

MAGEE

A woman with short brown hair, wearing a black top, is smiling and looking off to the side. She is in a laboratory setting with shelves of equipment and supplies in the background.

SUMMER 2012

A PUBLICATION OF MAGEE-WOMENS RESEARCH INSTITUTE & FOUNDATION

PREGNANT With PROMISE

EXPANDING WAISTLINES
Spell Big Problems

Teaching Parents to
TALK ABOUT SEX

Cancer Survivor Turns
FUNDRAISING STAR



06

MAGEE

VOLUME 4 | SUMMER 2012

Magee is published two times a year for supporters of Magee-Womens Research Institute & Foundation (MWRIF).

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

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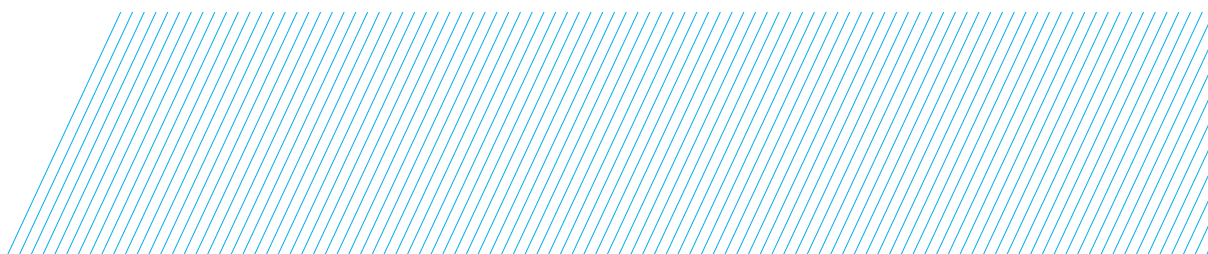
Amid soaring rates of obesity and related ills, an MWRI research team races to figure out fat.

LET'S TALK ABOUT SEX 14

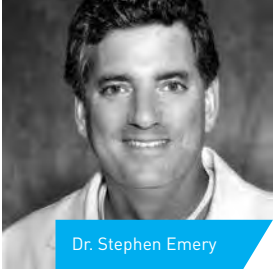
Magee ob-gyn Aletha Akers helps parents and kids tackle the thorny subject.

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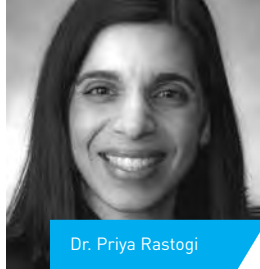
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In the News



Dr. Stephen Emery



Dr. Priya Rastogi

Drs. Emery and Rastogi Named Top Docs for Women

Stephen Emery, MD, director of the Fetal Diagnosis and Treatment Center at Magee-Womens Hospital of UPMC, and breast cancer oncologist Priya Rastogi, MD, were featured in a *Pittsburgh Magazine* article on the best doctors for women in 2012.

Noninvasive Test Detects Rare Fetal Abnormality

David Peters, PhD, and team have demonstrated that a rare fetal abnormality can be diagnosed by way of a noninvasive analysis of DNA in the mother's blood plasma. The finding holds promise for a safer alternative to the invasive collection of fetal cells through amniocentesis and chorionic villus sampling. Dr. Peters and colleagues shared their findings in a letter published in the November 10 issue of the *New England Journal of Medicine*.

Poor Sleep Quality Linked to Preterm Births

A study by Michele Okun, PhD, and colleagues found that poor sleep quality in the first and third trimesters is associated with an increased risk of preterm delivery. The study was published in the November 1 issue of the journal *Sleep*.

Rising Stars



Dr. Matthew Sikora

Courtney Cuppett, a maternal-fetal medicine fellow, received a Research Excellence Award from the Society for Maternal-Fetal Medicine for her presentation on "The effect of prescription medications on 17-alpha-hydroxyprogesterone caproate metabolism."

Matthew Sikora, PhD, a postdoctoral associate in the lab of Steffi Oesterreich, PhD, received a three-year \$300,000 Breast Cancer Research Program Postdoctoral Fellowship Award from the U.S. Department of Defense. The award will support Dr. Sikora's research on the role of the histone deacetylase gene HDAC7 in causing resistance to hormonal therapies for invasive lobular carcinoma, a critically understudied breast cancer subtype affecting about 30,000 U.S. women a year. The goal is to develop a novel therapeutic to prevent or overcome resistance.

Recognizing Excellence



Yaacov Barak, PhD



Richard Chaillet, MD, PhD

received a perfect score on their program project grant application "Molecular and cellular controls of placental metabolism."



Katherine Himes, MD

was granted a one-year \$125,000 extension of her K12 Reproductive Scientist Development Program grant to continue her investigation of placental genomic imprinting.

(See "Pregnant With Promise" on page 6 for more about her research.)

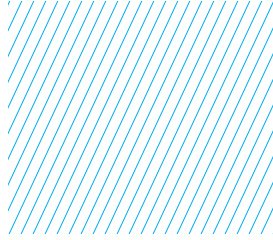
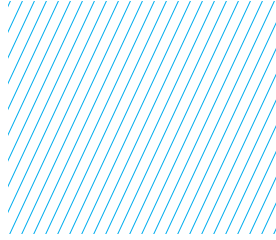


Ian McGowan, MD, PhD, FRCP

received a two-year \$4.5 million grant from the Bill & Melinda Gates Foundation to support his project "Phase 1 assessment of TMC278 LA."


Faina Linkov, PhD, and Ron LaPorte, PhD

received a one-year \$120,000 USAID grant to establish a network of public health professionals and improve scientific productivity in Central Asia, particularly in the areas of chronic disease and women's health.

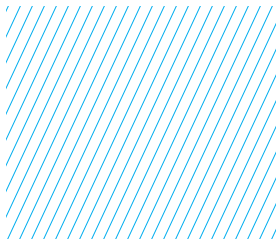

Harold Wiesenfeld, MD, CM

received a three-year \$585,000 grant from the Centers for Disease Control and Prevention to support their project "Chlamydia trachomatis infection and tubal factor infertility."


Catherine Haggerty, PhD, MPH

Aleksandar Rajkovic, MD, PhD

received a perfect score on an R01 grant application titled "The genomic basis of premature ovarian insufficiency."


Katherine Wisner, MD, MS

received the 2012 Alexandra Symonds Award, cosponsored by the Association of Women Psychiatrists and the American Psychiatric Association. The annual award is given to a female psychiatrist who has distinguished herself in fostering the advancement of women's mental health.

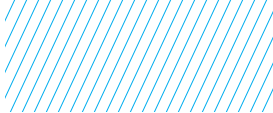

Judith Yanowitz, PhD

was named the first recipient of the Magee-Womens Auxiliary Research Scholarship (MARS), effective January 1. The award will support her investigation of meiosis regulation. The Women's Auxiliary of Magee-Womens Hospital funded the scholarship.

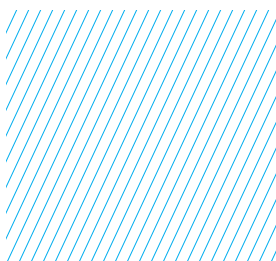
Dr. Yanowitz also received a two-year \$150,000 Basil O'Connor Starter Scholar Research Award from the March of Dimes for "Identification of chromatin modifying complexes required for meiotic crossover formation."


Yoel Sadovsky, MD

received a two-year \$445,000 R21 grant from the Eunice Kennedy Shriver National Institute of Child Health & Human Development of the National Institutes of Health for "Small RNAs at the placental maternal communication interface."


Anda Vlad, MD, PhD

received a five-year \$1.4 million R01 grant from the National Cancer Institute, part of the National Institutes of Health. The grant will support the project "MUC1 roles in ovarian cancer pathogenesis and immune therapy."



MAGEE Magazine Around the World



Mayumi Morizane, a Magee-Womens Research Institute trainee, reads a copy of *MAGEE* magazine while taking a break from the 2012 Society for Gynecologic Investigation 59th Annual Scientific Meeting in San Diego, California.

We will be accepting photos like this for future magazine issues. Submit photos with captions to info@mwrif.org.

New Arrivals



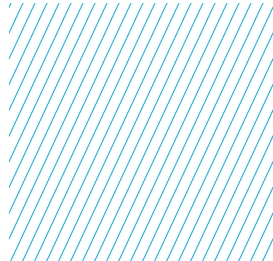
Sharon Achilles, MD, PhD

- Ob-gyn assistant professor
- Building Interdisciplinary Research Careers in Women's Health Training Program (BIRCWH) scholar
- Former infectious diseases and family planning fellow at Magee-Womens Hospital of UPMC



Elizabeth Krans, MD

- Ob-gyn assistant professor
- Former Robert Wood Johnson Foundation Clinical Scholar at the University of Michigan



Jacob Larkin, MD

- Ob-gyn assistant professor
- Scientist in the lab of Yoel Sadovsky, MD
- Former maternal-fetal medicine fellow at Magee-Womens Hospital of UPMC



Priscilla McAuliffe, MD, PhD

- University of Pittsburgh Cancer Institute/ Women's Cancer Research Center faculty
- Former surgical oncology fellow at University of Texas MD Anderson Cancer Center



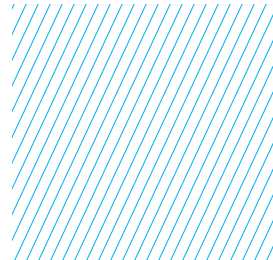
Marie Menke, MD, MPH

- Ob-gyn assistant professor
- Women's Reproductive Health Research (WRHR) scholar in the lab of Yaacov Barak, PhD



Alexander Yatsenko, MD, PhD

- Ob-gyn assistant professor
- Formerly of the Baylor College of Medicine



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Join us today.

A pregnant woman with dark hair, wearing a black lab coat and pink gloves, is smiling while working in a laboratory. She is holding a green multi-well plate and a white bottle. The background shows shelves with various lab equipment and supplies.

PREGNANT With PROMISE

One of Magee's brightest young ob-gyns
also delivers in the research lab.

— By Andrea Romo, Photos by Mark Bolster

Katherine Himes, MD, an obstetrician at Magee-Womens Hospital of UPMC, would like nothing more than to give her patients a recipe for delivering healthy babies who grow into healthy adults.

But doctors have a limited understanding of why some babies arrive on time and in good health while others are born dangerously early, underweight, or with other health complications. That's why she can often be found at Magee-Womens Research Institute (MWRI), investigating how the placenta develops and functions.

"It's relatively recently that we viewed the placenta as a more complicated organ than just a filter that allows stuff to go from mom to baby and baby to mom," says Dr. Himes, who is expecting her second child. "It's clear that the placenta is a remarkable organ with many functions and that it is incredibly metabolically active."

By studying the placenta, she hopes to gain insight into the causes of low birth weight. About 1 in 12 U.S. babies are born with a low birth weight, which public health agencies define as less than 5 pounds, 8 ounces. In many developing countries, the rate is as high as 30 percent, according to the World Health Organization. Babies with a low birth weight often suffer serious health problems. In 2007, babies with very low birth weight (less than 3 pounds, 4 ounces) accounted for only 1.5 percent of U.S. births but more than half of all infant deaths, according to the Centers for Disease Control and Prevention.

"Something about the proper in utero environment is really important for normal outcome — not just up to the time of birth, but actually for the rest of the life of the individual," says Richard Chaillet, MD, PhD, Dr. Himes' mentor at MWRI.

Fetal Origins

The idea that conditions in the womb affect us for the rest of our lives is the foundation of a young field known as fetal origins. In the 1980s, a British doctor named David Barker noticed that the poorest regions of England and Wales had the highest rates of heart disease. In searching for an explanation, he compared the health of about 15,000 adults with their birth weight and discovered a link between low birth weight and increased risk for heart disease. Dr. Barker drew an unheard-of conclusion: that genetics and lifestyle factors aren't the only culprits behind heart disease. He posited that poor prenatal nutrition is also to blame.

Initially dismissed, the "Barker Hypothesis" is now considered a milestone in medical research. Scientists have since found links between the prenatal environment and everything from obesity to IQ to cancer risk. "This is an exploding field," Dr. Himes says. "Many researchers are feeding animals various things and looking at the impact on their offspring."

She and Dr. Chaillet are tackling the difficult question of how. How is it that prenatal exposures have such a profound affect on pregnancy outcomes and future health? They believe the explanation lies in the branch of biology known as epigenetics. "In high school biology, we learned that our genes are passed on generation to generation to generation with very few changes," Dr. Himes explains. Scientists now understand that "you can regulate the expression of those genes by changing little marks that get added around the DNA molecule." And they have reason to believe that lifestyle and environment contribute to changes in these epigenetic marks, which can be passed from parent to offspring.

"What's changed over the last couple of decades is this idea that genetics isn't everything in terms of the information we get from mom and dad. We clearly get epigenetic information, too," says Dr. Chaillet. "It's a very powerful influence on development."

Dr. Himes, who joined his lab in 2009, tinkers with epigenetic marks in the placentas of pregnant mice. The consequences are dramatic. Some of the placentas

"Something about the proper in utero environment is really important for normal outcome — not just up to the time of birth, but actually for the rest of the life of the individual." — Dr. Chaillet

produce what she calls “super mice,” and others produce extremely undersized mice that rarely live longer than a day. “We have some preliminary data to suggest that we’ll be able to learn a lot about how these epigenetic changes impact growth through this model,” she says. “And ultimately, because birth weight has long-term effects, we may also gain insight into how the intrauterine environment contributes to an individual’s lifetime risk of metabolic diseases.”

The end goal, of course, is to translate their findings into clinical recommendations.

“What if you get these abnormal epigenetic marks in the fetus that come about some time during fetal development because the mother is not healthy or not doing her best to avoid alcohol or whatever it could be? Then those would be perpetuated, and end up being with the individual forever,” Dr. Chaillot says. “So if you wanted to make sure you had this ideal in utero development, you could perhaps try to be sure that the epigenetic makeup of the placenta and fetus is correct.”

Preconception Counseling

If Dr. Himes has learned anything from her mouse model, it’s that a fetus is particularly vulnerable in the first few days after conception — weeks before women realize they’re pregnant.

That’s why Dr. Himes urges women to talk to their ob-gyn before trying to get pregnant. Preconception visits allow doctors to identify factors that could put the woman or her baby at risk during pregnancy, suggest changes in diet and lifestyle if necessary, and treat existing medical problems. “If you start your prenatal vitamins with a positive pregnancy test, you can miss the boat,” she says.

Because she specializes in high-risk pregnancies, many women who know they are at higher risk for pregnancy complications see Dr. Himes for preconception counseling. But most women have no reason to think they’ll experience complications and don’t seek counseling. “We don’t see the bulk of the patients who probably could benefit from it,” she says.

In the future, doctors may be able to give women individualized prescriptions for optimal pregnancies. But it will take a great deal of research to get there. Medical research takes a great deal of money, and with the decline in National Institutes of Health (NIH) funding, young researchers like Dr. Himes have a particularly hard time finding it.

How does the placenta support optimal fetal growth?

Figure 1

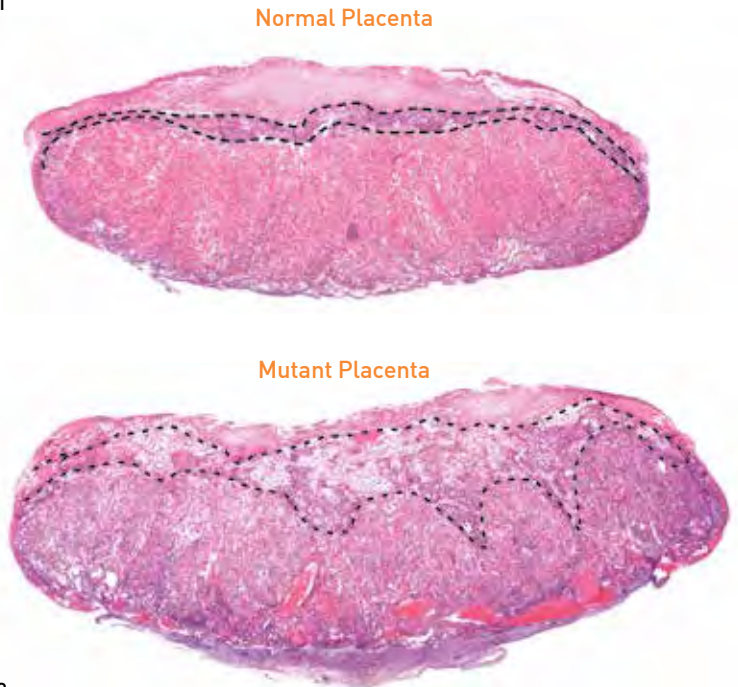


Figure 2

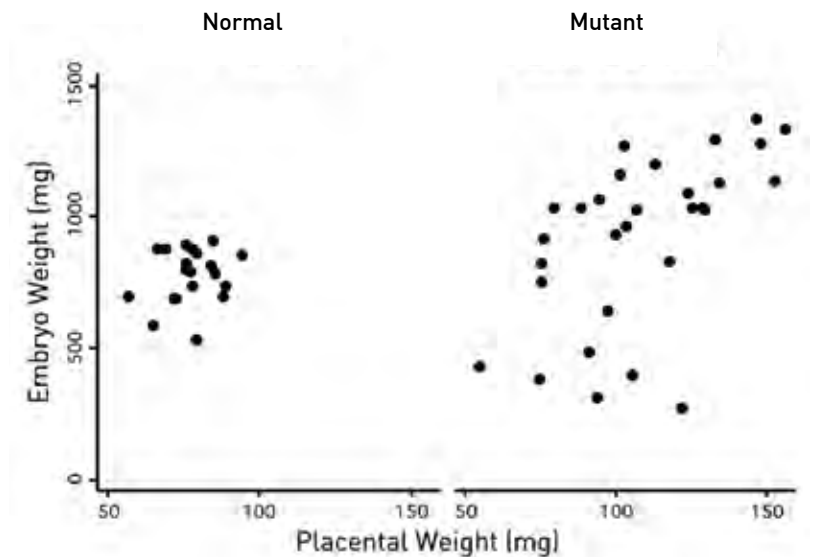


Figure 1: Normal versus mutant placentas in late pregnancy. Mutant placentas are larger than normal placentas and have abnormal placental structure.

Figure 2: The plot of embryo to placental weights illustrates that for normal mice, the range of placental and embryo weights is narrow. In contrast, while most of the mutant placentas are very large, some of the embryos are very small and others are very large. Understanding why some mutant placentas support large embryos while others support small embryos will help us understand how the placenta supports optimal fetal growth.

Tight Times

At 38, Dr. Himes is very early in her research career. Currently, her research is funded by an NIH Reproductive Scientist Development Program award, which will expire in two years. That's not nearly enough time to fully explore her line of research. She hopes to transition to a longer-term independent grant, but in tight times like these, the NIH and other funding powerhouses are more inclined to support well-established scientists. The average age at which an MD scientist first obtains a large NIH Research Project Grant has risen to 44 years. The chances of a young scientist acquiring NIH funding the first time they apply are slim to none. Some have to wait a full year before reapplying.

“After years of extensive training, young scientists such as Kata Himes face a series of challenges as they launch their independent research career,” says Yoel Sadovsky, MD, scientific director of MWRI. “In addition to the natural pressure to establish a laboratory, produce results, attract trainees, and make a name for themselves in a promising research field, these rising stars face an uphill battle of securing funding for their new labs. The financial pressure is exerted from both university administrators, who operate under tighter budgets, as well as diminishing funds from federal agencies and private foundations.

This situation may deter outstanding young academicians from pursuing new biomedical knowledge, jeopardizing the country's pool of future researchers.”

Dr. Himes isn't one to take the easy road. She has completed 11 years of medical training. After majoring in history at Yale College, she took an additional year of coursework at Bryn Mawr College to pave the way for medical school. She attended Harvard Medical School and continued her training at Magee-Womens Hospital, first as an ob-gyn resident and then as a maternal-fetal medicine fellow. Now she's juggling the roles of doctor and scientist — not to mention wife and mother.

Hundreds of women and their babies have benefited from her work at Magee-Womens Hospital. Her work at MWRI has the potential to affect women and babies everywhere. □ □



Pregnant With Promise

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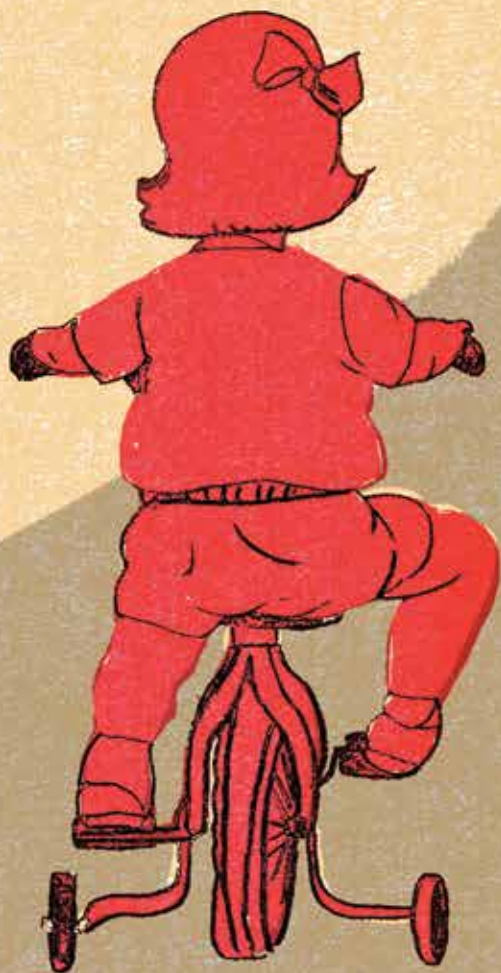
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A Problem of

Epic



Proportions



Amid soaring rates of obesity and related ills, an MWRI research team races to figure out fat.

— By Anna Dubrovsky,
Illustrations by David Pohl

Scientific research is hit or miss. Sometimes experiments work, and sometimes they fail.

Sometimes hypotheses are confirmed, and sometimes they're disproven. Sometimes, scientists make startling discoveries while looking for something entirely different. It's like striking oil while digging for water.

Obesity researcher Yaacov Barak, PhD, struck oil in the summer of 2008, shortly after moving from The Jackson Laboratory in Bar Harbor, Maine, to Pittsburgh's Magee-Womens Research Institute (MWRI). He was still unpacking when his research associate Suyeon Kim, PhD, knocked on his door. Dr. Kim had a worried look on her face. "I don't understand," she said. "Our female mice are fat."

It was the last thing Dr. Barak expected to hear. Back in Bar Harbor, he and Dr. Kim had tinkered with the mice's genes, inducing a mutation that causes fat cells to die. Their male mice responded as expected: they lost every trace of fat tissue and became very sick. At first, the females also lost fat tissue, though not as rapidly as the males. Then, while Drs. Barak and Kim were busy moving to their new research home, they plumped up.

"It was an a-ha moment," Dr. Barak recalls. "With females, not only do they never succumb to what we call lipotrophy, or loss of fat tissue, but they seem to rebound. They seem to kick away the mutation that we engineered into them." At a loss to understand why, they stuck to male mice as they continued their research into fat cell death.

Last year, the research team was joined by Marie Menke, MD, an ob-gyn at Magee-Womens Hospital of UPMC with a special interest in obesity. One of her first orders of business: figuring out the why and how. That could take years, and there's no telling if female human tissue will respond the same way. But Dr. Barak's serendipitous discovery bolsters growing evidence that when it comes to fat, men and women are far from equal. He and colleagues at MWRI believe that wider awareness of their differences is important in the fight against obesity, which has reached epidemic proportions. With a cure still beyond the horizon, educating people about obesity, its associated health risks, and known gender differences may well be the best medicine.

A quarter century ago, few could have predicted today's prevalence of obesity. Approximately 36 percent of U.S. adults are obese, according to the Centers for

Disease Control and Prevention (CDC). Perhaps more shockingly, nearly 17 percent of U.S. youths (ages 2-19) are obese. In 1990, no state had an obesity rate greater than 15 percent. In 2010, the latest year for which data is available, no state had an obesity rate of less than 20 percent, and 36 states had a rate of 25 percent or more. Pennsylvania's rate of 28.6 percent makes it the 17th fattest state.

Millions more Americans are inching their way toward obesity. About a third of U.S. adults are considered overweight but not obese. That means only a third of adults are "normal" by CDC standards. "Most people don't realize that," says Dr. Menke. "We just notice that people are a little larger than they were. Everyone's gone up a size, and they didn't realize it. And for some, it's culturally okay to be a little larger than they were. But even though it may be culturally okay, it still puts you at significant risk for some really bad diseases."

Multitude of Maladies

More often than not, attempts at weight loss are driven by vanity. We diet because we want to look better. We hit the gym so we can squeeze into skinny jeans. But the medical literature offers far more compelling reasons to lose weight.

Overweight adults are at increased risk for high blood pressure, high cholesterol, coronary heart disease, type 2 diabetes, stroke, liver and gallbladder disease, sleep apnea and respiratory problems, osteoarthritis, and even certain cancers. The forecast for diabetes prevalence is particularly grim. The CDC estimates that as many as 1 in 3 U.S. adults could have diabetes by 2050 — up from 1 in 9 now — largely due to increasing rates of type 2 diabetes, the obesity-related form of the disease. "The thing about diabetes is there is no way back," Dr. Barak says. "From obesity, there is a way back. Once you have diabetes, you can slow it, but you will remain diabetic for the rest of your life. It's a disease that you don't want to get." The metabolic disorder can lead to severe heart disease, kidney failure, blindness, foot or leg amputations, and other complications. It's the seventh leading cause of death in the United States.

Some of the more prevalent weight-associated diseases, including type 2 diabetes, appear to strike men more than premenopausal women. Overweight young women shouldn't take much comfort in that. They're still skating on thin ice. And if they don't manage to reduce their weight, they'll find themselves in a higher risk category later in life. "After menopause, women catch up to men as far as risk goes," Dr. Menke says. "You don't think about that when you're a young woman."

Body mass index (BMI), an indicator of body fatness, is a number calculated using a person's weight and height. The Centers for Disease Control and Prevention defines obesity in adults as a BMI of 30 or above. Adults with a BMI of 25-29.9 are considered "overweight."

It's estimated that 28.6 percent of adults in Allegheny County are obese. That's approximately 269,000 people.



The Centers for Disease Control and Prevention estimates that if overweight and obese women reduced their weight to a normal level before pregnancy, the incidence of gestational diabetes could be reduced by almost 50 percent.

Obese young women have a lot to think about if they're interested in having children. Obesity increases a woman's risk for pregnancy complications such as gestational diabetes, hypertension, and preeclampsia, a potentially life-threatening condition characterized by hypertension and protein in the urine. Women with gestational diabetes are at increased risk for type 2 diabetes and heart disease later in life. And women with hypertension during pregnancy or preeclampsia are more likely to develop chronic hypertension and heart disease.

That's not the half of it. Obesity, which affects approximately 1 in 5 pregnant women, increases the risk for preterm labor, C-section, and even stillbirth. Babies born to obese women are more likely to suffer chronic disease later in life.

Then there's the risk for infertility, which is three times greater in obese women compared to normal-weight women. "Women are surprised when I tell them that their weight is affecting their fertility," says Dr. Menke, who specializes in infertility. "To tell someone that it's affecting their ability to get pregnant — and not just get pregnant but have a child safely — is a long, hard conversation. And by the time you come to someone like me for infertility, you don't want to have a long conversation. You want to have a

conversation about how you're going to have a baby. The last thing someone who walks in my door wants to hear is 'You need to lose weight.'"

A Tough Fight

As many people know from experience, losing weight is easier said than done. Dr. Barak's research is aimed at uncovering why.

When he began his research into fat cells more than a decade ago, the prevailing view was that adults have a fixed population of fat cells that shrink when we diet and swell when we indulge. So the first time he created a mouse model with a fat cell-zapping mutation, he expected the mice to suffer severe loss of fat tissue within days or weeks. Instead, the process took months. "We hypothesized that there must be some immense regenerative capacity for fat tissue," says Dr. Barak, who focused on male mice initially.

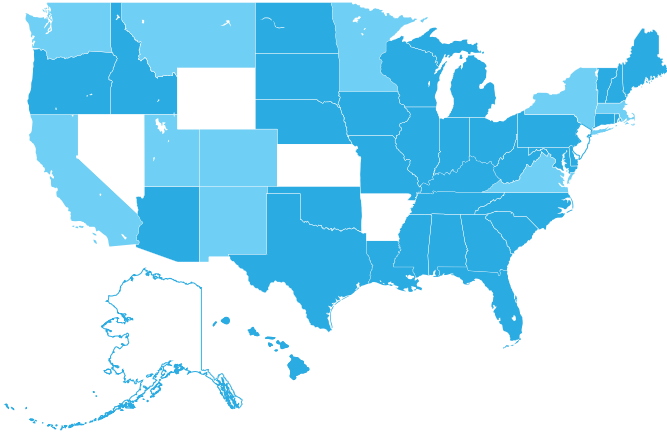
He was right. It's now understood that fat cells die, and the body creates new ones to take their place. A Swedish study published in 2008 found that 10 percent of fat cells die every year, which means 100 percent turnover every decade. Fat cell regeneration is bad news for dieters. "When you diet," says Dr. Barak, "first the cells shrink, and when it's more extreme, they die. But when they die, you're not done. You'll pack on the pounds immediately if you stop the diet because fat cells put up a good fight."

He's quick to point out a silver lining: if, as he believes, the fat cells of obese individuals are not only bloated but also dysfunctional, the fact that they will eventually be replaced might be good news.

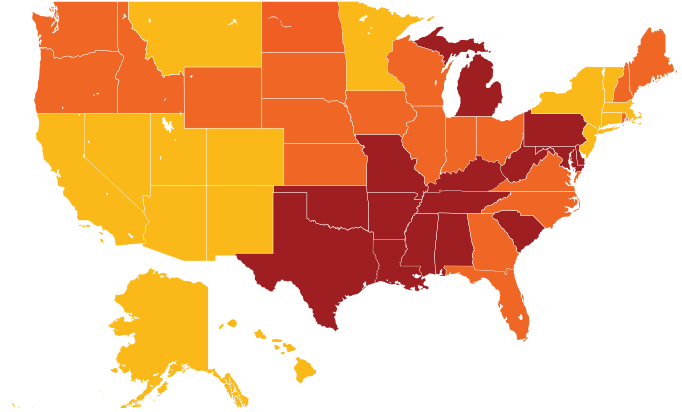
PERCENT OF OBESE ADULTS



1990



2010



That belief underlies his unorthodox approach to the study of obesity. “My argument — and this is an argument that I still have a very hard time selling — is that you can study a lot of the ills of obesity by studying lipodystrophy,” a rare condition characterized by scanty and dysfunctional fat tissue or complete absence of fat tissue. On its face, it’s the opposite of obesity. But they give rise to the same afflictions: diabetes, hypertension, heart problems. “That leads me to think that the problem with obesity is not so much that you have too much fat, but the fat that you have has undergone so many degenerative functional changes that it’s like you don’t have fat.”

Dr. Barak believes that a thorough understanding of fat cell death and repopulation will bring us closer to deciphering the obesity puzzle. So while obesity researchers around the world concern themselves with obese mice, he will continue creating scrawny ones. As for those female mice who refused scrawniness — they made things a whole lot more interesting. □ □

— With reporting by Andrea Romo and Jessica Server

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Supports Drs. Barak and Menke’s research work

\$500,000

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Let's talk about

Magee ob-gyn Aletha Akers helps parents and kids tackle the thorny subject.

— By Anna Dubrovsky, Photos by Darla Petrich of Hello Baby Photography

As her study subjects breakfast on bagels, muffins, and yogurt, Aletha Akers, MD, MPH, tosses out a question. “If you don’t have a condom, you can just wrap the penis in a plastic bag. Is that true or false?” For a few moments, the room of moms and their tween-aged kids falls silent. Then mom Anita Harris-White answers “false.”

“That’s what I was thinking,” murmurs her 10-year-old son, Christian White.

As Dr. Akers explains why plastic bags and Saran Wrap are no substitute for condoms, the boy slides down in his chair. “Don’t talk about women condoms,” he interrupts.

“There are a variety of types,” Dr. Akers continues. “There are some for women. There are some for men.”

“Don’t talk about women condoms,” Christian implores.

His mother shushes him, but Dr. Akers turns her attention to the boy. “You don’t want to hear any more about condoms,” she says. After confirming that “women condoms” make him particularly uneasy, she takes another guess: “You want to hear more about the condoms for men.”

“Wait until I’m like 16,” he says.

“Ah,” says the doctor.

Unlike most grownups, Dr. Akers is perfectly comfortable talking to kids about sex. She’s had a lot of practice. As an ob-gyn, she sees her fair share of girls with sexually transmitted diseases or unintended pregnancies. Most of them know quite a lot about condoms, but they’re embarrassed to buy them, uncomfortable asking their partners to use them, or afraid their parents will find them. Dr. Akers says they’d like to be open with their parents, to turn to them for information and advice, but they worry about their reactions. “I had one young lady tell me exactly that: ‘Our parents say they want to talk to us. They say they want to hear about what we’re thinking and doing. But they don’t. They can’t handle the truth.’”

Since moving to Pittsburgh and joining the staff of Magee-Womens Hospital of UPMC in 2006, she has delved into the subject of parent-adolescent communication about sex. That year she received a National Institutes of Health Career Development Award to examine how African-American families in Allegheny

County broach the subject. In 2008 the Robert Wood Johnson Foundation awarded her a grant to design and pilot test an online program aimed at fostering parent-adolescent communication about sex in rural African-American families. Both studies focus on African-American children because they experience particularly high rates of STDs and unintended pregnancy.

Christian and his mom are participants in her newest and most ambitious study, Reaching Adolescents by Partnering with Parents (RAPP). Unlike most programs to improve parent-adolescent communication about sex, which focus on bringing parents up to speed on sexual health topics, RAPP offers mothers a whole new set of communication tools. “Most interventions do not focus on teaching parents communication skills, and the communication skills that they do teach are fairly limited in scope,” Dr. Akers says. “They teach parents things like how to start a conversation and what to do when your kid doesn’t want to talk — don’t panic, you’ll have lots of other opportunities, seek the help of others, leave an

Adolescents are disproportionately affected by sexually transmitted infections. They comprise 14 percent of the U.S. population but account for half of the 19 million STDs diagnosed each year.

It’s estimated that 25% of HIV-positive people in the U.S. contracted the virus during their teens.



Dr. Akers confers with 10-year-old Christian White as his mother looks on.

“I think the vast majority of moms are very interested in their children and in hearing about their children’s lives, but they’re not necessarily good listeners in conversations about sex. They’re only listening for what they want to hear, as opposed to really trying to listen to what their children have to tell them.” –Dr. Akers

article on their bed or desk — all wonderful things. But none of the programs really provide intensive instruction on what to do when you’re in the middle of a conversation.”

Dr. Akers is endeavoring to teach mothers techniques used in Motivational Interviewing, or MI, which was developed in the 1980s as a counseling method for adults with substance use disorders. Instead of telling a client what to do and why, the counselor tries to build rapport with the client, draw out their values and goals, and help them explore whether their behaviors are consistent with those values and goals. In effect, Motivational Interviewing is the opposite of lecturing. “The motivation for making change really needs to come from the individual, not from the health care provider,” says MI expert Melanie A. Gold, DO, a pediatrician and adolescent medicine subspecialist at the University of Pittsburgh School of Medicine and Student Health Service.

Today MI is used by doctors, nurses, dietitians, and other health workers to counter a variety of risk behaviors, from poor oral hygiene to unhealthy diet to unprotected sex. But until Dr. Akers began her RAPP study last year, no one had tried to adapt it for parent-child communication.

“I told Aletha she was crazy,” recalls Dr. Gold, who signed on to help with the study nevertheless.

“I told her that nobody in the MI community would believe that we could do it. Everyone knows you can’t teach parents to do MI with their kids because they have too much of a vested interest in the outcome, and that means they wouldn’t be able to be nonjudgmental and support their teens’ autonomy if the teens wanted to do something the parents didn’t agree with.”

“**W**hat would you call the several comments that Christian made as I was talking about condoms?” Dr. Akers asks the four sets of mothers and children who have devoted a fourth Saturday morning to her study. Today is graduation day.

“Red flags?” says one mom.

“And what do we call red flags in our program?”

Dr. Akers says, scanning the conference room at Magee-Womens Hospital. She positions herself in front of a poster titled “Dealing With Resistance,” but no one picks up on the clue. “He was giving me some resistance, OK?”

Between spoonfuls of yogurt, Christian nods in agreement.

This is the third cohort of mothers Dr. Akers has trained in MI skills. She’s still analyzing the results of the yearlong pilot study, but several findings have already emerged. One is that many mothers have a hard time recognizing and dealing with resistance — the body language, facial expressions, and verbal cues of a child who’s checking out. In Christian’s case, it began with sinking lower and lower in his chair.

“Oftentimes, the resistance comes up when they feel like we’re talking over their heads,” Dr. Akers tells the moms.

As part of the study, she asked each mom-and-child pair to have sit-down discussions about sexual health topics. The conversations were recorded, transcribed, and analyzed. To her surprise, there was little variation in how moms covered the topics, even though their kids ranged in age from 10 to 14. “That’s a shame,” she says. “A 10-year-old doesn’t necessarily need to know — nor can he necessarily process — the same level of information as a 14-year-old.”

Dr. Akers is confident that moms can figure out what their kids need to know by asking open-ended questions and making statements known as reflections — two MI techniques. Open-ended questions are not easily answered with “yes,” “no,” or a concise piece of

Motivational Interviewing is defined as “a collaborative, person-centered form of guiding to elicit and strengthen motivation for change.”

Dr. Akers’ study targets mothers because they are the primary sexual health educators in families.



Dr. Akers gives one of the mothers a helping hand. She has found that mothers struggle with making “reflections,” or reflecting back what their children are saying.

information. “Have you heard of the female condom?” is a close-ended question. “What do you know about condoms?” is an open-ended alternative. It’s more likely to get a kid talking.

Reflections, which are central to Motivational Interviewing, are attempts to reflect back what a person has just said. The MI practitioner can simply repeat or paraphrase the person’s words or go a step further, guessing at the implied meaning or an underlying feeling. Dr. Akers responded to Christian’s resistance to hearing about condoms with reflections: “You don’t want to hear any more about condoms” and “You want to hear more about the condoms for men.”

Like open-ended questions, good reflections invite elaboration. Even better, they make a kid feel like their parent “gets it.”

Dr. Akers says the two dozens moms in her pilot study all got better at asking open-ended questions. But after nearly 10 hours of training in MI skills, they still struggled to make reflections. That may be because reflections require careful listening. “Many moms think they’re good listeners,” she says. “I think the vast majority of moms are very interested in their children and in hearing about their children’s lives, but they’re not necessarily good listeners in conversations about sex. They’re only listening for what they want to hear, as opposed to really trying to listen to what their children have to tell them.”

Dr. Gold was at least partially right. Parents have too much of a vested interest in their children’s wellbeing to be objective about their sexual behaviors.

“We wouldn’t want them to divorce their hopes and dreams for their children from the communication process,” says Dr. Akers, who has two young daughters. “We know from the literature on parent-adolescent communication that when parents clearly communicate their values and behavioral expectations, their

children are much less likely to become sexually active at early ages and much more likely to use condoms and contraceptives.” But parents who do more monologuing than dialoguing are missing the opportunity to nurture their children’s sexual decision-making capacity, she says. Who’s more likely to delay sex or use contraceptives: a girl whose parents insist “no sex before marriage” or one who reasons that teen pregnancy would undermine her cheerleading dreams or college plans? Dr. Akers would put money on the latter.

An hour into the session, Dr. Akers sends the children to one end of the room and their moms to the other. For their final group exercise, the kids get to choose from a list of questions about sexuality. The moms have to respond.

“Here’s the thing,” Dr. Akers tells the women, “you can’t ask any questions — not even an open question.” There are sighs and groans. “We’re really going to focus on practicing how to explore what our kids either know or want to know, or their ideas, values, and beliefs.”

Christie Adamiak, 13, lobs the first question. “Is it OK to kiss or hold hands but no touching under the clothing?”

The moms look shocked. Tracy Small, who has the first turn to respond, buries her face behind a laminated index card listing the MI skills they’ve learned. On the other side of the room, Christian hums the *Jeopardy* theme song, and the other kids crack up.

“It’s ok to pass,” Dr. Akers reassures Small. “I don’t want this to feel like torture. I want this to feel like practice.”

Christie's mom, Virginia, takes a stab at a reflection, weighing each word. "So you're saying, is it OK to have physical contact with someone ... that's external?"

"No, just like, is it OK to hold their hand or kiss them?" Christie replies without hesitation.

Small has finally recovered. "You're ready to kiss someone?" she says, a note of panic in her voice. Everybody laughs, reminding her that questions are forbidden, and she tries again, this time in a neutral tone: "You're ready to kiss someone."

"Not yet, but I want to know if it's OK," Christie says.

As the moms breathe a collective sigh of relief, Dr. Akers points out that their initial reaction was an overreaction. They'd assumed the worst: that Christie was keen to kiss somebody — and maybe do more. In doing so, they'd almost missed the point of her question. "In fact, she's not ready to do anything," Dr. Akers tells them. "She really just wants to have a conversation."

That's the main message she hopes to impart to parents: Don't be rattled by your children's questions. Look at them as golden opportunities to find out what they know about the subject, what they think about it, and what pieces of information they're missing. To get there, make liberal use of reflections. Too many questions can make children feel like they're on trial, and you're liable to meet resistance. Fight the urge to immediately answer their questions. That will keep the conversation rolling and, more importantly, sharpen your children's critical-thinking skills. "The easiest way to not help them think is to tell them what you think they should know or tell them how you think they should behave in certain situations," she says.

It's too early to tell if teaching parents Motivational Interviewing skills improves their children's sexual health outcomes. Dr. Akers plans to finish analyzing the data from her pilot, publish her findings, and seek funding for a larger study. She hopes to enroll at least 100 mothers, half of whom complete her program and half of whom serve as a control group, and follow their children for at least five years.

If nothing else, she hopes to demonstrate that early adolescence is an ideal time to engage children in conversations about things like kissing, touching

under the clothes, and contraception. "At 10 to 14, they're starting to go through puberty and think about these things, but the vast majority have not yet become sexually involved. We're teaching mothers these skills at a time when they're able to have the greatest impact on their children," she says.

A kid may not be ready to hear about women condoms, but he'll know who to turn to when he is. □ □

Nationwide, the average age of sexual initiation is 17.

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Let's Talk About Sex

Support research to curb rising rates of STDs and unintended pregnancies in teens.

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GIVING IN ACTION

Ovarian Cancer Survivor Raises Tens of Thousands for Research

In 2006, 27-year-old Julie McMullen underwent laparoscopic surgery to remove an ovarian cyst. When she woke up, doctors delivered the shocking news that she had ovarian cancer. Julie, who had a beautiful daughter and hoped for more children, put her fate in the hands of Thomas Krivak, MD, a gynecologic oncologist at Magee-Womens Hospital of UPMC.

Dr. Krivak not only removed the mass but was able to save Julie's uterus and one of her ovaries, leaving open the possibility of pregnancy. A year and a half after her surgery and chemotherapy treatments, he gave her the green light to try for more children.

In January 2011, Julie gave birth to a baby boy without any complications. "I can never fully express my gratitude, except to say that they are truly my heroes," she says of Dr. Krivak and Mark Fuoss, MD, the gynecologist who discovered the cancer.

Julie and her husband, Mike, have shown their gratitude by raising funds for ovarian cancer research at Magee. They turned the 2010 grand opening of their second Andora Restaurant into a fundraiser, raising about \$78,000. Last year they hosted the Teal Ribbon Comedy fundraiser, featuring Pittsburgh native Billy Gardell. The sold-out event raised about \$271,000.

Their fundraising efforts earned them the 2011 Elisabeth B. McCullough Award, which recognizes an individual or organization that has demonstrated remarkable energy, dedication, and success in fundraising for Magee.

— Andrea Romo

High Schoolers Help Magee's Tiniest Patients



From left: Susan Skelly, Cheryl Milford, Melinda Heintzinger, Stephanie Fite, Karlye Shirley, Cheryl Findley, and Deb Murcko of Magee's NICU welcome Bethel Park High School's Emma Hartzell, Emily Smoller with son, Grayson, and Sarah Debb.

A collection drive at Bethel Park High School in the South Hills netted hundreds of baby items and dollars for the neonatal intensive care unit (NICU) at Magee-Womens Hospital of UPMC.

Marketing teachers Emily Smoller and Patty Willie came up with the idea for the drive. Emily is no stranger to Magee's NICU. Her son, Grayson, was born nine weeks early weighing 5 pounds, 1 ounce, and spent five weeks in the NICU. "I am so grateful for the care of Grayson during his time in Magee's NICU," she says. "I wanted to find a way to give back, and I coupled it with a great learning experience for my marketing students."

Emma Hartzell, a senior at the high school, led the drive, which took place November 29 through December 19. Nine marketing classes competed against each other to collect the most items and money. Teachers participated by paying to wear jeans to work. Others purchased \$1 rubber bracelets reading "Presents for Preemies."

The students collected 464 items and \$440, with the winning class contributing 137 items.

Emily, Grayson, Emma, and sophomore Sarah Deeb delivered nine boxes bursting with blankets, clothing, diapers, pacifiers, and more to Magee's NICU. Items will be distributed to families in need and sent along with babies who enter foster care.

— A.R.

From Farm Boy to Philanthropist



Dr. Allen in 1948

by hitchhiking to and from a high school about 10 miles away.

After hearing a doctor speak at the school, he decided on a career in obstetrics and gynecology — a far cry from working on the farm or as a coalminer like his father. But he faced a major roadblock: the cost of college. He cleared it by submitting an essay to The American Legion, winning a full ride to the University of Pittsburgh.



Dr. Allen in his home in 2012

from 1945 to 1947.

After residency, he worked at a private practice with many partners. He didn't retire until he was 75. At 92, he continues to contribute to the medical field. The avid art collector and wine connoisseur has donated to Magee-Womens Hospital of UPMC for many years, supporting projects such as the Dan Berger Cord Blood Program, the Patient Care Fund, and the Greatest Needs Fund.

Interestingly, Dr. Allen and his late wife, Ruth, moved across the street from Magee in 1988. He now resides there with his wife of more than 20 years, Judi Cannava.

— A.R.

Born in 1919, Tom Allen, MD, had a lot to juggle as a teenager in Bairdford, Pennsylvania. In addition to working on the family farm and going to high school, he had the challenging task of getting from one to the other. Since schooling in Bairdford ended after the eighth grade, he continued his education

by hitchhiking to and from a high school about 10 miles away.

After hearing a doctor speak at the school, he decided on a career in obstetrics and gynecology — a far cry from working on the farm or as a coalminer like his father. But he faced a major roadblock: the cost of college. He cleared it by submitting an essay to The American Legion, winning a full ride to the University of Pittsburgh.

He earned a bachelor's degree in 1940 and a medical degree in 1943, and went on to complete gynecology and obstetrics residencies at Magee-Womens Hospital of UPMC. Partway through

the latter residency, he joined the U.S. Army, serving

Going the Extra Mile: Family Raises Money for Magee Through Marathon

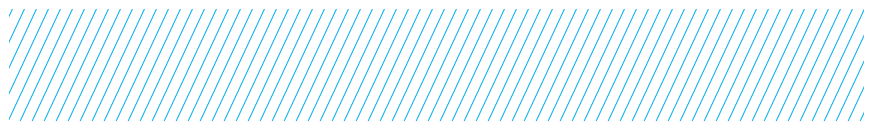
In October 2010, an unexpected pregnancy complication landed Andrea Parzick at Magee-Womens Hospital of UPMC, where she gave birth to twins Adam Anthony and Allison Marilyn — 15 weeks early. Allison passed away the following day, but Adam clung to life. For 102 days, Andrea and her husband, Nate, watched him struggle to survive in Magee's neonatal intensive care unit (NICU). On day 103, Adam was finally able to go home.

The Parzicks found a strong support system in the hospital staff and wanted to repay Magee for the lifesaving care it provided. They saw an opportunity in the 2011 Pittsburgh Marathon and Half Marathon. Nate ran the half marathon in honor of his twins, asking relatives, friends, and coworkers to sponsor him by donating to Magee's NICU. Nicole Verbus, Andrea's sister, ran the full marathon. "I have run thousands of miles but never for a specific cause," Nicole says. "It is very fitting that the marathon course goes by Magee around mile 12."

The Parzicks and Nicole raised \$2,350.

"During a difficult and unexpected experience, the staff at Magee did everything in their power to make sure that we were able to bring our little miracle home," Andrea says. "They truly showed that Adam was not just another baby or number. They cared for him and his family as if he was their own, and for this, we thank each and every one of them."

— A.R.



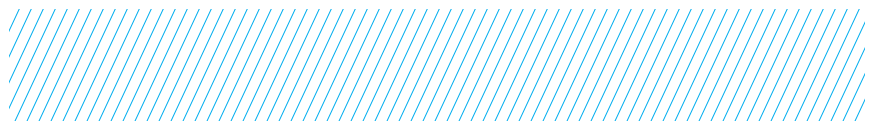
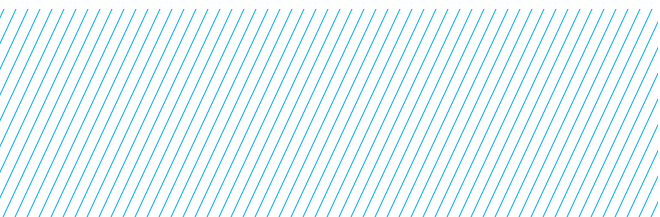
SPONSOR SPOTLIGHT

Giant Eagle Lends Major Support

Founded in 1931, Giant Eagle has always been a pioneer of the modern supermarket. Since 1984, it has also been a major supporter of women's health care, donating nearly \$500,000 to Magee-Womens Hospital of UPMC.

The popular supermarket chain has supported many hospital initiatives and events, including its yearlong centennial celebration in 2011. Giant Eagle is the presenting sponsor for the annual NICU Reunion, which brings together graduates of the neonatal intensive care unit, their families, and Magee staff for a day of fun at the Pittsburgh Zoo & PPG Aquarium. Last year's reunion drew nearly 300 attendees — the largest group to date. "Magee has been at the forefront of women's health for more than 100 years," says Tina Thomson, marketing manager for Giant Eagle. "We are honored to support the hospital in its mission to provide exceptional health care and wellness resources to women and families in western Pennsylvania."

— A.R.



Events / Happenings

JUNE

JUNE 17-18

OPEN
TO ALL

5th Annual Noah Angelici Memorial Golf Event

Where: Nemaocolin Woodlands Resort, Farmington, PA

When: All day

Proceeds benefit fetal intervention medicine at Magee-Womens Hospital of UPMC.

To register, contact Jane Klimchak at jane@noahshouseofhope.com or 724.350.2940.

JUNE 29-30

OPEN
TO ALL

The Michael Hoover Blood for Life Cause hosts Ladies Night

Where: Sparrow Pond, Waterford, PA

When: Starts at 6 p.m. Friday

Proceeds benefit fetal intervention medicine at Magee-Womens Hospital of UPMC.

To reserve your room, contact Tammy at 814.796.6777.

JULY

JULY 24-25

INVITE
ONLY

Clays for the Cure

Where: Seven Springs Mountain Resort, Seven Springs, PA

When: All day

Proceeds benefit premenopausal breast cancer research.

www.symbolofthecure.com

SEPTEMBER

SEPTEMBER 6

OPEN
TO ALL

Savor Pittsburgh

Where: SouthSide Works parking lot at Sydney Street and 26th Street

When: 6 p.m.

Proceeds benefit the fight against prematurity at Magee-Womens Research Institute & Foundation. **www.savorpittsburgh.com**

SEPTEMBER 7

OPEN
TO ALL

Savor Pittsburgh, THE Great Happy Hour Competition

Where: SouthSide Works parking lot at Sydney Street and 26th Street

When: 5 p.m.

Proceeds benefit the fight against prematurity at Magee-Womens Research Institute & Foundation.

www.savorpittsburgh.com

SEPTEMBER 11

OPEN
TO ALL

Magee Women's Cancer LiveWell Survivorship Workshop

Where: Doubletree Hotel, Monroeville, PA

When: 4 to 7:30 p.m.

SEPTEMBER 13-14

OPEN
TO ALL

1st Annual Fly Fishing Classic

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**

SEPTEMBER 15

OPEN
TO ALL

The 3rd Annual Cradle Will Rock

Where: Keepsake Arabians Equestrian Center, McDonald, PA

When: 6 p.m.

Proceeds benefit neonatal research, newborn medicine, and fetal intervention medicine at Magee-Womens Hospital of UPMC and Magee-Womens Research Institute.

www.mwrif.org/395

SEPTEMBER 27

Teal Ribbon Comedy, Music Evening With Bill Cosby

OPEN
TO ALL

Where: Carnegie Music Hall, Oakland, PA

When: Doors open at 7:30 p.m.

Proceeds benefit ovarian cancer research at Magee-Womens Research Institute.

www.mwrif.org/384

OCTOBER

OCTOBER

OPEN
TO ALL

Go Pink at Panera

Where: Participating Pittsburgh-area Panera cafes

When: All month long

Proceeds benefit premenopausal breast cancer patients at Magee-Womens Hospital of UPMC.

OCTOBER 26

OPEN
TO ALL

Magee Alumni Day

Where: Magee-Womens Hospital of UPMC, Oakland, PA

When: All day

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

To learn about event sponsorship opportunities, please visit www.mwrif.org/425.



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