

# weillcornellmedicine

THE MAGAZINE OF  
WEILL CORNELL  
MEDICAL COLLEGE AND  
WEILL CORNELL  
GRADUATE SCHOOL OF  
MEDICAL SCIENCES

SPRING 2012

A portrait of Dean Laurie Glimcher, a woman with short brown hair, smiling. She is wearing a dark, patterned blazer over a black top and a pearl necklace. The background is a blurred hospital or laboratory setting.

## Great Expectations

Dean Laurie Glimcher aims to lead  
Weill Cornell to new heights



Weill Cornell Medical College



Where Research Leads to Cures

# Intercampus Collaboration

## Our Partnership with Cornell in Ithaca

Scientists at Weill Cornell Medical College and Cornell University in Ithaca are combining strengths, expertise and resources in dozens of collaborations designed to move medical breakthroughs more quickly from the laboratory to the patient.

Intercampus programs in cancer, neuroscience, aging, obesity and global health are well aligned with the priorities of the *Discoveries that Make a Difference* Campaign. This partnership brings together our world-class biomedical researchers with experts in related fields such as nanotechnology, biomedical engineering and computer simulation. They are all dedicated to the same goal — developing therapies that lead to healthier lives.

“Our strong partnership with Cornell University can be further strengthened through **shared interests and interactions** among current biomedical scientists and those who we will be recruiting in the future.”

**Laurie H. Glimcher, MD**  
Stephen and Suzanne Weiss Dean  
Weill Cornell Medical College  
Provost for Medical Affairs, Cornell University  
Professor of Medicine

## Translational bench-to-bedside research collaborations recently funded by the National Institutes of Health include:

### Center on the Microenvironment and Metastasis

The Center is one of 12 new research initiatives in the country supported by the National Cancer Institute to search for fresh perspectives to combat cancer. The \$13 million grant to Cornell-Ithaca and Weill Cornell will draw from the fields of nanobiotechnology, bioengineering, theoretical physics, and chemistry, among others, to further the understanding of how cancer metastases travel through the human body.

#### Partners

*Cornell University in Ithaca:* **Michael Shuler, PhD**, Director and Principal Investigator, Professor of Biomedical and Chemical Engineering

*WCMC:* **Barbara L. Hempstead, MD, PhD**, Senior Investigator, O. Wayne Isom Professor of Medicine and Associate Dean for Faculty Development

*Other principal members:* The University at Buffalo, The State University of New York

### Cornell Center for Behavior Intervention Development

The National Heart, Lung, and Blood Institute (NHLBI) awarded a five-year, \$6 million grant toward the creation of this center, which will focus on behavioral interventions that reduce obesity and obesity-related morbidity in black and Latino communities. The work will use an interdisciplinary approach to behavioral modification, with psychologists, medical sociologists, nutritionists and other experts working directly with the participants to tailor personalized programs.

#### Partners

*WCMC:* **Mary Charlson, MD**, Director and Principal Investigator, Professor of Integrative Medicine, William T. Foley Distinguished Professor of Medicine

*Cornell University in Ithaca:* **Elaine Wethington, PhD**, Co-Principal Investigator, Professor, Director of Graduate Studies, Department of Human Development

*Other principal members:* Lincoln Medical and Mental Health Center and Renaissance Health Care Network Diagnostic and Treatment Center

DISCOVERIES

THAT MAKE A DIFFERENCE

THE CAMPAIGN FOR WEILL CORNELL MEDICAL COLLEGE

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## FEATURES

### 22 MEET THE DEAN

BETH SAULNIER

Weill Cornell's new dean, Laurie Glimcher, MD, is a highly respected physician-scientist—board-certified in internal medicine and rheumatology and the founder of a successful immunology lab at Harvard. In a conversation with *Weill Cornell Medicine*, Glimcher talks about her plans to expand WCMC's research enterprise, the importance of mentoring, the challenges facing medical education, the value of collaborating with industry, and more. "We're on the brink of a huge opportunity," Glimcher says. "It's my dream job."

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ANDREA CRAWFORD

Located at the Iris Cantor Women's Health Center at NYP/Weill Cornell, the multidisciplinary Weill Cornell Breast Center offers an innovative, patient-centered approach to clinical care and research. Home to one of the first breast cancer tumor boards in New York City, the Center has long been in the vanguard of integrating specialists to battle the disease—bringing together oncologists, surgeons, radiologists, and others to craft personalized treatment plans.

### 32 ACID TEST

SHARON TREGASKIS

Since the Nineties, women of childbearing age have been urged to take folic acid supplements to prevent their babies from being born with neural tube defects (NTDs). Neurologist M. Elizabeth Ross, MD '79, PhD '82, has devoted her career to studying these devastating defects, which include spina bifida. But as Ross notes, the relationship between folate and NTDs still isn't fully known—and folic acid may play a role, both preventive and causal, in a host of other conditions.

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Cover photograph by John Abbott

## A Brave New World

Laurie H. Glimcher, MD,  
Dean of the Medical College



JOHN ABBOTT

**B**ritish-born Elizabeth Blackwell was the first woman to earn a medical degree in the United States. She trained nurses in the Civil War and founded the New York Infirmary for Women and Children, which was later incorporated into New York Downtown Hospital. “It is not easy to be a pioneer—but oh, it is fascinating!” Blackwell once said. “I would not trade one moment, even the worst moment, for all the riches in the world.”

My vision for Weill Cornell in the next ten years can be summarized simply: I want this institution to be a pioneer in everything that it does. A decade from now, I want to see Weill Cornell ranked among the top ten medical schools in this country, with a doubling of its current NIH support. I want this institution to further enhance its status as a world-class biomedical research enterprise, renowned for its ability to translate science into meaningful therapies. Building on Dean Gotto’s legacy in expanding the scope of Weill Cornell as an institution of both national and international standing, I want us to be among the best in the world in each element of our tripartite mission: research, education, and clinical

care. Each part depends upon the other—and each is close to my heart, because the three have long been the components of my own professional life.

Health care in this country is facing a watershed moment, and the challenges posed will require bold new ideas and a commitment to excellence. I intend for Weill Cornell to be in the vanguard of finding solutions. I take my inspiration for this from stories of other great medical groundbreakers—from the clinicians who transformed surgery with the discovery of general anesthesia to the researchers who prolonged human life through the development of vaccines. These bold innovators show that it is possible for a handful of passionate, talented individuals to make a difference in the face of daunting problems.

For Weill Cornell to pioneer such solutions will require an interdisciplinary approach to biomedical research, where there are no barriers among our clinicians, our translational researchers, and our basic scientists. It will require a culture of cooperation, collaboration, transparency, inclusiveness, and collegiality. It will require strong partnerships—not only with the

academy, with NewYork-Presbyterian, and with other health-care organizations, but with the private sector as well. It will require a commitment to confronting the issues facing the current health-care system. Above all, it will require intense effort from each of us: basic scientists and clinicians, faculty and administration, current students and alumni alike.

Over the next ten years, as we populate the more than one million square feet of space newly built along York Avenue, this institution will undergo an impressive transformation. We have an opportunity available to very few American medical colleges: to bend the curve in clinical care, graduate education, and biomedical research. And when we combine that opportunity with the engineering and technical campus that Cornell is building on Roosevelt Island, it seems safe to say that in the next decade, Cornell University will become the premier educational presence in New York City.

Let us embark on this exciting new frontier together, as we continue to build one of the strongest academic medical centers in the world.

# Funding Outside the Box

David P. Hajjar, PhD,  
Dean of the Graduate  
School of Medical Sciences

It is no secret among the biomedical community and lay public alike that federal funding for science has been flat over the last several years, and that it will likely remain so for the foreseeable future. In 2011, for example, the NIH funded, in general, only about 15 percent of the applications it received for the R01 grant, its oldest funding mechanism for health-care related research and development.

At the same time, the costs of conducting biomedical research have continued to increase. To adapt to this new funding landscape, in 2010 we created within the Office of Research and Sponsored Programs a Research Development and Outreach Office. Directed by Brian D. Lamon, PhD, assistant dean for research development and outreach, this office provides institutional and administrative support to student researchers and faculty, to help identify appropriate sources of nontraditional funding, so that our faculty can maintain their laboratories. The sources we categorize as nontraditional on this campus include the Department of Defense, the National Science Foundation, and the Department of Energy, as well as philanthropic foundations, voluntary health organizations, and other nongovernmental organizations. Two of the well-known non-federal foundations are the Howard Hughes Medical Institute and the Bill and Melinda Gates Foundation.

The Research Development and Outreach Office—like the Office for Industrial Support, headed by Caren Heller, MD—constantly seeks alternative funding for investigators doing both basic and clinical research. Such funding can help investigators support lab infrastructure, purchase equipment and supplies, travel to meetings, and pay laboratory personnel. These grants are also important resources for seeding the preliminary work that can develop into large NIH-supported studies.

Built from scratch, the office began by simplifying grant databases and organizing, in one place, numerous other digital resources for grant writing. It also oversees proposal development, helping faculty craft applications specific to the mission and goals of the granting agency from which they seek funding. The support that fac-



PROVIDED

Brian D. Lamon, PhD

ulty members receive from the Research Development and Outreach Office is particularly important as investigations grow more interdisciplinary and proposals more complex. Today's funding agencies often reward collaborative efforts that bring researchers together across different areas of an institution, and among multiple institutions as well.

After just two years, the office has already begun to see measurable results. Even though biomedical research funding from nonprofits declined 20 percent in the aftermath of the financial crisis, Weill Cornell increased its non-traditional funding during this difficult time by at least 10 percent.

Today's biomedical researchers must be more creative in seeking support for their work, yet the hunt for alternative funding sources should not encroach upon their search for scientific breakthroughs. I am pleased that the Research Development and Outreach Office is helping to ensure that Weill Cornell's researchers can successfully negotiate the vicissitudes of the more competitive funding landscape—without spending even more time out of the laboratory.

# Collaboration

Each of us wants to stay healthy from birth through old age but, as we know, that appears to be impossible due to the vagaries of life and the constraints of our genetics. However, Weill Cornell's strong research collaborations and affiliations in this country and worldwide have positioned us as one of the leaders in a methodical newly intensified approach to science – understanding **the connections between what were once thought to be separate, distinct diseases**. This integrated, multidisciplinary approach is already revealing new clues to how we can remain healthier and more vital throughout our lives.

**“By considering each disease not just in terms of ‘silos’ but rather in terms of its effect on the totality of a person’s biology, combined with their genetic background and environment, we can identify new targets and strategies for treatment and prevention and revolutionize the way we deal with disease — and wellness — for all ages.**

**Laurie H. Glimcher, MD**

Stephen and Suzanne Weiss Dean  
Weill Cornell Medical College  
Provost for Medical Affairs, Cornell University  
Professor of Medicine

## A Fertile Environment for Progress

The greatest health advances happen in places where research disciplines intersect and scientists collaborate across fields and across institutions. Weill Cornell excels in leading the way with vigorous partnerships in this country and around the globe. A few examples:

- ◆ The new lab bench-to-bedside Belfer Research Building, which will double our space capacity for interdisciplinary research. Campaign priority: funding to support **recruitment of 30 new scientists and priority programs in the facility**
- ◆ A close physician-scientist **partnership with NewYork-Presbyterian Hospital**, continually ranked among the best hospitals in the country
- ◆ Strong research, teaching and clinical **affiliations with major institutions in the New York area** – Memorial Sloan-Kettering, The Rockefeller University, Hospital for Special Surgery, and with The Methodist Hospital in Houston
- ◆ Affiliations with more than **20 additional hospitals** in the New York area
- ◆ Multiple **joint research projects with Cornell University** in Ithaca, including its world-renowned biomedical engineering program. This will be further expanded with the opening of the CornellNYC Tech science campus on Roosevelt Island. (See page 6.)
- ◆ **Global cross-cultural leadership in international research**, teaching, and clinical programs, including: the Biomedical Research Program on our campus at Weill Cornell-Qatar; the Weill Bugando Medical Program in Tanzania; the GHESKIO\* clinic in Haiti; and more than 40 other hospitals and medical schools around the globe.

\*GHESKIO is the French acronym for the Haitian Group for the Study of Kaposi's Sarcoma and Opportunistic Infections.



# – The Next Frontier

“Our work in prostate cancer is a true team effort involving both physicians and scientists spanning disciplines that range from molecular and cell biology to engineering and physics.”

Paraskevi (Evi) Giannakakou, PhD  
Associate Professor of Pharmacology in Medicine



Dr. Giannakakou (left), with her lab associates

## *The Web of Health*

*Controlling chronic high blood pressure in one's thirties can reduce the risk for Alzheimer's disease and stroke in one's seventies. Research across disciplines will identify more of these correlations between diseases, to help us attain our goal of a lifetime of good health. (For recent research, see page 8 and the inside front cover.)*

For more information and a detailed list of gift opportunities, contact Lucille Ferraro, Campaign Director, at 646-317-7387 or [luf2003@med.cornell.edu](mailto:luf2003@med.cornell.edu)

[weill.cornell.edu/campaign/research](http://weill.cornell.edu/campaign/research)

(Seated) Stewart A. Anderson, MD, Professor of Psychiatry in Neuroscience, and Asif Maroff, MS in Biomedical Engineering, Graduate Research Assistant.



## Cornell Wins NYC Tech Campus Competition



Across the river: A rendering of the planned tech campus on Roosevelt Island

SKIDMORE, OWINGS & MERRILL

Shortly before Christmas, Mayor Michael Bloomberg announced that Cornell University and the Technion-Israel Institute of Technology had won the competition to build an applied sciences campus on Roosevelt Island. Located across the East River from the Medical College, the campus will include a “hub” devoted to health-care technology, offering myriad opportunities for research collaborations with physician-scientists at Weill Cornell. At the announcement ceremony, held at Weill Cornell, Bloomberg called the Cornell-Technion proposal “far and away the boldest and most ambitious.” The agreement calls for the city to provide eleven acres of land—some of which currently houses a hospital long slated for demolition—and up to \$100 million in infrastructure improvements. The University has also received a \$350 million gift to support the project from philanthropist Charles Feeney, a 1956 alumnus; it’s the largest single donation in Cornell history and one of the largest in the history of American higher education.

The school will open this fall in a temporary location; construction will begin in 2015, with the first phase of the facility opening no later than 2017. When fully realized—by 2043—the project will comprise more than two million square feet of space, with environmentally friendly buildings and public open spaces. The school is planned to have 2,500 master’s and doctoral students and some 280 faculty members, and create up to 8,000 permanent jobs.

### In Inaugural Address, Dean Laurie Glimcher Outlines Ten-Year Plan for WCMC

In her inaugural address to the Weill Cornell community in early January, Dean Laurie Glimcher, MD, described her vision for the Medical College—as a global leader in clinical care, biomedical research, and medical education. “We are facing watershed moments in this country in clinical care, in medical education, and in biomedical research,” Glimcher told a standing-room-only crowd in Uris Auditorium. “The challenges these pose will require bold new ideas and a commitment to excellence. I intend for Weill Cornell to be a pioneer in finding solutions to these issues. We will lead the way.”

In her talk, Glimcher laid out a ten-year plan whose goals include making Weill Cornell one of the top ten medical schools in the nation—and to see its NIH funding double. To that end, she aims to recruit thirty top-tier faculty who will become the next generation of clinical and research leaders. Other goals include raising more money for student scholarships; building on the Medical College’s commitment to ethnic and gender diversity; and strengthening the relationship with its partner institutions, including NewYork-Presbyterian Hospital, Methodist Hospital, and Cornell University. “We have much to do and it won’t be easy to do it,” she said, “but I know that together we can accomplish astonishing things.”



## Office Established to Aid Development of Junior and Senior Faculty



Barbara Hempstead, MD, PhD

With the aim of supporting professors at all career levels, the Medical College has established an Office of Faculty Development. “Successful career development requires a clear understanding of the criteria for promotion, mentorship at all levels, provision of protected time for research and academic activities, and formal training in writing of grants, manuscripts, and clinical trials,” Dean Glimcher said in an announcement. “This office will ensure these opportunities permeate through the entire Weill Cornell Medical College community. Moreover, as medical discovery and its translation to improved clinical care involve multidisciplinary teams of investigators and clinicians, this office will help faculty to promote collaborative team building among clinical researchers and translational and basic scientists.” The office will be led by the new associate dean for faculty development, Barbara Hempstead, MD, PhD.

## Event Showcases Student Research

Thirty student scientists presented their work at the tenth annual Medical Student Research Day in February. The event featured presentations on such topics as the benefits of community-based testing for heart disease and the relationship between sepsis and blood clots. According to assistant dean for research development Brian Lamon, PhD, the day offers valuable lessons for young scientists. “You can be doing the best science project in the world,” he says, “but if you can’t sell that to other people and let others know what you are doing, it’s useless.”



State of the art:  
A silent auction in  
NoHo supported  
the Community Clinic.

## Community Clinic Benefit Raises \$25K

A January fundraiser garnered more than \$25,000 to support the student-run Weill Cornell Community Clinic. The event, which brought a sellout crowd of 200 to the Astor Center in NoHo, featured a silent auction of fifteen donated art works created on the theme of “Without a Safety Net.” MD-PhD student Megan Riddle, co-director of the clinic—which is funded by donations and grants and is staffed by volunteer students, physicians, and social workers—noted that the event raised far more than organizers had hoped. “Right now, there is much more demand for our services than we are able to offer,” she said. “This puts us much closer to our goal of being able to meet that demand.”

## TIP OF THE CAP TO...

WCMC-Q researchers **Sara Abdul-Majid**, **Joel Malek**, **Christopher Ogden, PhD**, and **Renee Richer, PhD**, and Ithaca colleagues **Anthony Hay, PhD**, and **Michel Louge, PhD**, whose work on the microbiology of sand dunes was named Best Environment Research Program of the Year by the Qatar Foundation.

Pediatrics professor **James Bussel, MD**, co-winner of the \$200,000 King Faisal International Prize for Medicine for his work on the treatment of fetuses with alloimmune thrombocytopenia, which causes intracranial hemorrhage.

Professor of psychology in psychiatry

**JoAnn Difede, PhD**, whose research team won an \$11 million grant from the Department of Defense to study the use of virtual reality and other novel therapies to treat PTSD in veterans of the Iraq and Afghanistan wars.

Clinical professor of medicine **Mark Pasmantier, MD**, winner of the Outstanding Service Award from the New York Weill Cornell Medical Center Alumni Council, in recognition of his four decades of service to the hospital and the Medical College.

**Manish Shah, MD**, assistant professor of medicine and director of gastrointestinal oncology at NYP/Weill Cornell, who rang the closing bell at the New York Stock Exchange on December 19 to highlight the fight against stomach and esophageal

cancer. He was accompanied by colleagues **Nasser Altorki, MD**, the David B. Skinner Professor of Thoracic Surgery, and **Andrew Dannenberg, MD**, the Henry R. Erle, MD-Roberts Family Professor of Medicine.

**Andrew Schafer, MD**, the E. Hugh Luckey Distinguished Professor of Medicine and chair of the Department of Medicine, winner of the Robert H. Williams, MD, Distinguished Professor Award, the highest honor given by the Association of Professors of Medicine.

New York-Presbyterian’s **Westchester Division**, the first behavioral health facility in the nation to be named a Planetree Designated Patient-Centered Hospital. Planetree is a nonprofit that promotes patient empowerment and positive healing environments.

## Remembering Heart Disease Expert Lawrence Hinkle

Retired medicine professor Lawrence Hinkle Jr., MD, a pioneer in studying the natural history and mechanism of sudden death and of coronary heart disease among middle-aged American men, died on January 10. He was ninety-three. The former head of the Division of Human Ecology of the Department of Medicine, Hinkle practiced for more than four decades and published more than 135 papers. His many honors include the Bernstein Award for Excellence in Medical Research from the New York Medical Society. Hinkle retired from Weill Cornell in 1988.



Lawrence Hinkle Jr., MD

## Anesthesiology Pioneer Joseph Artusio Dies at 94

Joseph Artusio Jr., MD '43, founding chairman of the Department of Anesthesiology and longtime anesthesiologist-in-chief at NYP/Weill Cornell, died on December 21. He was ninety-four. Artusio spent his entire career at Weill Cornell and was its highest-ranking anesthesiologist for forty-two years, retiring with emeritus status in 1993. He made major contributions to the field, including the development of anesthetic techniques for early heart surgery and research into nonflammable anesthetic agents.



Joseph Artusio Jr., MD '43

His numerous publications include the textbooks *Practical Anesthesiology* and *Anesthesiology: Problem-Oriented Patient Management*; the latter remains in wide use by residents and has been translated into numerous languages. Among his Weill Cornell honors are the Maurice Greenberg Distinguished Service Award and the Alumni Award of Distinction. A professorship was established in his name in 1989; it is currently held by his successor, John Joseph Savarese, MD.

## FROM THE BENCH

### Diagnoses of Autism Spectrum Disorders Vary

A study in the *Archives of General Psychiatry* finds that diagnoses of autism spectrum disorders vary widely across clinics.

"Clinicians at one center may use a label like Asperger syndrome to describe a set of symptoms, while those at another center may use an entirely different label

for the same symptoms," says lead investigator Catherine Lord, PhD, director of the Center for Autism and the Developing Brain on the Westchester campus. Lord and her team tracked some 2,100 people aged four to eighteen who were given a diagnosis of autism spectrum disorder at twelve university-based centers. They found that the diagnoses varied widely from site to site, rendering the various categorizations almost meaningless. "Because clinicians may not be using labels appropriately or diagnosing accurately, they may not be getting a sense of children's strengths and weaknesses and what therapy is best for them," Lord says. The take-home message, she adds, is that "there really should be just a general category of autism spectrum disorder, and then clinicians should be able to describe a child's severity" based on a variety of factors.



Catherine Lord, PHD

UNIVERSITY OF MICHIGAN

### Study Compares Hip Replacement Implants

An FDA-funded data analysis has found no clear evidence that one type of hip implant is more effective than another. Art Sedrakyan, MD, PhD, director of the Patient-Centered Comparative Effectiveness Program and associate professor of public health, and colleagues examined outcomes for patients who received metal-on-metal, metal-on-polyethylene, and ceramic-on-ceramic devices. The researchers, who examined data from more than 830,000 surgeries in national registries as well as the records of more than 3,100 patients enrolled in comparative studies, note that the potential risks of the various implants are still unclear, and that their study was limited because of differences in methodology and reporting. "Before any claims of benefit are made, there should be large, peer-reviewed clinical trials comparing these treatments," Sedrakyan says.

### Early HIV Intervention Is Cost-Effective

Early initiation of antiretroviral therapy (ART) for HIV-infected adults in Haiti not only saves lives, it's cost-effective. After a three-year study, researchers at Weill Cornell and GHESKIO have found that patients who received early ART in Haiti had lower overall medical costs than those who had the standard treatment. "This study suggests that the new WHO guidelines for ART initiation can be cost-effective in resource-poor settings," says GHESKIO director and medicine professor Jean Pape, MD '75. "Despite substantial budget and logistical constraints to implementing earlier treatment, policymakers should allocate resources to maximize their ability to implement the new guidelines."

### Genetics of Cleft Palate

In the journal *Development Cell*, researchers led by Licia Selleri, MD, PhD, associate professor of cell and developmental biology, have described a genetic method to repair cleft lip and palate in mice embryos. The team found that genes for Pre-B Cell Leukemia Transcription Factor proteins contribute to the development of the defect, and that altering one type of molecule in the Wnt signaling pathway (which plays a role in embryogenesis) can correct it. The work could lead to a method for preventing or treating the condition in humans.

### Positivity Promotes Health

Self-affirmation can encourage healthy decision-making, finds the first large, randomized trial on the topic. The work, funded by the National Heart, Lung, and Blood Institute, involved



Mary Charlson, MD

756 patients in three studies. Those in the experimental group were told to think of small things in their lives that make them feel good, when they get up in the morning and throughout the day. They were also asked, when faced with obstacles, to recall moments in their lives that they're proud of. Mary Charlson, MD, executive director of Weill Cornell's Center for Integrative Medicine, and colleagues found that the affirmations made subjects more likely to increase their physical activity and to take medication to control high blood pressure.

AMELIA PANICO

## Brainstorm

After successful neurosurgery to repair a Chiari malformation, a teenager resolves to raise awareness about the condition

## Talk of the Gown

Insights & Viewpoints



VICTOR VENTURA

**N**ew Jersey high school sophomore Connor Ventura was playing in a soccer showcase in Phoenix in December 2009 when he experienced severe dizziness, headache, and near-delirium. He decided to play through it; after all, this was his shot at impressing the Division I college scouts.

At the end of the game, he collapsed. The coaches thought it was a concussion. But Ventura, then fifteen, didn't recall getting hit. Nor did his mother, Patti, remember Connor having anything more than normal impact with

another player. At a Phoenix hospital, they got some sobering news: Connor needed brain surgery, and soon. "I tried to keep it all in," he says. "I could see my Mom was a wreck, so I wanted to be strong. But I can't tell you the feelings that went through me. I was scared."

Ten days and a battery of tests later, Ventura was diagnosed with a condition known as Chiari malformation. He underwent a surgical decompression procedure at the Weill Cornell Brain and Spine Center, the region's leading hospital for treating patients with Chiari. The operation was a success; today, Ventura says he is "healthier

Goal oriented: Connor Ventura is back on the soccer field.



JOHN ABBOTT

Jeffrey Greenfield, PhD '99,  
MD '02

than I've ever been."

Chiari malformations are structural abnormalities at the back of the head. Normally, a large hole in the base of the skull accommodates the connection between the brain and spinal cord; the area is surrounded by fluid that can move freely between head and spine. In a person with Chiari, the back of the brain (the cerebellum), is pushed down through the opening, creating pressure on the cord and restricting fluid movement. That can cause a wide variety of symptoms; the most common are headache and neck pain, which typically get worse with exertion (exercise, coughing, sneezing, even laughing). Another frequent complaint is temporary tingling or numbness in the hands and fingers.

There are no figures for Chiari in the general population, says Jeffrey Greenfield, PhD '99, MD '02, an assistant professor of neurological surgery, the Victor and Tara Menezes Clinical Scholar in Neuroscience, and an assistant attending neurological surgeon at NewYork-Presbyterian Hospital/Weill Cornell Medical Center. He was one of two neurosurgeons who operated on Ventura; the other was Theodore Schwartz, MD, a professor of neurological surgery and an attend-

ing neurological surgeon at NYP/Weill Cornell.

"A lot of people are walking around with Chiari and don't even know it," says Greenfield. "People can have it and lead normal, relatively symptom-free lives." Connor Ventura hadn't been one of them. He says that even before the Arizona incident, he knew the inside of his pediatrician's office as well as his locker room. He suffered from routine sinus infections, strep throat, and constant headaches, among other ailments, and was frequently on one antibiotic or another. "But since the operation two years ago I haven't been in a doctor's office except for follow-ups on my Chiari," says Ventura, whose only lasting evidence of the experience is a five-inch scar on the back of his head. "I haven't gotten any sinus infections or colds since the operation."

Greenfield notes that when it comes to Chiari, accurate diagnosis and appropriate evaluation are key. "With the advent of the MRI, more people are finding that they have Chiari," he says. But not all cases warrant surgery. "We tend to be conservative because it's a major operation," he says. "We will often take a wait-and-see approach if the symptoms are not severe. There is nothing worse than performing invasive surgery on a patient who doesn't really need it. When patients are referred, we follow them conservatively more often than we operate on them."

Currently, the Brain and Spine Center is raising funds to hire a pediatric research fellow to oversee three Chiari studies, including work on the association between the malformation and spine deformity, and on determining which symptom-free patients are at highest risk for progression. The Center is also exploring how Chiari—as well as other conditions such as brain tumors and aneurysms—can be treated with less invasive techniques. Greenfield's partner, Mark Souweidane, MD, director of pediatric neurosurgery at the Komansky Center for Children's Health at NYP/Weill Cornell and director of the Weill Cornell Pediatric Brain and Spine Center, is overseeing many of the Chiari research initiatives. "I have nothing but the highest accolades for the Center, from the staff in the ICU to the nurses on the floor and, of course, the doctors," says Patti Ventura. "They did an exceptional job at every level and continue to do so."

In fact, Connor Ventura and his family were so grateful to Greenfield and his staff that they raised more than \$8,000 to create a section about Chiari on the Center's website, [cornellneurosurgery.org](http://cornellneurosurgery.org). "I see my Chiari as a gift," Ventura says. "It changed my life. Most people don't get to experience what I've gone through until they are much older. I want to share that experience with younger kids who come in here as scared as I was—and show them that they're going to be okay."

— Franklin Crawford

## Deciding Factor

Public health researcher Tara Bishop, MD '02, MPH, studies how physicians make choices—on issues from accepting insurance to practicing 'defensive medicine'

**A**s an internal medicine resident, Tara Bishop, MD '02, MPH, was troubled by inconsistencies. Sometimes physicians would order tests to evaluate a patient's complaint; other times, they would tell someone with the same problem to wait and see. During her rotation in the intensive care unit, she saw that some patients received every possible lifesaving technique, but others got fewer interventions. Later, when she was on the other side of the stethoscope, she wanted to know whether her own doctors suggested tests or procedures purely because they were necessary or effective, or for other reasons. "I've never really questioned my doctors' decision-making, but it definitely crosses my mind to ask why things are done," says Bishop, an assistant professor of public health in Weill Cornell's Division of Outcomes and Effectiveness Research.

As a researcher, Bishop is making a career out of studying how and why doctors make certain day-to-day decisions. Five years after completing her residency, she is quantifying variation in medical care and detailing why it happens. A series of studies she has published—on errors in outpatient settings, "defensive medicine" (in which physicians make decisions because of malpractice fears), and inconsistencies in doctors' acceptance of insurance—are especially relevant in an era of skyrocketing health-care costs and implementation of the 2009 reform legislation, which emphasizes the need for evidence-based medicine. "Dr. Bishop is very good at asking important questions that get to the heart of the matter. That's easy to say, but hard to do," says Alvin Mushlin, MD, ScM, chair of the Department of Public Health. "Her interests are central to helping us understand how better to organize various aspects of medical practice to enhance quality and efficiency."

Bishop's focus on how health care is delivered differs from most comparative effectiveness research, which traditionally



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Tara Bishop, MD '02, MPH

tests whether one drug or procedure works better than another, explains her division chief, Lawrence Casalino, MD, PhD. He says: "We don't have information on questions such as: Do large medical groups provide better care than small ones? Does public reporting of physician or hospital quality affect the quality of care doctors and hospitals provide? What kinds of processes can doctors use to improve care? Which groups are more likely to use effective processes?" All those factors are important for physicians, medical societies, and health-plan administrators to understand as they strive to provide optimal care.

In a study published in the *Archives of Internal Medicine*, Bishop found a slight decline (2 percent) in the number of doctors accepting Medicare patients between 2005 and 2008, challenging anecdotal reports of more widespread shutouts. But in the same study, she found a surprise: more than 10

percent of physicians don't accept private insurance, requiring patients to pay out of pocket and seek reimbursement themselves—a 5 percent increase in the same time frame. "As more people—30 million more—are insured under health-care reform, a question is whether they will have doctors willing to see them, who have time to see them, and will take their insurance," says Bishop, the Nanette Laitman Clinical Scholar in Public Health and Clinical Evaluation. "Doctors may have enough patients that they can pick and choose the types of insurance they want to take."

Bishop was again surprised when she examined mistakes made in outpatient settings. Conventional wisdom holds that errors are more likely to happen in hospitals; patients there are sicker and more people are involved in their care. Consequently, error-reduction efforts have focused on inpatient facilities. But Bishop

found that the proportion of malpractice claims was about the same in ambulatory settings as in hospitals: about 43 percent of the alleged errors happened in outpatient settings, while 47 percent were inpatient. While errors in outpatient settings tended toward issues of diagnosis and treatment, surgical and obstetric errors were the most common hospital mistakes according to her findings, which were published in the *Journal of the American Medical Association*. Still, she says, “many of the errors in both settings led to really bad outcomes like death and major injuries. It brings up the need to find ways to make outpatient settings safe and to ensure we are measuring quality in a meaningful way.”

Bishop was also able to test another hypothesis: that doctors order tests requiring the use of technology they own. Her hunch proved correct. Specialists are more likely to order five common tests (complete blood count, electrolytes, glycosylated hemoglobin A1c, cholesterol, and prostate-specific antigen) if they have an on-site lab to perform them, as Bishop reported in a June 2010 study in the *Journal of General Internal Medicine*. She has found that they order tests for another reason, too: in a

study published in the *Archives of Internal Medicine*, Bishop noted that doctors believe they order more tests and perform more procedures out of fear of malpractice claims.

Bishop’s work is striking a nerve among her colleagues, especially those in private practice. But she says the feedback she receives isn’t defensive so much as reflective of the realities of medicine as a business. “I haven’t gotten a real negative response to the research I’ve published,” she says. “Coming from an academic setting, it’s interesting to know the struggles and hard work of doctors in private practice, the pressures they’re feeling to keep up with reimbursement and payment changes and still run a business, and to keep up with increasing regulation in the medical system overall.” Some of that regulation includes emerging benchmarks for quality, safety, and appropriateness of ordering tests, all of which will be linked to physicians’ future payments and ratings on government quality-comparison websites.

When she began her career, Bishop didn’t anticipate becoming a health policy researcher. As a Weill Cornell medical student who was equally happy on all her rotations, she decided to focus on general

internal medicine with a subspecialty in palliative care and geriatrics. But during a fellowship in palliative medicine at Mount Sinai between the births of her first and second sons, she found herself working unpredictable hours. “If a family wants a meeting, it’s very hard to put that off until the next day,” she recalls. “I’d have to call my nanny at 6 p.m. and say I’d be a few hours late. I really struggled with that.” When she took two years off after the fellowship to stay home with her boys, she began thinking more seriously about what her working life should look like.

During a second fellowship in general internal medicine, also at Mount Sinai, Bishop emphasized policy research, focusing on quality and use of services in ambulatory care settings. The experience reassured her that she could successfully balance medicine and motherhood (her third son was born in 2009). She joined Weill Cornell’s Department of Public Health last year and works as a primary care physician one day a week. “The interaction I have with patients is a critical aspect of my research,” she notes. “There isn’t a day I see patients that I don’t leave thinking of another issue in health care.”

— Jordan Lite



BANANA STOCK

## Column Inches

‘What’s Up, Doc?’ aims to unite students on distant campuses

**W**hile earning an undergraduate degree in biology from Cornell, it occurred to Ankit Patel that students on the Ithaca campus didn’t know much about the Medical College, located 200 miles away. After graduating in 2004 and matriculating into Weill Cornell’s MD-PhD program, he realized that the door swung both ways. “Being at the medical school,” he says, “I heard very little about the undergrad campus.” As the years passed and Patel pursued his medical and doctoral studies, the two institutions grew closer; cardiologist-President David Skorton, MD, encouraged collaboration, and the University offered faculty seed grants for intercampus projects.

But how could students develop tighter ties? And more to the point: what could encourage closeness and require no funding?

The answer proved to be “What’s Up, Doc?”—a column written by Weill Cornell students that has run in the Ithaca student newspaper, the *Cornell Daily Sun*, since fall 2009. Every other week during the academic year, MD and PhD students contribute essays on topics that have ranged from the duties of a first responder to the controversy over raw milk. During the cold and flu season, Eric Heintz ’12 discussed the dangers of overdosing on over-the-counter medications. After serving on the Weill Cornell admissions committee, Andre Shaffer, MD ’11, offered advice on medical school interviews. On Slope Day—the traditional spring-time bacchanal marking the end of classes—Scott Kramer, MD ’10, described alcohol’s effect on the body.

When Patel first recruited writers via a mass e-mail, he wasn’t sure if he’d have many takers—but the response was overwhelming. “I didn’t have to beg people to write columns,” says Patel, who has since handed over the reins to medical student David Roy ’12, also a double-red alumnus, “and we had a multitude of reserve people if someone wasn’t able to do it last minute.” The column has gotten positive feedback from readers; Patel notes that a few pieces, like a quiz on exercise physiology by Matthew Goodwin ’13, have prompted spirited debate. “It went back and forth with contradictory comments,” Patel says. “I was thrilled to see it, because people are actually reading the column.”

— Beth Saulnier

# Overcoming Resistance

With the 'Mann algorithm,' a Weill Cornell specialist offers a formula for combating the toughest cases of hypertension



Samuel Mann, MD

ABBOTT

If you suffered from a treatable disease but the treatment didn't work for you, you'd probably expect your doctor to try something different. But what if he or she didn't know what to do next? For approximately 15 percent of the 75 million Americans who have hypertension, this scenario is a reality: They do not respond to typical treatment regimens, and their doctors have only vague guidelines to follow in caring for them. Forced to guess which drugs might work, these doctors often randomly prescribe medications, tweaking dosages and combinations and hoping for the best.

Samuel Mann, MD, a hypertension specialist at NYP/Weill Cornell, hopes to change that. He has created an algorithm to help physicians decide which medications to prescribe when faced with patients who suffer from drug-resistant hypertension. His approach, described in a recent issue of the *Journal of Clinical Hypertension*, narrows the strategies for treatment, for most patients, to just one or both of two options, depending on the kind of hypertension a patient has. "In 90 percent of cases, this method will work to bring blood pressure under control," says Mann, a professor of clinical medicine. "It can reduce the number of drugs patients take and, in many cases, the side effects they experience."

The algorithm addresses three mechanisms that, alone or in combination, underlie hypertension in most cases: retention of sodium and fluid, the renin-angiotensin system (which regulates blood pressure and fluid balance), and the sympathetic nervous system. Most antihypertensive drugs target these mechanisms, and most patients with ordinary hypertension respond to two-drug combinations that target the first of these two mechanisms, such as a diuretic and an ACE inhibitor. For patients who do not respond to such combinations, Mann's algorithm identifies three options that are likely to work: strengthening the diuretic regimen, usually through the use of spironolactone,

which keeps potassium levels stable; using combinations of alpha- and beta-blockers to hinder the effects of the sympathetic nervous system on blood pressure; or both.

There are clinical clues that can help guide the decision about which of the two options to select first, says Mann. Examples of clues that suggest strengthening the diuretic regimen include large body size, high sodium intake, and the presence of fluid retention in the legs during diuretic therapy. Examples of clues that suggest treating with an alpha- and beta-blocker combination include failure to respond to the usual two-drug combination, rapid heart rate, and alcoholism. The approach is innovative, Mann says, because it rethinks established notions about treating hypertension. “In the old days, high doses of diuretics were widely used—but the negative side effects led to nearly universal usage of low doses,” he says. “Now the pendulum needs to swing back toward use of higher doses when needed, especially considering how much salt most people consume.”

In addition, Mann says, physicians need to reconsider the effectiveness of alpha-blockers. They were largely dismissed as a treatment for hypertension when the ALLHAT trial, published in 2000, concluded that an alpha-blocker, when used as a first-step therapy, was less effective than a diuretic in lowering blood pressure and preventing cardiovascular events. Mann agrees with these findings, but emphasizes that alpha-blockers are safe and often extremely effective when given as add-ons in combination with other drugs. “In hypertension circles alpha-blockers for treating resistant hypertension are very much accepted, but not widely used,” he says. “The approach needs more attention.”

Mann has been lecturing about the algorithm for the past two years. Last spring, he presented data supporting its use at the annual American Society of Hypertension meeting, reporting a 90 percent success rate in controlling resistant hypertension. He hopes to obtain funding for a larger study in the next year or two. He believes the algorithm’s value lies in the clear steps it provides for treatment when the disease has resisted standard treatment strategies. “It narrows the choices and outlines a logical decision-making process,” says Mann. “This allows for simplified treatment options and for choices based on the characteristics of the individual

patient. Until now there’s been no guidance.” Also, because the algorithm can reduce the number of drugs prescribed for hypertension patients and reduce their cardiovascular risk by bringing resistant hypertension under control, it could help cut health-care costs.

So far, Mann says, the medical world has seemed responsive to his approach.

“When I lecture, audiences are uniformly enthusiastic about the rationale and the much more straightforward treatment approach,” he says. “When I talk with other doctors about it, I think there’s a sense of relief. Here’s something that simplifies the approach—and best of all, it works.”

— Amy Rosenberg

## Mighty Metabolomics

Upending the traditional scientific method, WCMC-Q biophysicist Karsten Suhre, PhD, is exploring the root causes of common diseases

**F**or a certain type of scientist, a subject under observation—whether a planetary body or a human one—is treated much the same way. Karsten Suhre, PhD, a professor of physiology and biophysics at Weill Cornell Medical College in Qatar, used to study ozone interactions with aircraft. But five years ago, he turned his attention to the human body and to a new field of biochemistry called metabolomics. Today the former atmospheric scientist is helping illuminate the genetic basis of human metabolism—and offering important new insights into a number of complex diseases.

While the name is new, metabolomics is actually an old concept, says Suhre, director of the bioinformatics core at WCMC-Q, which he joined last spring. It dates to about 150 years ago, when biochemistry sprang into life. Today it is one of what scientists call the “omics” technologies, fields of study in which constituent parts—such as genes or proteins—are approached systemically, and of which genomics is the most commonly known. Recent significant advancements in mass spectrometers and nuclear-magnetic resonance machines have made metabolomics possible by increasing the visibility and measurability of metabolites, the molecules such as sugars, fats, and carbohydrates that are the subjects of cellular metabolism.

As every chemical process in the body converts one compound into another, the involved compounds—or metabolites—provide a revealing footprint of the underlying biochemical processes. So while genomics gives access to knowledge about what an organism can do, Suhre explains, metabolomics indicates what actually occurs. “The more you go from genomics to transcriptomics to proteomics to metabolomics,” says the German native, “the closer you come to what’s really happening in the body.” Since complex diseases are not caused by a single genetic variation alone, these precise metabolic readouts are important research tools, offering new ways to identify multiple genetic and lifestyle-dependent contributions that underlie or contribute to disease.

As a self-described “biosystems analyst,” Suhre specializes in combining data, particularly heterogeneous types. In this way, his contribution has been to analyze two systems—the genome and the metabolome—in tandem. In a recent study, which he says is “the most comprehensive evaluation of genetic variance in human metabolism so far,” Suhre and his colleagues were the first to combine





In the DNA: A diagram that appeared in *Nature* illustrates the genetic basis of human metabolic individuality.

ILLUSTRATION FROM NATURE

measurements of metabolites with genome-wide association studies, in which geneticists scan the genes of a large group of individuals to identify variants that might associate with a particular disease. The findings, which appeared in the September 2011 issue of *Nature*, revealed thirty-seven genetic locations where individuals with different versions of a gene also had very different metabolic capacities. Many of these loci are also known to associate with type 2 diabetes, cardiovascular and kidney disorders, cancer, gout, venous thromboembolism, and Crohn's disease. Of those, twenty-three were new associations and fourteen were previously known.

With samples from 2,800 subjects taken from two large European population-based studies, his team analyzed 250 metabolites from sixty metabolic pathways. The researchers' methodology of working without a hypothesis—and instead measuring everything that can be measured—turns classical scientific inquiry on its head. Says Suhre: "The approach was to say, 'Let's do it without any assumptions, let's try to measure the known genetic variants and all metabolites accessible to present technology, and let's do this in a very large population so as to get high statistical power.'"

Their discoveries included a highly significant association between a diabetes risk gene and the level of mannose, a simple sugar, in the blood. This reveals a potential new biomarker for therapy or diagnosis of a disease that now affects 8 percent of the U.S. population and 15 percent of the pop-

ulation of Qatar—one of the highest per capita rates in the world. "The genetic variants we discovered are most often in a gene that has something to do with the metabolite, such as an enzyme that processes the metabolite or a carrier protein for its transport," Suhre observes. "I am surprised how well it all falls together. And in places where it does not fit, it opens questions of, 'Is there something we haven't understood yet?'"

One such question led the team to discover the function of a transporter gene—one of the genes that essentially build the machinery for moving compounds across cell membranes. Suhre's data showed that people with one specific version of the gene SLC16A9, whose function was unknown, had elevated levels of the metabolite carnitine in their blood; this indicated that SLC16A9 was likely responsible for transporting carnitine, a compound with antioxidant properties involved in converting fat to energy in the body. The team gave the findings to a specialist, who experimentally validated what their findings predicted—establishing SLC16A9 as a carnitine efflux transporter, a gene responsible for moving carnitine out of cells.

From a broad, hypothesis-free method of measuring the genome against the metabolome, Suhre says, "you then generate a hypothesis to characterize a very precise function of a gene. That is something I never would have thought possible five years ago."

— Andrea Crawford



Karsten Suhre, PhD

## Comfortable in Your Skin

In *Asian Beauty Secrets*, dermatologist Marie Jhin, MD '94, offers tips to enhance body and mind

**K**orean-born dermatologist Marie Jhin, MD '94, has long enjoyed her culture's health and beauty practices. Growing up, her female relatives would take her to the bathhouse, where they'd spend hours soaking in hot tubs and having exfoliating scrubs. When she was a busy first-year medical student, her mother declared her "tired and pale" and made haste to an herbalist, who prescribed a rejuvenating—and, Jhin recalls, rather foul-tasting—tonic. After Jhin gave birth to each of her three children, her mom insisted that she follow the tradition of staying home and keeping warm for the first few weeks, and made her iron-rich seaweed soup to promote breast milk production.

With those and other traditions in mind, Jhin was inspired to write a book about the health and beauty habits that have been practiced in Asian societies for millennia. *Asian Beauty Secrets: Ancient and Modern Tips from the Far East* came out last year from Bush Street Press; it's available on Amazon.com (in paperback or on Kindle) and can be ordered through Jhin's website, [www.drmariejhin.com](http://www.drmariejhin.com). "As a dermatologist, I was so fascinated," says Jhin, who's in private practice in the San Francisco Bay Area. "Why do people do this? Is there any science behind it? Is it good for you? What other Asian cultural traditions may be good for beauty and health?"

For example, Jhin noted, the scrubs of the traditional Korean bathhouse have the same aim as Western dermatology treatments like microdermabrasion, chemical peels, and Retin-A. "They make cells turn over more quickly and stimulate collagen, and I realized that's what the Koreans were doing for centuries," Jhin says. "By scrubbing down their skin, they were getting rid of the dead cells faster." Similarly, while health-conscious Americans aim to consume antioxidants, Asians have been doing so for centuries through foods like green tea and ginseng. "The main message," she says, "is that beauty is not just about outer beauty, but inner health."



In addition to reading scientific papers on the topic, Jhin's research process included interviewing practitioners of Eastern medicine such as acupuncturists and herbalists, as well as polling friends and colleagues about their personal and family habits. She opted to focus on three countries: Korea, China, and Japan. "What I learned is that in each country,

nutrition is very important, and also the mind—being at peace with yourself is very healthy," says Jhin, who left Asia at age five when her father, a manager for Korean Air Lines, was assigned to the U.S. "They talk about the *qi*, the energy, and they encourage movement and exercise."

In her book—which Jhin stresses is geared toward people of all races and ethnicities—she chronicles traditional Asian practices and ingredients that have made their way to the West, including products containing pearl powder and sheep placenta. She describes a geisha-style facial made from rice bran and nightingale droppings—which contain the nucleobase guanine—available for \$180 at a New York day spa. "[G]uanine is one of four integral parts making up the body's DNA," Jhin writes. "That's why, although they may appear as lowly droppings on the surface, nightingale guanine speeds up skin healing on an esteemed level." And bird feces aren't the most bizarre



PROVIDED

Marie Jhin, MD '94

beauty treatment Jhin came across in her research. In her chapter on China, for example, she offers recipes for skin-rejuvenating soups made from swallows' nests (which contain the birds' saliva) and from the fallopian tubes of snow frogs.

For the less culinarily adventurous, what are Jhin's top three Asian beauty secrets? She recommends eating foods rich in antioxidants, promoting inner peace through stress-reduction techniques like meditation, and protecting yourself from the sun. "One thing I learned is how diligent Asians are about avoiding the sun," she says. "A geisha never went out without her umbrella. In Korea, women wear hats all the time, and they even wear gloves when they drive."

Jhin practices what she preaches. She drinks green tea daily and still makes monthly trips to a Korean bathhouse—where she soaks in the hot tub, relaxes in the sauna or steam room, and gets a half-hour exfoliating scrub followed by an oil massage and facial mask. "My skin is seriously smooth," she says, "and I really believe that's the reason why."

— Beth Saulnier



Francis Adams, MD '71

ABBOTT

## Air Apparent

Pulmonologist Francis Adams, MD '71, fields health questions live on 'Doctor Radio'

**T**he caller, a long-haul trucker, was cruising down the highway in the early hours of a Tuesday morning when he was stricken with chest pains. Radio host Francis Adams, MD '71, and his guest, a cardiologist, had to take a patient history on the air—and fast. “We asked him where the pain was, and he said in the center of his chest traveling down his left arm, classic for a heart attack,” Adams recalls. “The cardiologist and I both concluded that this fellow was about to have a heart attack—and he was driving one of these huge rigs. We were able to convince him to pull over and call 911.”

Most calls to Adams's show, “Doctor Radio,” aren't quite that dramatic. (Though some, like the woman who sought advice on coping with a daughter who'd just attempted suicide, come

close.) For the past three years, Adams has fielded questions on all manner of medical issues as one of Sirius XM Satellite Radio's physician experts. Every Tuesday from 6 to 8 a.m., Adams occupies a glassed-in booth in the lobby of NYU's medical center, where he and his guests take calls from around the country. “The show has been a great outlet for me to express myself, and also to allow people access to experts,” he says. “I often say it's the callers who make the show, because they have wonderful questions that stimulate us.”

On Sirius XM, “Dr. Radio” isn't so much a show as a channel—number eighty-one, to be exact. Some two dozen experts—in fields from dermatology to psychiatry, emergency medicine to women's health—host two-hour spots, broadcast live and then rerun throughout the week. Given Adams's specialty (a pulmonologist, he's on the NYU faculty and has been in private practice for thirty-five years), he hosts the weekly show devoted to lung issues. But though he's expected to spend at least part of every program on pulmonology—a recent episode included questions about air filters, respiration during exercise, and the potential risks of working on a chicken farm—he's free to explore other topics. Adams is an animal lover, and he devotes one show per month to discussing such issues as pet therapy, service animals for veterans with PTSD, and dogs' ability to detect cancer. “That's our most popular show,” says Adams, whose two Havanese dogs, Tucker and Dolly, figure prominently in his bio on the Sirius website. “It's not asthma or emphysema, it's pets.”

Most of Adams's guests are fellow physicians, but some are laypeople; recent invitees have included a World Trade Center survivor and a woman who regained her voice after being unable to speak for three decades. Experts and otherwise, they have to think on their feet; though a producer screens each caller and ascertains the general question, anything can happen in live radio. For example, until Adams's producer got to know the voice of one regular caller—a night owl based in L.A.—the man repeatedly fibbed so he could get on the air and rail against Western medicine. “It can be a little nerve wracking,” says Adams, who also serves as an NYPD police surgeon, “but generally it's a lot of fun.”

The show also gives Adams the chance to promote issues he sees as vital to pulmonary health, such as appropriate control of asthma, imaging to screen for lung cancer, and smoking cessation. “My patients listen a lot, and they'll say, ‘That's what you told me ten years ago,’ ” he reports with a laugh. “I say, ‘I must sound like a broken record.’ But I do use the show to expound on things I feel strongly about.”

— Beth Saulnier

## The Baby Brain

Pediatric neuroscientist Susan J. Vannucci, PhD, has spent her career studying neonatal stroke



ABBOTT

Susan J. Vannucci, PhD

**S**usan J. Vannucci, PhD, had the jitters. Her daughter was pregnant—but in addition to celebrating, the grandma-to-be was mulling over the ominous possibility of neonatal hypoxia-ischemia, an injury similar to a stroke. One in 4,000 infants suffers a stroke-like event during or shortly after delivery, exactly the sort of statistic best not pondered by anyone anticipating a birth in the family.

For Vannucci, a pediatric neuroscientist, it was impossible to completely ignore the risk. She has spent her career studying these insults to the newborn brain and their associated aftermath: widespread cell death leading to epilepsy, cerebral palsy,

and developmental disabilities in the oxygen and nutrient-deprived infant brain. “If my daughter had wanted to do a home birth, I think we would’ve had a very serious talk with her and her husband,” says Vannucci. “Luckily, it didn’t come up.”

Vannucci well understands her own anxious response. Fortunately, her granddaughter—born via an emergency C-section—missed the sort of brain injury Vannucci feared. “There are so many things that can go wrong at the last minute,” she says. From umbilical cord strangulation to the difficulty newborn lungs may have processing oxygen for the first time, a myriad of mishaps can compromise an infant’s air supply and blood flow to the brain, leading

to the gloomily titled “toxic cascade”: an often-fatal inflammation and cell-death response. The full health fallout in babies who suffer such an event may not be immediately apparent, and the effects are permanent. “It’s important to determine why it happens and when,” says Jeffrey Perlman, MD, director of newborn medicine at Weill Cornell. “How can one potentially salvage some or all of the brain that has been injured?”

Vannucci launched her career in 1971, with a fresh-out-of-college job as a research technician for renowned Medical College neurologist Fred Plum, MD ’47; she began working with a pediatric neurology fellow, Robert Vannucci, MD, who ultimately became her husband. At the time, academia was flush with funding to study stroke in adults, while the puzzle of neonatal stroke languished unexamined. “They didn’t really think that the baby brain was important,” Vannucci says, recalling the struggle to get neonatal stroke its due attention. “It’s been a long, hard, uphill climb.”

Apathy wasn’t the only problem Vannucci encountered. A whopper of a misconception—that the adult brain and the developing brain were essentially similar—dogged her efforts as well. But, she notes, “the developing brain is tremendously different—sometimes absolutely opposite.” After Vannucci earned her PhD in physiology from Penn State in 1989, she and her colleagues began working to replace such shaky inferences with grounded scientific observation.

For example, she revealed that stark discrepancies appear even in glucose delivery and energy failure, the first step of the toxic cascade. As opposed to the brains of adults—who have fully developed glucose delivery systems—the newborn brain can run out of this essential fuel. But due to its lower energy demand relative to that of adults, the infant brain can survive longer before resuscitation. However, Vannucci notes that the newborn brain is also more vulnerable because of the various activities of its immature cells, which impact its ultimate development. “We’ve made tremendously important progress toward understanding how the developing brain is different from the adult brain in how it responds to the same kind of injury,” she says. “That for me has been gratifying, to see all the pieces of the puzzle we’ve collectively been able to put into place.”

Last year, Vannucci and five collaborators received a five-year, \$6 million grant

from the Paris-based Fondation Leducq to study the toxic cascade in the neonatal brain. Her contribution stems from her recent revelation about mast cells, immune system bodies that mediate the inflammation response. “People don’t think of mast cells as being important in brain injury,” Vannucci says. “But we have evidence that they’re the first cells to respond.” As the researchers are learning, however, these first responders—long presumed detrimental—are in fact the wily double agents of neonatal stroke. “They can be good,” Vannucci says, “or they can add to the damage depending on their environment.” Tricking them into controlling—not promoting—inflammation is the team’s goal. “The science of the grant is to understand what makes these cells good, and create greater protection,” Vannucci adds.

Vannucci stresses that a Leducq grant supports more than just scientific research; it also promotes a meeting of the minds among the co-recipients and their labs, helping to establish “international networks of excellence.” She and the rest of the team—doctors and researchers from Britain, France, Sweden, and the U.S.—have formed a positive feedback loop of mutual expertise as they hold the toxic cascade in their collective crosshairs. “Among us,” she says, “we have different and complementary models for looking at inflammation and neonatal stroke.”

Vannucci’s model, which she and her husband developed in 1981 while working at Penn State’s Hershey Medical School, has provided an important tool for understanding neonatal stroke. Unlike a chronic disease that unfolds over the course of months, newborn hypoxia-ischemia or asphyxia is “really more accidental; it can’t be predicted,” providing little opportunity for prevention. Turning this mishap into a programmable occurrence in lab rats, Vannucci’s model enables researchers to replay and analyze it—and test different courses of treatment. Recently, hypothermia—cooling an oxygen-deprived infant to 34 degrees Celsius for up to seventy-two hours after birth—has become the standard of care worldwide. About 50 percent of full-term asphyxiated infants survive without brain damage thanks to this treatment, but doctors need to act within a six-hour window to reap its benefits. “It’s immediate resuscitative treatment,” says Vannucci. “The closer to the injury you can initiate the cooling, the better the outcome.”

— Kristina Strain



Water dance: Chisa Hidaka, MD '94,  
with a spinner dolphin

DOLPHIN DANCE PROJECT

## Diving In

### An orthopaedist dances with dolphins

In 2009, Chisa Hidaka, MD '94, established the Dolphin Dance Project, whose members play with wild dolphins and capture the unique interspecies interactions on film. The following year, the nonprofit released *Together: Dancing with Spinner Dolphins*, which has been screened at environmental and dance film festivals worldwide. By raising awareness of the animals’ cognitive abilities, Hidaka aims to inspire increased respect and protection for dolphins, their habitats, and all the creatures with whom they share the ocean. “You can see the intelligence, the presence, and the curiosity in the eyes of the dolphin,” she says. “Humans are not the only sentient, moral creatures.”

In the three-and-a-half-minute movie, which was named best experimental film at the 2010 Big Apple Film Festival and won the award for best short film on animal advocacy at the Artivist Film Festival, the dolphins’ self-awareness and generosity becomes apparent as Hidaka and a wild Pacific spinner dolphin engage in an underwater dance. The dolphin makes eye contact, deliberately slowing its swimming so Hidaka can keep pace. “It’s a lot like being with human dancers,” she says. “They seem to understand synchrony and mirroring. It shows a lot of cognitive sophistication.”

Motivated by a lifelong interest in human movement, Hidaka trained as a dancer, earning a BA from Barnard in 1986. Somatic dance, her preferred technique, emphasizes anatomical and physiological coordination rather than aesthetic perfection, so medicine seemed like the logical next step in her career. “It was an outgrowth of my interest in the musculoskeletal system,” she says. “When I got to med school, anatomy was my favorite thing.” After a residency in orthopaedics, Hidaka ran a lab at Hospital for Special Surgery, exploring the use of gene transfer to improve cartilage repair and accelerate bone regeneration. In 2010, she closed her lab to focus on the Dolphin Dance Project.

Currently, Hidaka works in both fields, teaching anatomy in the Department of Dance at Barnard while serving as an assistant scientist at HSS as educational program manager and orthopaedic clinical expert in the Biostatistics and Epidemiology Core. On breaks, she’s working on a feature-length film that further explores human-dolphin interaction. Hidaka sees her dance and filmmaking work as something of an “other life,” and relishes opportunities to share it with her medical colleagues. She had that chance last summer, when *Together* was screened at HSS to a standing-room-only crowd. For more information, go to: [www.dolphin-dance.org](http://www.dolphin-dance.org).

— Kristina Strain

## The Attrition Dilemma

By understanding why subjects drop out, biostatistician Andrew Leon, PhD, worked to design better clinical trials

*Andrew Leon, a beloved faculty member in the Department of Psychiatry, passed away on February 18, shortly before this story was scheduled to go to press. He is survived by his wife, Yuki Okuma, and their daughter, Angelica. A member of the Weill Cornell faculty for almost twenty-five years, he was highly respected by his colleagues worldwide and was a wonderful collaborator and mentor. His passing is a great loss for all who knew him.*

*Ms. Okuma, as well as the administrative leadership of the Department of Psychiatry, felt that this piece highlighting his very important work should be presented to the Weill Cornell community. It has been adapted to reflect his passing.*

**F**ive decades ago, a wave of profound birth defects spread across Europe. Scientists suspected thalidomide, prescribed to combat morning sickness among expectant mothers. If it hadn't been for a single FDA regulator's demand for evidence of the drug's safety, thalidomide might also have been released in the U.S. As word of the narrowly averted public health disaster spread, Americans demanded protection. In 1962, Congress passed legislation requiring that drug manufacturers provide the FDA with "substantial evidence of effectiveness from adequate and well-controlled studies."

The randomized controlled trial has been the gold standard for the federal approval process ever since. The concept is elegantly simple: Randomly assign a pool of qualified participants to multiple experimental conditions. Some receive a promising new compound or therapy, while others might receive a sugar pill or the standard treatment. When the study ends, any differences among the groups owe to the protocol being tested—or so the thinking goes.

The approach works beautifully with lab rats. But when it comes to people, there's a problem: they drop out. Subjects die or move away; they forget an appointment; they get better and stop taking their pills—or feel worse and

stop taking them. And the longer a study lasts, the higher the attrition rate.

Biostatistician Andrew Leon, PhD—a DeWitt Wallace Senior Scholar and professor of biostatistics in psychiatry and of public health—devoted his career to parsing the data hidden in the incomplete records of trial dropouts and developing new analytical approaches to preserve research integrity, despite the foibles of human participants. "Attrition rates in studies of major depression in adults are typically 30 to 40 percent; in schizophrenia it's 50 to 60 percent, and eating disorders can be even higher," he said. "Self-selection becomes a problem. The people who leave have characteristics somewhat different from those who stay in the study."

In a test of new drugs for panic disorder, for example, those with the most extreme symptoms assigned to the placebo group might drop out because they're too sick to keep regular appointments for assessment. Those most responsive to the experimental treatment might also drop out—because they feel great. The final analysis would then include only the least sick members of the control group and those who benefited least from the intervention. The problem, of course, is that once participants are gone, investigators have a tough time learning why they left and distinguishing them from those who stayed.

Leon joined Weill Cornell's Department of Psychiatry as a consultant in 1987 and became a full faculty member two years later. The ten studies with which he was involved at the time of his death included one on the effectiveness of home health intervention in the treatment of geriatric depression and another delving into the influence of genotype and stress on learning and brain development. This spring, *Psychiatric Services* published his study with collaborators at the Tuscaloosa Veterans Administration on the efficacy of interventions to help unemployed veterans with PTSD get back to work. "Andy was a world-class biostatistician," says psychiatry professor James Kocsis, MD '68, director of the Affective Disorders Research Program at Payne Whitney Psychiatric Clinic, who worked with Leon to understand how incomplete recovery from an early depressive episode affects a person's risk of recurrence. "He



PROVIDED

Andrew Leon, PhD

# Artistic Temperament

A retired plastic surgeon remembers a famed composer who, he argues, had Asperger syndrome

was also a communicator and a ‘people person’ with an interest in clinical issues. Those things are somewhat unusual in the world of biostatisticians.”

Perhaps most important, Leon had a knack for developing mathematical techniques to reveal the patterns and insights hidden by the incomplete records left behind by subjects who drop out before a study ends. He even had his own National Institute of Mental Health-funded investigation into new analytical methods, a rarity in the world of federally funded research. “Andy was one of the pioneers in mixed-model analyses,” says Kocsis. “Every available time-point of data was counted for every patient, regardless of whether there’s missing data or the patient drops out of the study. By doing that, he brought more power to the table. You didn’t lose data from patients who miss a rating or drop out.”

Making sense of such incomplete data after the fact is better than nothing. But a few years ago, Leon decided to start accounting for attrition before a study begins rather than after it’s over—just by asking participants about their intentions. “It’s a simple, two-item scale,” he said. “We ask them at baseline, ‘How likely are you to finish the study?’ and then every week, ‘How likely are you to show up next week?’” Participants reply on a scale from zero to ten, and investigators follow up with anyone who answers below a five, “somewhat likely” to show up. Leon, who used the scale in more than twenty clinical trials of everything from schizophrenia to substance abuse, had begun evaluating its value for predicting who will see a study through and who will drop out.

But even more promising was the prospect that investigators’ responsiveness to subjects’ concerns could increase retention and enhance the validity of results. Often, Leon noted, staff can address complaints by altering appointment schedules to accommodate caregivers or providing carfare for those with transportation difficulties. “Those are simple things that are not easily ascertained,” Leon said, “unless you ask.”

— Sharon Tregaskis

**T**emperamental artists, particularly composers, have long been indulged despite their bad behavior—so long as the quality of their work is commensurate to their tantrums. But in the case of Bohuslav Martinů, a brilliant and successful composer in the mid-twentieth century, temperament may have had more to do with an autism spectrum disorder than with the quirks of genius.

Retired plastic surgeon F. James Rybka, MD ’61, has written a biography of this prolific Czech composer. Published by Scarecrow Press in 2011, *Bohuslav Martinů: The Compulsion to Compose* asserts that Martinů suffered from Asperger syndrome and that this condition facilitated his composing. It also helps explain Martinů’s peculiar asocial behaviors. “Ever since I graduated medical school, I wanted to write a biography of him,” says Rybka. “Then one day I happened to pick up a *Newsweek* with a cover article on Asperger—then newly defined—and it was an electrifying moment for me. Suddenly I understood our old friend in a completely different way.”

Rybka was born in 1935 in New York City. His mother was a pianist and his Czech-born father an organist, choral director, and cellist. In 1941 when Martinů came to New York, he and his wife became close to the Rybka family. “My father used to play cello duets with Martinů in the house,” says Rybka, who lives in California and is retired from the clinical faculty of the University of California, Davis, medical school.

Although Martinů was brilliant and highly successful, he exhibited an array of eccentric features: extreme shyness, a lack of social reciprocity, excessive dependency upon others, and a habit of becoming lost during solitary nighttime walks because he would “zone out” in deep thought about music and become oblivious of his surroundings. (This dangerous habit nearly killed him one night in 1946 when he ambled off a roof.)

Rybka describes an almost comical moment during a trip to his family’s vacation home in the Adirondacks. The children were in awe of the peculiar man and were told to behave and stay quiet when he was visiting. One day, Martinů came out of his room and found the score to “Chattanooga Choo-Choo,” then a popular boogie-woogie tune, sitting open on the piano. “Stone-faced and with such stolidity, he sat and played through the whole song perfectly but without any expression whatsoever,” recalls Rybka, a founding member of the International Bohuslav Martinů Society. “It was an astonishing thing. Not a sign of emotion through that whole song. He played like an automaton.” Done, Martinů stood up, aloof and distant as ever, and returned to his room.

Rybka, who visited Martinů in Switzerland a month before his death in 1959, avers that composing brought him some solace from his condition. He has participated in several international conferences on Martinů and co-authored a paper on the composer’s disorder (with Sally Ozonoff, PhD, a psychologist at UC Davis’s Medical Investigation of Neurodevelopmental Disorders Institute, one of the country’s leading centers for autism studies), which was published in the journal *Czech Music* in 2009. But getting his book to print was more difficult. For one thing, it is a hybrid: part biography, part memoir, part autism treatise. After many rejections, he found an editor at Scarecrow Press who was fascinated with the subject. Finally, Rybka has satisfied his own obsession—to publish his book on the compulsive composer.



Bohuslav Martinů



F. James Rybka,  
MD ’61

— Franklin Crawford

A conversation with physician-scientist Laurie Glimcher, MD

# Meet the Dean

By Beth Saulnier

*Laurie Glimcher, MD, became Cornell University provost for medical affairs and the Stephen and Suzanne Weiss Dean of the Medical College on January 1. The daughter of eminent Harvard orthopaedic surgeon and scientist Melvin Glimcher, MD, the new dean grew up steeped in the life of the physician-scientist. She graduated magna cum laude from Harvard in 1972 and earned her MD cum laude from Harvard Medical School before joining its faculty and founding a leading immunology lab. Board certified in internal medicine and rheumatology, Glimcher has pursued interdisciplinary research topics including work on cancer, metabolic disease, neurodegenerative disease, and skeletal biology. A past president of the American Association of Immunologists, she has authored more than 350 scientific articles and chapters; one of her publications, a landmark paper in Cell on the T-bet transcription factor, has been cited more than 1,100 times. While celebrated as a researcher, Glimcher says, "I consider myself a physician first and foremost."*



**WCM: You had a long and successful career at Harvard. Why did you want to take on this challenge now?**

**LG:** I have been asked many times over the years to look at chair of medicine positions and other deanships, but it wasn't right for me then. I was completely embedded in the laboratory, and it was too intense for me to consider leaving. When I was asked to consider the Weill Cornell job, I immersed myself in studying Weill Cornell, and in the process of doing that, I realized that this place was poised to be a first-rate biomedical research enterprise. The more I thought about what my vision would be, the more excited I got—and the more I felt that this was much more important for me to do than to focus solely on my own lab. Here, I can enable the science of others and contribute to increasing the excellence of an academic medical center, which is a threatened species nowadays. We're on the brink of a huge opportunity. It's my dream job.





“A physician first and foremost”: Laurie Glimcher, MD, visits the lab of Barbara Hempstead, MD, PhD (second from right), the associate dean for faculty development.

JOHN ABBOTT

**WCM: Why would you say that academic medical centers are an endangered species?**

**LG:** Our health-care system is in crisis, and the financial pressures are going to affect academic medical centers with decreasing reimbursements for patient care from the government. That’s going to compromise our clinical income—from which, in part, we derive support for our biomedical research. And with the NIH budget so constrained, it’s harder and harder to get grants. How are we going to support our research? As costs get put under further pressure, there’s going to be less support from the government for teaching hospitals to support our residents. We’re already facing a physician shortage now, and it’s going to get worse as costs continue to be constrained.

**WCM: Is funding the major challenge facing medical education today?**

**LG:** We are responsible for making sure that the U.S. has the kinds

of physicians it needs. But if a student comes out of school with \$150,000 in debt and wants to go into primary care, family practice, or pediatrics, he or she may say, “I’ve got to go into a more lucrative specialty.” The debt of Weill Cornell’s medical students is significantly lower than the average; we’re at about \$131,000 and the overall private medical school average is more than \$176,000. Nevertheless, an important priority for me is to continue to raise funds for scholarships. During this last campaign we did very well—the goal was \$20 million, and we’re up to \$22 million now—but we need more.

**WCM: Given that Weill Cornell has raised some \$1.5 billion in recent years, and major gifts have helped support facilities like the Belfer Research Building, why do we still need to fundraise?**

**LG:** Bricks and mortar cost a fortune. The Belfer Research Building was an urgent campaign priority because it doubles our research space and puts us on par with our peer institutions in our ability to

attract more top scientists and research dollars. And now we want to fill our buildings and populate them with outstanding faculty—and the kind of top-notch, first-rate luminaries I want to recruit are not going to be cheap. That recruitment process starts with funds raised in this campaign. In close partnership with Sandy Weill and the entire Board of Overseers and campaign leadership, our priority is to complete the campaign, which allows us to move into the next phase—to attract the amazing biomedical researchers who will complement the already outstanding faculty here at Weill Cornell.

**‘I have the credibility, I hope, to attract outstanding scientists to this wonderful institution and show them what a great opportunity it is to come here and how exciting it would be for them to build something here.’**

Each new scientist will require many millions of dollars in funding to set up a vibrant operation—to create a laboratory, buy equipment, and to allow them to recruit junior faculty. I have the credibility, I hope, to attract outstanding scientists to this wonderful institution and show them what a great opportunity it is to come here and how exciting it would be for them to build something here. Lack of space had constrained Weill Cornell from recruiting a critical mass of scientists. Thanks to the wonderful commitment and vision of our former dean, Dr. Gotto, and of our Board of Overseers, our alumni, and so many generous donors, we will now be able to double our research space with the Belfer Research Building. I am committed to finding the resources to fill this building with a vibrant collection of biomedical researchers passionate about translating discoveries made at the bench into new therapies for our patients.

**WCM: What do you see as the priority research areas for Weill Cornell going forward?**

**LG:** I think it’s important that we further strengthen areas where we’re already strong—because that can be done relatively quickly—and that we align ourselves with the clinical strengths of the hospital. One area is cancer, because NYP takes care of many cancer patients, and we have some wonderful cancer physicians and scientists already here. I believe that if we bring in some carefully chosen faculty, we could become a world-class cancer research center. Another area where we are already strong is neurodegenerative disease, and that is a health-care crisis. It’s going to cost the health-care system something like \$1.2 trillion by 2050 just to take care of Alzheimer’s patients. Another epidemic is metabolic syndrome—obesity, diabetes, cardiovascular disease, high cholesterol. We have some strength in that, but we need more, because it’s such an important medical need. But this is a work in progress; none of it is set in stone. I want feedback, thoughts, and ideas from everybody here, and we’re setting up a crowd-sourcing website to facilitate that.

**WCM: How do you see the relationship between translational and basic science research?**

**LG:** I would love to abolish those terms. I like to call it “research”—

because to me, it is a continuum. Let me tell you a story that illustrates that. A microbiologist named Barnett Rosenberg, PhD, did an experiment to test what happens if you put *E. coli* bacteria in an electrical field. And what he saw was surprising: the bacteria changed shape. He was thinking about why that might happen, and he remembered that if you put bacteria under certain other conditions they can also change shape. One of those conditions is exposing these bacteria to drugs that are effective against tumors, so he wondered whether some anti-cancer substance was being generated by the electrodes in these bacterial cultures.

So he set out to isolate this substance, and it turned out to be cisplatin, which is probably the most important cancer drug ever. Then he teamed up with some “translational” researchers who had animal models of cancer. They put it into rodents and showed that the drug worked against tumor cells. And it would have ended there—but the clinicians stepped in and started treating patients with it in clinical trials, and now we have cisplatin. It would never have happened if there hadn’t been this seamless transition among a microbiologist, biomedical researchers, and clinicians. This is my vision for Weill Cornell—that we’re one seamless

whole. Our overarching goal is to find better treatments for our patients, and that requires collaboration among all of us.

**WCM: Why do you see it as vital for academia and industry to work together?**

**LG:** Because our mission and our responsibility is to use, in the best way possible, the taxpayers’ money that supports biomedical research. The ultimate goal is to provide novel therapeutics and better ways to fight human disease. So what’s the best way to do that? Partnering with the private sector is certainly one of them. We’re great at generating new targets, new genes, new pathways that we have shown in the laboratory and in animal models could be helpful in a given disease. Taking it to the next step is the hard part for us. This is where we should be teaming up with the pharmaceutical industry to say, “We’ve got this new gene that would be good to screen with your library of compounds,” or “We’ve got a handful of compounds that look good in animals; now what do we do?” A lot of medicinal chemistry needs to be done on those compounds, and we would like, as an academic institution, to be able to bring those compounds into Phase I clinical trials in patients. But we’re not set up in most cases to carry out Phase II and Phase III trials—that is where the pharmaceutical industry is so strong. These types of academic-industry collaborations can be very successful as long as everything is completely transparent. I always like to say, “Sunlight is the best disinfectant.”

**WCM: What changes do you envision for Weill Cornell’s clinical care?**

**LG:** Our clinical care is fantastic, and plans are afoot to expand it. When somebody calls our offices, that individual deserves to have an appointment in a timely way—but it can be tough, because our wait lists can be long. We need more primary care physicians; we need more physicians, period. We will soon be opening the Iris Cantor Men’s Health Center, and we have plans to establish more primary care and ob/gyn practices in other locations in New York City.

**WCM: How do you see the relationship between Weill Cornell and the Ithaca campus?**

**LG:** There's a lot of complementary talent. Cornell University is obviously extremely strong in engineering and bioinformatics, and we have the biomedical research strength here, so a lot of good collaborations are already taking place. A number were fostered by intercampus seed grants, and that's going to be done again and will, I hope, foster new collaborations. Those projects have brought in far more funding than was spent on them.

**WCM: What do you see as the benefits of the planned tech campus on Roosevelt Island?**

**LG:** It's going to be transformative for New York City, and it's going to be wonderful for Weill Cornell. We very much want to be in on the ground floor and work with the tech campus in the area of healthy living, which is one of the proposed hubs. I think Cornell University is going to be the major educational presence in New York City ten years from now.

**WCM: Do you plan to continue your immunology research?**

**LG:** My lab is going to physically relocate. I hope to bring my lab manager, one other technician, several postdocs, and a graduate student. My lab was quite large at Harvard, and I'm working on reducing its size. Between professionals and support staff, there were about twenty-five people. I can't run a lab that size and do what I want to do here as dean. But it would be very tough for me to give up the science. We have a lot of exciting things going on in the lab, and I also think that continuing to be a scientist makes me a better faculty member and better dean. My goal would be to have maybe a total of ten people and to focus on areas that have been of particular interest to me, because we've been quite eclectic in the last few years.

**WCM: One of your first acts as dean was to create an Office of Faculty Development. Why?**

**LG:** Mentoring is really, really important. I've spent a lot of my time mentoring, and I always say the prize that I've won that means the most to me is the Excellence in Mentoring Award from the American Association of Immunologists. And when I got here, I felt that nurturing our faculty was an area of opportunity. The new associate dean for faculty development, Barbara Hempstead, MD, PhD, will focus on all faculty, not just those at the junior level. Senior faculty may have hit a rough patch; they've done well, but they kind of ran out of steam and need to reshape. Maybe they need a sabbatical—everybody needs advice and support. There are lots of people who don't realize how far they can go until someone they respect tells them.

**WCM: When you were starting out as a physician-scientist, could you have used some guidance yourself? As a woman, was it hard to balance your career with raising a young family?**

**LG:** I was in my early thirties, and those were tough years because I was supposed to be doing clinical work in rheumatology full-time, but I was also setting up my lab. I had a six-month-old and a three-year-old and a husband who was a surgical resident. Luckily, my parents lived a few minutes away, and we could afford a live-in babysitter. I had my own lab by the time I was thirty-one—but those years were difficult, and I really didn't have a mentor. I got through it, but it made me believe that I should try to make it easier for the people I trained.

**WCM: How did you get through it?**

**LG:** I'm no smarter than a lot of other people, but I am a very efficient multitasker. I had to decide what mattered and what didn't, and I learned to be a perfectionist in only the things that mattered.

The data have to be perfect, robust, repeatable, well controlled. But if I'm writing a review or doing a mundane administrative task, 95 percent good is good enough—because getting from 95 percent to 98 percent takes twice as much time as getting from zero to 95. And the same thing went for my family life, because it was very important to me to spend time with my kids. I got home at a reasonable hour, and I wasn't worried about whether the linens were folded or the closets were tidy. You can't be obsessive about things that don't matter, and I'm good at not doing that. We need to pay attention to the kinds of childcare subsidies and support that we provide at Weill Cornell. This is an important priority for me.

**WCM: In addition to that kind of assistance, what other support do you hope to offer to women scientists at Weill Cornell?**

**LG:** If you look at the numbers, it's 50/50 male/female for medical students and graduate students and close to 50/50 for assistant professors. But after they get their first grants from the NIH, then come the tough times. A young scientist needs a second or a third grant, needs to hire more people and hit a home run. That's where women fall out, at the assistant to associate professor transition. If, at that point, you take somebody who's clearly talented and doing well—but they have children or other family responsibilities—and you say, "I know you don't have time to write a grant, and anyway funding is really tough, so the institution is going to give you the equivalent of an RO1 [NIH research project] grant." I'd love to be able to do that.

**WCM: Please tell us a little about your family.**

**LG:** I'm married to Greg Petsko, PhD, an eminent scientist who is a structural biologist and more recently a neurobiologist. He has joined the Weill Cornell faculty as a professor of neuroscience in the Department of Neurology and Neuroscience.

I have three terrific kids. My older son is in the fourth year of his surgical residency at the Mass General; he wants to be a cardiothoracic surgeon. My daughter is in Washington, D.C.; she's a lawyer with the FDA interested in health-care policy and health-care law, and the mother of my one-year-old grandson. My younger son is deploying to Afghanistan in the spring; he's a second lieutenant in the Marine Corps, where he commands a platoon of light armored reconnaissance vehicles. I thought he was going to be a history professor, but he surprised us all by doing Marine officer training during his junior and senior years at Harvard. I'm extremely proud of all three of them.

**WCM: What do you do in your spare time?**

**LG:** I have no spare time at the moment, but I'm pretty religious about exercising; I feel my life is chaotic if I can't exercise. Four times a week, I either run five miles or do the elliptical, as well as some weightlifting. I love theater and opera. I used to love to play tennis, but I haven't had the chance for a while.

**WCM: What book is on your nightstand?**

**LG:** I just started Joan Didion's latest book, *Blue Nights*, about the death of her daughter. As a mother, when I think that she lost her husband and then her daughter within a short period of time, it's totally devastating.

**WCM: You're assuming the deanship at a pivotal moment in Weill Cornell's history. How do you feel about the challenge?**

**LG:** It's an honor to be the dean. I am privileged to lead this institution at this time. It's a huge challenge, but it's also incredibly exhilarating and energizing. ●



With a permanent home at the Iris Cantor Women's Health Center at NYP/Weill Cornell, the multidisciplinary Weill Cornell Breast Center offers an innovative, patient-centered approach to clinical care and research

# Comprehensive Care

## By Andrea Crawford

In 1972, the National Cancer Institute was eager to start a trial for treating early-stage breast cancer with “adjuvant therapy,” a phrase coined a decade earlier by NCI researcher Paul Carbone, MD, to describe treating patients with chemotherapy in addition to surgery. It was a radical proposal at a time when radical mastectomy was the prevailing treatment, and most surgeons disregarded the idea. To award the contract, the NCI turned to two Italians at a cancer institute in Milan—“the only surgeon-chemotherapist pair seemingly on talking terms with each other,” Siddhartha Mukherjee writes in last year’s Pulitzer Prize-winning *The Emperor of All Maladies: A Biography of Cancer*. Three years later, when the Italian team announced study results at a conference, the room responded in “stunned silence.” Half of the women receiving no additional therapy relapsed; only a third of those receiving chemotherapy saw their cancer return.

Around the same time, two future pioneers in breast cancer treatment, both now at NYP/Weill Cornell—Anne Moore, MD, professor of clinical medicine, and Alexander Swistel, MD, associate professor of clinical surgery—were starting their careers, not realizing how their fields would someday become one. Back then, says Swistel, “there was no such thing as a multidisciplinary approach—mainly because there were so few options available to patients in terms of treatment strategies.” Says Moore: “In the old days, you just did a mastectomy, and that was the end of that.”

But in the following years, Moore, Swistel, and colleagues in other disciplines at NewYork-Presbyterian Hospital began working together and meeting weekly to discuss their patients, two decades ago forming one of the first breast cancer tumor boards in New York City. Today they collaborate under the aegis of the Weill Cornell Breast Center, which offers an innovative, multidisciplinary approach to patient care and research, bringing together a wide range of specialists along with nurse practitioners, a genetic counselor, and a nutritionist. “We feel very strongly at this point that one doctor can’t figure it all out,” says Moore, the medical director.

Even though they’ve “always worked as a unit,” Moore notes, the team hasn’t always physically been in the same building. But in 2002, when the Iris Cantor Women’s Health Center opened on East 61st Street, the Breast Center found its first dedicated home. Last year, Rache Simmons, MD, professor of breast surgery and chief of breast surgery at Weill Cornell, led the Center to become the first of two accredited breast centers in Manhattan, following the creation of a national accrediting body by the American College of Surgeons.

While the Center’s patient-centric focus makes care convenient for those diagnosed with breast cancer, it also drastically improves

the quality of treatment. “We discuss findings right away,” says Michele Drotman, MD, chief radiologist of women’s imaging at NYP/Weill Cornell. “A lot of the time, patients will have their appointments with their doctors either before or after their mammogram, so action can be taken and a plan can be developed.”

On a Friday afternoon this winter, that immediacy and close collaboration was on display when Eleni Tousimis, MD, associate professor of clinical surgery, met with several medical oncologists, a radiation oncologist, a pharmacist, a nurse practitioner, and fellows in the Center’s sun-filled conference room for a weekly informal board. A pathologist joined the conversation by phone, as participants shared cases, showed reports, asked questions, gave advice, grappled with extenuating circumstances, and together developed the best treatment plan for each patient. “This place is very creative,” says Linda Vahdat, MD, professor of medicine, director of the Breast Cancer Research Program, and chief of the Solid Tumor Service. “One thing we know is that people aren’t the same, situations are not the same. You have to personalize your care as much



Anne Moore, MD



Rache Simmons, MD

JOHN ABBOTT

as you possibly can. When you profile tumors you see that although on the surface they may look the same, they certainly aren't the same on a molecular level."

**F**orty thousand Americans died of breast cancer in 2011, but for the 230,000 patients newly diagnosed each year the odds of survival have drastically improved over the last two decades—due to better treatments, earlier detection, and greater public awareness of screening and prevention. A small fraction of those diagnosed with the disease—only about 15 percent—have any family history at all, and only about 5 percent test positive for a mutation in the BRCA genes, known cancer suppressors identified in the early Nineties. As Ann Carlson, the Breast Center's genetic counselor, explains, everyone is supposed to have two copies of BRCA1 and BRCA2, but carrying a mutation in either gene gives women up to an 85 percent lifetime risk for breast and ovarian cancer. Medical oncologist Tessa Cigler, MD, often works with those at high risk, as they undergo more rigorous screening, including mammograms in addition to ultrasound or MRI. Some take chemoprevention drugs or opt for prophylactic mastectomies.

For women without a family history of breast cancer, the Center recommends an annual mammogram beginning at age forty. The technology of using X-ray machines to find tumors in the breast started in the Sixties, and in 1971 the first large U.S. study (although later found problematic) revealed initial findings indicating a significant benefit from screening. With that, mammography skyrocketed—galvanized as well by First Lady Betty Ford's public announcement of her diagnosis and radical mastectomy. The resulting rise in diagnoses became known as the "Betty Ford blip."

In the decades since, mammographic techniques have evolved, most notably in the last five to ten years with the advent of digital

technology. "What we can see has dramatically improved," says Drotman. "We're picking up cancers earlier and earlier." Approximately 90 percent of the Center's patients are diagnosed in stages 0, 1, and 2, which have excellent survival rates: the five-year rates for women with stage 0—which is noninvasive, or *in situ*—is 97 percent at NYP/Weill Cornell (whose rates in each category are higher than national averages). Stage 1 and 2 survival rates are 94 percent and 88 percent, respectively. The prognosis worsens for more advanced stages, with stage 3 survival rates at 75 percent and stage 4, or metastatic breast cancer, at 20 percent.

Such success in detection and treatment has prompted a new approach to care. Currently, there are 2.6 million survivors in the United States; in 2005, the Institute of Medicine published *From Cancer Patient to Cancer Survivor: Lost in Transition* as a call from the general medical community to pay closer attention to the issues they face. "We want to make available to our patients tools to move along after they've had a diagnosis of breast cancer," says Moore. In March 2012, the Center held its third annual patient symposium, a daylong event featuring panels and guest speakers. At the symposium, Ellen Chuang, MD, associate professor of clinical medicine, addressed the important topic of bone health and the interface of medicines to prevent osteoporosis and decrease breast cancer risk.

Unsurprisingly, for the majority of patients the biggest concern is the chance of recurrence, which Cigler calls the most difficult long-term issue they face. "Part of breast cancer is learning to live with some uncertainty, but it's learning to *live* with uncertainty, to continue to enjoy life," she says. Some patients benefit from psychotherapy or medications for anxiety or depression, and the Center incorporates relaxation therapies, meditation, and other alternative practices into both the patient's treatment course and survivorship plan.

That shift in philosophy—"It's not a matter of just getting you to survive," Swistel tells patients, "we're going to get you to *thrive*"—has driven numerous advances in breast cancer surgery as well, including minimally invasive techniques and an approach known as oncoplasty, which combines tumor removal with plastic surgery to improve the cosmetic outcome and reduce complications. "We're always asking the question, 'Is there a better way to do something?'" Swistel says. He was among the first to do sentinel lymph

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Tessa Cigler, MD

node biopsies, which identify the lymph nodes to which cancer has spread—a departure from the traditional practice of removing twenty to thirty lymph nodes in conjunction with mastectomy. Simmons initiated the use of a novel dye to identify the sentinel lymph node, which has become a standard of care in the technique because it is safer than previously used dyes.

Another innovation, called skin-sparing mastectomy, allowed better breast reconstruction by saving a generous skin envelope to cover either an implant or the patient's own tissue. Such techniques have progressed to a point where now both areola and nipple sparing is becoming more popular; Swistel calls this "the last frontier of mastectomy." Plastic and reconstructive surgeon Mia Talmor, MD '93, notes that the combination of oncoplasty techniques results in greater patient satisfaction. Says Simmons: "It is such a great compliment to have my patients' other doctors ask which breast had the mastectomy, because it looks so natural and matches the healthy breast after nipple-sparing mastectomy and reconstruction."

Surgeons are also working with radiation oncologists to develop a way to offer partial breast irradiation over five days instead of the traditional six weeks, and early this year they acquired the capability to conduct interoperative radiation; as of this spring, patients will be able to have radiation done at the same time as their lumpectomy. Mary Hayes, MD, associate professor of clinical radiation oncology, is spearheading the effort to establish Weill Cornell as a center for the latest innovations in radiation therapy. Simmons is leading research on techniques to destroy tumors without surgery through an office procedure called cryoablation, in which she freezes the tumor. Currently, she removes the mass to prove that all cancerous cells have been destroyed—but the next step will be cryoablation without excision. "We are looking at ways to destroy breast cancer without surgery," she says.

**T**he Breast Center also runs a robust research effort led by Linda Vahdat that covers everything from analyzing the effects of chemotherapy on fertility to working with bench scientists to understand why tumors spread and how they can be stopped. Physicians there have been critical partners in the development of the last two drugs for metastatic breast cancer: Eribulin, which was approved in November 2010, and Ixabepilone, approved in 2007 to treat patients no longer responding to chemo. The team is now testing a number of new drugs that offer additional options for patients with advanced disease. These include a pair, close to approval by the FDA, which target HER2 positivity—a protein that promotes tumor growth, resulting in a more aggressive cancer.

But the ultimate goal is to prevent tumors from spreading in the first place. The most exciting research on this front involves depleting the copper in cells to undermine the body's own infrastructural support for tumor growth. "Tumors don't know how to spread," says Vahdat, "so they sort of trick your body into telling them where to go." Researchers are not entirely certain why copper depletion works, but they believe the metal is critical for enabling cell



Linda Vahdat, MD

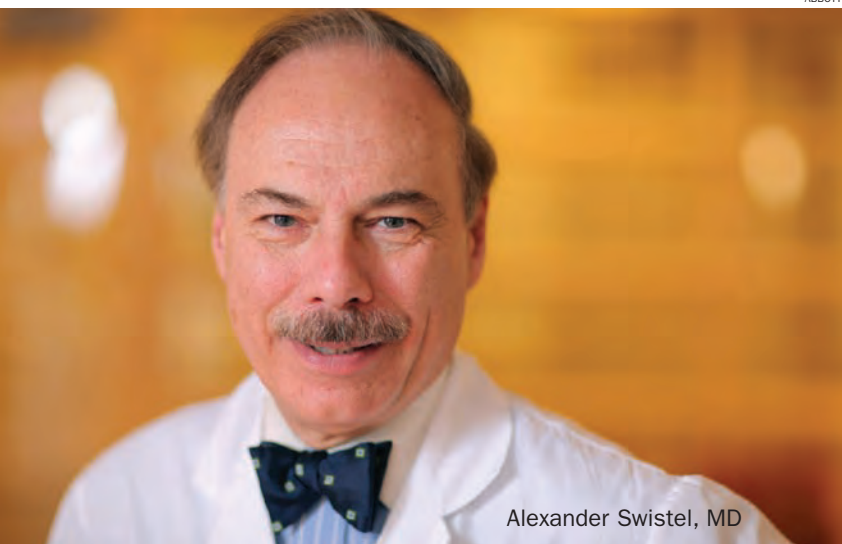
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'You have to personalize your care as much as you possibly can. When you profile tumors you see that although on the surface they may look the same, they certainly aren't the same on a molecular level.'

movement. "If you don't let them move, they're in suspended animation, which means the infrastructure never gets to where the tumors are," says Vahdat. The original plan for the study was to follow women, all at very high risk of a recurrence, for two years. But their results were so good that Vahdat continued the study and has now followed the cohort for six years.

The Center's investigators are also looking closely at a number of ways to limit the side effects of existing cancer therapies, such as aromatase inhibitors, which stop the production of estrogen but commonly cause joint pain in postmenopausal women. "The pain ranges from mild to bothersome enough that women have to be taken off lifesaving medicines," says Cigler, who, along with Moore, is collaborating with rheumatologists at Hospital for Special Surgery on the work.

A common side effect of chemotherapy is peripheral neuropathy, which causes numbness or tingling in the fingers and toes that can be quite debilitating. Vahdat has partnered with researchers at the Rockefeller University to study patient skin biop-



Alexander Swistel, MD

sies under an electron microscope. “We can start to see what’s actually happening, correlate it with the physical exam,” she says, with the goal of determining a strategy either to treat the side effect or to identify people at risk for it who could benefit from prevention. She has also started a study based on preliminary data the Center generated several years ago suggesting that glutamine might prevent some of the symptoms of neuropathy induced by the chemotherapy drug Taxol.

Hair loss is another side effect of chemotherapy, and the Center is conducting a study of cold caps, which patients wear for a half hour before and during chemo, and for four hours after, keeping the scalp cold enough to protect hair follicles. “It’s safe and reasonably well tolerated for patients who are highly motivated to maintain their hair during chemotherapy,” Moore says.

Some critics have worried that the caps prevent the drugs from being delivered to the scalp, but Moore says the safety has been well demonstrated by European doctors, who have long used cold caps and now administer them almost routinely. According to Cigler, the

# Baby Steps

## New techniques to help breast cancer patients preserve their fertility

**A**ny woman receiving a new diagnosis of breast cancer must make immediate decisions about treatment. But for women of childbearing age, who account for about 12 percent of new diagnoses, the best options can have potentially devastating consequences on their ability to conceive children. Chemotherapy often triggers early menopause, and the typical course of hormonal therapies, such as Tamoxifen, can last five years—representing a delay that, as oncologist Tessa Cigler, MD, puts it, “can make the difference between being fertile or not.”

Cigler discusses these issues with her patients at the time of diagnosis. Some—assuming they do not have a high-risk cancer for which chemotherapy must begin immediately—can preserve fertility by undergoing *in vitro* fertilization to retrieve eggs prior to treatment. “Time is of the essence,” Cigler says, both in treat-

ing cancer and in scheduling IVF, since the stimulation of ovaries must begin at a specific time in a woman’s natural menstrual cycle. “Waiting for two days could make someone delay for a month.” To expedite care, she has a special phone number to reach Weill Cornell’s Center for Reproductive Medicine and Infertility (CRMI), where her colleagues will see patients with newly diagnosed cancer immediately—often that same day.

According to CRMI’s Glenn Schattman, MD, it is imperative to remove eggs from the body before chemotherapy exposure. In addition to the risk of menopause onset, “chemotherapy affects the eggs that are developing,” says the associate professor of clinical reproductive medicine. “There’s a significant concern in the risk of malformations.” A typical course of treatment involves lumpectomy first, followed about twelve weeks later by chemotherapy. During that time, a woman can usually get through two IVF cycles (even while undergoing radiation, if needed).

CRMI has been helping patients with cancer preserve their fertility since the late Eighties—stimulating eggs, fertilizing them immediately with sperm, and freezing the resulting embryos. Until 2001, however, Schattman says, “we didn’t really have the means to adequately preserve fertility in single women without a partner.” At that point, freezing eggs became feasible, although success rates remained lower than for frozen embryos, and women without partners would still often use donor sperm and freeze embryos.

In 2004 protocols for freezing eggs improved dramatically, and today, with further refinements in freezing techniques, CRMI’s latest data show that for women under the age of thirty-two, “the chance of pregnancy with a frozen egg is almost the same as it is with a fresh egg,” Schattman says. Now, even women with partners often choose to freeze eggs rather than embryos, to avoid potential ethical questions down the road.

But does an IVF cycle put at risk a successful outcome in treating cancer? “That is the million-dollar question,” says Cigler. “There is no evidence to date that doing one cycle of IVF before chemotherapy is associated with worse outcomes. We can’t say with 100 percent certainty, and we worry a little bit. But the outcomes to date have been reassuring.”

During standard IVF, when ovaries have been stimulated to produce multiple eggs at once, estrogen levels go



caps often provide a positive outlet for patients, giving them a focus for their nervous energy as they play a role in administering the headgear, which is replaced every thirty minutes to maintain proper temperature. “It’s a way they can take the chemotherapy into their own hands and have some control,” she says. “It takes their mind off it in an empowering way. We’ve been surprised, as have our patients, at what a good experience such a difficult thing has turned into.”

From the nineteenth century until a generation ago, a woman diagnosed with breast cancer had only one option: a radical mastectomy, which often included the removal of muscle, bone, and even the rib cage and chest wall, leaving her permanently disfigured and disabled—and still at risk for metastasis. Over the last three decades, treatment options have evolved dramatically. Today when a woman faces a new diagnosis, a team of specialists at the Breast Center determines an individualized plan based on numerous factors, including the genome of the tumor, which tells them how fast it

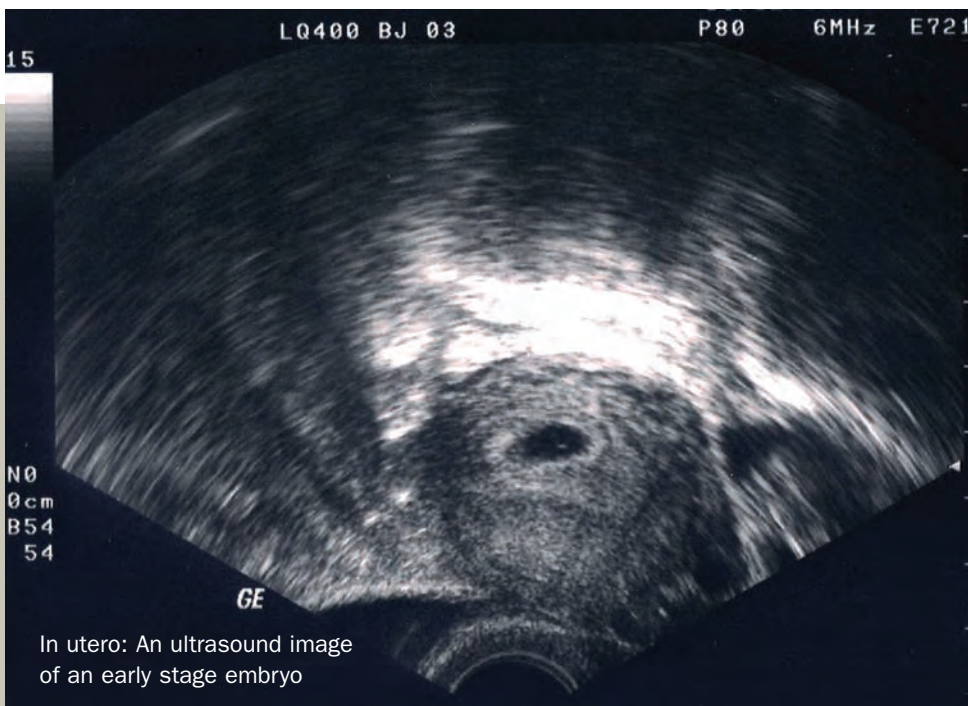
might grow, whether it will respond to hormone therapy, how likely it is to return, and even its potential response to chemotherapy. Drugs are then targeted to specific receptors or to blood vessels that support the tumor. A woman has mastectomy options that preserve the entire skin of the breast, and ways to preserve her fertility as well as her hair. And—even before diagnosis—a patient at high risk has a range of medical and surgical preventative options.

Multidisciplinary research underlies all of these clinical advances. “We’re committed to our patients; we want to cure them all,” says Vahdat. “To do that, you really have to understand how tumors spread.” With a robust research program encompassing collaborations with scientists across institutions, the Weill Cornell Breast Center’s clinicians believe that the coming decades will bring even greater improvements in the treatment and prevention of breast cancer, including an answer to the fundamental issue: how to prevent a cell from becoming cancerous. ●

about ten times higher than normal. “There’s always the concern for women—even if their cancer is estrogen-receptor negative—that stimulation of their ovaries is going to cause the cancer to grow or spread,” says Schattman. To limit this risk, CRMI has developed special protocols for patients with cancer, stimulating the ovaries to produce multiple eggs while using aromatase inhibitors to block production of estrogen. (The estrogen, which is made by cells surrounding the egg, would be necessary to prepare the uterus if the released egg were to be fertilized naturally or if embryos were to be transferred back into the uterus during regular IVF.) “We can stimulate fifteen eggs, and the estrogen levels are about the same as you would find in natural levels,” he says.

Success rates have been good. The chance of pregnancy depends on the number of eggs retrieved. For a patient under thirty-five, the chance of pregnancy per egg frozen is 9 to 10 percent—which means that for a woman who produces and freezes twenty eggs, there is a very good chance of achieving pregnancy. As women get older, the chance of success with frozen eggs diminishes, decreasing dramatically for women over thirty-five. At forty and above, it’s 1 percent or less per egg.

Oncologists typically ask patients to wait two years after treatment before attempting to get pregnant. “There’s no data to suggest a harmful effect of preg-



In utero: An ultrasound image of an early stage embryo

ISTOCKPHOTO.COM

nancy after a diagnosis of breast cancer, but we typically ask women to wait,” Cigler says. “First, because if they’re going to do hormonal treatment, we’d like at least two years of treatment. And also, there’s some debate about this, but probably the highest risk of recurrence is the first two years.”

Cigler and colleagues at Memorial Sloan-Kettering Cancer Center are conducting a study to determine ways to predict a woman’s chances for chemotherapy-induced menopause by looking at blood markers that indicate the ovaries’ remaining egg levels. If a woman is likely to become menopausal, one potential treat-

ment is to remove ovarian tissue before chemotherapy and replace it afterward, which causes ovulation to restart. So far, some twenty children have been born worldwide from this procedure. In the future, Schattman says, doctors may be able to mature eggs from frozen ovarian tissue directly in the laboratory. This would help patients who have had ovaries removed because, for example, they carry one of the known genetic mutations that put them at very high risk for breast and ovarian cancer. “We get the pictures, the e-mails, the cards every year,” Schattman says of the news he receives from cancer survivors. “It’s a good feeling.”



# Acid Test

By Sharon Tregaskis

Neurologist M. Elizabeth Ross, MD '79, PhD '82, and colleagues work to prevent neural tube defects—and understand the role of folic acid in human disease

**F**or decades, doctors have been urging young women to eat a diet high in leafy greens, legumes, and other folate-rich foods to protect against a class of congenital anomalies, including spina bifida and anencephaly, known collectively as neural tube defects (NTDs). They affect between 300,000 and 400,000 newborns worldwide each year. If a woman waits until a pregnancy has been confirmed to start thinking about the B-complex vitamin, it's often too late: the neural tube, precursor to the central nervous system, is closed by the fifth week after conception. By the time many women realize they're pregnant, the opportunity to prevent NTDs—which range from a condition so subtle as to go undiagnosed for a lifetime to so profound that the fetus fails to survive gestation—has long since passed.

Scientists started documenting the role of vitamins in the embryological development of barnyard animals in the mid-Thirties. The effects of profound food shortages in Europe throughout World War II served as a natural experiment revealing additional insights among humans. Then, in the Fifties, scientists began testing the influence of specific micronutrients on individual organ systems in lab animals. Between 1976 and 1991, a series of studies involving women in England, the U.S., and Cuba confirmed that a folate-rich diet—or the use of supplements containing folic acid, a synthetic form of the molecule—in the months preceding conception and during the first few weeks of embryological development drastically reduced the incidence of NTDs.

No one knew how folic acid worked its magic on the nascent central nervous system. But in 1992, the U.S. Public Health Service

M. Elizabeth Ross, MD '79,  
PhD '82

recommended that every woman of childbearing age—reproductive intentions notwithstanding, due to the high incidence of unplanned pregnancies—consume 400 micrograms of folic acid every day. Despite a growing body of evidence, few women changed their habits and the rate of NTDs held steady. So, in 1996, the FDA and its Canadian counterpart mandated that food processors include folic acid in enriched grain products—pasta, rice, bread, and the like—effectively boosting the entire population’s consumption of the water-soluble vitamin. Forty other countries have done the same, and in the last fourteen years the rate of neural tube defects has dropped by an estimated 30 percent (considerably less dramatic than the 70 percent reduction anticipated from the early-Nineties U.K. and Eastern European studies).

Throughout the Nineties, as public health advocates launched outreach campaigns to promote folic acid awareness, neurologist M. Elizabeth Ross, MD ’79, PhD ’82, was seeing patients with NTDs and other complex congenital brain anomalies at the University of Minnesota Hospital. For more than a decade she’d been investigating the genetic basis for neuronal differentiation, a developmental phase that spans the second trimester, during which neurons migrate to what will become the frontal,

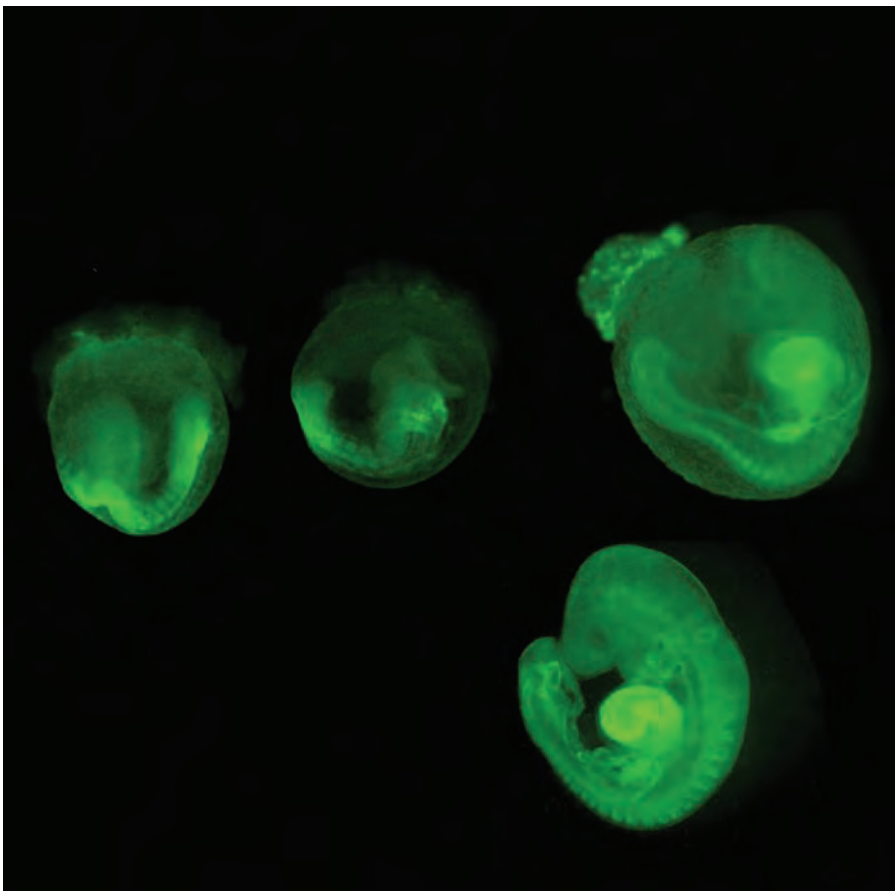
parietal, occipital, and temporal lobes and begin taking on the characteristics of those regions of the brain. In the process, she’d begun delving into lissencephaly, in which the cerebrum develops with a smooth surface instead of the typical convolutions characteristic of human gray matter. Scientists attributed the condition to glitches in the chemical signals that guide or enable the neuron to move and migrate from its point of origin to its position in the mature brain. To sort out the genes behind the biochemical confusion, Ross had assembled a small menagerie of engineered and naturally occurring mutant mouse strains, each exhibiting a unique symptom reflecting a mutation in one of the genes that choreograph development of the fetal brain.

When Ross mentioned that she’d found a gene on mouse chromosome six with an interesting pattern of developmental expression, a colleague alerted her to a strain of mice—known as Crooked tail—with an unknown mutation in the same general neighborhood on chromosome six. If they were lucky, the brain defect in Crooked tail might be due to a mutation in that interesting gene, and fine mapping would lead to its identity. “I thought I’d work with the Crooked tail mice maybe for a summer, to do some mapping and see how close the defect was to the gene I was working on. My gene and the one responsible for Crooked tail would be miles apart—and that would be the end of it,” says Ross, now a professor of neurology and neuroscience at Weill Cornell and an attending neurologist at New York-Presbyterian. “Naiveté is a great thing when you’re building a project.”

Her team spent the three months she’d expected mapping the Crooked tail genome—and then, suddenly, the fatal NTD characteristic of the strain simply disappeared. “I thought that was pretty much impossible,” says Ross. “This line had been around since 1954; it seemed unlikely we would lose the mutation in our own colony in just three months.” One day in a lab meeting during which the team again struggled to explain what had happened, Ross quipped, “Did someone slip them some folic acid?”

That was exactly what had happened. To save money, the university’s animal facility had swapped the usual brand of mouse food for less expensive rat chow—and in the process nearly doubled the amount of folic acid being ingested by all of Ross’s animals. Her team hadn’t lost the mutation characteristic of the Crooked tail genotype: its phenotypical expression had been transformed by the doubled dose of vitamin B-9. Ross promptly launched a diet study to investigate how different amounts of folic acid affected the percentage of mice born with an NTD. “By then,” she recalls, “we had markers sufficiently closely linked to the gene so you could look at

Microscopic view: Mouse embryos engineered to express green fluorescent protein in all cell membranes to more easily visualize the steps of neural tube closure



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the effect of diet on the phenotype.” Ross’s paper revealing the name of the first mouse model shown to be protected from NTDs by dietary folic acid with close parallels to human clinical data was published in *Human Molecular Genetics* in 1999. Ross’s lab then found the point mutation responsible for Crooked tail that changed a single amino acid in Lrp6, a protein in a Wnt signaling pathway that is critically important for brain development, reported in the *Proceedings of the National Academy of Science, USA*, in 2005. Finally, with Crooked tail and about a half dozen more mouse models that were shown by others to reduce their NTD occurrence with folic acid, scientists could begin designing experiments to elucidate the genetic and biochemical pathways through which folic acid influences neural tube development.

**L**ike origami, the ancient Japanese art that can transform a sheet of paper into a crane, the first weeks of human embryological development follow a strict pattern: fold, turn, divide, repeat. One layer of cells differentiates and becomes the respiratory system, another becomes the brain and spinal cord. The protean heart splits into four quadrants; four limb buds become arms and legs. Folic acid plays a starring role, as the supplier of vital carbon-hydrogen molecules to promote methylation, the process that activates one gene and silences another—converting one pluripotent cell into an islet cell in the pancreas and another into a neuron, then promoting the neuron’s further migration and differentiation within the central nervous system. In essence, methylation of DNA and proteins provides a way to modulate how the blueprint encoded in DNA is read by the cell. As in origami, any divergence from the norm echoes through each subsequent step in shaping the nervous system. “When the brain develops *in utero*, it’s a fascinating process,” says Ross. “To get such complexity of cell types and patterned organization from a single fertilized egg is nothing short of miraculous. It seems a surprising thing that it ever goes normally.”

Most of the time, the transformation of undifferentiated cells does indeed proceed without a hitch. Yet in as many as ten of every 1,000 births (an estimated one in 2,000 births in the U.S.), something goes awry as the embryonic neural sheet folds, bends, stretches, and expands—making NTDs second only to cardiac malformations among the most common congenital anomalies. At their most mundane, NTDs leave a slight gap where a few vertebrae stop short in their embrace of the tail end of the

spinal cord. Rather than forming a protective “O” around the serpentine rope of nerves that conducts signals to and from our limbs, the bones stop in the shape of a “U” or “C,” often causing paralysis below the level of the opening. At their most extreme, NTDs are fatal. In anencephaly, the embryonic brain is openly exposed to the amniotic fluid and the developing gray matter dies *in utero*. In exencephaly—the birth defect that disappeared among Ross’s Crooked tail strain when their folic acid consumption spiked—the process is the same as for human anencephaly, but the mouse’s shorter gestation of only twenty-one days means less time for the exposed brain tissue to die away, leaving the brain to bubble out of shape. Both anencephaly and exencephaly kill within hours of birth, if not before.

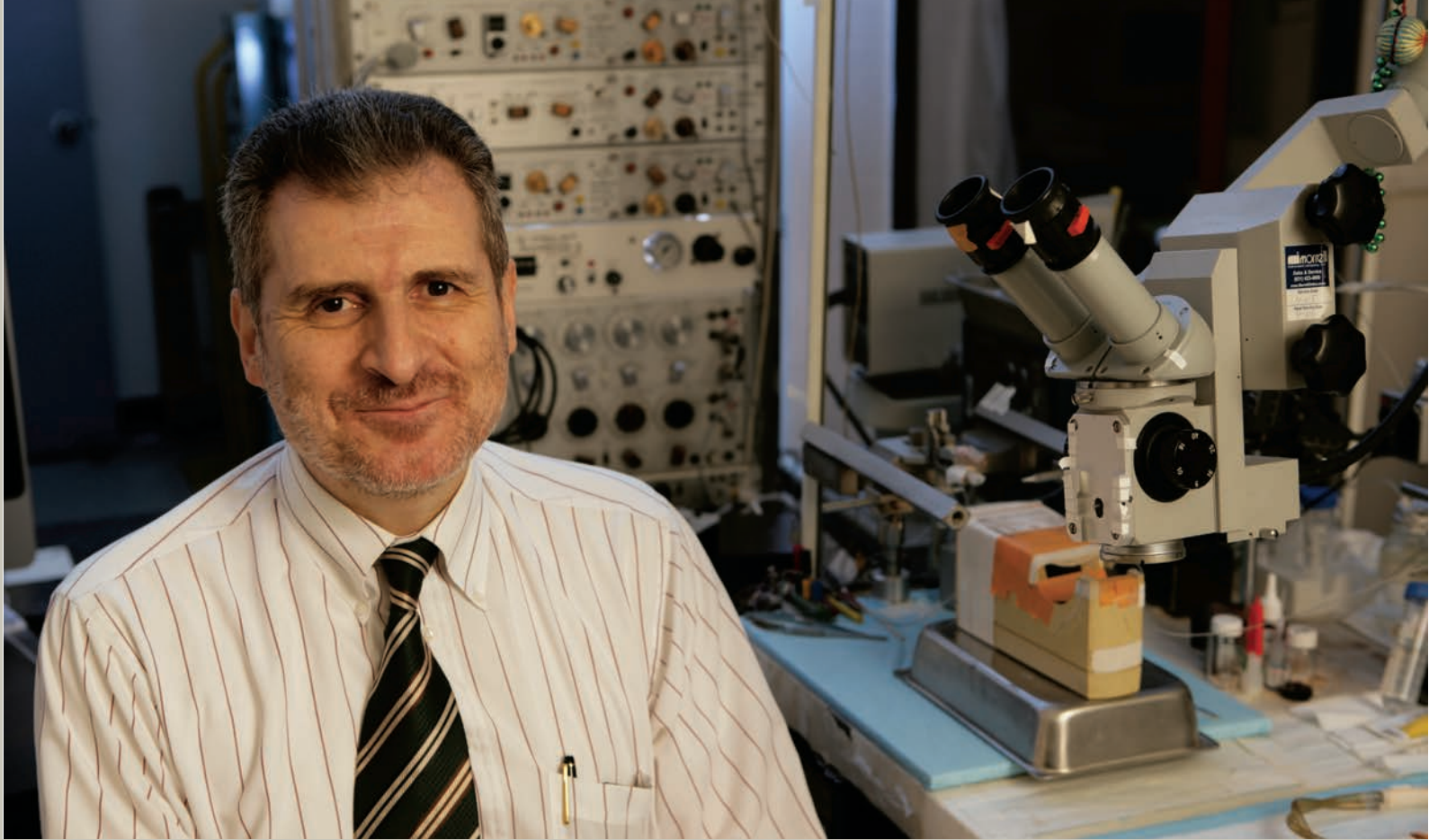
Spina bifida—in which the spinal cord protrudes from within the partially formed scaffolding at the base of the vertebral column—is the most common NTD seen by clinicians in the U.S. Beyond the risk of infection at the lesion site, compression and pinching of the bundled nerves constrains fetal development and permanently limits sensation, mobility, and self-control. Fetal surgery—offered at only a few academic medical centers in the U.S. and unavailable in the developing countries where spina bifida is most common—can sometimes minimize the pinching and preserve a greater range of motion. Postnatal treatments focus on management of the condition, not its cure.

Recessive diseases like sickle cell anemia and Tay-Sachs disease owe to matching mutations of a single gene transferred by the parents to the resulting zygote; the condition’s signature code is replicated in every cell in the body. By contrast, NTDs are caused by a complex process gone wrong. “We know of more than 250 genes that can be mutated and lead to NTDs in the mouse,” says Ross. “In almost no cases are those mutations 100 percent penetrant; even if you have two copies of the mutated gene, there is only a 30 to 80 percent chance that the resulting embryo would be affected. The situation in humans, in clinical populations, is even more complicated.”

Preventing NTDs requires a systems-level analysis that integrates the effects of multiple slight gene changes in concert with a

Pre-surgical: An MRI of an infant with spina bifida prior to repair; cerebral spinal fluid appears white.





ABBOTT

Costantino Iadecola, MD

## Doctor's Duet

Two physician-scientists make the perfect match

It was her voice he noticed first. As a postdoctoral fellow in the Weill Cornell laboratory of Donald Reis '53, MD '56, Costantino Iadecola, MD, was investigating how neural stimulation of the cerebellum influences blood flow in the brain. It was 1981, and M. Elizabeth Ross was doing research for her PhD in the Division of Neurobiology on the biochemistry of neurotransmitter production before beginning her internship and residency in neurology at Massachusetts General Hospital. Each put in long hours. "One evening she was singing some kind of aria, just walking around in the lab," says Iadecola, who was learning to play Renaissance music on his guitar. "She was spot on, in perfect tune, with beautiful tone and clarity."

Many of the pieces Iadecola was learning had been composed as duets for lute and voice, but so far he'd been playing solo. "I could tell that she had a good ear," he says. "Most important, I did not know anyone who had such a great voice and could be convinced to play with me." They had their first performance at a lab seminar in the Division of Neurobiology, says Iadecola, who has succeeded the late Dr. Reis as the George C. Cotzias Distinguished Professor of Neurology and Neuroscience and Chief of the Division of Neurobiology at Weill Cornell.

The rest, he says, is history. The couple married in 1987, and after a decade on the faculty at the University of Minnesota Medical School they returned to Weill Cornell in 2002, their young son in tow, as tenured professors in the Division of Neurobiology. They first published together in 1995, and in the next eleven years produced another two dozen papers combining his expertise in neurobiology and acute brain injury with her command of biochemistry and molecular biology. While their last formal collaboration was in 2006, each remains a valuable consultant on scientific projects and grant applications. "A lot of working couples don't understand exactly what the other is doing, and that can be a source of misunderstanding and friction," he says. "Working on a grant application or on the hospital wards, we understand perfectly what it entails and stay off each other's back. She gets a new grant or a paper in *Science*, and I know what it means. We can share the successes and the sorrows."

deeper understanding of the role of folic acid in the myriad metabolic processes that promote neural tube development. “We’re trying to understand not just the genetic changes, but the gene-environment interaction,” says Ross. “The genes provide a predisposition, and the environment determines whether a defect is expressed.”

In September 2011, the NIH awarded Ross and co-principal investigator Christopher Mason, PhD, a Weill Cornell assistant professor of computational genomics, a \$5.5 million transformative research project grant to integrate data from mouse models of folate-sensitive NTDs with human data gathered collaboratively in Ross’s laboratory and that of Richard Finnell, PhD, a geneticist at the University of Texas, Austin, and the director of genomic research at Dell Children’s Medical Center in Austin. Their goal is to identify the impact of folic acid supplementation in the methylation of the human genome of NTD patients and compare it with how DNA and protein methylation alters gene expression in mice that are genetically predisposed to NTDs. They hope to reveal principles of how the environment can tip the balance toward health or disease in a particular individual. “I can’t believe that we’ve evolved in such a way that these nutrient-gene interactions and how they influence metabolism are unique to NTDs,” says Finnell. “Neural tube closure happens pretty early [in embryological development], and I think we’re going to learn about fundamental changes that apply to all of the structural defects.”

Ross, Mason, and Finnell also expect their work to reveal why NTDs haven’t been entirely eradicated among populations where a combination of access to fresh vegetables, prenatal supplements, and mandatory fortification has virtually eliminated folic acid deficiencies. Scientists have long speculated that genetic predisposition influences the critical dose required to avert an NTD. Says Mason: “Finding the best markers for risk would allow two parents to take a test and determine how much folic acid to take.”

Growing insights into folic acid’s role in gene transcription and other cellular processes increasingly suggests that the public health implications of fortifying processed foods are not uniformly positive. Finnell notes that in addition to eating fortified grains, many Americans also take a multivitamin containing folic acid and consume a diet that includes natural folate in the form of leafy greens and other whole foods, leading to significant variations in the amount of the vitamin in an individual’s bloodstream. While the combination may benefit women of childbearing age, its influence on other populations could be more complicated.

“People intuitively understand that there can be too much of a good thing,” he says. “We are unique entities, and it’s possible that there are people for whom having too much of this B-vitamin creates an idiosyncratic situation that isn’t good.”

While folate deficiency increases the risk of NTDs—as well as heart attacks, hardening of the arteries, and cancer—too much can be equally dangerous. In 1947, when pathologist Sidney Farber, MD, sought a treatment for childhood leukemia, he discovered that folic acid made patients sicker, while aminopterin—which blocks folic acid’s action—slowed their disease progression. More recently, studies have shown that the B-vitamin also fuels the growth of precursor lesions of colorectal cancer, increases the risk of breast cancer, and promotes cognitive impairment among some elderly people. Even in the case of NTDs, Ross’s research in mouse models published in *Human Molecular Genetics* in 2010 indicates folic acid may sometimes reduce NTD occurrence by promoting the miscarriage of fetuses with profound defects. Says Ross: “There are many effects of folic acid that we don’t yet understand well, and the levels of the vitamin needed to ensure a healthy birth outcome may vary according to the genetic makeup.”

Understanding how NTDs develop has implications for the hundreds of thousands of families who every year grapple with the diagnosis and its implications. If Ross and Mason can untangle the relationships among genes and folic acid, their findings promise to give families the insight they need to fine-tune diet and supplements to promote fetal health. But for millions more, the research promises to enhance the possibility of personalized medicine, in which researchers identify the combination of genetic potential and environmental interventions—from exercise and diet to early screening and prophylactic treatments—that minimize or prevent an array of diseases that strike throughout life. “It’s a natural fit to be working on NTDs, but this isn’t the only common disease that mutations, molecular changes can predispose us to,” says Mason, who holds assistant professorships in the Department of Physiology and Biophysics and in the Institute for Computational Biomedicine. “My goal is to find the computational techniques that will advance our understanding of disease.” He points out that none of the work he and Ross have envisioned in the NIH grant would have been possible without recent advances in technology. “Much of the hardware and methods of investigation that we need in this project to let us look at the whole genome at once didn’t exist five years ago,” he says. “This is an astounding time to do work in genetics.” ●

‘We’re trying to understand not just the genetic changes, but the gene-environment interaction. The genes provide a predisposition, and the environment determines whether a defect is expressed.’

# Notebook

News of Medical  
College and Graduate  
School Alumni

Dear fellow alumni:

The fall and winter were very mild in the New York metropolitan area—which, after the previous year's record snowfall, was a most welcome change. I hope that the season has proven equally enjoyable for all our alumni. Of course, for the skiers and snowboarders out there, it has been pretty dismal, especially here in the Northeast.

On January 1, we saw a changing of the guard with the esteemed Antonio M. Gotto Jr., MD, DPhil, stepping down after fifteen years of service as the Stephen and Suzanne Weiss Dean of Weill Cornell Medical College and Provost for Medical Affairs at Cornell University. Dr. Gotto was succeeded by Laurie Glimcher, MD—who, by all accounts, has hit the ground running. She has done an admirable job of meeting with staff and appears ready to build on the foundation set by Dr. Gotto. Dean Glimcher's ambitious goals were outlined in her reports to the Board of Overseers and the Cornell University Board of Trustees. In essence, she plans to elevate Weill Cornell further into the highest rankings of medical schools in the country and worldwide, by expanding our research capabilities and improving our world-renowned clinical services.

At the center of the Weill Cornell universe are the students, of course. Dr. Glimcher has engaged them most warmly, and they have responded in kind. She has also been pleasantly surprised by how engaged alumni are with the Medical College; Dean Glimcher recently remarked that she had never seen such an active group of alumni who are so supportive of their medical school and its students. She is looking forward to working with the Alumni Association and the alumni community at large to achieve our mutual goals. It appears that Dean Glimcher will continue the tradition, set by Dr. Gotto, of keeping alumni engaged, both now and in the future.

The Association's ASK (Alumni-to-Student Knowledge) sessions continue, the latest representing internal medicine subspecialties. These events provide an informal venue for students to ask alumni candid questions about life in their chosen specialties. The students find these sessions invaluable, so if you are interested in participating please contact the Alumni Association for more information.

The Association was well-represented at the recent Rogosin Institute Scholars Reception, with six board members in attendance as Dean Glimcher presented five deserving medical students with their scholarships. Also in February, the Association hosted a reception in San Francisco for local alumni as well as those in town for the annual meeting of the American Association of Orthopaedic Surgeons. We had a large showing of more than fifty alumni representing from the 5th through 50th reunion classes.

Planning for Reunion 2012 (save the dates: October 19–20) continues apace. Featuring reports from both Dean Glimcher and President Skorton, it promises to be a fun-filled reunion, and I hope to see you there!

Thanks again to all alumni for your continued support of the Alumni Association, the Medical College, and our students.

*Best and warmest wishes,  
Michael Alexiades, MD '83  
President, WCMC Alumni Association  
alexiadessm@hss.edu*



PROVIDED

Michael Alexiades, MD '83



## 1940s

**Charlotte Rush Brown, MD '45**, and **David Brown, MD '45**, are enjoying their retirement after 60-year practices in pediatrics, internal medicine, and public health. They live in elder housing in New Canaan, CT, the community where they worked.

**Abraham Blumer, MD '49**, is retired in West Bloomfield, MI, where he enjoys country-western and line dancing. He would like to hear from any member of the Class of 1949.

## 1950s

**Martin J. Evans '46, MD '50**: "I remain in close contact with my older 'kid brother,' **Howard E. Evans '44, PhD '50**, the better Cornellian, who never left Ithaca and the Veterinary College. Thanks to classmate **Frank Perrone, MD '50**, for taking such good care of my friend Bill Brief. Sad to see the passing of **Leon Charash '47, MD '50**, a great friend and possibly the smartest kid in the Class of '50."

**Francis A. Wood, MD '50**: "For a good many years, even prior to retiring from practice as a neurosurgeon, I've been a consultant to the New Jersey Motor Vehicle Commission. I review medical material on individuals who have neurological problems and advise them regarding driver licenses and testing. I've been doing it for 47 years, and last June the Motor Vehicle Commission held a luncheon at their headquarters in Trenton in my honor. Having something to do in retirement that allows me to feel slightly useful is a great plus. Also, it keeps the gray cells rubbing together and forces me to try to keep up with some of the newer developments in neurological medicine. As an example, since I retired there have been a number of new anti-seizure drugs, and since seizures are one of the problems I deal with I have to keep abreast of the treatment options that I read about in the cases I review. Finally, you wouldn't believe how interesting some of the cases can be, and even, at times, how amusing."

**Stanley Birnbaum, MD '51**: "I am still practicing gynecology in NYC at NYP/Weill Cornell. I live in Manhattan with my wife, Michele, and enjoy my two grandchildren, Riley and Spencer, who live nearby."

**Russel Patterson, MD '52**: "I retired from the practice of neurosurgery in 1995. Julie and I still live in midtown, and we still go to neurosurgical meetings, mostly to keep in touch with old friends. In addition, I serve as historian of one of the neurosurgical societies. All the usual accompaniments of aging have arrived, like stiff joints, poor balance, and fuzzy memory. When I hit 80, we unloaded our small airplane, which has com-



SHERMEL B. SHERMAN

plicated getting to our place near Burlington, VT. The children are all thriving. Daughter Ritchie is chair of the physics dept. at Cornell, son Hugo is a computer scientist/entrepreneur in Los Altos, CA, and son Xander is involved in education and writing. I have no idea what the future holds, but so far it has been a good ride."

**Earnest Curtis, MD '53**: "No exciting travel or accolade this year, but still vivid in my memory was my arrival in 1949 by Southern Railway at Cornell University Medical College as a third-year transfer student from the University of Alabama Medical School. Two suitcases, but no books, no radio, no place to live, no computer, and most important, not a single acquaintance. From that beginning grew two years of wonderful experiences and a year's internship. Many new friends come quickly to mind: **Ames Filippone '50, MD '53, Jim Strickler, MD '53, Allen Mead, MD '53, Marvin Fox '48, MD '53, John Branche, MD '53, and Dick Mattingly, MD '53** (deceased). I follow with great pride the current progress of Weill Cornell and wish you all well."

**J. Robert Buchanan, MD '54** (former associate dean and later dean of the Medical College 1969–74): "I'm retired now from MGH for 16 years and widowed for four years. For the past two years I have been a resident of an attractive cottage on the 40-acre campus of a continuing care retirement community in Evanston, IL,



AMELIA PANICO

By the book: Author Jonathan Franzen spoke with students during a February visit to Weill Cornell as part of the “Readers and Writers” series.

close to my son and his family. This year is my 30th as a trustee of the Aga Khan University, the first private university chartered in Pakistan, which now operates programs in multiple locations globally, principally in South and Central Asia and in three countries of East Africa. My role as a trustee requires considerable traveling: two trips to Paris, and one each to Pakistan and East Africa in the past 12 months. This April, to celebrate my 84th birthday, I am taking a ten-day cruise of the Adriatic. All things considered, my health is good. Reading for a challenging book club, art classes, care of my dog, and subscription to the Chicago Symphony and Lyric Opera fill my days. In sum, I am content, comfortable, and fortunate.”

**Seneca L. Erman, MD '54:** “I have had an eventful year with cruises to the Baltic, the Caribbean, and the Norwegian fjords. I had a total colectomy and ileostomy; bleeding diverticulum (on Plavix and aspirin for heart problems), 24 units before and during surgery—exciting, to say the least. Bilateral cataract surgery, hearing aids—oh well, at least I’m contributing to medical economics. Continuing to play the guitar, doing oil painting, and lots of walking and dancing with a new lady friend. Have maintained my license with 20-plus hours of CME a year and attendance at local medical conferences. Life goes on and is enjoyable. Hope all is well with my classmates and fellow alumni.”

**William Augerson, MD '55:** Bill Augerson and his wife, Ginny '52, are in Millbrook, NY, fairly healthy and busy. Bill still works a little and is quite busy as president of the Dutchess County Board of Health. In May, they were invited to participate in a ceremony at Cape Canaveral, FL, to commemorate the 50th anniversary of the first American manned space flight by Alan Shepard. Bill served as an Army flight surgeon with Space Task Group NASA (Mercury, Gemini, Apollo) from its formation in 1958. Among his duties was serving as the medical officer in the blockhouse a few hundred feet from the launch pad—monitoring the condition of the astronaut, prepared to remove him in the

event of system failure. All went well. “You know you are getting old when what was your ‘state of the art’ medical monitoring station is now part of a USAF museum. The ceremony was fine: Scott Carpenter, one of the original seven astronauts, and about 100 of us who had supported Shepard’s flight were there, plus high-paid help from NASA. A video of the flight was played at the time of the original launch—an American eagle soared overhead (the Cape is a bird sanctuary). Also had a tour of the last two shuttles before their last flights.”

**Paul Carter, MD '56:** “Since retiring from the practice of general surgery and teaching surgery at the Ohio State College of Medicine at Toledo, I’ve been involved in performing surgery on short-term medical missions, mainly in rural Guatemala. I also provided general medical care for uninsured elders at the Senior Friendship Center in Sarasota, FL, for ten years. When my wife experienced increasing vascular dementia, I served as her primary caregiver for two years until she died in November 2011. More recently I had resection of a chondrosarcoma of a rib and am now recuperating from that. I enjoy church activities, reading, and visiting with family and friends.”

**Albert Z. Kapikian, MD '56,** chief of the epidemiology section at the National Institute of Allergy and Infectious Diseases, received the 2011 Maurice Hilleman/Merck Award. In 1972, Dr. Kapikian and his colleagues discovered the Norwalk virus, one of the first viruses to be associated with acute epidemic gastroenteritis in humans. He and NIAID scientists Dr. Stephen Feinstone and Dr. Robert Purcell first identified the virus that causes hepatitis A. Dr. Kapikian’s research on the human rotavirus—the leading cause of severe diarrhea in infants and young children worldwide—led a 25-year effort to develop a

**We want to hear from you!**

**Keep in touch with your classmates.**


Send your news to Chris Furst:  
cf33@cornell.edu  
or by mail:  
Weill Cornell Medicine  
401 East State Street, Suite 301  
Ithaca, NY 14850

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rotavirus vaccine, which gained FDA approval in 1998.

**Bert Brown, MD '56:** "I had hoped to come to the 50th Reunion, but I am not sure our class had one. Joy and I have been together for nearly 60 years. We have four daughters and four granddaughters. After a busy career in the US Public Health Service, a university presidency, and 15 years with the Pentagon working on quality assurance, I'm retired in Key West, FL. I would love to hear from any of my classmates. My work for the past 30 years has been on terrorism. E-mail: Bertramsbrown @ gmail.com."

**Sherburne M. MacFarlan, MD '56:** "I'm alive and well and living in a retirement community in Boulder, CO. My wife, Susan, BS Nurs '55, passed away about a year ago."

**Frank G. Moody, MD '56:** "I continue to work at the University of Texas Medical School in Houston as a professor of surgery. Lest you worry about my advanced age and sanity, I retired from the chair of surgery here in 1994, stopped operating in 2003, and closed my research laboratory in 2008. Fortunately I have been given the privilege of pursuing my role as a teacher of both medical students and residents, and in order to be relevant I attempt to keep up with the rapid advances being made in surgery by attending conferences both in the States and abroad. My fiancée, Inger Ardern, is a Swede living in England, my family home is in Salt Lake, and our summer home is in Klassbol, Sweden, so—you guessed it—we spend a lot of time on an airplane. I have enjoyed watching the Weill Cornell campus develop here at the Texas Medical Center and enjoy reading about the remarkable progress being made at the Medical College in New York. I am very proud to be a part of such an outstanding institution and look forward to our next reunion."

**Don Hoskins, MD '57:** "Carol, BS Nurs '56 (professor emeritus, NYU), and I are both retired. We moved in December 2010 to Galloway Ridge, Pittsboro, NC. Galloway is a CCRC 15 minutes south of Chapel Hill in the Farrington Village community and some 35 minutes from daughter Lauren Lingley and family. Lauren is on the medical faculty at the University of North Carolina and a practicing family medicine physician. Sons David and Bruce '83, DVM '89, are in McLean, VA, and Ossining, NY, and are, respectively, an environmental lawyer and a veterinarian.

We have eight grandchildren ranging in age from 6 to 26. Travel is high on the agenda and included southern Africa in 2011, with St. Petersburg and Moscow scheduled for August 2012. Our best to all, Don (dhoskins8 @ nc.rr.com)."

**Bernie Siegel, MD '57:** "In the fall of 2011, *A Book of Miracles* came out with amazing stories and my comments. You can learn more at my website: www.BernieSiegelMD.com."

**Martin W. Korn '55, MD '58:** "Phyllis '57 and I were in Laos for nine days and southwestern China for 21 days from mid-June to mid-July 2011. We spent five days in a 60-family rural farm village in Yunnan Province for a nephew's wedding celebration. We lived in the bride's home. Then on to the World Heritage cities of Dali and Lijiang, and a three-day trek up Tiger Leaping Gorge. It was all wonderful and unique. Very beautiful. Contrasting cultures between Laos and China."

**Jules Schwaber, MD '58:** "I plan to retire this spring after completing almost 47 years in the clinical practice of internal medicine and pulmonary disease. During that time I have served as a staff physician and pulmonologist at Lahey Clinic (when it was situated in Boston) and subsequently was appointed chief of medicine at Brookline Hospital. When the latter institution closed its doors in 1980, my practice moved to the New England Deaconess Hospital, which merged to become Beth Israel Deaconess Medical Center. Over the years I've enjoyed working with many colleagues who represent multiple specialties, and especially with wonderful patients, among them three generations of the same family. It's been a true 'Norman Rockwell' type of practice based at a large university teaching hospital. Along the way, I've had the privilege of tutoring decades of Harvard Medical School students, and it's been a true joy to have them participate in the care of patients. The practice of medicine remains ever challenging, ever changing, and always stimulating. I remain grateful to the Medical College for having admitted me to the Class of 1958 and for having educated me in the fundamentals of this extraordinary profession. My dear wife, Evelyne, continues practice as a psychoanalyst. She graduated in the first class of the Albert Einstein College of Medicine in 1959 and was recently selected for the Alumna of the Year award to be presented at their commencement exercises in June. Our four sons and ten grandchildren are well and

thriving; our son Mitchell is a physician specializing in infectious disease, practicing in Tel Aviv. He served in the Israeli Army's hospital mission to Haiti, which arrived there 72 hours after the earthquake. Currently he is spearheading that nation's effort to curb the incidence of resistant bacteria in their hospitals and nursing homes."

**John Baldwin, MD '59:** "Jeannie and I have lived in the High Sierra Gold Country for 20 years, in Twain Harte, CA, after leaving our vascular practice on the Monterey Peninsula. A sweet, forested place at 5,000 feet, surrounded by lakes and mountains, with good people and incredible sunny weather. I have become a professional guide, often to Alaska for halibut and king salmon, and here in the foothill lakes for trout and bass. This eliminates lawyers and waiting-room discussions, broadens the soul, and calms the heart. We cherish the memories of the Medical College in the golden days when medical school was still fun, the East River Yacht Club was sailing yearly, and you could smoke outside the dissection room. All very best to everyone."

**Peter Burkholder, MD '59:** "We are still living in Arizona, and since our two daughters are now in the US we get to visit them more often. Daughter Lisanne returned with her Aussie husband this past year after seven years in Australia and is now practicing general medicine in Truckee, CA. (They love winter sports, especially skiing.) Kristen is now the physician for the Grand Canyon clinic here in Arizona, where she practices family medicine. For the past four years I've been the president of a homeowners association in Pine, AZ, where we have a summer home. Barbara continues in her retirement years to serve the community for women's health-care issues, asthma health care, clean air, public health, and other environmental issues. I'm walking with and caring for our 8-year-old black Labrador retriever. I'd rather live at least half of the year or more by the ocean in a warm climate with opportunities to swim, sail, hike, explore, and fish. I remember struggling academically in the third year and then in the fourth year performing very well in clinical training and finding my eventual lifetime passion in pathology, research, and teaching.

"I welcome communication with any classmate, but in particular I would like to hear what has become of Peter Bing and Ralph McFarlane. I always appreciate hearing from my Yale and Cornell classmate,

Mike Conroy. Barbara and I wish all classmates good health and encourage everyone to vote their professional and personal conscience in the upcoming elections."

## 1960s

**Ken Barasch, MD '60, Mike Carey, MD '60, Gideon Panter, MD '60, and Ken Swan, MD '60:** "The 50th Reunion of the Class of 1960 was a splendid success by all counts. Our class numbered 86 in 1956; currently 66 are living and 30 (45 percent) attended, a new record for the 50th Reunion. Not surprising, the most popular event of Reunion was the class dinner on the first night. Classmates had been asked to submit a one-page description of "A Most Memorable Event In My 50 Years As A Physician" prior to Reunion, and we received 44. A bound volume was given to each classmate. **Lewis Glasser '56, MD '60, and Alvin Poussaint, MD '60,** were the two featured Reunion speakers. Dr. Glasser is medical director of Cord Blood Registry, the world's largest cord blood stem cell bank; his presentation, "Umbilical Cord Blood Stem Cell Banks: Controversy, Reality, and Hope," was brilliant, informative, and enthusiastically received. Dr. Poussaint is professor of psychiatry at Harvard Medical School and an expert on race relations in America; his presentation, "My Experience as a Physician on the Selma March During the Civil Rights Movement," was another highlight of Reunion. Thank you, Alumni Association, for a great 50th Reunion. Yes, we know it's a lot of work, but it's events like this that inspire loyalty to our alma mater, renew our commitment to its mission, and, most of all, remind us of our great good fortune to have become Cornell doctors."

**Ken Haslam, MD '60,** retired from anesthesiology in 1993. He was a ship's physician on three ocean voyages: the Arctic, Antarctica, and Europe. He spent several years in Hemlock Society work, finishing as president of the Washington, DC, chapter. He has been nationally active in the polyamory community (ethical, responsible, consensual multi-partnering) and founded the Kenneth R. Haslam MD Polyamory Archive Collection at the Kinsey Institute, Indiana University, in 2005. He is active in sex education for medical students through the American Medical Student Association, providing textbooks, and his current interest is aging and sexuality. He is partnered with a lovely hospice

nurse and planning on moving from the Eastern Shore of Maryland to a retirement community in Durham, NC. He gave up smoking—everything—but still has a Scotch every day. "At our age life is short," he says. "Eat dessert first. Hugs all around."

**Clay Alexander, MD '61:** "I've been retired since 2000, and my right brain seems to have taken over my life. My first novel was not published, but my second one is now in the hands of my New York agent—fingers crossed. I've had a painting accepted into a juried exhibition that was shown in February. I continue to volunteer in various areas and am on the board of a local art museum. Our three boys are all married, and I have four grandchildren so far. I play six hours of tennis a week, and Paula and I travel when we can—Machu Picchu in April. Retirement is another life. I look forward to seeing classmates again in October."

**Carl Becker, MD '61:** "On December 30, 2011, I had my right hip replaced. So far, things are going very well and last Sunday we attended a performance of *The Magic Flute* at the Lyric Opera in Chicago. I hope to be fully recuperated for hiking, bike riding, and sailing in the spring. My wife, Susan, is now commodore of the Milwaukee Yacht Club, a two-year term. It's the oldest yacht club on the Great Lakes, founded in 1871. I suppose that makes me the commodore's consort. I e-mailed Prince Philip for advice regarding duties and uniforms associated with this position, but I have yet to get a response. The Medical College of Wisconsin is revising its curriculum for medical students, and I shall most probably be a teaching volunteer."

**Nicholas L. Tilney, MD '62:** "My latest book, *Invasion of the Body: Revolutions in Surgery* (Harvard University Press 2011), was named one of 'The Year's Five Best Books' in the Health and Welfare section of the *Wall Street Journal*."

**Francis Bohan, MD '63:** "I would appreciate hearing from fellow classmates. Three years with brain metastases."

**Edward M. Copeland, MD '63:** "I have recently received the Lifetime Achievement Award from the University of Florida College of Medicine and have been elected a Distinguished Professor in the University of Florida system. Likewise, I've recently finished my year as

president of the American College of Surgeons."

**Joel Sherlock, MD '63:** "There must be some good causes to work on. Not fundraising. Any ideas from the alumni?"

**James P. Baden '61, MD '65:** "I'm retired from private practice but working on Hilton Head Island, SC, as a volunteer in a free clinic. Traveling extensively."

**Jack Meyer, MD '65:** "I'm celebrating my 25th year at Brigham and Women's Hospital and 20th year as a professor of radiology at Harvard Medical School. I'm working full time in breast imaging and spend my time in clinical practice and teaching. Almost no administrative duties—quite a luxury. I was awarded the resident teaching award for the second time in academic year 2011. I've been blessed and have no idea what I will do if I retire."

**Al Einstein, MD '67,** has recently retired as executive director of the Swedish Cancer Institute, Swedish Health Services, Seattle, WA, and is looking forward to sharing travel, sailboat cruising, and time with his seven grandkids with his wife, Margie.

**Yale Fisher '64, MD '67:** "Just a note concerning a work in progress that has been a passion of mine for 40 years. I began a free website to teach the basics of Ophthalmic Contact B-Scan Ultrasound. The site has been live for two years and traveled around the world much to my surprise. It began several years ago with a webmaster and animator. It has been fun and, I hope, helpful to those wishing to learn ocular B-scan. The site is called Ophthalmic edge.org. I am about to increase the information to include other retinal imaging techniques as well as ocular retinal surgery. There are lectures and real-time movies for each subject. Continuous updates and additions are planned. On a personal note, my youngest child was admitted to Cornell undergrad in Arts and Sciences."

**William V. Hindle, MD '67:** "Last June I retired from a satisfying practice of radiology in Alexandria, VA, and it's a treat to be free of schedules. We'll continue to live in Washington, DC, and will also be able to spend more time at our place in Steamboat Springs, CO. In addition, there'll be more time for our grandchildren: three in Dayton, OH, and three in nearby Virginia."

**Ruth Dowling Bruun, MD '68:** "This was a hard year because my husband, Dr. Bertel Bruun, died on September 21 after a long illness. On the positive side, I am being given the Wendy Ann Ochsman Award for Distinguished Achievement and Advance-

ment of Tourette Syndrome Medical Treatment and Science this coming April. Since I have devoted much of my career to research and treatment of Tourette syndrome, this means a lot to me. I hope to see many classmates next year at our 45th Reunion."

**Robert P. Herwick '64, MD '68:** "I'm still practicing dermatology half time and spending the other half at our home on the Big Island of Hawaii. I just heard from **Lee Johnson, MD '68**, that he has fully retired from the faculty of the University of Utah since he realized that his med student son knew more in his first year than Lee does. There must have been a few advances in the past 44 years. I hear from prostate research mogul **Skip Holden, MD '68**, in Los Angeles from time to time and also from eating-disorder expert **Arnie Andersen '64, MD '68**, who is still on the psych faculty at least part time at the University of Iowa."

**Steve Pieczenik '64, MD '68**, developed NBI Pharmaceuticals, an ultra-virtual company located in Bozeman, MT, that focuses on developing products for orphan diseases. In its first year in business, NBI Pharmaceuticals was granted 15 FDA Orphan Drug Designations for rare cancers and neurological and mitochondrial diseases.

**Jeffrey S. Borer, MD '69:** "I am professor and chairman of the Dept. of Medicine and chief, Division of Cardiovascular Medicine, at SUNY Downstate Medical Center. I'm also president of the Heart Valve Society of America, which will hold its seventh biennial meeting on heart valve disease (in conjunction with the European Society for Heart Valve Disease), "Valves in the Heart of the Big Apple VII," at the Marriott Marquis Hotel in Times Square on April 12-14. As co-director of the meeting, with Maurice Sarano and Hartzell Schaff of the Mayo Clinic, I'd like to invite anyone with an interest in this area to attend. Details are available on the HVSA website ([heartvalvesocietyofamerica.org](http://heartvalvesocietyofamerica.org))."

**N. Reed Dunnick, MD '69:** "On December 2, 2011, I became chairman of the board of the Radiological Society of North America. This is the largest radiology society in the world, with more than 48,000 members and an annual meeting of 60,000 attendees."

**Leroy R. Sharer '65, MD '69:** "I am professor of pathology at New Jersey Medical School in Newark, where I have been on the faculty for 31 years as a neuropathologist. Last June, at the annual meeting of our national professional organization, the American Association of Neuropathologists

(AANP), I was awarded the Meritorious Service Award for Neuropathology. One of my roles in the AANP was as manager (secretary-treasurer) of the Diagnostic Slide Session. I have also completed ten years as president of the New York Association of Neuropathologists, also known as the NeuroPlex, the largest regional neuropathology group in the US."

## 1970s

**Richard A. Lynn, MD '71:** "With our reunion coming up this October, I have begun hounding our classmates to make this a successful event for all of us. So far I have heard from '71 classmates **Frank Bia, Paul Shank, Ivan Login, Fred Helmkamp, Carl Sadowsky, and Lou Rambler**. I hope all the class will make an effort to join together."

**Fred Ferlic, MD '72:** "I'm still very active in orthopaedic surgery, adding the new dimension of robotic surgery for total hips/knees. I'm also entering politics as a candidate for South Bend City Council. Mary, whom many of you knew, passed away in 2011. Although we were divorced, she is still missed. Thinking of all of you fondly, and hoping for a great class reunion."

**Dave Folland, MD '72:** "I retired from

a stimulating and rewarding career in primary care pediatrics in 2009. Since retiring, I have been volunteering for Citizens Climate Lobby, a nonprofit, nonpartisan group that is working to get the political will to make the urgently needed transition to sustainable energy. I'm convinced that future generations will pay a high price for our continued use of fossil fuels, and alternatives can successfully be developed. If you have interest in this endeavor, please e-mail me ([dsfolland@gmail.com](mailto:dsfolland@gmail.com)) or visit our website ([www.citizensclimatelobby.org](http://www.citizensclimatelobby.org))."

**Kenneth Kelleher, MD '72:** "I gave the keynote address at the meeting of the Royal College of Physicians and Surgeons of Glasgow this past November. The talk was on the experience and results of the Role III Field Hospital at Camp Bastion, Helmand Province. This was a British hospital supplemented by personnel from the US Navy. Consequently, I was elected a Fellow of the Royal College of Surgeons (Glasgow)."

**Jeffrey D. Urman, MD '72:** "I was reappointed as an adjunct clinical professor of medicine at Stanford University Medical Center and recently appointed as consultant for the Medical Board of California. Marian and I have loved living in Palo Alto, CA, for these past 35 years. We have two sons and three grandchildren."

**Allan Gibofsky, MD '73:** "I recently fin-



Future facility: A rendering of lab space in the Belfer Research Building, now under construction on East 69th Street.



ARENDE KUESTER

Wall of wonders: WCMC-Q's second annual research retreat, held in January, included sixty-four posters presented by students and postdoctoral fellows.

ished my term as chair of the Arthritis Advisory Committee of the US Food and Drug Administration. I continue to serve as a senior consultant."

**Larry Koblenz, MD '73:** "My son, Adam, offspring of Mom and Dad MDs, was admitted to the bar in New York State."

**Benjamin Lipsky, MD '73:** "After 36 years on the faculty of the University of Washington and VA Puget Sound, I am taking 'retirement' and moving to England for a few years. I now have a UK medical license, will be on the faculty of the University of Oxford Medical School, and have been appointed to the UK Independent Scientific Advisory Committee that oversees National Institutes for Health Research grants. My wife has also left her UW post and taken a position as bursar (CFO/COO) of Kellogg College (University of Oxford)."

**Steven N. Cohen, MD '74:** "I have been in private practice of ophthalmology since 1978 in San Francisco, still working full time. We love living in The City. My wife, Elly (née Ellyn Glazer), graduated from the Graduate School of Medical Sciences in 1975 with a PhD in pathology and is currently an assistant professor of surgery at UC San Francisco. She is also the program director of BreastCancerTrials.org, a non-profit, online service that matches breast cancer patients to clinical trials nationwide. Our older daughter, Aliza, recently graduat-

ed from the University of Michigan Law School and is currently an associate at Paul Hastings Law Firm in San Francisco. Our younger daughter, Sara, is a PhD candidate at Cornell in Ithaca, studying immunology. We all hold diplomas from Cornell, as both children graduated from the Ithaca campus: Aliza '04 in engineering and Sara '07 in biology. We expect to have five Cornell diplomas soon!"

**Warrick L. Barrett, MD '75:** "My grandson, Darius, graduated from high school this past Saturday. Prior to his commencement, he had already begun classes at Old Dominion University. He has earned a football scholarship there, and his name already appears on the roster. The Monarchs appear to have a challenging schedule, including games with Georgia State and James Madison universities; both of those teams participated in the national playoffs in their division of collegiate competition last year. In addition to being a formidable football player, Darius is also an excellent student. Let's wish him continued success."

**Milagros Gonzalez, MD '75:** "I've been working at Providence Pediatrics in Phoenix, AZ, since September 26, 2011. I traveled to Albuquerque and Santa Fe on vacation during the month of June, and also went to visit family and friends in Puerto Rico in September. Had a great

time. Hello to everyone."

**Paul Miskovitz, MD '75,** a clinical professor of medicine at Weill Cornell, edited and contributed to *Colonoscopy* (InTech), a book that conveys the history, state of the art, and future of the discipline. He recently got together with **Stu Fox '71, MD '75,** and **Michele Winter, MD '75,** and their spouses for an enjoyable evening.

**Wally Schlech, MD '75:** "I'm still working part time as professor of medicine in the Division of Infectious Diseases at Dalhousie University, Nova Scotia, doing ID and Gen Med rotations. Also working as a mentor with Accordia Global Health Foundation and spending a few months a year in Uganda and Nigeria as a professor-in-residence teaching HIV and ID medicine to young African physicians and medical students. I was honored last year with a Mastership in the American College of Physicians. Five kids (one MD, two pilots, one librarian, and one still in school) and three grandbabies (in Little Rock, AR). Golf, fishing, duck hunting, and flying keep me entertained, as does wife Mary, BS Nurs '73, with her Celtic fiddling."

**Martin Leopold, MD '78:** "I am now retired and living in the mountains of Colorado. My youngest son, Daniel, was a finalist with the Dartmouth Aires on NBC's 'The Sing-Off.' "

**David Frank, MD '79:** "I continue to practice gastroenterology in Rockville Centre, NY. I've also been associate medical director at MagnaCare Health Plans for the last five years. I recently started teaching at the Hofstra Medical School to round out my clinical activities. Rhonda and I are looking forward to our daughter Naomi's wedding in June 2012."

**Tom O'Dowd, MD '79:** "Bill Schickler, MD '79, Steve Werns '75, MD '79, Steve Luminais, MD '79, and I got together this month at my house in Cherry Hill, NJ, for a mini-Class of '79 reunion. There were two other Cornellians present: **Betsey Kindwall Luminais, MD '80,** and Nancy Feller O'Dowd, BS Nurs '77. We are still recognizable, I think, but some have fared better than others, especially in the hair department. We get together on a regular basis to discuss medicine, kids, life, and retirement. Our time together at the Medical College is still one of the most significant common elements of our lives. George Gray and **Lew Drusin, MD '64,** are still among our favorites, and the **Marty Gardy, MD '60,** legend continues."

**Harley A. Rotbart, MD '79:** "All three kids ended up at Cornell as undergrads.

Matt '10 is now in law school at NYU, where his fiancée is in social work grad school; Emily '12 is applying to psychology doctorate programs; and Sam '14 is slumming in the frat house. Since there is still no Cornell family tuition discount, my new book, *No Regrets Parenting* (Andrews McMeel Publishing 2012; www.noregretsparenting.com), has to go viral fast. Sara fixes leaks and does minor electrical in her property management business; we will celebrate our 25th anniversary this spring. I'm still in full-time academic medicine, but desperately trying to bridge the great generational divide—now blogging, tweeting, facebook-ing, podcasting, and totally LinkedIn. If you don't believe me, check out www.harleyrotbart.com, where you can also see pictures of how gracefully I've aged. Really."

## 1980s

**Jim Blankenship '76, MD '80:** "One of the highlights of my year is returning to Weill Cornell each spring to attend the reception where medical students report on the adventures from their overseas rotations, which often include climbing Mt. Kilimanjaro, for example. The price of admission is supporting one of those students, and it doesn't cost much. Compared to other donations to nonprofit organizations, the fun one gets from this is enormous. I encourage classmates to contact the alumni office to find out how to get involved, and I hope to see you there this May or the next."

**Frank Brickfield, MD '81,** has left federal service after 25 years and will be starting law school in August 2012 at George Mason University School of Law (his spouse's alma mater). He retired as deputy director of Medical Services at the CIA. He plans on working in the fields of disability and health-care law.

**Michael Steiner '77, MD '81:** "I practice comprehensive and oculoplastic ophthalmology in Burien, WA. I invested a great deal of time and energy to develop the physician social networking website called Community-of-Doctors.com. After two years of work, I discovered that the American Hospital Association and the US media did not care to include physicians in the discourse concerning health-care policy in the US. Our government's decision-making in this regard has been dictated by the wealthy lobbies in Washington, leaving doctors to try to rediscover reasons to continue practicing. I would rather be working

among a community of doctors who still find rewards in practicing their art. I remember most the awe that we experienced in physical diagnosis. The art of history taking and performing a physical exam is seldom practiced in my community, making my practice exceptional. I had tremendous respect for the late Dr. Franklyn Walker. When he asked how I was doing, I believed that he really meant it."

**Elizabeth A. Wuerslin, MD '81:** "I'm a pediatrician, still working and happy with my profession, in Colorado and the Rocky Mountain area. I've worked locums for Colorado Children's Hospital for the last ten years and love the variety of locations and diversity of patients. I continue my volunteer work as a Copper Mountain Ski Ambassador, Larimer County Master Gardener, and world-traveling doc for cleft lip and palate mission trips, with my last adventure to Wenzhou, China. Look me up in Fort Collins, CO, a great place to live and work."

**Robert A. London, MD '82:** "Loren and I send regards to all from Orlando, FL, where we have resided and I have been in practice since 1986. We have been together since the orientation wine and cheese party for new medical students and nurses at Lasdon House in the fall of 1978. Obviously it worked. Our daughter, Andra, who was born at New York Hospital, lives in Atlanta. She works for Coca-Cola as a global brand manager and is getting married this summer. Our son, Brent, lives in New York; he works for Google, and if they had dormitories would probably live there as well."

**Perry Kamel, MD '84:** "Both work and home life is busy. Elena and I have two kids applying to college. All is well."

**Judith Rovno Peterson, MD '86:** "I'm working on a project to decrease ACL injuries in athletes. Approximately 80 percent of noncontact ACL injuries can be prevented by neuromuscular retraining programs. I believe every athlete should be offered this type of program. The program began as a state initiative under Drexel University College of Medicine's Vision 2020."

**Larry Robinson, MD '84:** "I graduated from RPI with my MBA in May 2011. Since that time I've become the managing director of the research group at my practice, the Endocrine Group, and I've increased my Dept. of Surgery management role to include technology assess-

ments, optimizing OR time utilization, and organization of the surgical services in our four-hospital merger. Oh yeah, I still remember how to be a surgeon. Eventually I hope to move to a senior executive position in the hospital merger team with a focus on acute care and surgical services. Brigit and I are enjoying our rescue German shorthaired pointer, Georgia, and summer sailing up on Lake Champlain. If you get a moment, drop me a line at: lrobimd@gmail.com."

**Brian Aboff, MD '85:** "Ingrid and I are getting used to having an empty nest for the first time. Our two children, Michael and Mark, are both now in college. Given the high price of tuition, we'll never be retiring. I'm enjoying my role at Christiana Hospital (Newark, DE), where I am the Internal Medicine Residency Program director and associate chair for education. It's a blast to interview Weill Cornell applicants for our program. I'm also having fun doing some national work, where I'm very involved with the Association of Program Directors of Internal Medicine and the chair-elect of the ACGME Transitional Year Review Committee. I hope all is well for everyone."

**Roger S. Blumenthal, MD '85:** "I was editor-in-chief of a new textbook, *Preventive Cardiology: A Companion to Braunwald's Heart Disease*. The book was geared to a 'Jackson Five, ABC, Simple as 1-2-3' format. I have enjoyed seeing **Troy Elander, MD '85,** in LA and **Dave Blaustein, MD '85,** in NYC. It's hard to believe that our class's fastest note taker and biggest Tab drinker, **Nan Hayworth, MD '85,** is a high-powered Congresswoman from New York."

**Stephen Rosenfeld, MD '86:** "I have recently taken the job of board chair at Quorum Review IRB, an independent IRB in Seattle. Before this I spent two and half years as president and CEO of the Western Institutional Review Board, in Olympia, WA."

**Mark Albanese, MD '87:** Network Health appointed Mark Albanese as medical director of behavioral health. He currently serves as director of addiction treatment services at Cambridge Health Alliance and is also an assistant clinical professor of psychiatry at Harvard Medical School.

**Anne C. Beal, MD '88,** was appointed the first chief operating officer of the Patient-Centered Outcomes Research Institute. Congress created PCORI as an independent, nonprofit research organization to help patients and their caregivers make informed health decisions. Dr. Beal is a pediatrician and public health specialist. She is a recognized

authority in health disparities, quality of care, and children's health, and is the author of *The Black Parenting Book: Caring for Our Children in the First Five Years*. During her term as president of the Aetna Foundation, she transformed the foundation from a local corporate philanthropy to a national strategic grant-maker and targeted three areas of health care: obesity, racial/ethnic equity in care, and the promotion of coordinated care and integrated health-care systems. Before her presidency of the Aetna Foundation, Dr. Beal was assistant vice president for the program on health-care disparities at the Commonwealth Fund and was a health-services researcher at the Center for Child and Adolescent Health Policy at Mass General. She has taught at Harvard Medical School and the Harvard School of Public Health.

**Paul Kirchgraber, MD '88:** "I was recently promoted to vice president, Global Testing Services and Medical Affairs, with additional responsibilities as general manager of the Americas for Covance Central Laboratories. The laboratory is fully dedicated to testing samples from patients involved in clinical trials. I'm responsible for laboratory operations in Indianapolis, Geneva, Singapore, Shanghai, and Tokyo, and the physician and PhD scientist teams, as well as general manager of the 1000 FTE Indianapolis site. My beautiful wife, **Theresa Rohr-Kirchgraber, MD '88**, also recently took on new responsibilities as executive director of the National Center of Excellence in Women's Health at Indiana University and is responsible for working with public and private interests to improve women's health in Indiana and nationally."

**Dinah Miller, MD '88:** "My only exciting news is that I had a book come out in June 2011. I am co-author, along with Annette Hanson and Steven R. Daviss, of *Shrink Rap: Three Psychiatrists Explain Their Work* (Johns Hopkins University Press). It's part of a larger venture we have called the Accessible Psychiatry Project, and we will be speaking at the American Psychiatric Association's annual meeting in Philadelphia in May."

**Theresa Rohr-Kirchgraber, MD '88:** "Thanks to all who voted for me! I was recently elected for a second term on the board of directors of the American Medical

Women's Association (AMWA). I hope to see you all at the annual meeting in Miami ([www.amwa-doc.org](http://www.amwa-doc.org)). I am also currently the AMWA delegate to the AMA-Women's Physician Congress (WPC), so I'm keeping busy."

**Sarah Stackpole, MD '89:** "I am happy to give an update after a prolonged illness. Two years ago, I was able to address the reunion gathering on my area of special interest, taking care of professional singers. Later in 2010, however, I became severely ill with salmonella and aseptic meningitis, with vertigo and double vision. I have been practicing only part time, but I am pleased that I have returned to other important aspects of my life. I have resumed more serious singing and am currently enrolled in an evening course at Juilliard. This is a terrific enhancement of my focus within my practice of otolaryngology, and I am hoping to continue to pursue more graduate work in music. I also hope to return to full-time practice and

surgery over the course of the upcoming year. I'm enjoying a lot of teaching, including involvement in the curriculum restructuring efforts at Weill Cornell."

## 1990s

**R. Hal Baker '86, MD '90:** "I'm in my sixth year as chief information officer for WellSpan Health in York, PA. We are an 8,500-employee integrated delivery network. To keep in touch with the realities of using the EHR, I continue to practice primary care internal medicine eight hours a week."

**Carolyn S. Eisen, MD '91:** "I am still working at NYP/Weill Cornell. I'm a radiologist specializing in breast imaging. My husband, **Mark Schwartz, MD '84**, is a plastic surgeon also on staff at NYP/Weill Cornell and in private practice. We have two daughters, Rebecca, 8, and Alexa, 6."

**Eric Pollack, MD '92:** "I'm a gastroenterologist in private practice in Bethesda, MD. We have joined with several other practices around the D.C. area to form a large single-specialty group, Capital

**'I have resumed more serious singing and am currently enrolled in an evening course at Juilliard.'**

**Sarah Stackpole, MD '89**

Digestive Care, with more than 50 doctors. This was an interesting cat-herding experience, but the group is flourishing now. Our family has also grown in size. Shannon and I are constantly entertained by our delightful twin girls, who turned 3 in March. I'm not sure if either of them will become doctors, but they enjoy using their toy stethoscope and thermometer on our long-suffering dog, Mel. It has been fun getting together with **Bill Maisel, MD '92**, and **Jen Schreiber, MD '92**, and their two kids, who moved from Boston to the D.C. area a couple of years ago. Hopefully, we'll all be able to make it to our upcoming (gasp) 20th Reunion."

**Jeff Kauffman, MD '93:** "I'm an orthopaedic surgeon who specializes in sports medicine. I spent the last ten years in Sacramento, CA, but moved back to New York 11 months ago. I now live in Cold Spring, NY, and have joined the Orthopedic Associates of Dutchess County."

**Maria Shiau, MD '93:** "Currently, I am working at the NYU Langone Medical Center. In order to further my interest in medical education, I completed a master's in adult learning and leadership at Teacher's College at Columbia. Soon afterwards, I was promoted to director of Medical Student Education in Radiology. I spend half of my time teaching and the other half practicing clinical thoracic imaging. My husband, Howard, and I are the proud parents of our 15-year-old daughter, Elissa, a sophomore at Bronx High School of Science."

**Alicia Salzer, MD '93**, is a co-founder of a new urgent care center in the NYC financial district called Medhattan Immediate Medical Care. Staffed 365 days a year by 15 board-certified ER doctors, Medhattan opened in October 2011 and is a resource for the travelers, residents, and visitors of the downtown area. It has an X-ray, labs, and fluids on site and treats both children and adults. When not at Medhattan, Alicia is busy with her two kids: True, 18 months, and Piper, 6.

**Jonathan Samuels, MD '98**, and his wife, Dr. Svetlana Krasnokutsky Samuels, welcomed twin sons Leon and Samuel into the world on June 13, 2011. They are already angling to become members of the Class of 2037. In the meantime, they are learning as much as they can from their parents, who are both on the rheumatology faculty at NYU Langone Hospital for Joint Diseases.

**Christopher E. Starr, MD '98**, is an assistant professor of ophthalmology, director of the ophthalmology residency program, director of the Refractive Surgery Service, and



director of the Cornea, Cataract, and Refractive Surgery Fellowship at Weill Cornell.

## 2000s

**Nonkulie Dladla, MD '02:** "I did my primary care residency at Methodist Hospital. I subsequently went back to Weill Cornell to complete a master's in clinical research in acculturation of black Caribbeans in the US. I am currently in medical management and work as a medical director at Park Slope Family Health Center, affiliated with Lutheran Medical Center. I'm engaged in quality research and research in health dis-

parities relating to chronic diseases in this underserved community. My goals are to continue to elevate in medical management and bring community federally funded health centers on par with UDS health standards. I spend my free time trying to develop health infrastructures in underdeveloped countries such as El Salvador."

**Asha Yancy Okorie, MD '05:** "Uzo Okorie, MD '05, and I will be moving to the Midwest in July. We'll both be working at the Marshfield Clinic in central Wisconsin. I'll be the new glaucoma specialist, and Uzo will join the pediatric car-

diology team. We're sad to be leaving New York, but we'll come back to visit family and friends frequently. We'll be close to Chicago, so we'll get to discover a new city."

**Meera Mani, MD '09,** and her husband, Nikhil, live in New York City and are the proud parents of Medha, who arrived in September 2011. Meera is a consultant in McKinsey and Company's health-care practice.

## 2010s

**Michael Day, MD '11:** "I am getting married on March 31, 2012, to **Rachel A. Moquete, Class of 2013.**"

## In Memoriam

**'34, '38 MD—Arthur F. Valenstein** of Cambridge, MA, January 17, 2012; psychiatrist; president and faculty member, Boston Psychoanalytic Institute; associate clinical professor of psychiatry, Harvard Medical School; contributed to a study of normal pregnancy at Beth Israel Hospital; participated in long-term psycho-physiological observations of healthy college-age twins; author; veteran; active in professional affairs.

**'38, '41 MD—Emanuel Wolinsky** of Beachwood, OH, January 13, 2012; chief of the Division of Infectious Diseases and interim director of pathology, MetroHealth Medical Center; developed a drug treatment for tuberculosis; author, *Textbook of Pulmonary Diseases*; professor of pathology and medicine, Case Western Reserve University; created the patient registry for the Cuyahoga County Tuberculosis Clinic.

**'43 MD—Joseph F. Artusio Jr.** of Pelham, NY, December 21, 2011; founding chairman of the Dept. of Anesthesiology, Weill Cornell Medical College, and anesthesiologist-in-chief, Weill Cornell Medical Center; developed anesthetic techniques for heart surgery; researched nonflammable anesthetic agents; recipient, Maurice Greenberg Distinguished Service Award; chief anesthesiologist, 170th Evacuation Hospital, US Army; president, Pelham School Board. (See page 8.)

**'44 MD—William A. Maddox** of Birmingham, AL, December 29, 2011; clinical

professor of surgery, University of Alabama School of Medicine; surgical oncologist and specialist in head and neck malignancies; led the Alabama Breast Cancer Project; US Navy medical officer; active in professional affairs.

**'44 MD—Gerald F. Whalen** of Shrewsbury, NJ, February 4, 2012; neurosurgeon; practiced at Riverview Hospital, Bayshore Community Hospital, St. Vincent's Hospital, and Monmouth Medical Center; served in the US Army Medical Corps; painter; champion skeet shooter.

**'45 MD—Malcolm K. Towers** of Northwood, UK, November 11, 2011; cardiologist.

**'45, '47 MD—Robert D. Harwick** of Wyncote, PA, October 14, 2011; professor of surgery and chief of surgical oncology, Temple U. School of Medicine; retired lieutenant commander, US Navy; president, Society of Head and Neck Surgeons, the Medical Club of Philadelphia, the Philadelphia chapter of the American College of Surgeons, the Philadelphia Academy of Surgery, and the Philadelphia division of the American Cancer Society; captain, Cornell golf team; tennis player; amateur ornithologist; active in alumni affairs.

**'47 MD—Robert E. Wolf** of Pittsford, NY, November 30, 2011; physician.

**'47, BA '46, '49 MD—Robert J. Herm** of Bluffton, SC, formerly of Keene, NH, December 10, 2011; ophthalmologist; former city councilman in Keene, NH; taught at Harvard Medical School; assistant professor of surgery, West Virginia University; inspector for the Joint

Commission on Hospital Accreditation; owner, Paperback Trader bookstore; US Navy veteran; co-author of two medical textbooks on refraction and fundamentals of ophthalmology.

**'55 MD—Willard T. Weeks** of Pelham, MA, December 26, 2011; family and primary care physician; served in the Indian Health Service; active in civic and community affairs.

**'62 MD—Willard B. Fessenden Jr.** of Chicago, IL, October 8, 2011; dermatologist; opera aficionado.

**'67 MD—Mark L. Teitelbaum** of Baltimore, MD, July 14, 2011; psychiatrist; author. Wife, Sandra (Dorn) '63.

**'69 MD—Richard J. Haber** of Lagunitas, CA, June 11, 2007; professor of internal medicine, UCSF; vice chief of medical service and director of the primary care program, San Francisco General Hospital; active in civic, community, and professional affairs.

**'76 MD—Robert P. Huben Jr.** of Buffalo, NY, October 25, 2011; leading expert in urology; retired chief of urologic oncology, Roswell Park Cancer Institute; associate professor, Dept. of Urology, U. at Buffalo; medical staff member, Buffalo General Hospital; wrote hundreds of publications and book chapters; recognized by Castle Connolly Top Doctors and Best Doctors in America; founded the Western New York chapter of the Us Too Prostate Cancer Support Group.

**'80 MD—Janet Mary Werkmeister** of Tenafly, NJ, November 22, 2011; allergist and immunologist; executive director, Institute for the Study of Aging. Husband, Howard Fillit '70.

## Team Effort

An innovative program promotes collaboration among students in medicine, nursing, public health, and social work

**O**n a rainy afternoon in late January, Byron Demopoulos, MD '91, an associate professor of clinical medicine, distributes small bags of Skittles and M&Ms to thirty-nine students from the disciplines of medicine, nursing, public health, and social work assembled in Uris Auditorium. The sweets come with instructions. "Assume the role of a sixty-five-year-old woman," declares a handout that lists the hypothetical patient's diagnoses: acid reflux, osteoporosis, hypothyroidism, hypertension, diabetes, and high cholesterol. Sorted

by color, the candy represents seven corresponding medications. The handout details the woman's dosing regimen: Prandin before each meal, Zocor and a self-injection of insulin at bedtime, Actonel once weekly (take on an empty stomach; remain erect for at least thirty minutes afterward), and three other drugs. The students' assignment: using the candy as a proxy, maintain the regimen for three weeks and report back at the next class session.

Medical student Rachel Feldman '15 made a grid-like schedule to keep herself on track. Some of her classmates used an app for their iPhones or iPads, complete with automated reminders. A week later, Feldman, who spent three years as a critical care nurse before enrolling at Weill Cornell, admits that popping the green "Synthroid" (which treats hypothyroidism) and the orange "hydrochlorothiazide" (high blood pressure and fluid retention) on time has been harder than she expected. "I've been trying to be compliant," she says, "but I've learned quickly that it isn't easy."

The exercise is part of ITEACH (Integrating Transdisciplinary Education at Cornell Hunter), a course on teamwork and patient-centered care that brings together first-year medical students at Weill Cornell with first-year trainees in Hunter's nursing, social work, and public health programs. "Historically, medical schools have taught teamwork with other health professionals informally—you get thrown in, hope you have good mentors, and emulate them," says Joe Murray, an associate professor of clinical psychiatry, who collaborated with Joyce Griffin-Sobel, PhD, RN, professor at Hunter College's School of Nursing, and other colleagues from Weill Cornell and Hunter College to design the ten-month course, funded by the Josiah Macy Jr. Foundation. "It's not enough just to say, 'It's important to work in teams,' then step back and watch it happen. One of the ideas behind ITEACH is to actually talk about how you work in teams."

Modeled on training modules developed in the military and the airline industry, ITEACH integrates monthly small-group discussions, role-playing with standardized patients, and online assignments; students even take field trips to Lincoln Center and local museums to ponder how culture and teamwork shape the behavior of patients and health-care professionals. They're also assigned to small interdisciplinary teams that follow a patient with a chronic condition from hospitalization through discharge and outpatient care. "This is an exceptionally important initiative in our educational program to train our students to work with the other health professions in future medical care environments," says Carol Storey-Johnson, MD '77, senior associate dean of education at Weill Cornell.

"There's so much we all have to learn in our own silos," says California native Michelle Neely '15, one of fifteen Weill Cornell students in the course. "I wanted concrete ideas of what those other professions do before I go out and get my hands dirty."

— Sharon Tregaskis



JOHN ABBOTT

Daily dose: Associate professor Joe Murray, MD (right), leads an exercise in which students organize a regimen of candy "medications."



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**taught to others**  
**through our**  
**actions.”**

Ira H. Kaufman, MD '53

When Ira H. Kaufman, MD '53, and his wife Dawn learned about establishing a named, endowed scholarship fund at Weill Cornell with a gift in the form of a Charitable Gift Annuity (CGA), they felt that it was an offer that “we simply couldn’t turn down.”

“As I get older, I realize how much Weill Cornell not only means to me, but how much it means to the community and to the world,” says Dr. Kaufman, a board certified Ophthalmologist who lives with his wife in Houston, Texas. For the Kaufmans, establishing a scholarship fund in their name was a “great instrument” to support the Medical College, while guaranteeing a fixed, annual payout for themselves with a “good return on our investment.”

By establishing this scholarship, Dr. Kaufman became a member of the Dean’s Circle, a prestigious giving society which recognizes alumni donors who have made significant financial commitments to ensure the continued excellence of their alma mater.

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