like the iPad, or a smartphone. It doesn't require any software downloads and works across all major browsers, including Internet Explorer, Firefox, and Safari.

If a user has trouble logging on, doesn't get a clear picture, or otherwise needs assistance, they can call NICVIEW's 24-7 help desk. That's a big selling point for hospitals because NICU staff have enough to worry about without fielding technical assistance calls.

With 74 beds, Magee's NICU is the largest in western Pennsylvania. It provides state-of-the-art care for approximately 1,800 babies per year. Most of its tiny charges were born prematurely, or before 37 weeks gestation, which puts them at higher risk for complications such as respiratory problems, brain damage, and heart defects. More infants die from preterm-related conditions than from any other single cause, according to the Centers for Disease Control and Prevention. Full-term babies with infections, birth defects, or other medical conditions may also be admitted to the NICU.

It will cost an estimated \$110,000 to outfit Magee's NICU with webcams. The Volunteer Service Board, a hospital auxiliary group, has donated \$67,600 toward the project. Additional funds will be raised through Savor Pittsburgh, a culinary competition to be held August 29. The annual fundraiser gives guests the opportunity to sample dozens of dishes prepared by some of Pittsburgh's top chefs.

Magee expects to begin installing cameras by mid-year. "We do want to outfit all of the rooms, but we may have to take a two-phase approach if we don't have enough funding to do them all at once," Zombeck says. Magee's NICU consists of 48 private rooms, a 15-bed nursery, an eight-bed nursery, and a three-bed triage area.

It will be too late for Caldwell, whose daughter went home after three weeks in the NICU, but it will be a boon for the many thousands of parents who will walk in her shoes. "One of the women from my parenting class delivered her twin daughters at 24 weeks, so her daughters were going to be in the NICU for a really long time," Caldwell says. "I think about the women who are going to have their children in there longer than me. A couple of weeks is one thing, but a couple of months would be so very difficult."

want to help?

One out of every nine babies in the U.S. is born prematurely. Many premature infants spend weeks or even months in a neonatal intensive care unit (NICU), which can be extremely stressful for their families. To ease the physical and emotional toll on families, Magee-Womens Hospital of UPMC plans to install a web-based camera system that allows them to see their newest member any time and from anywhere.

Want to help raise money for the project? Mark your calendar for Savor Pittsburgh, a culinary competition featuring some of Pittsburgh's finest chefs. The fundraiser will be held on Thursday, August 29, at SouthSide Works. To purchase tickets or make a donation directly to the webcam project, please call 412.641.8950 or visit www.savorpgh.com.



Estimated cost of webcam system: \$109,600



Funds donated by Volunteer Service Board: \$67,600



Funds needed: \$42,000

A photograph of a woman with reddish-brown hair and bangs, wearing a light-colored sweater, smiling warmly. She is embracing a young girl with short brown hair, who is also smiling. They are outdoors, with green foliage and a body of water in the background.

fertilefield

CANCER PATIENTS HAVE MORE OPTIONS
THAN EVER FOR PRESERVING THEIR FERTILITY.
NOW, IF THEY ONLY KNEW ABOUT THEM.

WHEN CHRISTINE HANLON LEARNED THAT her 9-year-old son had cancer, the no-nonsense legal assistant put her research skills to work. By the time of Dylan's first chemotherapy treatment at St. Joseph's Children's Hospital of Tampa, Florida, Hanlon had a good handle on the side effects. Then the oncologist threw her for a loop.

"He came into the room and said: 'There's one more thing I need you to know. There's a risk of infertility,'" she recalls. "He could see by the look on my face that I was surprised," but that was the start and end of the conversation.

Infertility is a common, recognized side effect of cancer treatment. That's because chemotherapy and radiation, which target rapidly dividing cancer cells, often damage bystanders like cells in the testes and ovaries. Yet many cancer patients are not made aware of their infertility risk. A study published in the September issue of the journal *Cancer* found that nearly 40 percent of women diagnosed with cancer between the ages of 18 and 40 were not informed that treatment could affect their ability to have children. Prepubescent patients are even less likely to receive infertility counseling. When patients are informed of the risk, they're often left with the impression that nothing can be done.

That's a terrible shame because recent years have seen great advances in fertility preservation among cancer patients. For men and boys who have gone through puberty, fertility preservation can be as simple as providing a semen sample to be frozen and stored for future use. Women of reproductive age can opt for egg freezing or embryo freezing. These are well-tested, reliable options.

There are no well-tested, reliable options for boys like Dylan, who do not yet produce sperm, and girls whose eggs have not yet matured. But as Christine

Hanlon discovered through her own research, there are experimental ones. In January 2011, four months after beginning chemotherapy treatments, Dylan flew to Pittsburgh to become what he calls a "guinea pig." He checked into Children's Hospital of Pittsburgh of UPMC, where pediatric urologist Glenn Cannon, MD, surgically removed a sample of testicular tissue. The sample was cryopreserved, or frozen, in the hope that when Dylan is ready to become a father, doctors can extract spermatogonial stem cells — the precursors of sperm — and inject them back into his testes to stimulate sperm production.



Dr. Kyle Orwig

"I do not think there is another fertility preservation program in the country that is as comprehensive as ours." DR. ORWIG

Testicular tissue freezing is offered at only a handful of medical centers around the world. Even fewer accept patients who have already started a fertility-threatening course of treatment. Dylan's trip to Pittsburgh was not in vain. After his biopsy at Children's Hospital, a portion of his tissue sample was sent to Magee-Womens Research Institute, where Kyle Orwig, PhD, confirmed that spermatogonial stem cells were still present.

"I do not think there is another fertility preservation program in the country that is as comprehensive as ours because we provide options for men, women, boys, and girls," says Dr. Orwig, director of the Fertility Preservation Program in Pittsburgh. Established in 2010, the multidisciplinary program brings together scientists from Magee-Womens Research Institute, fertility specialists from the Center for Fertility and Reproductive Endocrinology at Magee-Womens Hospital of UPMC, and pediatric oncologists and

WANT TO HELP?

Philanthropy plays an important part in supporting cutting-edge fertility research. It can also make a world of difference for patients who cannot afford fertility-preserving procedures. To make a donation toward research or patient care, please visit www.mwrif.org/donate or use the enclosed remittance envelope.

Turn to page 24 to learn how one Magee nurse is using her retirement savings to support fertility research.

urologists from Children's. They have a dedicated phone line (412.641.7475) that patients and physicians can call to learn about the reproductive consequences of medical treatments and options for preserving fertility. Since the program's inception, they have provided fertility counseling to about 300 patients. More than half of those patients proceeded with sperm banking, egg or embryo freezing, or an experimental option like testicular tissue freezing.

The Fertility Preservation Program has frozen and stored testicular tissue from nine prepubescent boys. Testicular tissue freezing is also available to men who are too ill from cancer to provide a good semen sample for cryopreservation.

The program also offers ovarian tissue freezing for prepubescent girls and women ineligible for egg or embryo freezing. Doctors remove part or all of an ovary and freeze tissue that contains immature eggs. The tissue can later be transplanted to its original site. Though still experimental, ovarian tissue transplantation has been successfully tested in women, with about 30 pregnancies reported worldwide.

Physician education is a big part of the program's mission. Many oncologists are not only unaware of the latest advances in fertility preservation but also loath to recommend standard procedures like sperm banking. "There is a terrible misconception that fertility preservation procedures will cause a significant delay to cancer treatment," Dr. Orwig says. In reality, sperm banking requires just a short office visit. Women who wish to freeze eggs or embryos typically take fertility drugs to prompt the release of multiple eggs and then undergo an egg-harvesting procedure, a process that can take several weeks. But the process can be short-circuited, Dr. Orwig says, and even a few weeks' delay in cancer treatment is often deemed acceptable by oncologists.

He and his colleagues in the Fertility Preservation Program have held educational sessions for doctors at cancer centers in Pittsburgh and around the country. They also developed a trifold "cheat sheet" that doctors can tuck into a lab coat pocket. It lists different cancer treatments and their risk of fertility damage.

If cancer specialists gloss over infertility risk, it's because they're focused on saving lives. Cancer, after all, is the second leading cause of death among Americans. But it's no longer a death sentence. Doctors can find cancer earlier and treat it more effectively than ever before, which means the chances of survival are higher



Dylan at Camp Boggy Creek, a camp for seriously ill children, while he was battling a bone cancer called Ewing's sarcoma

than ever. The number of cancer survivors in the United States increased from 3 million in 1971 to 11.7 million in 2007. The five-year survival rate is now 67 percent, up from 49 percent in the 1970s. Children diagnosed with cancer have an even higher five-year survival rate: 83 percent, up from 58 percent in the 1970s.

The encouraging survivorship statistics make fertility counseling all the more important. "Surveys show that fertility status is at the very top of the list of things that affect the psychological wellbeing of cancer survivors," Dr. Orwig says. "It's very important to them."

LATEST FINDINGS

Now 12, Dylan is cancer free. He loves playing Xbox LIVE games with his friends. Last year the Make-A-Wish Foundation fulfilled his wish of visiting the Texas headquarters of video game developer Gearbox Software.

He also loves kids, says his mom.

Spermatogonial stem cell transplantation — the procedure that may one day allow him to have kids of his own — is not yet in practice. But Dr. Orwig and other fertility researchers have good reason to believe it will work. They have tested the procedure in a range of animals, including rats, pigs, dogs, and goats.

For the past several years, Dr. Orwig has been developing a monkey model of men and boys rendered infertile by chemotherapy. In a study published late last

year, he and his team took tissue samples from the testes of adult and prepubescent male monkeys before treating the monkeys with chemotherapy drugs known to impair infertility. A few months after chemotherapy treatment, the researchers transplanted each monkey's own spermatogonial stem cells back into his testes. Sperm production was established in nine out of 12 adult monkeys and three out of five prepubescent monkeys after they reached maturity. The researchers also showed that sperm arising from transplanted stem cells could successfully fertilize eggs to produce embryos.

Published in the journal *Cell Stem Cell*, the study provides the best evidence yet that stem cell transplantation could restore fertility in humans. Monkey testes are anatomically and physiologically similar to human testes. "I am quite confident that the transplantation technique we used in the monkey will transfer directly to humans with minimal, if any, modifications," Dr. Orwig says. "We are actively thinking about and moving toward human application."

Among the questions that remain to be answered is when to reintroduce the spermatogonial stem cells. "That's one of our active areas of research now," Dr. Orwig says. "In our monkey experiment, we put the cells back pretty soon, but for a human, you can imagine that it might be better to wait until they're designated a cancer survivor. Some people think the time to do it might be when they're ready to have kids, even if that's 20 years later. My feeling is that if the testis isn't making sperm for a long period of time, it might not be a very hospitable environment to transplant into. But I am not positive about that; we have to test it."

A bigger question is whether testicular tissue samples taken from cancer patients might be contaminated with cancer cells. "The worst thing we could do is put a cancer back into a survivor," he says. "That would destroy our whole field."

Dr. Orwig and team are hard at work on eliminating that risk. In a study scheduled for publication in the April 2013 issue of the *Journal of Clinical Investigation*, they contaminated human testis cells with a leukemic cancer, and then showed that they could separate cancer cells from healthy stem cells. "We still have work to do, but it appears at least possible to weed out the cancer cells," he says.

Dr. Orwig believes spermatogonial stem cell transplantation will be a viable option by the time Dylan is ready to start a family — if not much sooner. "It's exciting that the stuff we started out doing in mice years ago may

actually have an impact on human medicine," he says. "The environment here at Magee-Womens Research Institute is ideal for translating lab bench research toward the clinic. There are not many places in the country where you have a top-notch research institution with such close ties to outstanding hospitals."

One of his goals as director of the Fertility Preservation Program is to export the testicular tissue freezing technology developed in Pittsburgh to medical centers around the country. That way boys like Dylan wouldn't have to travel hundreds of miles for the procedure.

"Any place that treats children with cancer should have the means to offer this option," says Christine Hanlon. She thought long and hard before taking Dylan to Pittsburgh because she didn't want to subject him to any more medical procedures than necessary, but she has never regretted the decision. "The day after the procedure, we were walking through the airport, and I said, 'Dylan, I hope I made the right decision for you. I hope you're not mad.' He said, 'No, mama, you made the right decision.'"



Study for preserving fertility before cancer treatment

The Fertility Preservation Program in Pittsburgh is conducting a clinical trial for preserving fertility in young cancer patients, including boys who do not yet produce sperm and girls whose eggs are not yet mature. Participants must be:

- Females age 1 to 40 with two ovaries or males over the age of 1 with two testes
- Newly diagnosed with a cancer that requires chemotherapy or radiation treatment and puts them at high risk for infertility

The program will cover the costs of harvesting, processing, and freezing testicular or ovarian tissue.

For more information, call the Fertility Preservation Program's dedicated phone line at 412.641.7475.

GENEROSITY *IN ACTION*

Turning the spotlight on our donors



Nurse Sylvia Bernassoli with Dr. Anthony N. Wakim, clinical professor and medical director of assisted reproductive technology at Magee.

Longtime Nurse Donates Savings to Infertility Research

SYLVIA BERNASSOLI, CRNA, HAS HELPED countless patients in her nearly 60 years as a nurse. Long after she retires from Magee-Womens Hospital of UPMC, she will help countless more.

That's because the nurse anesthetist from McMurray, Pennsylvania, is donating a large part of her retirement savings to Magee's Center for Fertility and Reproductive Endocrinology, where she has worked for the past two decades. Her \$20,000 annual gift, which will grow in value to more than \$500,000, will be used for research into infertility and other reproductive health conditions.

"Tax law requires individual retirement account (IRA) holders to withdraw a certain amount every year after age 70. Sylvia is taking those mandatory distributions and making them charitable contributions to Magee," explains Arthur Scully III, vice president of Magee-Womens Research Institute and Foundation. "Those contributions will be used to

purchase life insurance with Magee as owner and beneficiary, and what's left in her IRA when she passes will go to Magee as the beneficiary of her estate." The planned gift protects Sylvia's savings from hefty estate taxes.

Sylvia, 79, administers anesthesia to women before they undergo a procedure to retrieve their eggs for in vitro fertilization. "I love what I do here," she says. "It's exciting to play a part in helping couples have a baby. When they hear news that they're pregnant, they are just ecstatic. It's a pleasure to work with doctors like Dr. (Anthony) Wakim, who are so knowledgeable and talented. So much more is known about treatment of infertility than when I started. Research has helped make such a difference for couples who want to have children."

Still more will be learned thanks to research made possible by her generosity and smart financial planning. — *Mary Josefoski*

PLANNED GIVING FAQ

What is planned giving?

Planned giving refers to charitable gifts that are arranged with forethought and planning and executed over an extended period of time or at some point in the future. Planned gifts are often included in wills and estate plans, and can be made in the form of life insurance, annuities, securities, real estate, or other assets.

What are the benefits of planned giving?

Planned gifts provide an opportunity to invest in Magee-Womens Hospital of UPMC or Magee-Womens Research Institute and leave a personal legacy for future generations. Gifts can be earmarked for women's health research, patient care, or educational programs. Well-constructed planned gifts can provide a donor with substantial tax benefits and/or sources of income for themselves or a loved one.

How can I learn more?

Your gift can make a real difference in the lives of women for many generations to come. For more information, please contact Arthur Scully at 412.641.8949 or ascully@magee.edu.

Pittsburgh Bests Cleveland in Pink Ribbon Bagel Sales

THE SO-CALLED TURNPIKE RIVALRY TOOK ON new meaning in October, when Panera Bread cafes in Pittsburgh and Cleveland competed to sell the most Pink Ribbon Bagels. Final score: Pittsburgh 82,047, Cleveland 67,501.

Pittsburgh came away with more than bragging rights. Covelli Enterprises, Panera's largest franchisee, donated \$10,000 to the city's charity of choice: the Young Women's Breast Cancer Awareness Foundation (YWBCAF). The foundation runs a support group for young breast cancer patients and helps fund the Patient Navigator Program at Magee-Womens Hospital of UPMC.

The YWBCAF also received a cut of the proceeds from sales of Pink Ribbon Bagels, bringing its take to \$61,000.

"Panera believes in supporting local causes and charity organizations in the communities where our cafes are located," says Sam Covelli, owner of Covelli Enterprises. "We are honored to be able to support this cause, and want to say thank you to our loyal customers in Pittsburgh for their support in making this campaign a success." — *Anna Dubrovsky*



Siblings Brian Panucci and Dana DiBasilio helped raise more than \$5,000 in memory of their mother, Peggy (shown in framed photo). The money was used to purchase two specialized recliners for patients undergoing chemotherapy treatment.

Panucci's Promise Hosts Fundraisers With an Emphasis on Fun

AFTER HIS MOTHER, PEGGY, SUCCUMBED TO BREAST CANCER IN September 2011, Brian Panucci decided to raise funds for Magee-Womens Hospital of UPMC, where she was treated for four and a half years. As for how, the Duquesne University law student had no shortage of ideas.

With the help of his sister, teacher Dana DiBasilio, and friends and faculty at Duquesne, Brian raised money through a raffle of Valentine's Day gift baskets, sales of baked goods and other foods, an acoustic music show at The Blind Pig bar on Pittsburgh's South Side, and a classical concert featuring Duquesne Chancellor John E. Murray. He even slung drinks as a guest bartender at Carson City Saloon on the South Side, raising almost \$1,000 from donations at the door.

Brian doesn't doubt his mom would approve of fundraisers with an emphasis on fun. "When she was healthy she loved to give parties. She loved to get people together, chatting and having a good time."

Panucci's Promise, as the fundraising drive is called, netted \$5,545 in 2012. Most of the money was used to purchase two specialized recliners for patients undergoing chemotherapy treatment, which can last up to eight hours, and two visitors chairs. The rest of the money was directed toward breast cancer research at Magee. Brian and Dana's aunt Carole, who is being treated for breast cancer, was among the first patients to use the new chemotherapy chairs.

"I like to think of the chemotherapy chairs as my mom giving all of the patients a big hug to reassure them that everything is okay and they are in good hands," Brian says. "That's what she did for everybody while she was alive."

For information about upcoming Panucci's Promise events, please visit www.facebook.com/PanuccisPromise. — *Andrea Romo*

Smail Auto Donates \$100 for Every Vehicle Sold

FOR BREAST CANCER AWARENESS MONTH, SMAIL Auto Group plasters its dealerships with bright pink ribbons. But the Greensburg, Pa., auto company isn't content to just raise awareness of the disease. It puts its money where its mouth is, donating \$100 for every new and used vehicle sold in October toward the battle against breast cancer.

Last year, Magee-Womens Research Institute & Foundation was the biggest beneficiary of the "Smail Auto Group Cares" campaign, receiving a check for \$23,000. Smail Auto Group co-owner Bud Smail learned of the institute's cutting-edge cancer research through his son-in-law, Ronald R. Johnson, MD, a cancer surgeon at Magee-Womens Hospital of UPMC.

Smail Auto Group also donated \$17,000 to Excela Square at Norwin, a new medical center in North Huntingdon, Pa., and \$7,000 to Westmoreland Walks Inc., which hosts an annual Spa Serenity Day for breast cancer survivors. — *A.D.*



→ Smail GMC sports pink in support of Breast Cancer Awareness Month.

→ MWRIF Vice President Arthur Scully III (third from left) receives a \$23,000 donation from Mark Smail, Jim Smail, Bud Smail, Lindsey Smail Schneider, and Jeff Smail.



UPMC HEALTH PLAN

UPMC HEALTH PLAN, THE SECOND-LARGEST health insurer in western Pennsylvania, provides members with access to more than 125 hospitals and 11,500 doctors in the region. It also provides invaluable support for events benefiting women's cancer patients and research.

Last year, UPMC Health Plan donated \$40,000 toward three events hosted by Magee-Womens Hospital of UPMC and Magee-Womens Foundation: the Teal Ribbon Comedy fundraiser, which benefits ovarian cancer research, and two LiveWell Survivorship Workshops, where women's cancer survivors can learn about coping strategies, positive lifestyle changes, and

other wellness topics. Thanks to UPMC Health Plan and other sponsors, the popular workshops are free to survivors and their families.

"We at UPMC Health Plan are proud to be associated with Magee," says Stephen E. Perkins, MD, vice president of medical affairs. "Women's health is not simply a part of our mission to improve the health of the Pittsburgh community, it is also a big part of who we are. At UPMC Health Plan, over 75 percent of our employees are women. We are committed to working with women and helping them succeed, both in business and in life." — *A.R.*



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HAPPENINGS

MAY

14

Survivorship: Being the Best You Can Be Presented by UPMC Health Plan

WHERE: Sheraton Station Square, Pittsburgh, PA
WHEN: 4 to 7:45 p.m.
www.mwrif.org/352

18

Aiden J. Strack Golf Classic

WHERE: Indian Springs Golf Course, Indiana, PA
WHEN: All day
Proceeds benefit families of premature infants
www.aidengolf.com

31

INVITE ONLY
Research Day in Reproductive Biology and Women's Health

WHERE: Magee-Womens Hospital of UPMC, auditorium, zero level, Pittsburgh, PA
For more information, contact Colleen Gaughan at gaugcs@mwri.magee.edu or 412.641.8978.

JUNE

2

10th Annual NICU Reunion Presented by Giant Eagle and C. Hackett Motors

WHERE: Pittsburgh Zoo & PPG Aquarium, Pittsburgh, PA
WHEN: noon to 3 p.m. (tickets good all day)
Proceeds benefit the neonatal intensive care unit at Magee-Womens Hospital of UPMC
www.mwrif.org/428

6

Par-Tee for Hope

WHERE: Treesdale Golf & Country Club, Gibsonia, PA
WHEN: All day
Proceeds benefit premenopausal breast cancer research
www.symbolofthecure.com

7

INVITE ONLY
Department of Obstetrics, Gynecology & Reproductive Sciences Awards Ceremony

For more information, contact Colleen Gaughan at gaugcs@mwri.magee.edu or 412.641.8978.

9

Women's Cancer Survivor Day: Celebrate You Presented by UPMC Health Plan

WHERE: Sheraton Station Square, Pittsburgh, PA
WHEN: 9 a.m. to noon
www.mwrif.org/calendar

9-10

6th Annual Noah Angelici Memorial Golf Event

WHERE: Mystic Rock Golf Course at Nemacolin Woodlands Resort, Farmington, PA
WHEN: All day both days
Proceeds benefit fetal intervention medicine at Magee-Womens Hospital of UPMC. To register, contact Jane Klimchak at jane@noahshouseofhope.com or 724.350.2940.
www.noahshouseofhope.com

30

Pitch for Hope: Women's Baseball Clinic

WHERE: PNC Park, Pittsburgh, PA
WHEN: All day
Proceeds benefit premenopausal breast cancer research
www.symbolofthecure.com

JULY

24-25

Clays for the Cure Presented by Home Depot

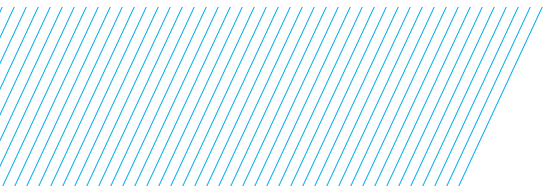
WHERE: Seven Springs Mountain Resort Sporting Clays, Seven Springs, PA
WHEN: All day both days
Proceeds benefit breast cancer research
www.symbolofthecure.com

AUGUST

29

Savor Pittsburgh: A Celebration of Cuisine Presented by C. Hackett Motors

WHERE: SouthSide Works, 26th and Sydney Streets, Pittsburgh, PA
WHEN: 6:30 p.m.
Proceeds benefit the fight against prematurity at Magee-Womens Research Institute & Foundation
www.savorpgh.com



SEPTEMBER

OCTOBER

12-13

2nd Annual Fly Fishing Classic Presented by Chesapeake Energy Corporation

WHERE: HomeWaters Club, Spruce Creek, PA
WHEN: All day both days
Proceeds benefit the Women's Cancer Research Center at Magee-Womens Research Institute
www.mwrif.org/427

28-29

"On the Right Course" for Curing Women's Cancer

WHERE: Laurel Valley Golf Club, Ligonier, PA
WHEN: All day both days
Proceeds benefit women's cancer research and education at Magee-Womens Research Institute & Foundation
www.mwrif.org/calendar

7

INVITE ONLY

Magee Alumni Day

WHERE: Magee-Womens Hospital of UPMC, Pittsburgh, PA
WHEN: All day
For more information, contact Colleen Gaughan at gaugcs@mwri.magee.edu or 412.641.8978.

TEAL RIBBON COMEDY 2012, FEATURING BILL COSBY



Event co-chair Julie McMullen, comedian Bill Cosby, and event co-chair Mike McMullen

SAVOR PITTSBURGH 2012



Presenting sponsor McCormick & Schmick's wowed guests in the culinary competition, which benefited prematurity research.



Janice and Chuck Hackett of C. Hackett Motors, title sponsor of the event



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