

weillcornellmedicine

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

SPRING 2013

'Tremendous Relief'

Patients hail Dr. Neel Mehta and the team at the Pain Medicine Center



RESEARCH LEADS TO CURES

The Inside Story – Combating Disease, Discovering Treatments

Carl Nathan, MD

R.A. Rees Pritchett Professor of Microbiology
Director, Abby and Howard P. Milstein Program in the Chemical Biology of Infectious Disease
Chair, Department of Microbiology and Immunology

Focus: The Global Battle with Tuberculosis

“Outsmarted” by Bacteria

“Most of the bacteria in our bodies live in a friendly consortium with us. In fact, we need them.

“But a few species have learned to evade our defenses and invade our bodies. And long before we were walking the earth, bacteria learned how to resist the antibiotics that they produce to compete with each other. Now these two bacterial skill sets are coming together – **the bacteria that invade us are becoming increasingly antibiotic resistant.** Among them are the worldwide killer that causes tuberculosis (TB) and bacteria that cause infections we are more familiar with in this country, such as pneumonia and sepsis.

“We assume there is a pill or injection for these more familiar infections, and up to now there has been. But it’s increasingly becoming the case that there is no treatment. **We are emptying our medicine chest of effective drugs** to use against them.

“This has become an urgent issue for the whole world – **we are all united in the need to find new, more effective ways to develop anti-infectives.** In our lab, we are focusing on TB, but the broader goal is to illustrate new ways of thinking about treatments for a wide range of infections.”

Glimmer of Good News

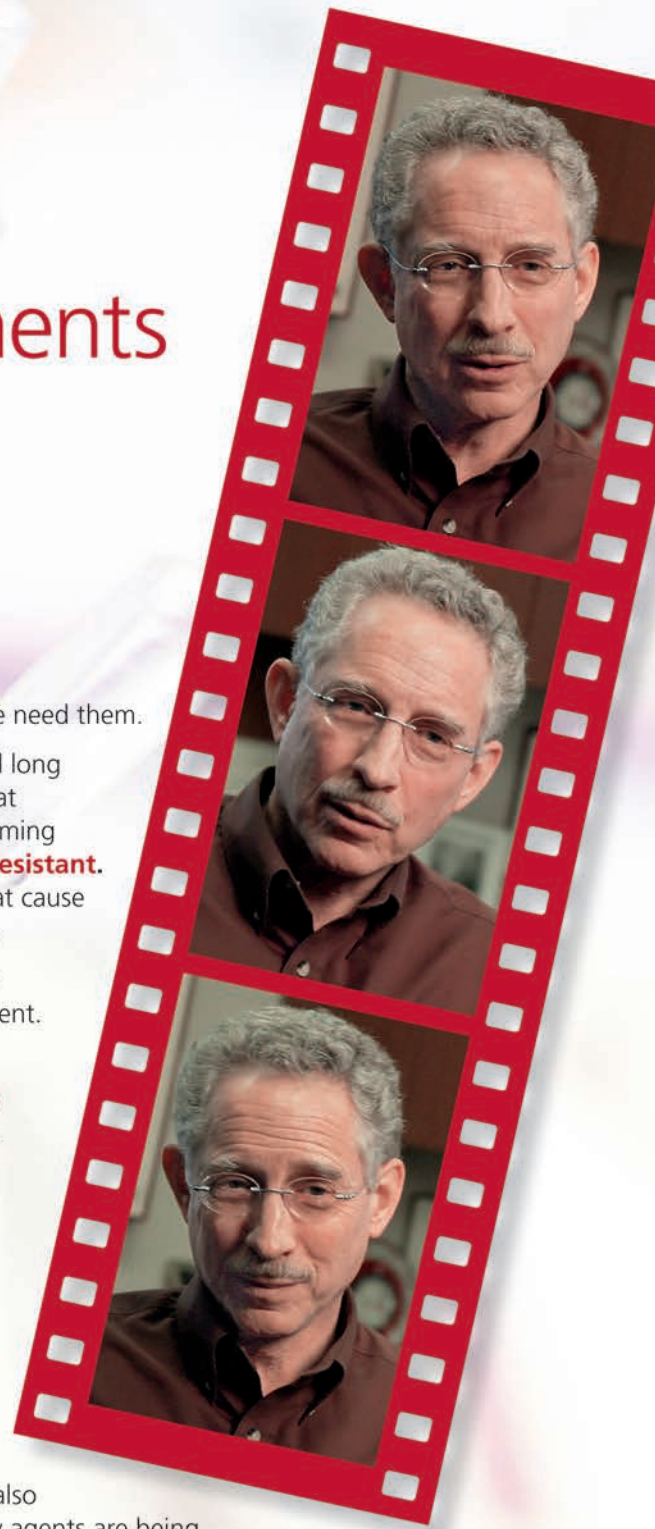
“Thanks to a grant from the Bill & Melinda Gates Foundation and support from the Milstein Program, we are screening hundreds of thousands of compounds, including some that have been used for a variety of other treatments, to find new drugs to battle infections.

“**One that we found** is an anti-inflammatory that has been used for aches and pains by hundreds of thousands of people for many years and, it turns out, is also effective in killing TB bacteria. It might help to hold off drug-resistant TB while new agents are being developed.

Why Weill Cornell?

“It is a privilege to conduct this research at Weill Cornell because it is **a scientifically rich community with a global perspective**, a collegial style, and a uniquely collaborative environment.”

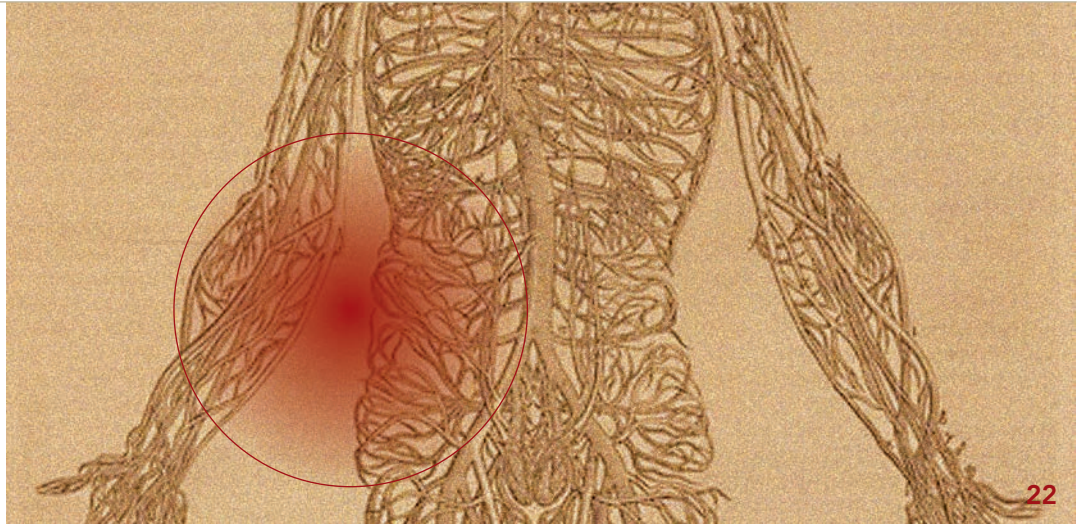
To see the full video of this interview and to hear more inside stories from our scientists and doctors, please visit weill.cornell.edu/campaign/research.



Weill Cornell Medical College

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DISCOVERIES
THAT MAKE A DIFFERENCE
THE CAMPAIGN FOR WEILL CORNELL MEDICAL COLLEGE



FEATURES

22 WHAT A RELIEF ANDREA CRAWFORD

Pain has a staggering cost—upward of \$100 billion a year in health-care expenses, lost income, and lost productivity—but historically pain management has taken a backseat to other spheres of care. At the Weill Cornell Pain Medicine Center, physician-scientists offer an interdisciplinary approach to treating a condition that many patients fear above all else. Through research and the use of novel therapies, anesthesiologists and other specialists are restoring quality of life to patients with a variety of illnesses and injuries.

28 THE DOER BETH SAULNIER

Sandeep Kishore is a student superstar. Just thirty, the MD-PhD candidate already boasts a slew of accomplishments, from addressing the U.N. General Assembly to doing highly praised malaria research to giving a TEDMED talk. The son of Indian-born physicians, Kishore has dedicated his life to challenging how we think about public health—advocating the need to address the societal causes of chronic conditions like diabetes and heart disease. Says mentor Olaf Anderson, MD, director of the Tri-Institutional MD-PhD Program: “I am always amazed by how he’s trying to push the envelope in a good way.”

34 GUT REACTION ANDREA CRAWFORD

Physicians and researchers aren’t certain why inflammatory bowel disease is on the rise, but they know one thing for sure: there’s a growing need for more effective procedures to treat it. At NYP/Weill Cornell, the Jill Roberts Center for Inflammatory Bowel Disease offers comprehensive care for patients with Crohn’s disease, ulcerative colitis, and related disorders. Novel approaches are obviating the need for resections, long the most common surgical intervention; other treatments, such as therapeutic endoscopy, are making IBD more manageable. “There’s a whole new world of intervention that’s going to minimize impact on a patient,” says Jeffrey Milsom, MD, chief of colon and rectal surgery and the Jerome J. DeCosse, MD, Distinguished Professor of Surgery.

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A Healthy Return

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

When the federal cuts known as sequestration went into effect on March 1, academic medical centers across the United States immediately confronted sharp reductions in research funding. At Weill Cornell—where 70 percent of our research is funded by the federal government—we stand to lose more than \$8 million in annual support as a result of these automatic, across-the-board spending cuts.

Francis Collins, MD, PhD, director of the National Institutes of Health—which lost \$1.6 billion of its annual funding as a result of sequestration—has noted that this is quite a paradox. We in the medical community work in a time of what he called “almost unprecedented scientific opportunity,” yet we face funding cuts that represent “unprecedented threats to the momentum of scientific progress.” All of us who care about human health need to do what we can to ensure that public funding for research remains a high national priority.

Here at Weill Cornell, our researchers have been making impressive strides in fighting cancer, neurodegenerative disorders, infectious diseases, obesity, blindness, heart disease, and more. To name just a few: Ronald Crystal, MD, the Bruce Webster Professor of Internal Medicine, is working to develop a vaccine that prevents nicotine addiction; Sheila Nirenberg, PhD, professor of physiology and biophysics, is developing a device that could allow people with damaged retinas to see again; John Boockvar, MD, associate professor of neurologic surgery, has developed a technique to deliver chemotherapy drugs directly into tumors of the brain, the first such treatment of its kind; Ari Melnick, MD, the Gebroe Professor of Hematology/Oncology, is exploring new drug targets for an aggressive form of lymphoma; Mark Rubin, MD, the Homer T. Hirst III Professor of Oncology in Pathology, continues to plumb the depths of the prostate cancer genome; and

Rainu Kaushal, MD, the Frances and John L. Loeb Professor of Medical Informatics, is a nationally recognized expert on the effectiveness of health information technology, an increasingly vital field.

Only through research-based work like this can we continue to fulfill our mission to improve lives. One-third of all domestic research in the United States and nearly all basic research is supported by federal funds. Public funding has helped support the labs we need to investigate the mechanisms of disease and identify new targets. It has supported our efforts to discover new therapies and techniques for measuring disease progression, to test these methods to ensure safety and efficacy, and to attract and retain the world's best biomedical researchers.

Federal funding for biomedical research isn't just a question of altruism; it also makes sound financial sense. As much as half of U.S. economic growth since World War II has been a result of technological innovation, which clearly shows that research funding is a wise investment. To take one recent example, the government spent \$5.6 billion (in 2010 dollars) on the Human Genome Project, which has not only revolutionized medical research but generated an overall economic output of \$796 billion—or \$140 for each dollar the government spent.

But since 2003, government spending on research, adjusted for inflation, has declined steadily. In 2000, the United States ranked sixth in the world in research and development spending as percentage of GDP; in 2010, we had fallen to tenth place. In the same decade, Chinese investment (both public and private) quintupled. It is now half that of the United States and slated to overtake our investment by 2023—or even earlier, if sequestration cuts persist.

As leaders in biomedical research, we cannot accept this quietly. But as I work to educate the public and work with our elected officials, I also realize it is vital that we look to other sources of research support, including private funding through philanthropy as well as industry investment and partnerships. We simply must not allow the pace and promise of discovery to slow. Our patients and their families are depending on us.



LISA BERG

Weill Cornell in Palm Beach



Weill Cornell's Palm Beach event and symposium took place on March 4th at the beautiful Breakers Hotel. The symposium topic, Healthy Living: Brain, Aging and Ophthalmology, drew an impressive crowd of over 250 alumni and friends.

The symposium was moderated by Dean Laurie Glimcher, MD, and featured lively presentations from some of Weill Cornell's leading scientists: Donald J. D'Amico, MD, the Betty Neuwirth Lee and Chilly Professor and Chairman of the Department of Ophthalmology; Mark S. Lachs, MD, MPH, the Irene F. and Roy I. Psaty Distinguished Professor and Co-Chief of the Division of Geriatrics and Palliative Medicine; and Gregory Petsko, D Phil., the Arthur J. Mahon Professor in Neuroscience.



Jean E. Sealey, DSc, John Laragh, MD '48, and Dean Glimcher



Overseer Vice Chair Arthur Mahon and Campaign Chairman Robert Appel

"I continue to be inspired every day by the students, the faculty, the administration, and most of all, you, the alumni. I've said it before, but I will say it again, **the dedication of the alumni at Weill Cornell is second-to-none.**"

Laurie H. Glimcher, MD
Stephen and Suzanne Weiss Dean
of Weill Cornell Medical College



Weill Cornell Medical College

Join us in **Palm Beach in 2014!**

For more information, please contact Lucille Ferraro, Campaign Director, at 646-317-7387.



“Medical breakthroughs and advances in genomic analysis will help to **develop smarter preventive strategies and more targeted therapies for each patient.** This will translate to more informed recommendations throughout a person’s life – promoting healthy living for a lifetime.”

Dean Glimcher



Overseer David S. Blumenthal, MD '75, Richard A. Lynn, MD '71, David Dodson, MD '80



Presenters at the symposium answered questions from the audience. (Above from left to right) Dean Glimcher, Dr. Mark Lachs, Dr. Gregory Petsko, and Dr. Donald D'Amico



Presenter Dr. Mark Lachs and Dean's Council member Judy Zankel



Charles Hennekens, MD '71

A special thanks to the Palm Beach host committee for their hard work and dedication: Helen and Board Vice Chair Robert Appel; Renée and Overseer Robert A. Belfer; Karen and Overseer David S. Blumenthal, MD '75; Donna and David W. Dodson, MD '80; Lisa and Overseer Sanford B. Ehrenkranz; Fleur and Overseer Leonard M. Harlan; Barbara and Overseer Lawrence A. Inra, MD; and Elaine and Overseer John A. Kanas.

DISCOVERIES 
THAT MAKE A DIFFERENCE
 THE CAMPAIGN FOR WEILL CORNELL MEDICAL COLLEGE

Scope

News Briefs

Campaign Hits Goal of \$1.3 Billion

Construction zone: The Belfer Research Building, the centerpiece of the *Discoveries that Make a Difference* Campaign, is rising on East 69th Street.



JOHN ABBOTT

Weill Cornell's *Discoveries that Make a Difference* fundraising campaign has reached its goal, the Medical College announced in February. "After six years, we have completed our \$1.3 billion campaign to dramatically expand our research endeavor," says foremost benefactor and Board of Overseers chairman Sanford Weill. "We received gifts of \$1 million or more from more than 130 donors, which I think really shows the broad base of support that we have." The centerpiece of the effort—which was launched in October 2006 as part of Cornell University's comprehensive capital campaign—is the Belfer Research Building. Scheduled to open in early 2014, it will double Weill Cornell's research space.

Institute for Precision Medicine Established

Weill Cornell and NewYork-Presbyterian Hospital have created a joint Institute for Precision Medicine, a translational research hub aimed at

creating targeted treatments geared to each patient's genetic profile. "This institute will revolutionize the way we treat disease, linking cutting-edge research and next-generation sequencing in the laboratory to the patient's bedside," says Mark Rubin, MD, the Homer T. Hirst III Professor of Oncology, who will lead the effort.

In addition to crafting therapies for existing diseases—through such methods as genetic analyses of tumor tissue—the Institute will practice preventive precision medicine by identifying and evaluating a patient's risk for a particular disease. Its work will be facilitated by three main resources: genomics sequencing, biobanking, and bioinformatics. "Precision medicine is the future of medicine, and its application will help countless patients," says Dean Laurie Glimcher, MD. "The Institute for Precision Medicine, with Dr. Rubin's expertise and strong leadership, will accelerate our understanding of the human genome, provide key insights into the causes of disease, and enable our physician-scientists to translate this knowledge from the lab to the clinical setting to help deliver personalized treatments to the sickest of our patients."

Cantley Wins \$3 Million Research Prize

Cancer researcher Lewis Cantley, PhD '75, is one of eleven winners of the inaugural Breakthrough Prize in Life Sciences. The world's most lucrative academic prize in medicine and biology, it carries a \$3 million cash award for each honoree. The prize, which recognizes excellence in research aimed at curing intractable diseases, is given by a new nonprofit whose supporters include founders of Google and Facebook. Cantley was recognized for his landmark discovery of PI3K,



Lewis Cantley, PhD '75

a signaling pathway key to cell growth—certain mutations of which play a major role in the development of cancer. Like the other ten winners, he will serve on the selection committee for future awards, expected to number five per year. Director of Weill Cornell's newly established Cancer Center, Cantley is the Margaret and Herman Sokol Professor in Oncology Research. His many honors include membership in the National Academy of Sciences.

New Chairman of Medicine Named

The chief of pulmonary and critical care medicine at Brigham and Women's Hospital in Boston has been named chairman of the WCMC Department of Medicine and physician-in-chief at NYP/Weill Cornell. Augustine Choi, MD, is a clinician-scientist with expertise in the pathology and biology of lung disease. He has authored more than 235 original publications in peer-reviewed journals, plus sixteen book chapters and sixty reviews. His laboratory research has focused on stress response genes and antioxidant enzymes, as well as the pathogenesis of COPD. A graduate of the University of Louisville's medical school, he comes to Weill Cornell from Harvard, where he held a named professorship in medicine.



Augustine Choi, MD

WCMC Gets \$2 Million Grant for CFS Research

The National Institute of Mental Health of the NIH has awarded Weill Cornell nearly \$2 million for a four-year clinical study of chronic fatigue syndrome (CFS). The project, a collaboration with Mount Sinai and Beth Israel Medical Center, is aimed to expand scientific understanding of CFS, improve diagnostics, and identify novel biomarkers. "Research funding for chronic fatigue syndrome has been historically limited," says Dikoma Shungu, PhD, professor of physics in radiology and chief of the Laboratory for Advanced Magnetic Resonance Spectroscopy Research at WCMC. "This large, generous NIH grant award will allow us to accelerate in-depth, novel clinical research for CFS to make the significant strides we vitally need for research discovery and clinical care." Often difficult to diagnose, CFS is a complex, multi-system disorder whose symptoms can include severe fatigue, musculoskeletal pain, headaches, memory problems, and sleep disturbances.

TIP OF THE CAP TO...

John Boockvar, MD, associate professor of neurological surgery, winner of the Gary Lichtenstein Humanitarian Award for Brain Tumor Research from Voices Against Brain Cancer.

Martha Bruce, PhD, professor of sociology in psychiatry and DeWitt Wallace Senior Scholar, winner of the American Association for Geriatric Psychiatry's Distinguished Scientist Award.

James Bussel, MD, professor of pediatrics, and **David Lyden, MD, PhD**, the Stavros S. Niarchos Associate Professor in Pediatric Cardiology, who won Medical Breakthrough Awards from the Children's Cancer & Blood Foundation.

Edward Craig, MD, professor of clinical orthopaedic surgery, recipient of the Lifetime Achievement Award from the Arthritis Foundation's New York chapter.

Jessica Davis, MD, chief of the Division of Medical Genetics and associate professor of clinical pediatrics, elected vice president of the New York State Genetic Task Force.

Joel Friedman, DDS, associate professor of clinical surgery, named president of the New York State Dental Association.

Marc Goldstein, MD, the Matthew P. Hardy, PhD, Distinguished Professor of Reproductive Medicine and Urology, winner of the American Society of Reproductive Medicine's Star Award.

Dean Emeritus **Antonio Gotto, MD**, recipient of the John Stearns Medal for Lifetime Achievement in Clinical Practice from the New York Academy of Medicine and the Leadership Award from the Citizens Union of the City of New York.

Psychiatry professors **James Kocsis, MD '68**, and **Barbara Milrod, MD**, and clinical instructors of psychology in psychiatry **Anna Edwards, PhD**, and **Nathan Thoma, PhD**, whose publication on cognitive behavioral therapy for depression was rated one of the ten most important papers of 2012 by the *American Journal of Psychiatry*.

Francis Lee, MD, PhD, professor of psychiatry and of pharmacology, elected to the American College of Neuro-psychopharmacology.

Associate professor of clinical anesthesiology **Adam Lichtman, MD**, a commander in the U.S. Navy Medical Corps, recipient of the Navy and Marine Corps Commendation Medal.

Barbara Milrod, MD, professor of psychiatry, winner of the first Leon Kupferstein Memorial Award for Innovation in Psychoanalysis from the New York Psychoanalytic Society and Institute.



PARWAZ WIN

Color me healthy: WCMC-Q wants to break the world record for longest painting—while also raising awareness about wellness. Under a program called Paint Your Healthy Future, stenciled canvases have been placed in malls around Doha, and the public is encouraged to color them in; they'll later be joined together, with the hope of breaking the record of 7,166 meters. Participants also receive health pamphlets and pedometers.

Hemmings Named Chief of Anesthesiology

Hugh Hemmings Jr., MD, PhD, has been named chairman of the Department of Anesthesiology and anesthesiologist-in-chief at NYP/Weill Cornell. The Distinguished Research Professor in Anesthetic Mechanisms, Hemmings earned his medical and research degrees from Yale; he has been on the Weill Cornell faculty since 1991 and has directed the anesthesiology research program since 1995. Hemmings succeeds John Savarese, MD, the Joseph F. Artusio Jr. Professor of Anesthesiology.

Joint Clinical Trials Office Established

With the aim of increasing the volume, quality, and impact of clinical trials, Weill Cornell and NewYork-Presbyterian Hospital have teamed up to create a new Joint Clinical Trials Office. The office, which will collaborate with the Clinical and Translational Science Center, is intended to synergize the missions of patient care, medical education, and clinical and translational research in spurring drug development and testing. "There are a tremendous number of drugs out there, and we want our investigators to be playing a leadership role," says John Leonard, MD, director of the office, associate dean for clinical research, and the Richard T. Silver Distinguished Professor of Hematology and Medical Oncology. "Industry is interested in institutions that can contribute both patients and expertise to the enterprise. We want to continue to develop and assist physician-scientists who are leaders in the field, who are innovative in their ways in bringing therapeutics forward."

New Faculty Practice Opens on Broadway

The Weill Cornell Physician Organization has opened a new practice on the West Side of Manhattan. Located on Broadway at West 84th Street, the practice will focus on primary care but also include specialty services such as dermatology, pain management, and diagnostic imaging. Most of one floor of the three-floor, 30,000-square-foot facility—which will serve as an extension to Weill Cornell's existing West Side practice on 72nd Street just off Central Park—will be devoted to pediatrics. With nine full-time physicians, the practice anticipates 30,000 patient visits a year.

WCMC Hosts Forum on Tick-Borne Diseases

Tick-borne illnesses such as Lyme disease have reached epidemic levels, but many victims are unaware they're infected. While more than 24,000 Lyme cases were confirmed in 2011, the CDC estimates that this represents only about 10 percent of the total number. In March, elected officials hosted a forum at Weill Cornell to raise awareness of the issue. Held in partnership with the Tick-Borne Disease Alliance, it featured a panel of physicians, scientists, and patient advocates, including medicine professor Roy Gulick, MD, chief of the Division of Infectious Diseases.

Surgeon General C. Everett Koop Dies at 96

WIBDRADIO.COM

Former U.S. Surgeon General C. Everett Koop, MD '41, died in February at the age of ninety-six. In the post from 1981 to 1989, Koop was known for battling smoking and raising awareness about HIV prevention during the epidemic's early days. A Brooklyn native, Koop attended the Medical College after earning an undergrad degree from Dartmouth, now home to a healthy-living institute named in his honor. President Ronald Reagan tapped him to serve as "America's doctor" after thirty-five years as surgeon-in-chief at Children's Hospital in Philadelphia. In its obituary, the *New York Times* noted that Koop "was widely regarded as the most influential surgeon general in American history."



C. Everett Koop, MD '41

Play Highlights Tuskegee Experiments

In April, more than 400 people attended a staged reading of *Miss Evers' Boys*, organized by the Clinical and Translational Science Center and held at Hunter College. The play, written by David Feldshuh, MD, PhD, clinical instructor of emergency medicine, depicts one of the most infamous failings of modern medical ethics: the Tuskegee experiments, in which black men in Alabama were left untreated for syphilis so doctors could study its natural progression. The play was nominated for a Pulitzer Prize and adapted into an Emmy-winning HBO film in 1997. The staged reading, performed by professional actors, was followed by a panel discussion moderated by Joseph Fins, MD '86, the E. William Davis Jr., MD, Professor of Medical Ethics. Speakers included Feldshuh—also a professor of theatre on the Ithaca campus—as well as Carlyle Miller, MD '75, associate dean for student affairs and equal opportunity programs, and Mary Simmerling, PhD, assistant dean for research integrity.

FROM THE BENCH

New Drug Targets Aggressive Lymphoma

Weill Cornell researchers have developed a drug to treat the most chemotherapy-resistant form of diffuse large B-cell lymphoma, the seventh most frequently diagnosed cancer. The small molecule agent, known as



Ari Melnick, MD

MI-2, targets a key protein responsible for driving the growth and survival of lymphoma cells. The international research team, led by Ari Melnick, MD, associate professor of medicine, is now working to pinpoint the right combination of drugs to optimize the therapy. "No single drug can cure lymphoma," says Melnick, director of the Raymond and Beverly Sackler Center for Biomedical and Physical Sciences. "This is why we need to combine agents that can strike out the different cellular pathways that lymphoma cells use to survive."

Gene Therapy Shows Promise for Heart Disease

A long-term study of gene therapy to rebuild damaged blood vessels has shown promising outcomes in people with severe coronary artery disease. A decade ago, thirty-one patients at Weill Cornell who were too ill for bypass surgery, or not responding to current therapies, were given an injection of adenovirus encoding angiogenic growth factor directly into the heart muscle. A recent study, published in *Human Gene Therapy*, found that their survival rates were as good as or better than patients with similar disease treated with traditional therapies, without ill effects. "We found no evidence of safety issues that resulted from the gene therapy," reports Ronald Crystal, MD, the Bruce Webster Professor of Internal Medicine. "Given the concerns about gene therapies during the time when this trial originated, this is one of the very few long-term gene therapy studies that is very encouraging from a patient safety basis." In another study, reported in the *Journal of the American Heart Association*, Crystal and colleagues established that a cocktail of three genes can reprogram cardiac scar tissue into functioning muscle cells in rats.

Debating the Merits of Generic HIV Drugs

While a switch to generic medications for HIV could save the U.S. health-care system nearly \$1 billion a year, such drugs may be less effective than their brand-name counterparts. A study led by researchers at Weill Cornell and Massachusetts General Hospital found that \$42,500 could be saved over the lifetime of each patient—but that the quality-adjusted loss of life expectancy could be as much as 4.5 months per person. While the brand-name treatment is a single pill, the generic would require three, potentially leading to missed doses and a drop in efficacy. "Diverting patients from the most effective, branded treatment alternative could be made more acceptable if the savings were directed to other HIV-related needs," suggests Bruce Shackman, PhD, chief of the Division of Health Policy. He cites treatment of hepatitis C—which infects up to a quarter of HIV patients—as one possible area where the savings could be repurposed.

Mapping the Path of Aggressive Breast Cancer

Associate professor of cell and developmental biology Vivek Mittal, PhD, is leading investigations into the metastatic path of aggressive triple negative breast cancer. Mittal and colleagues have discovered a molecular switch that allows certain aggressive breast cancer cells to grow the amoeba-like protrusions they need to crawl away from a tumor and spread throughout the body. The findings could lead to the development of agents to treat metastasis, even in patients whose tumors have already spread. "These study results are terrific," says co-author Linda Vadhat, MD, professor of medicine and director of the Breast Cancer Research Program. "It not only offers us an avenue to treat metastatic triple negative breast cancer in the short term, but also gives us the roadmap to prevent metastases in the long run. We are anxious to get this into the clinic and are working as quickly as possible toward that end."

Diuretics Under-Prescribed in African American Patients

Although many African American patients with uncontrolled hypertension could benefit from an inexpensive diuretic proven to lower blood pressure, less than half of them receive it, report researchers from Weill Cornell and the Visiting Nurse Service. "We were surprised to find that this beneficial and low-cost drug was not being prescribed for more patients who would benefit from it," says public health professor Linda

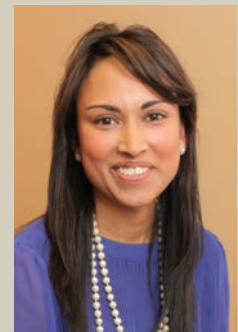
Gerber, PhD. The researchers, who reported their work in the *American Journal of Hypertension*, called the findings a wake-up call for physicians. "Guidelines are not rules and they are not enforceable, and some physicians may worry about potential side effects of diuretics—which, although not uncommon, are not a major problem. And in patients with uncontrolled hypertension, the benefit of treating with a diuretic far outweighs the risk of side effects that are generally very manageable," says Samuel Mann, MD, professor of clinical medicine, who is a hypertension specialist and the study's co-author. "Also, newer drugs are promoted much more aggressively than diuretics. However, many studies show that diuretics work very well, particularly in black patients, so between their effectiveness and low cost, their use should be a no-brainer."

Improved Quality Measures Needed, Scholar Says

In a viewpoint article published in the *Journal of the American Medical Association*, Tara Bishop, MD '02, assistant professor of public health, argues that improvements are needed in how the quality of care in doctors' offices is measured.

Her essay follows up on a 2001 report from the Institute of Medicine, entitled *Crossing the Quality Chasm*, that outlined six domains of quality in medical care: safety, effectiveness, patient-centeredness, timeliness, efficiency, and equity. "The majority of outpatient quality measures focus on preventive care, chronic disease care, and, to some extent, timeliness of care and patient-centeredness," says Bishop, the Nanette Laitman Clinical Scholar in Public Health/Clinical Evaluation. "But safety, high-level effectiveness, coordination, and efficiency are not captured in the current measures of outpatient quality."

With significant changes in health-care delivery currently on the table—including the creation of accountable care organizations and patient-centered medical homes—accurately measuring quality is increasingly vital. "Although it will be challenging," she says, "improving quality measurements of outpatient care needs to be a priority for the medical community, and more work must be done to develop, test, and use new measures."



Tara Bishop, MD '02

Talk of the Gown

Insights & Viewpoints



JOHN ABBOTT

Marisela Huerta, PhD, and
Catherine Lord, PhD

Manual Transition

Autism experts weigh in on the changes to the manual for diagnosing mental disorders

With headlines like these, it's no surprise that the news caused a stir. "New Definition of Autism May Exclude Many, Study Suggests," said the *New York Times*. "Panic Over DSM-5 Changes in Autism Diagnosis," warned a blogging website for people with Asperger's syndrome and autism. In January 2012, a team of Yale researchers released the preliminary results of a study showing that more than half of patients diagnosed with autism and related disorders under the current Diagnostic and Statistical Manual of Mental Disorders (*DSM-*

IV) would lose the designation under the new edition, the *DSM-5*. Predictably, the report set off alarm bells for the families of people with autism, who depend on an official diagnosis to access services.

In the *Times* and elsewhere, Weill Cornell autism expert Catherine Lord, PhD, has strongly disputed those findings—arguing, among other things, that the 1993 data that the researchers used was outdated and misleading. And in October 2012, Lord was the senior investigator on a study that had dramatically different results. In the *American Journal of Psychiatry*, Lord

and colleagues reported that 91 percent of the nearly 4,500 previously diagnosed children in their study sample would be found to have an autism spectrum disorder (ASD) under the new guidelines—and many of the remaining 9 percent would be included again with a clinician's input.

"There's no reason to believe that someone who had an adequate diagnostic assessment should lose their diagnosis of any autism spectrum disorder," says Lord, director of Weill Cornell's Center for Autism and the Developing Brain, a DeWitt Wallace Senior Scholar, and a professor of psychology in psychiatry and in pediatrics. Furthermore, she notes, the new *DSM-5* guidelines "actually state that people who have an existing diagnosis of any ASD should assume they fall within the new criteria."

Published by the American Psychiatric Association in late May, the *DSM-5* is the product of a years-long effort by mental health specialists, who periodically review and update each entry—a process that can be arduous, contentious, and rife with politics. As a member of the Neurodevelopmental Disorders Working Group, Lord attended two-day, in-person meetings roughly every few months for three years; there were also weekly or biweekly phone conferences plus literature reviews and data analysis. Eventually, initial autism criteria were written, dissected, and reworked, with a draft version tested in field trials. The team completed its work last fall and officially disbanded on December 31.

"The primary difficulty with the *DSM-IV* system was that many of the diagnoses within the category of 'pervasive developmental disorders' were not stable or reliable," Lord says. "Some clinicians used Asperger's syndrome to mean certain things and others used it to mean other things. For example, technically Asperger's was supposed to be for people who never had a language delay and had no cognitive deficits. But some people applied it to an older child or adult who was verbally fluent, even if they'd had a history of language delay. Even if they met criteria for autism, they still would have called it Asperger's."

The most dramatic change in the criteria is the removal of clinical subtypes—such as Autistic Disorder, Asperger Disorder, or "Pervasive Developmental Disorder, Not Otherwise Specified"—in favor of one category: Autism Spectrum Disorder. Symptoms have been reorgan-

ized, based on research that they fall into two main categories: impairments in social communication and the presence of restricted and repetitive behaviors. Some symptoms have been removed—such as language delays, which are no longer viewed as essential to the diagnosis—and others, including sensory interests and aversions, have been added. Experts revised the age of onset; it's no longer necessary that problems arise before thirty-six months. And the new criteria allow for the inclusion of co-occurring disorders, like ADHD, not permitted in the *DSM-IV*. "Many changes are being introduced," says Marisela Huerta, PhD, an instructor of psychology in psychiatry and the lead author of the study published in the *American Journal of Psychiatry*. "It's easy for

'There's no reason to believe that someone who had an adequate diagnostic assessment should lose their diagnosis of any autism spectrum disorder.'

the layperson to think that because they're getting rid of these different categories and now there's just one, maybe that means people who were previously diagnosed will no longer meet the criteria. But rather, it's that the criteria were revised so they more neatly capture everyone who had been previously identified."

Lord points out that another problem with the *DSM-IV* criteria was that they were too broad and nonspecific. But she stresses that the new version isn't a "tightening" of the diagnosis to make it more exclusive. Since clinicians always added the human element of their own expertise, she says, there haven't been legions of misapplied autism diagnoses—and therefore, the *DSM-5* won't change the outcome for most patients. "In order to address the heterogeneity of autism spectrum disorders—which is real—the criteria in *DSM-IV* were

sort of a menu approach where you had to have 'two of this, one of this, and one of this,'" Lord says. "The problem was that when you looked at all the options, someone calculated that there were 10,000 different ways you could meet the criteria. If you took them literally, almost any child who had some kind of problem could meet them. Clinicians didn't really do that—but it was clear that what they were doing was not what was in the criteria. Clinicians were adding their own observations and then using the criteria to justify their judgment."

On a similar note, it's hoped that the new criteria will standardize diagnoses, which have long been subjective; one doctor's autism was another's Asperger's. For example, the *DSM-5* includes a severity rating describing the level of support that a patient needs in a particular area. "It's going to be a less confusing process for families," Huerta says. "With *DSM-IV*, when you had clinicians who were not consistently or reliably assigning the diagnoses, some families would get a different diagnostic label depending on what center they went to." The new criteria are also intended to offer inclusive descriptions of autism in terms of age and gender. "If you look at the examples in autism, there are a lot of references to very 'boy' things," Lord says, "Girls are less likely to be obsessed with trains and trucks. If young girls with autism are stuck on a certain topic, it might be princesses or Barbies."

This spring also marks another important milestone for Weill Cornell's autism specialists: the Center for Autism and the Developing Brain is set to open on the Westchester campus. Housed in a former gymnasium, the 11,000-square-foot Center is currently completing renovation specifically to accommodate autism patients, with architectural and design elements intended to make them feel at ease and promote successful therapies.

"There is something that captures you about working with children and adults with autism," Lord says. "I think it's the contrasts between the fact that some things that are so easy for most of us may be quite difficult for them—on the other hand, they have real strengths. And while many aspects of being social are difficult for them, children and adults with autism really want to interact with people, and their families really want to interact with them. And we can help make that happen."

— Beth Saulnier

Visual Acuity

South Dakota doc marries medicine and photography



Lens crafter: Judith Peterson, MD '86, captures images of such subjects as roller derby and roadside memorials (opposite).

PHOTOS BY JUDITH PETERSON

When someone dies in a car accident in South Dakota, the state department of transportation erects a sign to mark the spot and promote safer driving. Friends and family often decorate the signs, creating distinctive and moving memorials to lost loved ones. “You see these things everywhere—they’re part of our landscape,” says Judith Rovno Peterson, MD '86. “But what’s interesting is that when you ask people about them, 80 percent will say, ‘What sign?’ It’s filtered from their visual perception.”

That phenomenon inspired “You Are Still With Us,” one of Peterson’s many photographic series. After taking digital images of the memorials, she reshot them using a cheap plastic film camera called a Holga. “We get hung up on the technological arms race of photography, but the reality is that what we see seems very different if we’re looking at it through a camera,” she says. “So I tried to

emphasize certain qualities of perception to comment on loss and how it’s commemorated.”

Board certified in physical medicine and rehabilitation, Peterson has been an avid photographer since her student days, when she contributed images to pathology professor Peter Bullough’s *Atlas of Spinal Diseases*. (Weill Cornell is also where she met her husband, radiation oncologist Michael Peterson, MD '85.) With subspecialties in pain and sports medicine, Peterson balances her practice—which includes serving as a consultant to the Pennsylvania Ballet and as team doctor to the Sioux Falls Roller Dollz roller derby squad—with her artistic work.

Peterson has enjoyed a longtime collaboration with South Dakota Public Broadcasting; she takes images that accompany the online version of a medical affairs show. That work led to *The Picture of Health*, a book of Peterson’s photos with essays by the show’s host. Peterson is the author of *Dance Medicine Head to Toe: A Dancer’s*



Guide to Health, published in 2011, and has done commissioned photography for the *South Dakota Medical Journal*. “A lot of what I do, I’m not trying to be the photographer who’s just showing you the daisy in the field,” she says. “I’m trying to say other things with my images.” For an online essay on the role of music therapy in treating Parkinson’s disease, for example, she created an image of a metronome moving so fast it seemed to shower sparks. “I’m trying to get at the subject matter in what I hope is a more interesting way,” she says, “where people have to look at an image until they say, ‘OK, I get that.’”

Peterson’s website, judithrpeteronphotography.com, showcases her various photo series, whose subjects range from botany to roller derby to the taxidermy displays of a local natural history museum. For a widely exhibited series dubbed “The Genesis Project,” Peterson whimsically illustrated the first five books of the Bible using Colorforms, the primary-colored children’s toys. “As a photographer, I’m always thinking about, ‘What am I really seeing? What am I really, really looking at here?’” Peterson muses. “I started ‘The Genesis Project’ as a way to slow myself down when I was reading those biblical passages. It’s hard to think of a simpler medium than Colorforms.”

— Beth Saulnier

Calling the Shots

With pertussis cases on the rise, an alumnus spearheads a law promoting vaccination

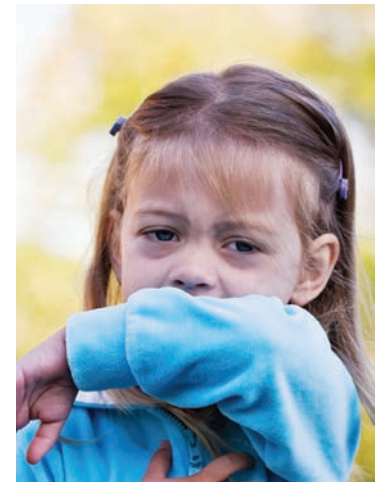
Whooping cough” sounds like a disease from another age; the name, almost quaint, conjures images from Victorian novels or *Little House on the Prairie*. But pertussis, as the illness is formally known, is emerging as a modern scourge. In 2012, the CDC tallied nearly 42,000 cases in the U.S.—more than double the previous year and the most since 1959. In New York, an outbreak that started in Suffolk County late in 2011 grew into an epidemic, with a record 3,065 cases reported statewide.

In adults, the disease generally manifests as a bad cold. But in infants, with their still-forming immune systems and an anatomy more vulnerable to oxygen deprivation, it can be serious or even fatal. Babies get their first round of the DTaP (diphtheria, tetanus, and pertussis) vaccination at eight weeks of age; they receive another at four months and a third at six months. But as Long Island neonatologist Shetal Shah, MD '00, points out, immunity isn't fully conferred until after the third shot—so the very patients most at risk from pertussis aren't fully immunized against it.

As reports of the Suffolk outbreak emerged in fall 2011, Shah saw a way to combat it: protect babies by vaccinating their caregivers. In 2007, he had published a paper in the *Journal of Perinatology* calling for parents in the NICU to be offered the booster version of the vaccine, known as Tdap. “If you get pertussis and you don't know it, you can become a carrier—and if you're a new parent, you can bring that directly in contact with your child,” says Shah, who was then at Stony Brook Long Island Children's Hospital. “To protect infants we need to immunize everyone around them, which we call ‘cocoon immunity.’”

In summer 2012, due in large part to Shah's advocacy, the New York State legislature passed a law requiring all hospitals with nurseries for infants six months or younger to offer pertussis vaccinations to their patients' family and caregivers, and to provide educational materials on the subject. “Having the adults vaccinated will help both adults and kids,” says Patricia DeLaMora, MD, assistant professor of pediatrics, who has observed a spike in diagnoses firsthand. “That's the bottom line.”

Chairman of the legislative committee of the Long Island chapter of the American Academy of Pediatrics, Shah is a veteran of working with government to improve public health. The pertussis law, which went into effect in January, was modeled after similar legislation he crafted on influenza that passed in 2009; last summer his contributions earned him formal honors on the floor of the State Assembly. Shah's committee is currently creating policy recommendations to reduce gun violence, and he has been working for the better part of a decade to get the state to ban smoking in cars with child passengers. But the pertussis law, he notes, all but flew through the legislature. “We were able to get it passed in one session,” he says, “which is light speed for Albany.”



— Beth Saulnier & Jennifer Pierre

Small Wonder

Thanks to a novel nanotechnology technique—and a Gates grant—researchers have a window into a mystery: why some people resist HIV



ABBOTT

Juan Cubillos-Ruiz, PhD

Scientists have long known that a small minority of people appear to be naturally resistant to HIV—and they have long tried to understand why.

Last year, biomedical researcher Juan Cubillos-Ruiz, PhD, encountered a technology that could answer that vital question. The microbiologist and immunologist was visiting colleagues at the Methodist Hospital in Houston, Texas, when he learned about a new nanotechnology system that bioengineers there had developed. It allows scientists, for the first time, to simultaneously analyze thousands of peptides—the chains of amino acids that make up proteins—as well as small proteins that circulate in the blood. Although Cubillos-

Ruiz, a postdoc in the lab of Dean Laurie Glimcher, MD, had previously focused his research on using the immune system to fight ovarian cancer, he immediately grasped the potential of this new method to explore the mystery of why some people infected with HIV are able to spontaneously suppress it. And last fall, Cubillos-Ruiz and his collaborators—Tony Hu at Methodist and Xu Yu at the Ragon Institute—won a \$100,000 Grand Challenges Explorations grant from the Bill & Melinda Gates Foundation to study the phenomenon, one of just ninety projects funded out of 30,000 applications.

In the early days of the AIDS epidemic, physicians realized that some people infected with HIV

did not develop AIDS; these patients became known as “long-term nonprogressors.” But once techniques emerged to measure the amount of virus in the blood, it became clear that these non-progressors were overcoming the disease in different ways—and some of them were actually suppressing replication of the virus without any treatment. “These people were infected with HIV—the virus could be initially detected from different blood tests—but when they go for follow-up, the virus is gone, and no one knows exactly why,” Cubillos-Ruiz says. “They’re able to essentially suppress the virus, possibly because they have an ongoing immune response against it.”

Known as “elite controllers,” these patients make up about 1 percent of the 35 million people currently infected with HIV. Many scientists believe that these patients hold the key to new therapies and even a vaccine against the disease, and much work has been done investigating their individual immune cells. But until now, there had been no way to analyze blood samples for potential biomarkers. Cubillos-Ruiz’s team hopes the new system, which combines techniques of nanotechnology with mass spectrometry, will delineate the differences between elite controllers and other HIV-infected patients. “We’re trying to discover a new biomarker signature in the plasma of these patients that could tell us why they are able to exert superior immune response against—and superior control over—HIV,” he says. Initial results, which confirmed a difference in the signatures, appeared in February, and the team is now working to confirm findings in larger sample sizes.

The main breakthrough that facilitated this work is the nanochip, says Cubillos-Ruiz, a native of Colombia who first used nanotechnology while earning his PhD at Dartmouth. The chip is made of a silica matrix featuring pores of different sizes and chemical properties. Previously, only large proteins (known as high molecular weight proteins) could be screened, obscuring anything smaller. “Now, you can tailor your matrix to selectively capture whatever you want,” he says. “In this way, we can improve analysis of peptides and proteins that have never been analyzed before.”

In addition to unlocking mechanisms for fighting the virus, the work could yield methods to identify elite controllers before they are infected—not only furthering research efforts but also sparing these individuals, should they become infected, from expensive and aggressive antiretroviral treatment. “It’s extremely powerful because no one has ever been able to accomplish this before—to identify these people before they get infected,” he says. “It’s a huge project, and the avenues we can explore are pretty much endless. The potential—the clinical value of this new technology—is incredible.”

— Andrea Crawford

Doc Blogger

Ob/gyn Margaret Polaneczky, MD, posts her thoughts about women’s health, food, and anything else that strikes her fancy

Google most doctors, and you’ll likely encounter a variety of physician-rating websites, perhaps a link to the institution where they practice. Do a search for Margaret Polaneczky, MD, and one of the top results is “The Blog That Ate Manhattan.”

The site, which the associate professor of clinical obstetrics and gynecology launched seven years ago, is an odd hybrid: Polaneczky blogs about cooking, explores women’s health issues, reviews restaurants, and offers travelogues and more. Past topics have included the merits of IUDs, biking the Harlem Valley Rail Trail, the debate over hormone replacement therapy, the mushroom barley soup at the old Second Avenue Deli, and struggling with weight while married to a man who’s naturally thin. “I just love to write, to speak out,” Polaneczky says. “My first five or six posts were about food—that’s why the blog is called what it’s called—but it morphed pretty quickly into everything. When you create a blog you’re supposed to find a niche and stick to it, but mine didn’t follow the rules.”

The Blog That Ate Manhattan (tbtam.com) has been cited by several major media websites, including the *New York Times* (which linked to her potato latke recipe at Hanukkah), the *Chicago Tribune* (in a column about the best doctor-bloggers), and the *Washington Post* and *New Republic* (both lauding Polaneczky’s cogent analysis of mammography guidelines). The site gets about 1,000 hits a day, mainly from Google topic searches; it also has about 1,500 Twitter followers and several hundred subscribers via the RSS service FeedBurner. “Certain posts tend to generate the most traffic, like the ones I’ve done on HPV,” she says. “They probably get the highest volume, followed very quickly by my husband’s recipe for sautéed kale.”

In addition to the pleasure of writing the posts—she publishes on average twice a week—Polaneczky sees the blog as a novel way to connect with patients. “They really like it. It’s nice for them to see me as a complete person,” she says, “and it’s been fun to have an added dimension to my relationship with them.”

The blog has also had an impact that Polaneczky never expected when she started writing it. “The enormously positive feedback on my blog post explaining new mammography screening guidelines inspired me to develop a Web-based decision aid to help women make informed, individualized decisions about mammography,” she says. “The decision aid is currently being piloted at the Iris Cantor Women’s Health Center, and we hope to make it widely available within the next year.”

These days, Polaneczky stresses, it’s essential for physicians to have a social media presence. After all, she says, the proliferation of rating websites means that doctors will appear online whether they want to or not. “If you don’t have your own presence on the Web, other people are going to create it for you—and it may not be accurate,” she says. “You risk having what’s on the Web being only what other people are saying about you, versus who you really are.”

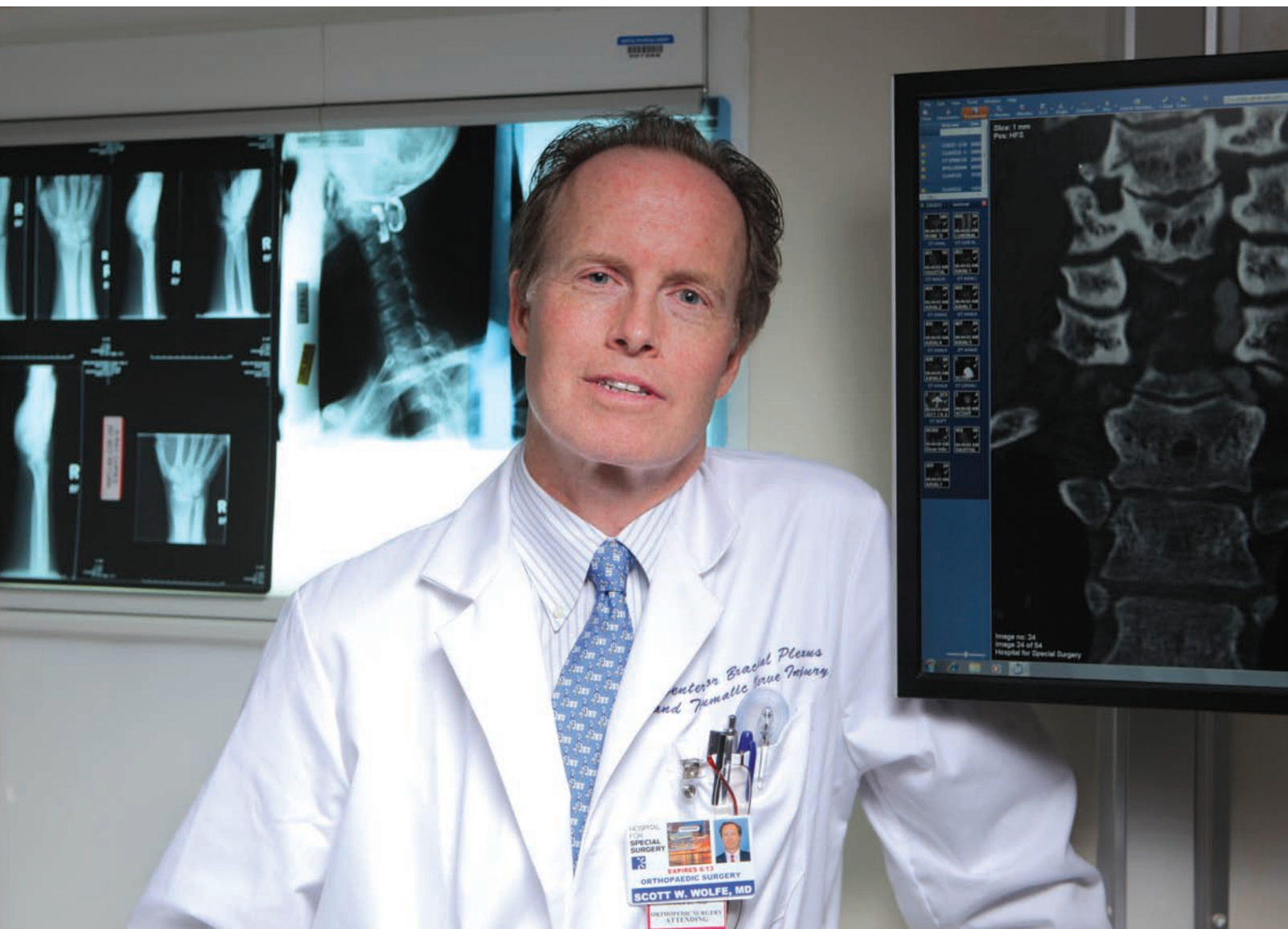
— Beth Saulnier



Margaret Polaneczky, MD

Helping Hand

Scott Wolfe, MD '84, pioneers techniques in peripheral nerve and wrist surgery



Scott Wolfe, MD '84

An accident during a training exercise had left the military officer severely injured. Having suffered both thoracic spine and brachial plexus damage, he was paraplegic and couldn't use his right arm. With little hope of recovery, he'd come to Hospital for Special Surgery six months later hoping to regain some arm function.

Not long ago, patients with this type of brachial plexus injury—which affects the nerves that conduct signals to the shoulder, arm, and

hand—faced a grim prognosis; treatment options mainly consisted of amputation or shoulder fusion. But today, using advanced microsurgical techniques, upper extremity surgeon Scott Wolfe, MD '84, can offer them the chance of a far better outcome. "The use of surgical nerve transfers has revolutionized our approach to these patients," says Wolfe, director of HSS's Center for Brachial Plexus and Traumatic Nerve Injury and a professor of orthopaedic surgery at Weill Cornell.

In brachial plexus reconstructive surgery, which can take up to twelve hours, surgeons bor-

row a cable, or fascicle, of a functioning motor nerve and transfer it to restore function to a nerve that has been irreparably damaged. “With the operating microscope, we can transfer a portion of an intact nerve from a functioning muscle and re-attach it to the undamaged portion of a nerve from another,” he says. The rewired nerves immediately begin to grow toward the atrophied muscle, typically at a rate of a millimeter a day. In other situations, the surgeon will use non-critical sensory nerves, typically from the leg, to bridge or graft traumatic defects of injured nerves in the neck.

In the military officer’s case—which used 100 centimeters of grafting from his leg to reconstruct the nerves in his arm—they used both long nerve grafts and nerve transfers. “We used all the techniques in our basket to try to get him back anything we could,” says Wolfe, chief emeritus of hand and upper extremity surgery at HSS. “From a technical aspect, the surgery went very well, but it will be probably six months to a year before we can assess his outcome.”

Every year, thousands of people are incapacitated by brachial plexus damage, often as the result of car or motorcycle accidents, athletic injuries, or falls, and occasionally due to head and neck cancers or surgeries. The Center for Brachial Plexus and Traumatic Nerve Injury brings together a variety of specialists to provide comprehensive, coordinated care for patients with these conditions and to promote research leading to new and improved treatments. “Peripheral nerves have tremendous capacity to regenerate, but that process is relatively poorly understood on a scientific level,” says Wolfe. “Our goals are to address nerve regeneration from both the clinical and basic science fronts, and to expand the frontiers of what we can offer our patients.”

That includes how surgeons measure their results. At present, little uniform data exists on the long-term outcomes for brachial plexus surgery. Peripheral nerve surgery is conducted by specially trained neurosurgeons, plastic surgeons, and orthopaedists—and each may interpret the results using different factors. “One person may talk about range of motion while another might talk about strength,” Wolfe says. “It’s difficult to compare one outcome to another if we’re not using the same instrument of measure.” So Wolfe and HSS colleagues designed one. Their system, first presented at the 2011 International Symposium on Brachial Plexus Surgery, includes stan-

dardized measurements of motion, strength, and function for seven critical domains of the upper extremity, as well as assessments of sensation and pain. “You could have an otherwise excellent result in terms of motion and strength,” notes Wolfe, “but if the patient is incapacitated with pain, they can’t use their arm.”

Wolfe began conducting brachial plexus surgery in the early Nineties while chief of hand and upper extremity surgery at Yale. After encountering several severe nerve injuries that few local surgeons at the time had the skills to treat, Wolfe did additional training in microsurgery specifically to tackle complex peripheral nerve procedures. He was recruited to HSS in 2000, in part because of that expertise. It was a homecoming of sorts for the Weill Cornell alumnus, who did his orthopaedic residency training at the hospital.

In addition to his work on the cutting edge of brachial plexus treatment, Wolfe’s long-term research expertise is in wrist surgery and motion analysis. Editor-in-chief of the definitive *Green’s Operative Hand Surgery*, Wolfe holds a patent on a new total wrist replacement that could be a game changer in the treatment of wrist injuries, particularly for younger, active patients.

With eight bones that articulate to create movement, the wrist is arguably the most complex joint in the body. Previous wrist replacements have attempted to simplify wrist anatomy into a one-joint hinge, which has been unsuccessful in duplicating normal wrist movement and has had high rates of failure. With \$5 million in NIH sponsorship to study how the wrist moves, Wolfe and colleague Joseph Crisco, PhD, developed 3-D motion tracking software to study what Wolfe calls the “dart-throwers motion,” based on the movement you’d use to flick a dart, which happens in multiple planes simultaneously. “We think we’ve located the part of the wrist that allows that motion to occur and designed the wrist replacement around that particular joint,” says Wolfe, who studied baboon hands to better understand the evolution of the wrist.

The KinematX Total Wrist Implant—which Wolfe says will allow many patients to return to activities such as golf, tennis, and other sports—has been approved for use in Europe and implanted in nearly twenty patients in England. Wolfe expects FDA approval within the year.

—Renée Gearhart Levy

‘One person may talk about range of motion while another might talk about strength. It’s difficult to compare one outcome to another if we’re not using the same instrument of measure.’

Medical History

Health policy scholar Rosemary A. Stevens, PhD, offers a primer on how the American care system evolved

Health policy historian Rosemary Stevens, PhD, has spent more than thirty years studying the evolution of health-care administration in England and the United States. Born in England, she earned a BA in English at Oxford—a degree program she credits with piquing her interest in history. (As she puts it: “It’s all about social structures, power, and motivation.”) Stevens holds a master’s of public health and a PhD in epidemiology, both from Yale. She was formerly chair of the Department of History and Sociology of Science at the University of Pennsylvania, and she is a member of the Institute of Medicine and the American Academy of Arts and Sciences. At Weill Cornell, she has served as a Dewitt Wallace Distinguished Scholar in Social Medicine and Public Policy in the Department of Psychiatry since 2005. Stevens is currently at work on her eighth book, about the 1921 establishment of the Veterans’ Bureau and its health policy implications.

ABBOTT

Rosemary Stevens, PhD



Weill Cornell Medicine: The first movement toward national health insurance took place in the 1910s. What motivated that?

Rosemary Stevens: Spreading the benefits of science and technology in the modern twentieth-century world was one incentive; producing and conserving a vigorous, prosperous population was another. For example, the mortality rate from abdominal surgery plummeted due to technological achievements—and by technology we mean expanding scientific knowledge as well as the X-ray machine, anesthesia, and surgical techniques. As a result of this decrease in mortality, the value of care rose; thus costs increased.

WCM: How did the rise in specialization contribute to the need for health insurance?

RS: The classic model of medical care—a general practitioner providing virtually all patient care for a modest fee—offered an important service in the nineteenth century. But by 1910, the future of the independent general practitioner was wobbly. Suddenly there were specialists for the eye, ear, nose, and throat; you had orthopaedics, urology, pediatrics, gynecology, radiology. The American belief in the value of technology across the board, from airplanes to Henry Ford’s assembly lines, fostered specialist practice and encouraged physicians to work as entrepreneurs. The patient was a shopper to whom a variety of services were available. As costs went up and medical treatment became essential to well-being, some kind of insurance was called for to cover unexpected bills. Before World War II, private companies were not enthusiastic about offering health insurance. Instead, from the late Twenties, a number of groups set up local insurance programs—notably, in the Thirties, the Blue Cross plans sponsored by hospitals and then Blue Shield by medical groups.

WCM: What gave rise to our employer-based health insurance system? What are its pros and cons?

RS: Providing insurance as a fringe benefit was—and is—a good incentive to attract workers and retain them. Private health insurance took off in a big way after World War II; it was relatively

easy for large employers to sign up workers via their payroll offices and for insurers to sell them packages. Workers are generally a pretty healthy group, so both the firms and the insurers got a good deal. The “con” soon became evident. Some employers covered their retirees, but generally employment-related insurance excludes a huge number of people who are outside the job market and are older, sicker, or poorer. Excluding the pool of already-covered workers left a group that, if insured separately, would be far more expensive to cover—and who had, on average, less income than insured workers, making them more or less uninsurable.

WCM: Medicare, a federal program, came into being in 1965. What precipitated its formation?

RS: In the Fifties and Sixties a new set of social pressures emerged, based on identifying other groups who were needy and “deserving” but would have to be covered by government initiative. Many of the elderly couldn’t afford to pay their medical bills, and insurance companies could not cover them because of their high costs. This was epitomized by the image of a retired schoolteacher who labored in the classroom for so long, became ill, and couldn’t afford medical care. Medicare was a win-win program. Hospitals loved it, because they were getting paid by the government, and so did the newly covered patients.

WCM: What are the drawbacks of Medicare?

RS: Medicare encouraged its recipients to go directly to specialists, if they wished, rather than consulting a generalist first. So it created a market for specialists and high technology and made the patient the basic diagnostician of a perceived problem—a true consumer. It’s fair to say that Medicare discouraged primary care. It evolved into this fragmented, specialized medical service system.

WCM: What is Medicare’s strongest asset?

RS: Medicare enables people to get high-tech care. For the elderly, one of the biggest concerns is falls; think of the older people you know who are walking around with hip and knee replacements. My mother-in-law had a successful quadruple heart bypass operation in her eighties. Medicare has transformed countless lives. If you don’t look at its costs and gaps in coverage—two big “ifs”—it’s an absolutely wonderful program.

WCM: Medicaid, by contrast, is state run.

How does that affect how it functions?

RS: Medicaid, passed at the same time as Medicare, has encouraged states to take care of their own, helped by federal grants. But Medicaid competes with education, infrastructure, roads, bridges, and other state expenditures. It has acquired more urgency than Medicare reform; at this point the states seem more enterprising than the federal government. Each state has to weigh the pros and cons of expanding and managing Medicaid as well as setting up insurance exchanges via the Affordable Care Act. Possibly the

next push for national health insurance will come from efforts across states. We may also see renewed debates about fairness, equal opportunity, and equal protection in a system with substantial federal funding, but marked differences in health-care coverage and benefits state by state. History shows an inherited ambivalence toward something called “national health insurance”—whatever that means, and it can mean different things—but also the ability to move in new directions when there is support for change.

— Kristina Strain

Preventive Diplomacy

Psychiatrist David Hamburg, MD, takes a public health approach to curbing violence and genocide

An international kidnapping changed the direction of David Hamburg’s career. In 1975, while the psychiatrist was at Stanford studying the evolution of human aggression, four of his graduate students doing primate research at a field station in Tanzania were taken hostage and held for ransom.

Hamburg, who had conducted seminal research on the biology and psychology of stress and aggression, immediately flew to Africa to negotiate their release. With little government assistance, he got a crash course in the politics of the developing world, where hatred and violence can converge with severe poverty, starvation, and disease. Despite the challenges, Hamburg was able to get all of the students released unharmed over the course of several months. But he was a changed man.

Instead of returning to biomedical research, Hamburg switched gears—bringing knowledge gleaned from the lab to the realm of international public policy. For nearly forty years—from such vantage points as the Institute of Medicine, the American Academy for the Advancement of Science, and the Carnegie Corporation—Hamburg has led international, interdisciplinary efforts to promote world peace. Now the Dewitt Wallace Distinguished Scholar in the Department of Psychiatry at Weill Cornell, he has synthesized those experiences in *Give Peace a Chance: Preventing Mass Violence*, published in December.

At eighty-seven, Hamburg has no interest in retirement. From his office in Washington, D.C.—where he also holds an appointment as a visiting scholar at the AAAS’s Center for Science, Technology, and Security Policy—Hamburg continues to write on matters of prevention diplomacy, lending his expertise to world leaders ranging from Kofi Anan and Desmond Tutu to Hillary Clinton and John Kerry. “There’s a lot more to be done,” he says. “Complacency is dangerous.”

Hamburg may be the leading authority on genocide prevention, a field he helped pioneer. While at the helm of the Carnegie Corporation, he and former Secretary of State Cyrus Vance created its Commission on Preventing Deadly Conflict, a five-year effort that brought world leaders together with scholars experienced in conflict resolution to stimulate thinking about prevention. “We posed questions such as, ‘What are the greatest threats leading to nuclear war?’

and then asked our experts to think about the best way to prevent each of them,” says Hamburg. “It was hard, because ideas on prevention weren’t prevalent. The commission itself had a hard time shifting its thinking from salvage operations to prevention.” Nonetheless, the commission published seventy-five reports and books on preventing deadly conflict, creating a unique resource. “It used to be thought that the warning signs of a coming mass atrocity were both too subtle and too swift to trigger any kind of preventive response,” Hamburg says. But he believes such atrocities always have warning signs—typically years or decades in advance—including hate speech, outbreaks of violence, and malevolent leadership. “Unfortunately,” Hamburg says, “such information is often brushed aside, ignored, or not put to good use.”

Hamburg joined the Weill Cornell faculty a decade ago, just as the Darfur conflict was escalating in the Sudan. “It was obvious,” he says, “that the post-Holocaust ‘never again’ assumption just wasn’t true.” As a member of the psychiatry department’s social medicine and public policy program, Hamburg refocused his lens on genocide prevention. “While the threat of mass violence remains a horrible problem, it’s important to remember that other horrible problems have been overcome,” he says. “In my lifetime, I have seen the end of imperialism and colonialism; the end of fascist and communist totalitarianism; the end of apartheid in South Africa; and the end of legal slavery.”

Working closely with Anan, then secretary-general of the United Nations, and Javier Solana, then foreign minister of the European Union, Hamburg helped assemble a genocide-prevention infrastructure at the U.N., including the appointment of a special adviser to the secretary-general on the prevention of genocide and the creation of an advisory committee on the issue, which he chaired for five years. Says Hamburg: “We set in motion a process that continues to prevent such atrocities.”

In 2008, Hamburg published *Preventing Genocide: Practical Steps Toward Early Detection and Effective Action*. Taking a public health approach, he outlines six “pillars of prevention” to stop genocide before it occurs: education; early, proactive help for countries with troubled intergroup relations; promoting peace through democracy; fostering equitable socioeconomic equality; protecting and promoting human rights; and putting constraints on weaponry. The



David Hamburg, MD

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systematic approach, he says, is “not so different from fighting a pandemic.”

Hamburg has received numerous honors for his public service, including the International Peace Academy’s Twenty-Fifth Anniversary Special Award, the National Academy of Sciences Public Welfare Medal (its highest award), and the highest civilian award of the United States—the Presidential Medal of Freedom. Last summer, at a symposium on genocide prevention held at the U.S. Holocaust Museum, then-Secretary of State Clinton thanked Hamburg for his ongoing efforts during her opening remarks. “David and I have been talking about these issues for longer than either of us care to remember,” she said, adding, “His work and his thinking have been incredibly important.”

—Renée Gearhart Levy

Standing Tall

Surgeon Oheneba Boachie-Adjei, MD, corrects spinal deformities—both in New York and his native Ghana

Oheneba Boachie-Adjei, MD, was eight years old when a doctor saved his life. Living in poverty in his native Ghana, Boachie-Adjei was suffering from a severe gastric illness that the local medicine man had been unable to cure. “It was basically insignificant by Western standards,” he recalls, “but over there it was a big deal.” With his outlook grim, his grandmother took him to see a Ghanaian-born pediatrician recently returned from training in the U.K. “He treated me for two years and eventually I got well,” Boachie-Adjei says. “I had not been living with my dad, and he became my first male role model. I became inspired by his ability to heal people. I thought he had performed a miracle.”

From then onward—other than an adolescent flirtation with engineering—Boachie-Adjei was determined not only to go into medicine, but to use his skills to help the people of West Africa. He came to New York at twenty-one, working his way through Brooklyn College and earning his medical degree at Columbia. He ultimately specialized in spinal surgery—a field that, he says, allowed him to combine medicine and engineering—and trained at such institutions as Hospital for Special Surgery and the Minnesota Spine Center. Now, Boachie-Adjei is a professor of orthopaedic surgery at Weill Cornell and chief of the scoliosis service at HSS. But every two months, he leaves his busy urban practice to return to Ghana, where he has established the Foundation of Orthopaedics and Complex Spine (FOCOS) to treat scoliosis and other spinal deformities.

Located in the capital city of Accra, FOCOS operates a fifty-bed facility that draws patients from throughout West Africa and beyond. “It is state of the art,” he says. “If I blindfolded you and put you into the operating room in Ghana and then took the blindfold off, you might think you’re in an operating room in New York. We’ve built it to a high standard.” While the facilities are local, the surgeons are imported. Boachie-

Adjei notes that Ghana—a nation of 20 million—has only about sixty general surgeons, a dozen orthopaedists, and just a handful of spine specialists. He spends two weeks at FOCOS every other month, traveling with volunteer surgeons, nurses, and physical therapists; during each visit, they perform more than two dozen surgeries. The procedures cost 10 to 15 percent of what would be charged in the U.S., with fees covered either by the patients' families or through philanthropy. In general, he says, the cases he sees in Ghana are more severe than in the U.S.—not because of deficits like malnutrition, but simply because they've gone untreated for so long. "Instead of sixty- or seventy-degree curves coming into surgery, we see them over a hundred degrees," he says. "The cases are more complicated, but the results and outcomes are still very good."

One of Boachie-Adjei's most memorable patients was a teenage girl from Ethiopia with an extraordinarily severe curvature; she was bent over at 150 degrees. It was a highly demanding surgery—and when it was over, staff feared she might be paralyzed. Weeks in bed turned into months before she regained sensation in her lower extremities, and the road to recovery was slow and rocky. Her incision began to break down, requiring plastic surgery and skin grafting; one of the surgical screws began to protrude and needed to be removed; she had issues with bowel and bladder control. After five months at FOCOS, the patient went home to Ethiopia, only to return after suffering setbacks including a collapsed lung caused by irritation from a surgical screw that needed adjusting. Jump ahead two years. "I went to Ethiopia to do some follow-up checks, and in one day I saw 150 patients," Boachie-Adjei recalls. "I went into a room and there she was, standing—so beautiful, so tall, I could hardly recognize her. She was a college student, walking like nothing had ever happened." But as he notes: "She's just one of many stories like that."

Back in the U.S., Boachie-Adjei specializes in treating challenging and complex cases; many of his patients have had previous, failed surgeries. He has also developed a number of surgical devices in collaboration with such companies as K2 Medical Systems and DePuy Spine, including a multi-axial reduction jack (nicknamed "Cricket") that allows surgeons to capture the deformed spine and manipulate it with six degrees of freedom in any plane. "It's like throwing a hook and catching a fish," he says of the device. "You can gradually manipulate the spine and pull it to where you want it to be as you reconstruct it—turn it, twist it, lengthen it, shorten it. It makes it very easy to move the spine in space."

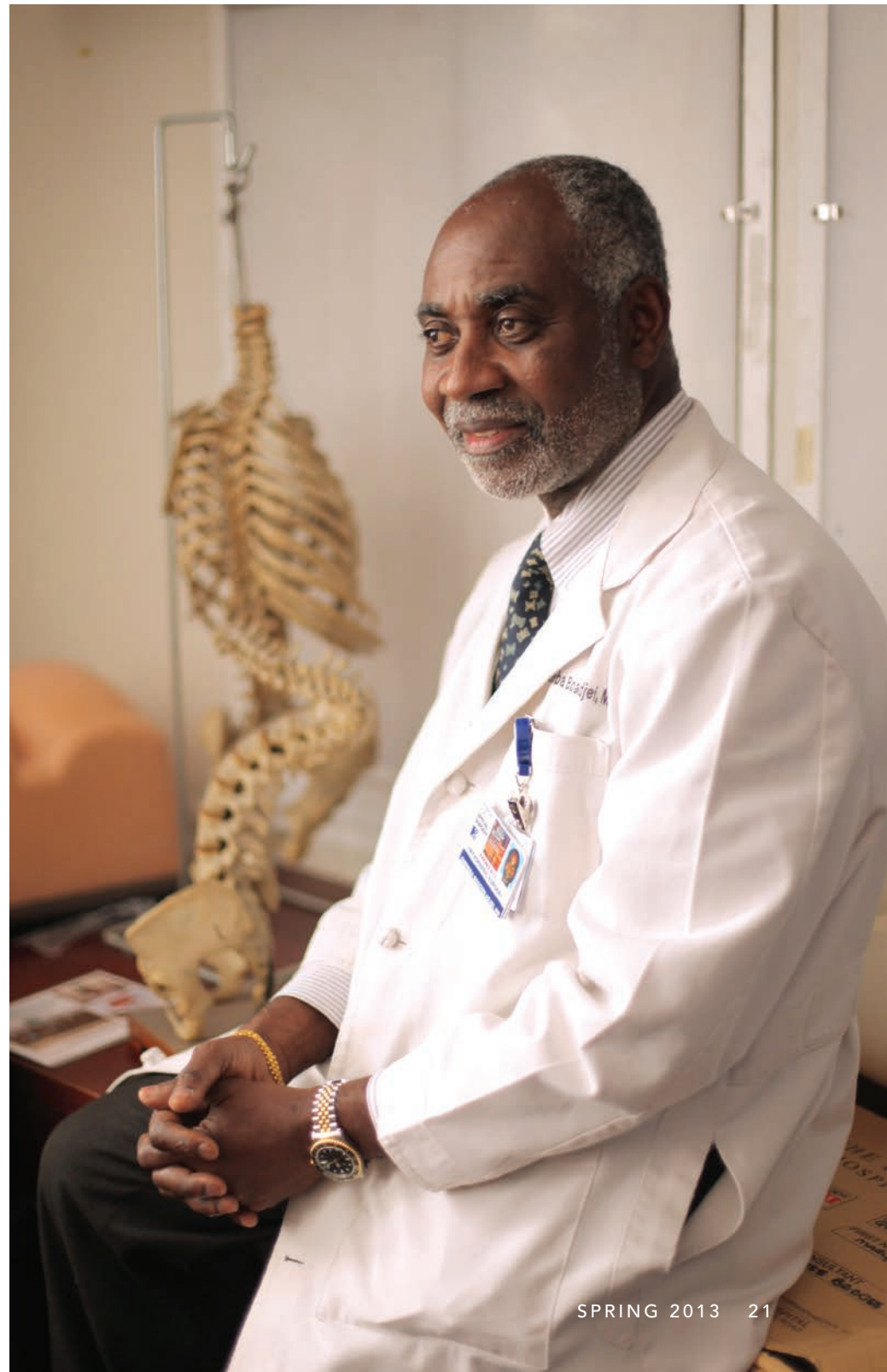
Two to 3 percent of the general population suffers from scoliosis, which is most common in teenage girls. Only a small fraction of cases

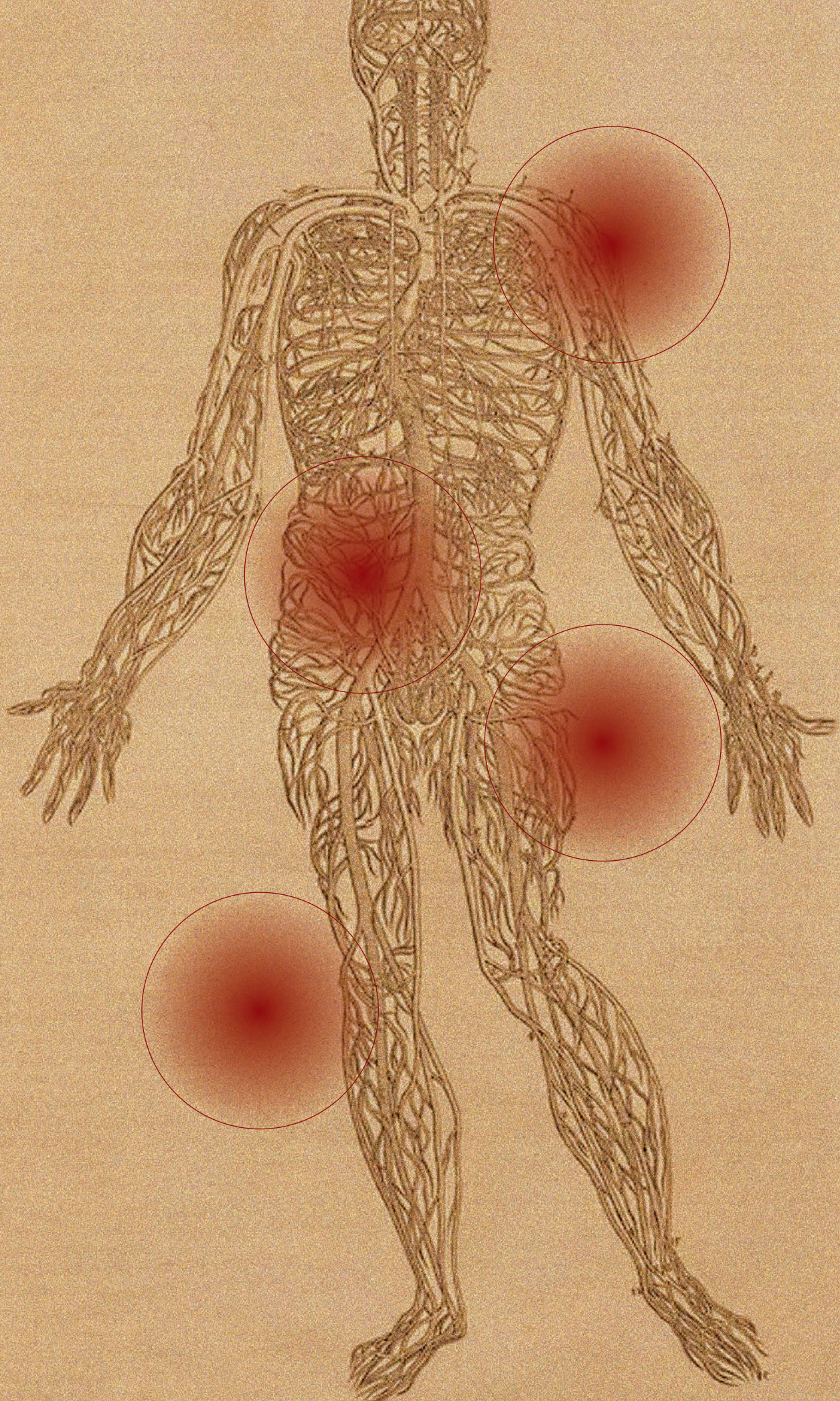
require surgery, which can take from four hours to upwards of ten. Boachie-Adjei calls the work technically, emotionally, and physically demanding. "You have to know exactly what you want to do, plan ahead, have the right team with you, let the patient and the family understand the pros and cons, the possible complications," he says. "Then you execute it carefully and meticulously, with calm and cooperation."

— Beth Saulnier

Oheneba Boachie-Adjei, MD

ABBOTT





What a Relief

At Weill Cornell, a dedicated center treats the number-one health-care complaint: pain

By Andrea Crawford

Photographs by John Abbott

Dawn Kaplan was on vacation in Italy in the fall of 2010 when she first experienced back pain. It struck as she and her husband strolled down a mountainside; by the time they reached the bottom she could barely walk. Once home in Rockville Centre, New York, the fifty-six-year-old learned that she had a herniated disk and would need a simple, ambulatory surgical procedure at a suburban hospital.

"I was told I would be home in three hours," Kaplan recalls. But when she woke up, she was in excruciating pain—far worse than what she had gone into the operating room to alleviate. Says Kaplan: "I knew immediately that something was very, very, very wrong." She had sustained nerve damage during the procedure; she then developed a hematoma, required another surgery, and stayed in the hospital for two weeks. After her discharge, the pain remained; she could not work, drive, or even sit. "It was just crushing, because I was so independent," says the mother of four and grandmother of six. "I was constantly running and going and doing and getting—and then all of a sudden, it's like, flat line."

Her doctors prescribed opiates, which she

disliked because of how they made her feel. After six months, her orthopaedist referred her to a pain medicine specialist, and early in 2011 she met Neel Mehta, MD, assistant professor of anesthesiology at Weill Cornell. Mehta, director of the Weill Cornell Pain Medicine Center, has received advanced training in interventional pain medicine through a tri-institutional fellowship at NYP/Weill Cornell, Hospital for Special Surgery, and Memorial Sloan-Kettering Cancer Center. "Pain medicine is a growing specialty," he says. "Its goal is to improve quality of life and help patients return to everyday activities. Pain management is also focused on preserving, improving, and comforting human life through palliative care for cancer and other serious illness."

The Pain Medicine Center is an integrated practice that includes anesthesiology, neurosurgery, neurology, oncology, rehabilitation medicine, and more. “We are a pioneer and leading model of integration among medical departments,” says Mehta. “Our faculty are either co-directors or work very closely with the Spine Center, Cancer Center, Palliative Medicine, the Center for Digestive Care, Functional Neurosurgery, and the Pancreas Program.”

Over the millennia, humans have relied on various methods to stem pain, from the ancient use of opium as anesthesia to the application of pressure on nerves and blood vessels to numb a limb during fracture repair or wound treatment. In the early nineteenth century, morphine was isolated as the active ingredient in opium, and in the 1840s the introduction of ether gas ushered in the era of modern surgery. The 1860s brought the first local anesthetic—cocaine—as well as the first peripheral nerve block. More recent breakthroughs in pain management came with the creation of synthetic opioids in the Thirties and with the development, in the Sixties, of “gate control theory,” an understanding of how electric stimulation of nerves can change the way pain is perceived.

In recent years, the specialty has emerged as separate from anesthesiology—in large part, says David Zylberger, MD, assistant professor of clinical anesthesiology, because attitudes have evolved. “We can assist patients with pain issues much more effectively than we could in the past,” he says. “People do take it seriously now, much more than even ten years ago.” The prevailing thought had been that patients with certain conditions would inevitably experience pain; it was something they just had to bear. “But now,” Mehta says, “we’re starting to understand that it’s not so simple.” The body, in fact, undergoes physiologic changes in response to pain, which have associated effects on overall health.

The newness of the field—and how rapidly it is evolving—is part of the appeal for many physicians. For example, says Maryam Jowza, MD, an instructor in anesthesiology who has an interest in pediatric pain medicine: “Just a few decades ago, people acted on the assumption that babies sense no pain—that the spinal pathway pertinent to transmission of pain signals wasn’t developed in the neonatal patient or even infant. But we now know that the fibers for transmission are there even *in utero*, so it’s changed the way we approach the field. It’s been a complete 180-degree turn, and there’s still a lot to learn.”

Today in the United States, pain is the top health-care complaint and the number one cause of disability. It can be the symptom of disease or the primary condition itself, and it is categorized into three types: somatic, like the pain from a cut or burn; visceral, as in pain from internal organs; and neuropathic, when a nerve itself is injured. The distinction between acute and chronic, a marker traditionally put at three months, is rather arbitrary, since acute pain—

like that resulting from knee replacement surgery—can last longer than that. When pain is the symptom of a disease process, physicians target the disease to get rid of the pain. But in chronic pain, the underlying factor that first caused the pain may have abated.

The Pain Medicine Center, located on the tenth floor of the Weill Greenberg Center, sees a wide range of patients. They include some with simple problems, such as those caused by sports injuries, and those recovering from surgery or suffering from various musculoskeletal conditions, such as herniated disks or spinal stenosis, as well as ones with complex oncologic pain conditions and end-of-life palliative needs. More complicated courses of treatment are designed for patients with neuropathic pain, such as the nerve-related pain that cancer survivors can experience as a side effect from chemotherapy and radiation, and other conditions such as complex regional pain syndrome. Because of the interdisciplinary nature of the Center, patients are matched with the appropriate specialists to address their needs.

Pain has only recently become part of the regular day-to-day evaluation of hospital patients—checked along with temperature, blood pressure, and heart rate. But those evaluations rely on patient reporting, a factor that often contributes to making pain difficult to understand and treat. “In the end—and this is the real challenge—pain is completely subjective,” says Devin Peck, MD, instructor in anesthesiology. “You can never experience what a patient is experiencing.” When someone reports a low pain number, for example, it’s impossible to know if it’s due to greater tolerance or if the patient is actually experiencing less pain than someone who reports a higher number. As Roniel Weinberg, MD, assistant professor of anesthesiology, puts it: “One person’s ten may be another person’s two.”

This is why, Weinberg says, “If there were a diagnostic or laboratory test for pain, it would make the job easier.” But short of that, physicians say, the young discipline needs more quality research including population studies, basic science, and translational research that could lead to new drugs, particularly alternatives to opioid medications. “Data in pain medicine is difficult to obtain,” says Jowza, “especially when you’re dealing with an issue that has multifactorial causes.”

Research has been done, for example, on whether the use of preemptive analgesics—known as pain prophylaxis—prior to cardiothoracic surgery improves pain levels postoperatively. Clinical investigations are also under way into the use of nerve blocks to treat the pain associated with angina and peripheral vascular disease, as well as into the treatment of abdominal pain experienced by patients with inflammatory bowel disease.

Another key question, Jowza says, is what factors make acute pain become chronic. “All chronic pain starts as acute pain,” she says. “There are changes that happen, called neuroplasticity, and we



Team approach: Pain medicine physicians (from left) Maryam Jowza, MD, Roniel Weinberg, MD, Neel Mehta, MD, David Zylberger, MD, Shakil Ahmed, MD, and Devin Peck, MD

'In the end—and this is the real challenge—pain is completely subjective. You can never experience what a patient is experiencing.'



Michael Kaplitt, MD, PhD

know certain pathways are involved. But we still don't understand why it happens in some people and not in others." Other research seeks to elucidate a clearer understanding of the cellular and molecular complexities of pain in the hope of tailoring therapies to specific patients. Furthermore, Mehta says, additional research is needed on the costs and benefits associated with treating pain; according to a study now more than a decade old, pain represents a staggering cost—including health-care expenses, lost income, and lost productivity—of \$100 billion a year.

For decades, Dawn Kaplan had worked alongside her husband in their insurance business on Long Island, but after her surgery she couldn't resume her job. After six months out of work, she began seeing Mehta, who tried numerous strategies, including two epidurals. Still, for the next year, she was unable to function; she couldn't even concentrate enough to read. Mehta told her she was a perfect candidate for neuro-stimulation therapy, an advanced procedure pioneered by Michael Kaplitt, MD, PhD, associate professor of neurological surgery and associate attending neurosurgeon at NYP/Weill Cornell. But Kaplan was gun shy about any kind of surgery—still traumatized by the procedure that had caused her nerve damage in the first place. "Dr. Mehta would say to me, 'Dawn, you don't have to live like this. There's something that could help,'" she recalls, "and I would say, 'Absolutely no way, never.'"

Mehta was recommending spinal cord stimulation, one of the interventional techniques that, he says, have revolutionized the way we treat pain. "It's important to formulate a treatment plan that doesn't simply rely on opioids," he says. "We're trying to give people a second chance at life without making them walk around like a zombie or potentially get addicted to strong opioid medications."

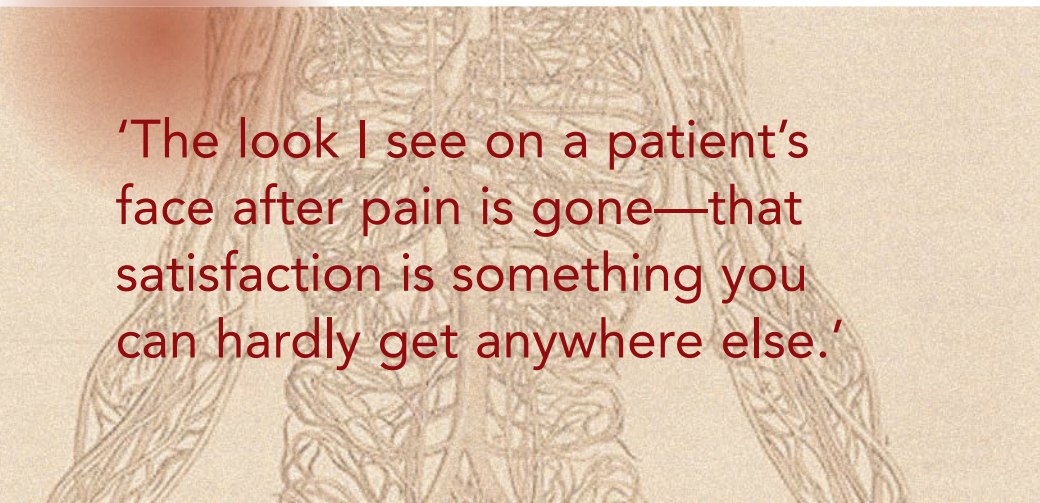
The idea behind spinal cord stimulation, says Kaplitt, is similar to what people do naturally in response to pain. "It's like running your hand under cold water after a burn or rubbing a spot where you've been hit," he says. "You're tricking the brain by creating an alternate sensation that takes the place of the painful one. That's what spinal cord stimulation does—it creates a mild tingling sensation that takes the place of the pain." The spinal cord stimulator is a small "paddle" that's inserted into the opening between the spine and the spinal cord, right in the area that serves the part of the body experiencing pain. Electrical contacts connect the paddle to a battery implanted under the skin.

"The patient can control the stimulation," says Kaplitt. "There's a wireless controller that sends a signal to the battery to increase or decrease the level of stimulation being delivered, so if the pain returns, the stimulation can be increased a bit." The spine's position can also affect the amount of stimulation required, so the patient can raise or lower the level as needed when standing, sitting, or lying down.

New technology can make things even easier on a patient with a spinal cord stimulator, says Kaplitt. The advance is a "smart" battery pack with a tiny gyroscope that senses the individual's position and knows how to react. If someone consistently raises the level when standing up, for example, the battery pack will learn to do that automatically when it senses the change in position. The Weill Cornell team was the first in the U.S. to use this new technology when it was approved last year.

Another interventional device is the intrathecal pump: implanted under skin of the abdomen area and connected to a catheter placed within the spine, the pump delivers a drug directly to the spinal fluid, bypassing the blood-brain barrier and the gastrointestinal system and minimizing side effects. A patient who requires 300 milligrams of morphine by mouth, for example, may need only one milligram in the pump to obtain the same relief. Other new uses of technologies such as ultrasound, fluoroscopy, and X-ray have allowed physicians to perform interventions in the office or at the bedside rather than in the OR.

In this rapidly developing field, the Pain Medicine Center stays at the head of the pack on emerging technologies. For example, it is now the only center in New York City participating in a national study testing a new device that uses multi-column surgical electrodes as a treatment for those still suffering from back pain following spine surgery. That study, which opened in January, will enroll



'The look I see on a patient's face after pain is gone—that satisfaction is something you can hardly get anywhere else.'

300 patients over the next three years. In addition, the team, in conjunction with colleagues at Hospital for Special Surgery and Memorial Sloan-Kettering Cancer Center, is enrolling patients into the largest chronic pain registry in the U.S. The database will help shed light on which interventions help patients and which patients might benefit the most, and also help to factor economic cost-analysis in a time of rising medical expenses.

The pain specialist, either as a consultant to other doctors or as the principal treating physician, often directs a multi-disciplinary team. They prescribe medication and rehabilitative services such as physical therapy or acupuncture, perform pain-relieving procedures, and help obtain treatment for patients and families with psychological needs due to pain. Peck emphasizes that it's important to keep the whole patient in mind—"so you're not just focusing on finding a specific area of pain and treating it with an injection." Because of this, the Pain Medicine Center has become the "first stop" for patients with pain conditions even as simple as new-onset back or neck strains.

In treating the whole patient, the Center offers services and support regarding nutrition, exercise, and behavioral adjustments—since treating pain requires addressing comprehensive psychosocial, physical, and biological factors. A multidisciplinary approach also helps address the subjectivity of pain, since a team of physicians, specialists, and other health-care providers who know the patient is better able to assess pain levels than any one person. (This is particularly important in pediatrics, where the youngest patients can't communicate verbally.) Such rich and lasting therapeutic relationships—and the ability to provide what is often dramatic relief—make the specialty deeply rewarding, physicians say. As Shakil Ahmed, MD, assistant professor of clinical anesthesiology, puts it: "The look I see on a patient's face after pain is gone—that satisfaction is something you can hardly get anywhere else."

Ahmed remembers an elderly Italian woman with cancer that had metastasized to her brain and spine and who was suffering from the side effects of high doses of medication, including loss of mental clarity. "It was near Christmas and she was in crisis, unable to function, in pain she could not tolerate," Ahmed says. But what she wanted more than anything was to host one more celebration in her home for her large, extended family. The team implanted an intrathecal pump, and she was able to be back home, and functioning, with her family for the holiday. "We want to improve quality of life," Peck says. "And that applies to people who are very functional, but it also applies to people who are dying and have limited time left, but want that time to be as high quality as possible."

For Dawn Kaplan, her experience of living in pain reached an emotional nadir last fall. Her youngest son, an Army captain, was coming home for a visit before being deployed overseas, but Kaplan couldn't focus on anything but her pain. "I was in such a terrible state that I couldn't even be happy or excited," she says. "And I thought, This is just ridiculous." She called Mehta. "I told him, 'I know I said I'd never do this, but I have to give it a shot.' And I'm sure he was smiling at the other end."

In October, Kaplan had the procedure that Mehta had been recommending for months. Kaplitt implanted a battery pack into her hip and made an eight-inch incision in her spine to lay the wires for stimulation. "I felt tremendous relief almost immediately," Kaplan says. "It has changed my life." She spent one night in the hospital. At 7 a.m., when Mehta came to check on her, he found her already dressed and ready to go home—and sitting in a chair after almost two years of being unable to do so. She calibrates her stimulator based on her activity level, whether sleeping, reading, sitting, or exercising; she now walks three miles every day. Those adjustments, she says, have become second nature. And this fall, three years after her ordeal began, she and her husband will return to Italy. ●

WILL GREENBERG CENTE





The Doer

From studying the genetics of malaria to battling chronic diseases, MD-PhD student Sandeep Kishore thinks global—and takes action

By Beth Saulnier

Photographs by John Abbott

The United Nations General Assembly chamber is empty save for a few random visitors, the official tours that ebb and flow at regular intervals, and the two men seated at the back of the room. The vast, iconic chamber—complete with the U.N. seal above the dais and the sleek wooden desks bearing the names of each member country—is an apt setting for their conversation, whose subject is nothing less than how to change the world.

The elder of the two, longtime AIDS activist Eric Sawyer, has been mulling that question for decades. A founder of ACT-UP, the pioneering group that embraced high-profile civil disobedience in the epidemic's early days, Sawyer now works within the system: he's a staff adviser to the U.N.'s program on the disease. Sawyer is also a mentor to the young man sitting next to him: Weill Cornell MD-PhD student Sandeep "Sunny" Kishore, who's picking his brain on the future of health-care activism.

As their talk winds down—topics range from the U.N.'s much-debated Millennium Development Goals to the merits of a recent protest in which ACT-UP members doffed their clothes in House Speaker John Boehner's office—Kishore mentions biologist Edward Wilson's classic *Letters to a Young Scientist*. "If you're looking at a kid like me who's training in medicine, has a PhD, but is very

On the go: MD-PhD student Sandeep Kishore, PhD '11, on a typically busy day of medical training



TEDMED

Live and online: Kishore gave a TEDMED talk on global health challenges.

confused, and if you had to write a ‘letter to young activists,’ what would you say?” Kishore asks. “What are the lessons learned or the advice you’d give someone at my stage?”

Sawyer ponders the question. “I would say, always speak truth to power,” he replies. “Never compromise your values. Don’t put too much distance between yourself and the people you’re trying to serve; the most important lessons are usually taught by people with the least education and political power, who are the most impacted by an illness or other issue. Never be afraid to ask a question even if you think it’s stupid, because there are no stupid questions. And spend more time listening than talking.”

Despite Kishore’s self-effacing query and his status as a student—having completed his PhD in 2011 and taken a year off for fellowship work, he’s currently in his third year of medical school—he’s no stranger to the global stage. In June 2011, he stood in this very chamber and spoke about non-communicable diseases (NCDs), underscoring the increasing threat that maladies like diabetes, heart disease, and mental illness pose to developing nations. The following year, at Sawyer’s invitation, he spoke at a UNAIDS panel on the future of health care. And while Kishore’s credentials (Weill Cornell PhD, Oxford master’s, fellowships at Harvard and MIT) have given him entrée into the U.N.’s hallowed halls, he has also seen the view from the other side of the police barricade. While the U.N. was meeting on chronic diseases, Kishore led a youth rally on the street outside. “NCDs are a social justice issue and must be treated as such by world leaders,” he said at the time. “We are outraged at the horror of inequity between borders, the absence of measurable targets in the U.N. Political Declaration on NCDs approved today, and dismayed that commitments to ensuring access to affordable medicines and treatments for NCDs in developing countries were weakened. We will continue to petition our world leaders to act and for our voices to be heard; we are just getting started.”

So is Kishore. Even in the context of Weill Cornell’s talented and motivated student body, the thirty-year-old stands out—both for all he has accomplished and for his burning ambition to change how doctors, researchers, and policy-makers think about global health challenges. “I see him as a ‘live wire’ who is moving things forward in many different ways,” says Olaf Andersen, MD, director of the Tri-Institutional MD-PhD Program. “He has an enormous amount of energy. He’s intrepid in terms of approaching new problems. Most students, when they make an appointment to talk to me, I have a sense of what we are going to discuss. With Sandeep, I sometimes do—but more often I do not. I am always amazed by how he’s trying to push the envelope in a good way.”

Simultaneously intense and soft-spoken, Kishore has a low-key manner that belies his burgeoning CV. In addition to his academic accomplishments, he’s the founder and chair of the Young Professionals Chronic Disease Network, which boasts 2,000 members worldwide in a variety of fields, from medicine to urban planning. He has worked on a half-dozen submissions to the WHO, including a successful effort—in collaboration with then-Dean Antonio Gotto, MD—to get statins put on its Essential

Medicines List. He serves on the board of directors of Universities Allied for Essential Medicines, an NGO that aims to insure that federally funded research benefits the public via progressive intellectual property agreements. “He’s not just a talker, he’s a doer,” says pharmacology professor Marcus Reidenberg, MD, a longtime member of the WHO’s essential medicines expert committee who worked with Kishore on the statins project. “He’s special in how he’ll take on a problem and exert real leadership to get other people involved.”

Kishore has won a Howard Hughes Fellowship and a Soros Fellowship for New Americans, given a TEDMED talk at the Kennedy Center, and been the subject of an “inspiring lives” profile in *Scientific American*. While a postdoc at Harvard, he served as a fellow at MIT’s Dalai Lama Center for Ethics and Transformative Values. At Weill Cornell, he spearheaded what has become the Global Health Curriculum—an elective that now draws half the first-year class. And then there’s his research: his PhD work in the lab of Kirk Deitsch, PhD, on how the malaria parasite avoids the immune system was named most outstanding dissertation by the American Society of Microbiology.

“I’d say his work has more long-term reach than that of any other graduate student I’ve had come through my lab,” says Deitsch, a professor of microbiology and immunology who keeps a photo of the malarial mosquito *Anopheles gambiae* as his computer’s desktop art. “He has a great grasp of how his work at the molecular basis has an influence on the greater disease problem affecting the developing world. He’s a lively individual to have in the lab; he always has a good question for somebody else. He’s incredibly sincere and passionate, but he has a good sense of humor and he’s a fun guy to be around. He’s not so uptight about saving the world that he has no time to have a casual conversation.”

Kishore, in fact, loves conversations; both in group settings and one on one, he seems energized by learning from anyone and every-



Malaria mentor: Kishore in the lab with his PhD adviser, Kirk Deitsch, PhD

one around him. On a Monday night in late October, after introducing the visiting Global Health Grand Rounds speaker, Kishore buttonholes another mentor: Warren Johnson, MD, director of Weill Cornell's Center for Global Health and the B. H. Kean Professor of Tropical Medicine, recently returned from his latest trip to Haiti. "What is the question that can sustain me for the next thirty years?" Kishore muses. "It's tough to find that. I've done things here and there, but you've got to find the question. It's not about the answer, it's about the question. If you find that, you're excited to train people, you're excited to go to work." It's hardly a casual query, but Johnson has some advice. "I think the answer is people," he says, "investing in people."

Later, Kishore digests Johnson's words in the context of his first day of an ob/gyn clerkship after resuming medical school. "I felt human again," he recalls. "Just holding a mother's hand and seeing the process of birth, you can't help but feel connected and human—but for the past five years for some reason I hadn't felt that. I'd been doing malaria work, I'd been doing policy, but I didn't feel connected to humanity. And that, I think, is one of the joys of medicine: there's something fundamental there that binds us."

The son of Indian-American physicians who met in medical school and share a practice in central Virginia, Kishore sees himself as very much the product of his pedigree. His mother, Lakshmi, is an internist and geriatrician. "The way my mom practices medicine, it's a healing art that's sort of been lost today," he says. "She'll sit with patients for hours, she'll hold their hand; it's this idea of the soul of medicine." His father, Anand, is a gastroenterologist who placed first on India's national exam for graduating medical students. "You'd never know, talking to him—he's incredibly humble, very hardworking—but he's a medical genius," Kishore says. "He's a great diagnostician. And so that's the scientific part of me." Back in India, Kishore's paternal grandfather was an ENT specialist who started a hospital for deaf-mute children in his own home; his mother's father grew up in extreme poverty, but put himself through law school, rising to become the equivalent of attorney general in his state. "He fought for land reform—he believed in the power of law and policy as a social good, so that's where my public health policy side comes in," Kishore says. "He had an undying passion for equity and justice; although he never articulated it as such, it was very Gandhian."



Frustrated by what they saw as limited professional opportunities in their home country, Kishore's parents immigrated to the U.S. Sunny, the elder of their two sons, was born in Pittsburgh and spent part of his childhood in Little Rock, Arkansas, before the family settled in Virginia. "It was a confusing time for my identity," Kishore recalls. "There weren't a lot of Indian folks or South Asians. I didn't know what it meant to be Indian. Am I Caucasian, am I African American, do I belong? I didn't fit into a box, and that was a little weird."

To help him explore his roots, his maternal grandfather put him in touch with his best friend, a retired Pan Am executive who took the sixteen-year-old Kishore under his wing and invited him to India. "When I arrived he took me on a pilgrimage," Kishore recalls. "This was my first exposure to the Indian approach to philosophy, culture, and faith. When I first saw him, he was wearing a *dhoti*, which is made of white cloth. It was serene; he had this positive spirit about him. There are some people you meet and you know that your life's not going to be the same afterward." Chief among the lessons Kishore learned from his elder was the concept of *dharma*. "A lot of us have heard of karma," he explains. "Dharma is the philosophical cousin of that, where you perform your duty without respect to the fruit of the labor. So when you're a student the goal is not to go to Cornell or Harvard, it's to master your subject. And the natural consequence of mastery is being a rock star—not the other way around."

Then, shortly after returning to the U.S., Kishore got some bad news: his new mentor had died of cerebral malaria, most likely contracted on their journey. Soon Kishore too became gravely ill, falling into a semi-comatose state and spiking a 104-degree fever. "We thought we'd lose him," his mother recalls. His physician parents were beside themselves. Says his father: "He was just laying in bed, and a week went by and we weren't getting anywhere."

Eventually, though, he recovered—and the experience forced the teenaged Kishore to contemplate the difference between his fate and that of his elder. "Because I have parents who are doctors and I'm from the United States of America, I had access to the world's best medical care—so I bounced back," he says. "It sensitized me to the 'why.' Why am I alive and this serene man is not? There's a fundamental inequity. And I started thinking—not just about him but about other kids in India and Africa. What would happen to them if they had this? They'd be dead." Kishore emerged determined not only to battle malaria but to improve public health worldwide. Says his mother: "He told us, 'Mommy, Daddy, you are helping maybe thousands of people. But me, I want to take care of millions of people.'"

As an undergrad at Duke, Kishore studied cell biology and religion. He earned a master's degree in immunology from Oxford on an Usher Cunningham Scholarship—studying potential approaches to vaccines for malaria and HIV—before matriculating at Weill Cornell. "Sandeep is a force of nature," wrote Carl Nathan, MD, the R. A. Rees Pritchett Professor of Microbiology, in an award recommendation. "[He's] that rare individual who is utterly devoted to good causes, singularly effective, everywhere at once, and leaves behind whirlwinds of activity that would otherwise not have stirred, but once launched are self-sustaining." Nathan went on to call Kishore "by far the most engaged activist for global equity I have met among hundreds of global-health-conscious medical and PhD students." He won the award.



PROVIDED BY SANDEEP KISHORE

United front: In addition to testifying at the U.N., Kishore led a rally outside its headquarters (top), advocating that chronic diseases are a social justice issue. Bottom: As a child on a family trip to India.

Resuming medical education can be challenging for MD-PhD students. After years in the lab, they rejoin the third-year class for intense clinical rotations; having successfully defended a thesis and earned the right to put “doctor” in front of their names, they resume the role of student trainee. For Kishore, it hasn’t been an easy transition. “I’m back at the bottom of the totem pole, which is tough. I’m a PhD, I’ve been a postdoc, and now I don’t know anything,” he says. “It’s a confusing experience.” He’s been struggling with the question of whether to do a residency, soliciting advice from his mentors. Andersen, for one, feels that both the experience and the credential are essential to Kishore’s future success in the public health arena. “He has to be in the trenches dealing with patients so when he talks about changing policy he can say, ‘I know what I’m talking about,’” Andersen says. “I’m going to push him hard to do a residency, because he needs that credibility. Yes, it will take time—but he’s relatively young, and what he gets out of it will be invaluable.”

Kishore sees the wisdom in Andersen’s advice. It brings to mind a case he saw during his ob/gyn clerkship, an expectant mother who was hemorrhaging when she came in. She’d had no prenatal care, and her baby was stillborn. “I talk about public health, but now I’m seeing the end result of when it fails, and that makes me even more passionate—about going after the root causes, asking these deeper questions. I needed to experience this, to be in the moment, to really understand. This isn’t just academic; this is real. This woman almost died, and her baby’s dead, because of simple things that could’ve been prevented. To suffer is human; to suffer needlessly is not.”

In both his formal talks and casual conversations about battling non-communicable diseases, Kishore often cites the need to explore “the causes of the causes.” Stroke, for example, can be caused by hypertension—which may be due to obesity. In turn, many people are overweight because they’re not physically active and have poor diets. But why? Rather than treating stroke—or even giving medication to control high blood pressure—Kishore suspects that the best medicine ultimately lies in addressing the reasons why people don’t get enough exercise or eat healthily. “Structural or social determinants like inequality are major drivers of sickness,” Kishore says. “This is the first generation, if the data’s right, where young people may not live as long as their parents; life expectancy could stall or even decline for the first time in human history, with the exception of plague or famine. The thing is, these aren’t natural causes—they’re all manmade. It’s our tobacco, our fatty foods, our trade policies, our alcohol.”

Kishore often cites another fact: of the thirty years of longevity that Americans gained in the twentieth century—a rise from fifty years to eighty—only five are attributed to medical advances; the rest are due to factors like improved nutrition, sanitation, and hygiene. What, he asks, are the twenty-first-century analogies that could promote similar gains? “We need a shift in our mental model,” he says. “Our systems are borne out of germ theory, reacting to pathogens acutely. In the modern era,

this curative approach won’t work. We simply can’t tackle depression the same way we did malaria or smallpox.” Or, as he puts it: “Out of your 5,700 waking hours last year, how many would you say you spent in front of a doctor?”

In December 2011, Kishore’s maternal grandfather—the lawyer who’d pulled himself up from poverty—died at the age of ninety-two. He’d enjoyed good health throughout his life, walking two miles every day with a group of longtime friends. “One day he came home and just passed away,” Kishore says. “We cried like babies when it happened, because we thought, How could someone so healthy have suddenly died? But then we realized that we should all be so lucky.” The fact that his grandfather had lived a long and healthy life—and his death had not been preceded by declining years of illness and disability—is Kishore’s global health mission in a nutshell. “I want to build a system that drives lives like grandfather’s,” he says. “That’s my vision for my career and my life.” ●





Gut Reaction

With diagnoses on the rise, research and new surgical techniques are revolutionizing treatment of inflammatory bowel disease



By Andrea Crawford

Photographs by John Abbott

Abby Searfoss was a junior in high school when she began to experience abdominal pain. For several months she ignored it, as any teenager might, until one day in the fall of her senior year, when she was feeling very sick, she googled her symptoms.

“Up popped Crohn’s disease,” says Searfoss. “At that point, I kind of freaked out. I remember sitting at my lunch table that day just shaking.”

She knew well what Crohn’s was. As a child of ten, she had watched her father grow very ill, lose forty pounds, and spend weeks in the hospital following his own diagnosis and surgery. Given this family history, her parents quickly got her to a gastroenterologist—fully believing, she says, “we were just going to rule it out.” But at her first appointment, when she said this to the intake nurse, the woman abruptly disabused her of that notion. “Oh no, you have Crohn’s,” she said and left the room, leaving Searfoss and her parents stunned. When the physician arrived, he was reluctant to order a colonoscopy. “Basically,” says Searfoss, “he just wanted to put a Band-Aid on it and move on.”

In the following weeks, after Searfoss continued to grow sicker, her father took her to his own physician, Ellen Scherl, MD, director of the Jill Roberts Center for Inflammatory Bowel Disease at NYP/Weill Cornell. Within two days, Searfoss had had a colonoscopy and started a course of medication. Still she grew worse—and in November, on the day she was to begin tryouts for her high school basketball team, she returned early in the morning to Scherl’s office. She had Crohn’s ileitis, an inflammation of the ileum in the small intestine; Scherl immediately admitted her to the hospital.

Searfoss and her father would share a surgeon as well. Fabrizio Michelassi, MD, chairman of the Department of Surgery at Weill Cornell and surgeon in chief at NYP/Weill Cornell—who had treated Searfoss’s father when the family lived in Chicago and Michelassi held an appointment at the University of Chicago—performed her laparoscopic ileocectomy, removing about fifteen centimeters of the end of the small intestine. “It went perfectly,” she says. “Dr. Michelassi used pediatric scopes so my incisions are really small, which I had worried about, and within two weeks I was back at school.”

Within one month of her surgery, the young woman returned to Michelassi’s office and made a request he had never before heard: she wanted to play basketball. “He looked at me like I had five heads,” Searfoss says with a laugh. Michelassi cleared her to start running; in January she was playing on the team again, and by the end of her senior season, the shooting guard had reclaimed her starting position.

First described in 1932, Crohn’s disease is a chronic inflammatory disorder



of the gastrointestinal tract, like ulcerative colitis, whose symptoms include cramping, bloating, rectal bleeding, and diarrhea. Inflammation can create scar tissue that causes the intestines to narrow at sites known as strictures, which can block the passage of food. Strictureing requires surgery, as do such other severe complications as abscesses, perforations, fistulas, hemorrhage, and cancers.

Crohn's has been growing in incidence over the last few decades, with some 700,000 Americans now diagnosed with the disease. At the Roberts Center, Scherl heads a busy team that includes Brian Bosworth, MD, associate professor of medicine, and Vinita Jacob, MD, assistant professor of medicine, and works closely with Robbyn Sockolow, MD, associate professor of clinical pediatrics and NYP's director of pediatric gastroenterology. Last year, the Center's physicians saw more than 10,000 patient visits, up from 700 patient visits when it opened seven years ago. Rates of the disease are increasing more significantly in children and adolescents than in older adults, and it is more prevalent in developed countries and urban areas. Children diagnosed with IBD are often at risk for stunted growth.

While heightened awareness and more accurate diagnosis account for some of the increase in cases, that does not explain it all, says Scherl. "The incidence is increasing for reasons that remain to be elucidated," she says. "The reigning theory is that an environmental change and bacterial dysbiosis—alteration in the gut microbiome—results in uncontrolled inflammation and unregulated immune response in a genetically susceptible host." Four factors are likely at play: genetics; an overactive immune mediated inflammatory response; a changed environment that is likely bacterial; and an increased permeability of the gut lining (leaky gut), which may mean more bacteria cross from the digestive track into the immune system. In the November 1, 2012, issue of *Nature*, a paper that compiled numerous genome-wide association studies linked, for the first time, variations in regions of the genome implicated with autoimmune disorders with an increased risk of IBD. In the Searfoss family, both of Abby's younger sisters were found to have Crohn's in the months following her diagnosis.

Theories about what environmental factors might be culpable range from increased use of antibiotics causing an imbalance in gut bacteria to an idea that foods high in fructose could allow bacteria that causes inflammation to proliferate. At the Roberts Center, Scherl and her colleagues are investigating bacterial triggers affecting the genome, in collaboration with microbiologist Kenneth Simpson, PhD, professor of small animal medicine at Cornell's College of Veterinary Medicine. "We want to focus very precisely on the cause," Scherl says. "The microbiome is going to hold many keys to unlocking the disease."

They are also looking closely at the molecular pathways driving inflammation, utilizing the tissue bank and bio-bank established through the work of Andrew Dannenberg, MD, the Roberts Family Professor of Medicine. The goal is to develop new biologic therapies by finding new inflammatory targets. Until about a decade ago, the

Ellen Scherl, MD

only medical treatment for IBD was the use of immunosuppressants. But in 1997, Infliximab, the first of a new class of biologic drugs, was introduced. These drugs are antibody therapies that bind to tumor necrosis factor (TNF), a signaling molecule known to play a role in inflammation associated with Crohn's and ulcerative colitis.

"Until the advent of anti-TNF therapy, we had only steroids and the immunosuppressant azathioprine," Scherl says. "Recent trials show us that in select patients with moderate to severe aggressive disease with active inflammation, the biologics are effective in inducing and maintaining steroid-free remission." Furthermore, researchers are working to identify, through immunologic signatures, which patients would respond to which new therapies, thereby providing personalized treatments. "Aggressive disease ought to be treated aggressively, and the earlier we treat with effective therapy the more likely we are to reverse the natural history of regressive Crohn's disease," Scherl says.

The rates of patients requiring surgery have dropped since the introduction of biologic therapies, but Michelassi says that some 80 percent of those with moderate to severe disease will require operative intervention at some point. This high likelihood of surgery has Searfoss worried about her younger sisters. For herself—someone who has had a successful surgery—the unknowns of long-term medication are more frightening. Searfoss, who is active in the youth council of the Crohn's and Colitis Foundation of America, recently discussed the issue with some peers. "What scares us the most about our disease right now, given the heavy medications that we're on, is how there's not a whole lot known about the side effects down the road," says Searfoss, now a junior at the University of Connecticut majoring in special education.

Historically, the most common surgical intervention for Crohn's has been resection. But in the last three decades, a bowel-sparing technique known as strictureplasty has had an enormous impact on treating the disease and may make resections a thing of the past. Strictureplasty was first performed in 1976 by a surgeon at Oxford named Emanuel Lee, MD, who had heard of its use in tuberculosis. Rather than removing diseased intestine, which shortens the organ and limits its ability to absorb water and nutrients, the surgeon restructures the bowel, increasing its width.

Michelassi has pioneered the surgery over the last two decades, inventing a form that allows for strictureplasty not only on one stricture but where they occur repeatedly in a lengthy section of the intestine. Known as the side-to-side isoperistaltic strictureplasty, or "Michelassi strictureplasty," the technique involves cutting a diseased section at its midpoint, stacking the two sections on top of each other, then cutting and reconnecting them lengthwise. The operation allows the intestines to widen so food can pass, while leaving all tissue intact for optimal digestive functioning.

While the idea of leaving diseased tissue in place first seemed illogical, if not worrisome, by the early Eighties Lee had data showing the success of strictureplasty. Moreover, in the decades since, surgeons have observed that the disease appears to regress at the site of strictureplasty. In 2000, Michelassi published a paper that showed

'What scares us the most about our disease right now, given the heavy medications that we're on,' Abby Searfoss says of herself and her fellow IBD patients, 'is how there's not a whole lot known about the side effects down the road.'

regression of disease—visually, endoscopically, and pathologically—in patients that he had tracked over a number of years. And a 2007 paper, published by a Japanese researcher who compiled data on more than 1,000 patients and more than 3,000 strictureplasties, showed that after nine years the overall recurrence rate in patients was 47 percent—but in 90 percent of those cases the location of the recurrence was at a new site, not the site of the first stricturing.

"We're leaving diseased tissue in, but for reasons not completely understood yet, the disease becomes quiescent," Michelassi says. "I don't want to use the words 'goes away' because Crohn's never goes away, but it certainly regresses." He is launching a randomized, multi-center international study to further investigate why this may be happening. "Most likely, we're talking about mechanical factors at the site of the strictureplasty, which allow for protection against recurrence," Michelassi says. The study should go a long way toward explaining not only why strictureplasties have a protective effect on Crohn's recurrence, but could also shed important light on the progression of the disease. "The needle has moved from surgery taking care of the complications of Crohn's disease and improving quality of life to actually having a protective effect," he says.

Other surgical advances promise to transform the entire discipline. According to Jeffrey Milsom, MD, the Jerome J. DeCosse, MD, Distinguished Professor of Surgery and chief of colon and rectal surgery at NYP/Weill Cornell, “we now have the capability to begin redefining how we’re going to treat diseases of the intestines.” Milsom leads a surgical team that includes Kelly Garrett, MD, assistant professor of surgery, Daniel Hunt, MD, assistant professor of surgery, Sang Lee, MD, associate professor of surgery, Govind Nandakumar, MD, assistant professor of surgery, Parul Shukla, MD, associate professor of surgery, Joongho Shin, MD, instructor in surgery, and Toyooki Sonoda, associate professor of clinical surgery. Using new techniques, devices, imaging equipment, and biomaterials—glues, fasteners, stents, tissue repairing methods—they are now able to do things that have never been done before.

The route of surgical therapy, for example, will soon be within

‘There’s a whole new world of intervention that’s going to minimize the impact on a patient. It’s going to give people much better quality of life, shorten hospital stays, and take the fear and pain out of surgery.’

the channel, or lumen, of the intestines, with many procedures accomplished using sedation (as during a colonoscopy) rather than general anesthesia. “For excisional procedures that formerly required general anesthesia for three or four hours and hospitalization for a week, we’ll soon be able to contemplate doing them under ‘twilight’ sedation and sending the patient home that day,” says Milsom. He has already pioneered a minimally invasive technique for surgical repair of rectal prolapse, a condition that primarily affects the elderly and had previously required a postoperative hospitalization of four to five days.

Such advances mean that specialties will overlap. Already, some gastroenterologists do therapeutic endoscopy, stopping bleeding and repairing damaged tissues. “That subset is now starting to merge with interventional radiologists as well as surgeons who are trained in advanced endoscopic procedures,” Milsom says. “It’s a fusion of specialties—gastroenterologists, surgeons, and imaging specialists—



Fabrizio Michelassi, MD

whose boundaries are being redefined.” To further these efforts, Milsom leads a team of clinicians and bioengineers in the Minimally Invasive New Technologies Program at NYP/Weill Cornell. The group, which already holds dozens of patents, is at work inventing new tools, such as endoscopes used for surgery rather than diagnostics, and new materials, such as stents that could stop bleeding or administer medical therapies directly on site. “There’s a whole new world of intervention that’s going to minimize the impact on a patient,” he says. “It’s going to give people much better quality of life, shorten hospital stays, and take the fear and pain out of surgery.”

These new approaches could well end the need for open, conventional procedures. “While IBD may result in surgery,” says Scherl, “we’re hoping that inspired collaborative scientific endeavors will change the natural history of Crohn’s disease and ulcerative colitis by elucidating the molecular pathways of inflammation and the interaction of gut microbiomes with the gut immune response. The goal is to control inflammation and intervene early with safer and more effective therapies that result in healing of the intestinal lining. Ultimately, we want to control and cure Crohn’s and other inflammatory bowel diseases.”

That goal gives Abby Searfoss hope—and it exemplifies what she says she has most appreciated in her treatment. “When I was first diagnosed, the local GI treated it like this depressing thing, like it’s going to change me a lot,” she says. “At Weill Cornell, the attitude has been much more upbeat, like this is just a roadblock. And it really has been just that.” ●

Notebook

News of Medical
College and Graduate
School Alumni

Dear fellow alumni:

Since my last report, I've been working hard to serve and further the interests of the WCMC Alumni Association.

At the beginning of this year, I had the pleasure of attending the joint meeting of the Board of Overseers of Weill Cornell and the Board of Trustees of Cornell University. Both President David Skorton, MD, and Dean Laurie Glimcher, MD, were present for the day-long event. Several presentations concentrated on the development of the Cornell Tech campus, scheduled to open on Roosevelt Island in 2017. This expansion is very exciting and promises collaboration between academia and industry with the goal of transforming New York into the high-tech capital of the world. We also expect collaboration between Cornell Tech and Weill Cornell, possibly through curriculum, research, etc.

I'm pleased to be attending the Greater Metropolitan Medical Alumni Council (GMMAC) meeting this year. At these events I meet with the officers of other medical college alumni associations in the Tri-State Area. GMMAC offers insights into how other organizations serve their constituencies and how we, the officers of the WCMC Alumni Association, can better serve you.

The Alumni Association board of directors continues to meet quarterly. This year we were thrilled to support and sponsor the students' December Decadence party.

In January, we held the annual Rogosin Institute Scholars Reception. This event gives both the Medical College and the Institute the chance to honor the four Rogosin Institute Scholars and the Albert L. Rubin, MD '50, Scholar. These five energetic students come from the classes of 2013, 2015, and 2016 and have impressive résumés that include international medicine, genetic disorder research, and community work in drug abuse and men's health. We are grateful to the Rogosin Institute for the continued and generous support that has made these scholarships possible.

In early February, we held the first Alumni-to-Student Knowledge (ASK) session of the new year, featuring speakers who practice in general, transplant, and cardiothoracic surgery. Launched in 2009 and sponsored by the Alumni Association, this program addresses students' desire for increased interaction with alumni and provides a unique forum where they can discuss educational, career, and lifestyle decisions in a relaxed and friendly environment. The surgery session was followed in April by another session highlighting alumni in rheumatology, physical medicine/rehabilitation, orthopaedic surgery, and pain management.

In March, Weill Cornell hosted its first Palm Beach Symposium on "Healthy Living: Brain, Aging, and Ophthalmology" at The Breakers, which featured faculty members Mark Lachs, MD, Donald D'Amico, MD, and Gregory Petsko, DPhil. The event was a huge success, with more than 300 guests in attendance. In conjunction with the symposium, the Medical College hosted a breakfast for approximately forty alumni and guests. I would like to extend a special thank you to Lewis Drusin, MD '64, David Dodson '74, MD '80, and Richard Lynn, MD '71, for their help in contacting local alumni and encouraging them to attend.

I am thrilled to announce that the *Discoveries that Make a Difference* Campaign reached its goal of \$1.3 billion, the centerpiece of which is the state-of-the-art Belfer Research Building, scheduled for completion at the end of the year. The campaign raised \$30 million for scholarship support—\$10 million over our goal. Even so, the debt incurred by our students is still staggering and your support for your alma mater remains crucial.

Please continue to follow our activities on our website, Twitter, and Facebook. We have many upcoming events planned across the nation this year, so be on the lookout for mailings in the coming months.

Best and warmest wishes,

*R. Ernest Sosa, MD '78
President, WCMC Alumni Association
drsosa@nyurological.com*



R. Ernest Sosa, MD '78

1940s

David Brown, MD '45, and Charlotte Rush Brown, MD '45: "At 93, thanks to many effective repairs, replacements, and remedies, Charlotte and I continue to be enjoyably active in many of the community affairs that somehow involved us during the 45 years we practiced pediatrics, internal medicine, and community health in our small and friendly suburban New Canaan, CT. Like most old folks, we've reached the stage that lets us think we enjoyed the best of all possible times and that CUMC played a big part in it all."

1950s

Francis Wood, MD '50: "I took a seven-day Lindblad/National Geographic cruise in the Peruvian Amazon with one son, my daughter, and one granddaughter. We saw lots of wildlife: birds, monkeys, sloths, iguanas, tarantulas, and some snakes. We were up every morning at 5:30, since that's when the wildlife gets up."

Peter R. Mahrer, MD '53: "I'm still grateful for what the Medical College started, a passion for medicine. I'm teaching and doing CCU rounds at USC and the cardiology teaching program at the Kaiser Hospital in Los Angeles. My grandchildren are growing; the oldest is working on her doctoral dissertation and sharing our skiing at Mammoth Mountain."

Heinz Valtin, MD '53: "My wife, Nancy, and I now live in Goodwin House, Alexandria, VA, to be near our daughter and her family."

J. Robert Buchanan, MD '54: "Because I am the sole surviving founding trustee, with more than 30 years of service to Aga Khan University (AKU), the Chancellor, his highness Prince Karim Aga Khan, and the board of trustees named the largest lecture hall in the medical school on the Karachi, Pakistan, campus in my honor. Of all the 'merit badges' that have come my way over the course of a long professional career devoted to one or another aspect of health services and health professional education, none has touched me more profoundly."

"Though I still go on occasional personal trips such as an April-May 2012 cruise of the Adriatic, my travel is now largely to attend meetings of the AKU board of trustees, either in France, the U.K., or East Africa. In 2012 I made four trips to France and two to Pakistan. Now 85 years old, I am happy to report that I am basically in good health. I'm living with my small dog,



Shadow, in a charming cottage on the 40-acre campus of a continuing care retirement community near my son and his family in Evanston, IL, and nearer to my daughter and her husband in Denver, CO. My days are filled with the good and stimulating company of fellow residents, excellent in-house educational and entertaining programs, gardening, reading assignments for a challenging book club, piano and art lessons, subscriptions to the Chicago Symphony and Lyric Opera, plus travel. I remain deeply indebted to Amherst College, WCMC, the New York Hospital, and my two years as a U.S. Army medical officer serving in Korea for their respective contributions to preparing me for the abundant and unexpected opportunities that have so enriched my professional life."

Nicholas Nelson, MD '54: "I lost my wife, Virginia Wilke, to ovarian cancer in 1993. She had been a nurse for **George Reader, MD '43**, until we joined the Army as dedicated civilians responding to the Doctor Draft. I retired to Topsham, ME, in 2004. I'm now enjoying four children, their spouses, and nine grandchildren, and attempting to squeeze in one or two travel episodes per year, slightly complicated by mild COPD

(post dedicated smoking from 1944-84; I've been clean since). In 2012, I attended the dedication of Penn State Hershey's new and freestanding Children's Hospital (the end of a 42-year dream)."

Ralph C. Williams Jr. '50, MD '54: "I have moved to a new address in Santa Fe. In April, I travel to San Francisco, where I will have the honor of being made a Master in the American College of Physicians. During that visit I will enjoy a mini-reunion with my medical school roommate, **Harry Daniell, MD '54**, who still practices in Northern California."

Jerome Jacobs, MD '56: "Fran and I enjoyed another wonderful winter vacation relaxing on the beach at our favorite home away from home, Carimar Beach Club in Anguilla, BWI. Meet us there next February."

Paul Schlein '52, MD '56: "I retired from private practice of internal medicine in 1998. I'm an emeritus on the clinical faculty of GW University Medical College, continuing to attend Medical Grand Rounds in the (probably vain) hope of staving off mental decline. I volunteer six sessions a month at a free clinic, play duplicate bridge, regular tennis, and golf. I'm in sporadic contact with '56 classmates **Dick Weiskopf, Jay Cohn, and Gene Segre.**"

Bruce Boselli '54, MD '57: "On March

11, 2013, a small group of Medical College graduates, all Class of 1957, met for an informal luncheon in Naples, FL, with their spouses and years of stories to swap. Present were: **Bill Costello, Kay Ehlers Gabler, Dan Fishkoff, Jack Madaras, Gene Renzi,** and me. We reminisced and laughed about our medical school experiences. This was the fourth such winter gathering in southwest Florida. We hope the tradition will continue for years to come."

Irvin D. Milowe, MD '57: "I am still working part time in psychiatry and psychoanalysis, and I am still professor of psychiatry at the University of Miami, which is five minutes from my home in Coconut Grove. I've had an interesting project with the Chinese American Psychoanalytic Alliance, where we trained hundreds of Chinese therapists via Skype. This came about as we supervised our starting group's work during the Chengdu earthquake and were then asked by the Chinese government to start six two-year psychoanalytic psychotherapy programs throughout China. We have 100 graduates, 250 in their fourth year of training, and 250 on the waiting list. I am the poetry editor for their magazine. My spouse is a PsyD, also an analyst, and we have been doing research in a new form of couples therapy with a number of international colleagues. My book of poems, *Strawberry Albatross*, has just been published, and is available at Amazon. Many of the poems have won state and national prizes and were published in anthologies. Despite an almost fused back and two hip replacements, I still play a good round of golf with my spouse. We have six kids and ten grandchildren between us, and an active family life all over Florida. The family has won major fishing contests in the Florida Keys. We have abundant mango and banana trees, and live surrounded by gardens as every potted plant I had in D.C. grows into bushes and trees here."

L. Davis Arbuckle, MD '59: "Greetings from southwest Florida—the vast city of Punta Gorda. If any of my classmates live in this region, I'd love to hear from them. I've lived here most of the time since retiring from the practice of urology in Akron, OH. My wife, Julie, died two years ago after a long illness. I play golf three times a week and do a fair amount of boating on Charlotte harbor. I just returned from three weeks in Australia and New Zealand—a great trip!"

Thomas M. Nall, MD '59: "I've recently moved from the palm trees of sunny Florida

back to my hometown of deciduous trees and cold winters. Being 80, I thought it was time to return to family and old friends. If any of my classmates should venture into the wilds of southwest Kentucky, you are invited to seek refuge in my guest room. I remain in good health and keep bending the joints with the help of Pilates training."

Harry G. Preuss, MD '59: "I continue doing research and teaching at Georgetown University Medical Center. Bonnie and I have had an exciting year. We were invited to a tour of the Far East—Japan, Okinawa, South Korea, Taiwan, and Australia—where I presented 14 lectures in 17 days. Last September, we were in Brazil at the invitation of the South American Nutrition Society, where I presented two lectures and received an award. This May we will visit Turkey at the invitation of their endocrine society, which requested me to lecture on diabetes. The second edition of *Obesity: Epidemiology, Pathology and Prevention*, which I co-edited, came out recently. The first edition received outstanding reviews in JAMA and the NEJM. Four children and seven grandchildren later, Bonnie is still working 12-hour shifts in the emergency room as a certified emergency nurse. The greatest challenge in research, by far, is lack of funding. There are so many avenues in nutrition and supplementation to pursue to improve health, and they lie dormant without funding. I would love to hear from classmates."

James Shepard, MD '59: "Sally-Jean and I had a nice lunch with **Irwin Zim, MD '59**. We were reminded that Sally was the only female allowed above the second floor on Olin Hall, as we lived there when we lost the apartment we were supposed to have. Accordingly, many classmates signed their dates in as Sally-Jean since the night watchman was nearsighted. Sally-Jean and I leave for Kiev and a trip through the Baltic to St. Petersburg in June."

1960s

Roger Soloway '57, MD '61: "Marilyn and I are still living in the afterglow of the great October 2012 51st Reunion. One of the greatest features was the flurry of e-mail we sent each other just prior to and after the reunion. I am still enjoying a continuing correspondence with **Terry Sams, MD '61**, in Australia, and **Jim Ryan, MD '61**, in Georgia. Twenty years

ago this would have been considered futuristic. Russell, our youngest, has returned to Philadelphia and begun a white-collar crime defense unit for a large firm. Thus, everyone is in Philadelphia except Marilyn and me. We've decided to visit frequently but to stay in Galveston because we like the flowers we grow, living on a lake, and the convenient pace of life. I continue to work at UTMB Galveston and enjoy doing telemedicine. Marilyn and I are going to a liver meeting in Amsterdam, followed by a week in Paris before returning home. We hope to revisit many of our old haunts. Our hotel is open and we'd love to see classmates. We hope to see everyone at the 55th Reunion."

Robert A. MacLean, MD '62: "I live in Houston, TX. I remember a six-week sub-internship in surgery—that is one reason I selected an internal medicine residency and ended up with a career in infectious disease control and public health. My other career-making experience was a two-month rotation, my senior year, on the Cornell Medical service at Bellevue Hospital. There I learned how the other half got their medical care. I am sure this convinced me to go into public service. My medical internship and two years of residency at Bellevue, including one on the Columbia Chest service, made it certain. My mentors at Bellevue, Dr. Tom Almy, chief of the service, and Dr. Bob Brayton, on the Cornell faculty and a night administrator, also helped. After training, my public health career included serving as tuberculosis controller for the City of Houston and 12 surrounding counties, chief of Communicable Disease for the Houston City Health Dept., director of the department, and deputy commissioner and commissioner of the Texas Dept. of Health, from which I retired. Preventing illness, which is so popular today as a cost containment strategy, was just becoming popular as I entered the field. Most public health physicians in Texas in the Sixties were either retired military or retired private practitioners. Thankfully, that evolved into professionally trained public health practitioners who run most major health departments today."

William Schaffner, MD '62: "I received the nice announcement that **King Holmes, MD '63**, had been awarded the highly prestigious Gairdner Global Health Award. Incidentally, King also has a Vanderbilt connection: he was a medical intern there (1963–64) before he went into the Navy. While there, he wrote his first paper with **David E. Rogers, MD '48**, and **M. Glenn**

Koenig, MD '57, as co-authors. They, of course, had come to Vanderbilt from Cornell. Another news item: **Anne Angen Gershon, MD '64**, will receive the Albert B. Sabin Gold Medal Award in April 23 from the Sabin Vaccine Institute."

Arthur J. Atkinson, MD '63: "I am happy to report that the third edition of *Principles of Clinical Pharmacology* was published last fall after a two-year gestational period. It is the updated version of a text based on the NIH evening course that I inaugurated in 1997 and continues to be given at NIH on Thursday evenings from September until April. As lead editor and a major contributor to the text, I have been kept very busy, even though I am technically retired. As you may know, Cornell played a central role in developing the discipline of clinical pharmacology. **Walter Riker, MD '43**, was a strong supporter of the discipline, and **Walter Modell, MD '32**, founded *Clinical Pharmacology and Therapeutics* in 1960. It remains the leading journal in its field."

King Holmes, MD '63, director of the University of Washington's Center for AIDS and STD, was awarded the Gairdner Foundation's 2013 global health prize for his scientific contributions to the study of sexually transmitted diseases.

Stephen Padar, MD '63: "We had a mini-reunion dinner here in Sarasota for five Class of '63 members and their wives. The group included: **Chuck Hill** (plastic surgeon), **Pete Fegen** (urologist), **Jack McIvor** (radiologist), **Bill Brereton** (oncologist), and me (neurosurgeon). We all live full or part time in Sarasota or nearby. I am happy to report that we are all still on the green side of the grass."

Stuart E. Wunsh, MD '63: "Found SCUBA diving 35 years ago and find peace beneath the sea. Underwater photography rounds it all out. Just got a Gopro underwater video camera and can't wait to try it out. Fifty years. Who'da think it?"

Donald Catino, MD '64: "I will always remember 'Furth's Folus,' a way to remember all the different categories of disease, when doing differential diagnosis. It has remained with me 50 years later. This is, of course, much more than I can say about most of what I learned in medical school! I have been 'semi-retired' for the last five years, doing international internal medicine/geriatrics. I see patients and teach in Tanzania, Tasmania, and New Zealand, and on U.S. Indian reservations, and do locum medical practice in the summer as a hospi-

talist, in office practice, or in palliative care/hospice. The work is highly interesting, challenging, and rewarding. The travel and intercultural experiences are amazing. What wonderful opportunities to give back. If anyone is interested in doing this, please contact me at dcatino2@gmail.com."

Joseph Fratantoni, MD '65: "I'm a senior clinical consultant for the Biologics Consulting Group and a volunteer physician at Mercy Health Clinic in Gaithersburg, MD. I retired from the FDA as director of the Hematology Division, Center for Biologics. In 2012, I received the FDA's Distinguished Alumni Award. I remember the great Christmas shows produced by the Class of '65."

Dick Guerrero, MD '65: "I retired in 2001 from my internal medicine practice followed by ten years on the board of trustees of the Southwestern Vermont Medical Center, including two years as chair. Yes, I went over to the dark side. Pat (Lubesco) and I are approaching our 50th wedding anniversary. Our daughter Annie lives in Salt Lake City with her husband, Ryan Carlson, and their son, Owen. Our daughter Gail is in Newton, MA. Her husband, Michael Ferguson, is a pediatric nephrologist at Boston Children's. They have two children, Millie and Gus. Now I'm fully retired and enjoying it. My regards to my classmates."

Deborah Pavan Langston, MD '65: "I am still slogging away at Mass General/Mass Eye & Ear Infirmary without the wits to retire. I'm off to southern Africa for June. One of my ex-fellows and her husband run a hospital in Zambia, so I shall be traveling by small bush plane through Zimbabwe, Zambia, and Botswana (and flapping my wings as hard as I can)."

Joseph Bohan, MD '67: "It is with regret that I report the death of **Francis M. Bohan, MD '63**, on February 4, 2013. Frank died of non-smoking related lung cancer. He had practiced general surgery in Olean, NY, for more than 30 years and was a leader in the local medical community. During the course of his career, he had held just about every noteworthy position at the Olean General Hospital and the Olean Medical Group. He took part in many community activities."

Charles H. Hennekens, MD '67, the first Sir Richard Doll Professor in the Charles E. Schmidt College of Medicine at Florida Atlantic University in Boca

Raton, has been named senior academic advisor to the dean. In 2012, Science Heroes ranked him number 81 in the history of the world for having saved 1.1 million lives.

Ruth Dowling Bruun, MD '68: "Since I have reached the ripe old age of 75, I am now working half time in private practice. I specialize in Tourette syndrome and about 80 percent of my patients have this disorder. In 2012, the National Tourette Syndrome Association honored me with the Wendy Anne Ochsman Award for Distinguished Achievement and Advancement of Tourette Syndrome Medical Treatment and Science. I also received a Lifetime Achievement Award, presented by the Tourette Syndrome Association of Long Island. Unfortunately, my husband of 41 years, Bertel, died in September 2011, but I have the pleasure of four children, two stepchildren, and fifteen grandchildren. Although I missed our 40th Reunion, I am looking forward to our 50th in 2018."

John C. Wolfe, MD '68, has been retired from internal medicine practice in Gloucester, MA, since 2007 and continues as associate director with the Massachusetts Medical Society's Physician Health Services, which sees doctors with behavioral or substance abuse problems needing evaluation, treatment, and monitoring. He and his wife of 44 years winter in Old San Juan, Puerto Rico.

Jeffrey Borer, MD '69, will attend the Saving Hearts for Generations Awards Dinner in Washington, DC, in September, to accept the 2013 Diversity in Cardiology Award from the Association of Black Cardiologists for his promotion of diversity in the cardiology workforce within his program at State University of New York Downstate Medical Center.

N. Reed Dunnick, MD '69, received honorary membership in the Japan Radiological Society at their annual meeting in April 2013 in Yokohama, Japan.

1970s

Richard Sigel '66, MD '70: "I still enjoy working as a radiologist. Very little of what I do even existed when I trained. I was widowed ten years ago, but am happily remarried. Three kids, two stepchildren, three grandchildren, and an intelligent, vivacious spouse keep life interesting. We love living in Northern California, but still enjoy one trip to New York City most years."

Eric Thomas, MD '70: "Surprising news was that a photo of one of my daughters—together with three of her coworkers and her dog—adorned the sides of NYC buses as

well as subway and taxi ads this spring as part of an ongoing campaign to promote industry. I suppose this counts as part of her (more than) 15 minutes of fame. Of greater importance is that she and her two siblings enjoy their work—as do I. Regards to all.”

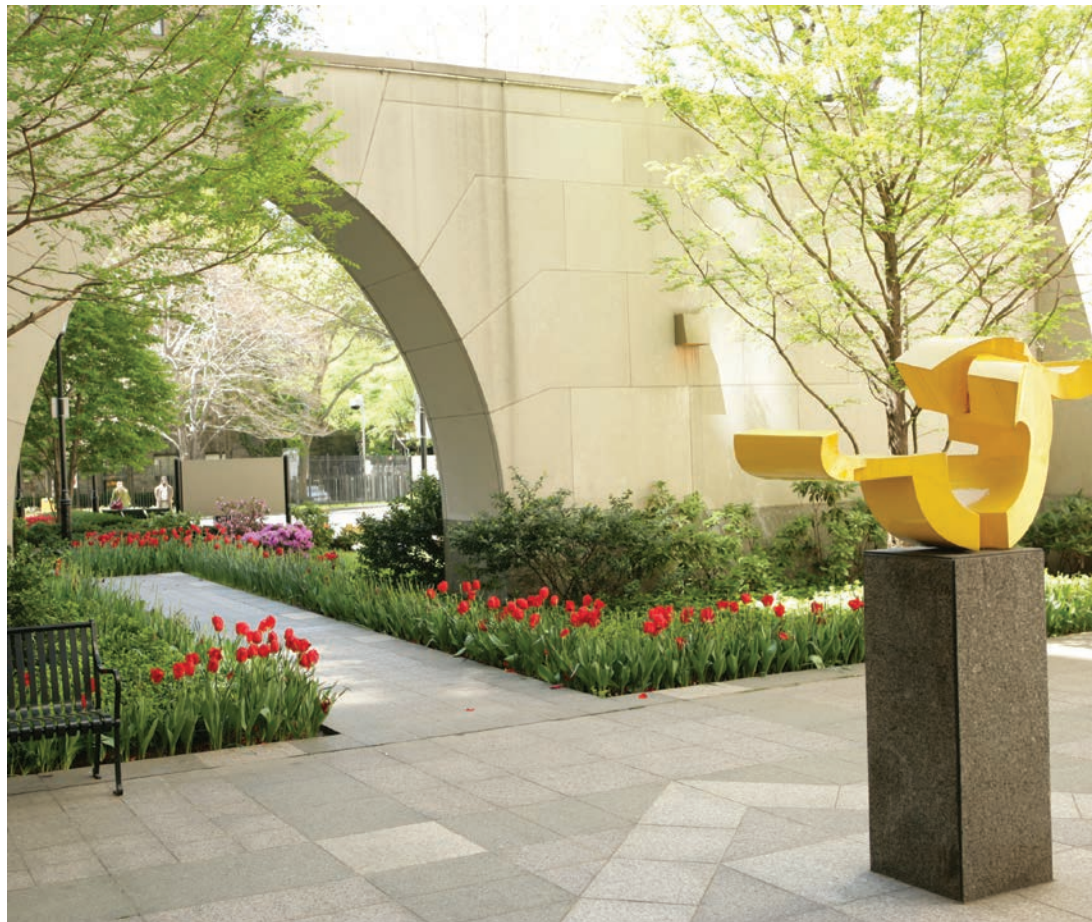
Roger Simon, MD '71: “Greenberg, Aminoff, and Simon’s *Clinical Neurology* (8th Edition), is now out in eight languages. The editor informs us that this is the best-selling neurology textbook in the world. So thanks to Fred Plum, Jerry Posner, and the stellar neurology experience at Weill Cornell.”

Capt. Kenneth S. Kelleher, Jr., MD '72: “I’m currently off to the Horn of Africa as part of a surgical contingency team supporting maritime intercept operations (pirates, aarr).”

James S. Reilly, MD '72: The Jefferson Medical College of Thomas Jefferson University held the inaugural James S. Reilly Lectureship in Pediatric Otolaryngology on February 26. The lecture series honors Dr. Reilly, emeritus chair in the Dept. of Surgery at Nemours–DuPont Hospital for Children and professor of otolaryngology and pediatrics at Thomas Jefferson University. Dr. Natalie Loundon of the Armand Trousseau Hospital in Paris gave a lecture on “Advances in Pediatric Cochlear Transplantation.”

George Goldmark, MD '73: “My wife, Loretta, and I recently were treated to a trip to Rome by my daughter Jessica and her husband, Ryan, in celebration of our 40th wedding anniversary. They are living in Switzerland, where he plays professional hockey. Lo and behold, within a mile of our hotel I found the hospital in which my twin brother, **Harry Goldmark, MD '73**, and I were born. We spent four days in Rome with the kids and my granddaughter, Emma, 20 months old. Priceless. Harry and I still practice orthopaedic surgery together just north of New York City. No nights, no weekends, no emergency room coverage—life is good.”

Gar LaSalle, MD '73: “My first novel, *Widow Walk* (www.widow-walk.com), is coming out in its second edition, hardcover, in May. The sequel is in the works. I’m currently the national chief medical officer for TeamHealth and the president and executive director of TeamHealth’s Patient Safety Organization. TeamHealth is the nation’s largest provider of emergency medicine, anesthesiology, and hospitalist services, with more than 900 contracts and 7,000 physicians. In that role I train our medical directors and supervise our risk management and data mining programs. We currently manage 11 million patient cases



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annually. I’m now living in Seattle. I had the distinct pleasure to give grand rounds at the Weill Cornell-Columbia EM residency this past year and do some filming in the simulation lab.”

W. Michael Scheld '69, MD '73: “Although I have not contributed much to this column before, it seems fitting now because this June it will be forty years since Suss and I left the Medical College for the University of Virginia. The important news first: we are still married and still at UVA, where I am a professor of medicine in the Division of Infectious Diseases and International Health. We have one daughter, Sarah. She graduated from New York University and is living in Brooklyn, which seems to be the epicenter of the world for 20- to 40-somethings these days. I’ve enjoyed a fairly successful career. In addition to the usual academic work here (clinician, teacher/educator, researcher, administrator), I served as the president of the Infectious Diseases Society of America, the only professional society for our discipline in the U.S. with more than 9,000 members, and as chair of the subspecialty board in infectious

diseases for the American Board of Internal Medicine. Last year I received the UVA Distinguished Scientist Award, the highest honor for lifetime achievement at this institution. I enjoy seeing some of our classmates at ID meetings, including **Jon Kaplan '69, MD '74**, **Mark Klempner, MD '73**, **Charlie Levy, MD '73**, and **Ben Lipsky, MD '73**. I hope to see many of you at our 40th Reunion this year.”

Ronald N. Riner, MD '74, is president and CEO of the Riner Group Inc., a national health-care management consulting firm working in the areas of strategy, business development, and program development for hospitals, health-care systems, and medical groups. He has been named by *Becker’s Hospital Review* as one of the top 100 chief medical officers in the U.S. He teaches a course on the business of medicine.

Thomas M. Anger, MD '75: “I retired from practice last August and it has been great so far. Of course I miss my patient families, but there’s no more every other night, every other weekend call. I obtained a volunteer faculty appointment at Northwestern Medical School and have been teaching medical students and resi-



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dents at the new Lurie Children's Hospital, which is walkable from our condo in downtown Chicago. (Medical students are so fun.) That has encouraged me to keep up with the pediatric literature. We have two grandchildren, living in Columbus, OH. Our son, Tom, remains an avid Bears fan, however. Our daughter, Carly, was married this January and is living in Chicago right near the Old Town School of Folk Music, where I am taking voice lessons. I'm still playing guitar and writing songs. This winter I've been riding my bike on the lakefront trail and weight training in our building's gym. I hope to do a lot more sailing this summer, now that my time is pretty much my own. Hi to all my classmates and ex-rugger."

Milagros Gonzalez, MD '75: "My husband, Keith Bracht, and I took a 15-day trip to the Panama Canal last October. The cruise ship took off from San Diego with stops in Cabo San Lucas and Puerto Vallarta, Mexico, followed by one-day stops in Puerto Quetzal, Guatemala, and Puntarenas, Costa Rica, before crossing the canal. It took nine hours to cross eastbound before stopping in Cartagena, Colombia. It is always good to

travel to other places in the world and see how others live. We met a great bunch of people during this trip."

Gerald Kolski, MD '76: "After retiring as chairman of pediatrics at Crozer Chester Medical Center in 2007, I continued in my subspecialty of allergy-immunology in Pennsylvania until 2010. In 2010 I moved to Montgomery, TX, to be close to my granddaughter, Meyers, 4, and her mother, my daughter, Andrea, a criminal defense lawyer. I obtained a license in Texas so I could continue to practice part time. Sue, my wife of 46 years, and I are enjoying our grandchildren and traveling. My son, Brian, completed his training in interventional cardiology at the University of California, San Diego, and is moving to Salt Lake City to practice. He and his wife, Barbi, have a son, Hudson, who is now 2. Our third child, Melissa, is a physical therapist at the Rehab Institute of Chicago. She runs their medical education programs, practices PT, and is publishing on pain management."

Elwin G. Schwartz, MD '76: Having retired from the practice of ophthalmol-

ogy almost two years ago, Elwin has been enjoying his family and lifelong loves of skiing and sailing. He and his wife, Cheryl, boarded their sailboat shortly after retirement and sailed the Maine coast for seven weeks. Winters are spent in Vermont hitting the slopes on most days. When not in Vermont or on board their boat, Elwin and Cheryl spend time with their two granddaughters and were expecting their third. Not to leave medicine behind, Elwin has been busy helping to establish an eye clinic in Riobamba, Ecuador. He recently received a donation to establish a full eye examining room and is working on donations to set up an operating suite for adult and pediatric eye surgery. He will be traveling to Ecuador in June. Elwin will be receiving an award from the American Academy of Ophthalmology at their annual meeting this coming November.

Vincent de Luise, MD '77: "I am on the clinical faculty at Yale University School of Medicine and WCMC in their departments of ophthalmology, and also serve as a member of the Humanities and Medicine Committee and the Music and Medicine Initiative at Weill Cornell. I'm spending the year at Harvard as an advanced leadership fellow, pursuing a project in medical humanism and medical school curriculum design. My wife, Debra '74, and I have two grown daughters, Kyra, 28, and Linnea, 26, and we continue to enjoy golf, skiing, travel, and gardening."

Harvey Guttmann, MD '79: "Sadly, I'm getting older. Our son, David, is graduating Penn Med this May with an MD and a master's in translational research, staying at HUP for radiation oncology. He is getting married in May to a med school classmate. Our daughter, Alli, is a second-year medical student at NYU. I remain the president of Gastrointestinal Associates, a 19-physician group in Abington, PA. I'm looking forward to having a bit more free time one day, but I'm not quite ready to fully unwind yet."

Samuel M. Silver, MD '79: "I've lived in Ann Arbor for the last 26 years. My wife, Nancy, is a special events planner for the Office of Undergraduate Admissions at the University of Michigan. My two children live in Chicago. Aaron is an internal medicine resident at Northwestern, after graduating medical school at Michigan, and Emily works in the hotel industry. I'm an assistant dean for research and professor of internal medicine in hematology/oncology at the University of Michigan Medical School. I was just elected a Master of the American College

of Physicians and given the Exemplary Service Award by the American Society of Hematology. In March, I became chair of the board of directors of the National Comprehensive Cancer Network. We all remain busy and happy."

1980s

James Blankenship '76, MD '80: "After 25 years of cardiac cath work, it seemed like it was time to either retire or reinvent myself. So now I'm enrolled in a master's program in health-care management part time at Harvard. It has given me a new appreciation for the word 'busy.'"

Irene Magramm, MD '81, is happily practicing ophthalmology in her new office on East 63rd Street and teaches residents at the Weill Cornell Eye Associates clinic.

John Blanco, MD '82: "My daughter, Marissa, graduates AOA from Vanderbilt School of Medicine in May. She will be doing her pediatrics residency at the University of Pittsburgh, and her husband, Pete, will be starting his ophthalmology residency there as well. Hopefully they won't become Pittsburgh Steelers fans. I'm enjoying my busy practice in pediatric orthopaedics at Hospital for Special Surgery, where I serve as director of the pediatric orthopaedic fellowship program. Yvonne and I are enjoying being back in New York City."

Steven Wexner, MD '82: "I was elected to the American Surgical Association, the Commission on Cancer, and the Board of Regents of the American College of Surgeons; received an honorary PhD from the University of Belgrade; and was invited to accept an honorary professorship at the University of Moscow School of Medicine."

Benjamin Eng, MD '83: Following an academic and clinical career in rehabilitation medicine, Dr. Eng joined the biophar-

maceutical industry. He is now executive director of medical strategy and innovation at Pfizer Inc., focusing on specialty therapeutics. In this role, he leads strategy development to support products reflecting broad trends such as health-care costs, technology, information access, and patient diversity. Some of his initiatives include managing medical resource allocation across the portfolio, partnering with academic health centers to improve indigent care in diverse populations, planning clinical evidence to support decision making about products, and analyzing patterns in social media data.

David Haughton, MD '84: "After more than two decades in Canada, I am clearly ensconced here. My provincial leadership role in the politics of emergency medicine has culminated in a public campaign for aggressive reform of emergency department wait times and overcrowding. It may succeed. Please take a look at the website: www.bcemergency.com. Meanwhile, I'm back painting, with an exhibition in Seattle this April. Check out my art website: www.haughton-art.ca. Any alumni visiting Vancouver, BC, should give me a shout."

Bruce Reidenberg '81, MD '85, has transitioned into a new career in care of the developmentally disabled. "I work part time for Ferncliff Manor, a residential school for multiply disabled children, and part time for New York State doing house calls at group homes for developmentally disabled adults. There are fascinating diagnostic and therapeutic challenges, and minimal interaction with insurance companies. It's almost like general practice."

Judith Peterson, MD '86: "I have

joined Yankton Medical Clinic in Yankton, SD. Yankton is a medical school site for the Sanford School of Medicine of the University of South Dakota, and I will continue to be involved in teaching as clinical faculty. In other news, I was accepted into the School of Public Health at the University of Minnesota and will be starting this program in May."

Jonathan Wheeler, MD '86, lives in Irvine, California, and practices at the Southern California Permanente Medical Group. He serves on the board of directors of Cryo-Cell International. In his free time he sails—and would like to sail around the South Pacific.

Laurie Curry, MD '88: "I am a full-time ob/gyn working for Steward Medical Group at Morton Hospital in Taunton, MA. My hobbies include walking, yoga, piano, and reading. My 25th anniversary is on June 4, 2013. My daughter, Ashley, is a junior at the University of Vermont, where she is premed, a psych major, a chem minor, in the honors college, involved in two research projects, and a teaching assistant. She submitted her honors proposal for her thesis and is graduating a semester early. My son, Gregory, is a senior in high school, and was admitted to the engineering school at UMass, Amherst."

Mark Pochapin, MD '88: "I have accepted a new position as director of gastroenterology at NYU Langone Medical Center."

Theresa Rohr-Kirchgraber, MD '88, has been selected by the American Medical Women's Association as an Exceptional Mentor. The award goes to an effective clinician and dedicated teacher who has effectively counseled and mentored many women physicians, students, and patients in her career. She is associate professor of clinical medicine and pediatrics at Indiana University, a faculty member in the Div. of Adolescent Medicine, and executive director of the National Center of Excellence in Women's Health. Dr. Rohr-Kirchgraber chairs the Medicine-Pediatrics committee of the Indiana Chapter of the American College of Physicians and is on the governing board of the Women's Physicians Congress of the American Medical Association.

1990s

Abraham Leung, MD '91: "I have exciting news to share: the product I'm currently working on, T-DM1 (Kadcyla, ado-trastuzumab emtansine), also the first antibody drug conjugate successfully developed in the treatment of solid tumors, received

We want to hear from you!

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FDA approval on February 22, 2013.”

Eileen Bulger, MD '92, is a professor of surgery at the University of Washington in Seattle. She was recently appointed as the chief of trauma at Harborview Medical Center, the sole Level I trauma center in Washington State.

Jeff Kauffman, MD '93: “I just moved to Franconia, NH, and joined an orthopaedic clinic called the Alpine Clinic. I will be concentrating on orthopaedic sports medicine and helping to take care of the U.S. Ski Jump team.”

Wendy L. Hobson-Rohrer '91, MD '95: “In July I will be promoted to clinical professor of pediatrics and to associate dean for faculty development (from assistant dean) at the University of Utah.”

Todd Gorman, MD '96: “Greetings from Quebec City. I’m still enjoying life up north with my wife, Nathalie, and our three kids (Emma, 11, Noah, 9, and Jacob, 5). Work in internal medicine and the ICU are going great, and my free time is mostly spent taxiing children around the province for sports events. Please give a shout if you’ll be heading our way.”

Jacqueline M. Mayo, MD '97: “I have left hospital-based medicine and launched a new private practice in primary care, in part-

nership with other NewYork-Presbyterian Hospital internists at East 72nd Street Medical Associates. I live in Manhattan with my husband and three children.”

Jeffrey Yao, MD '99: “I was promoted to associate professor of orthopaedic surgery at Stanford University Medical Center in September 2012. My wife, Jennifer, and I are expecting a baby girl soon. My new e-mail address is jyao@stanford.edu.”

2000s

Michael Irwig, MD '00: “I continue to see patients and teach at George Washington University. I recently spent a month in South Africa, reconnecting with the country after 25 years. The trip was amazing, with family time, viewing of African wildlife, and taking in the splendor of cities such as Cape Town. Seeing Victoria Falls from a helicopter was also incredible.”

Eric Strauss, MD '03: “I was selected as one of the American Orthopaedic Association’s North American Traveling Fellows (NATF) for 2013. This traveling fellowship is awarded every other year to five orthopaedic surgeons in North America who are within three years of

completing their surgical training and have shown outstanding clinical, educational, and research accomplishments.”

Jillian Marie Ciocchetti, MD '05: “I have been practicing general surgery at a community hospital in Thornton, CO, for the past three years. The challenges of solo practice and the politics of medicine are ... interesting. I am hiring my first partner, to start this spring. My husband, Corey Ciocchetti, is a tenured professor of business, law, and ethics at the University of Denver. We are crazy excited about our first child, due this fall. If you are coming to Denver, please drop us a line.”

Milan Lombardi, MD '08, was married to Shaily Shah on September 8, 2012. He will be finishing his residency in dermatology at Washington University in July and then moving to Tampa, FL, after an extended honeymoon.

Jennifer Rodriguez Corwin, MD '09: “I finished my pediatrics residency at Mass General Hospital for Children in June 2012 and am loving life as a primary care pediatrician with Dowd Medical Associates in Reading, MA. My husband, Deric Corwin, and I got married in September 2012 in Cambridge, MA, with many Weill Cornell alums in attendance, including matron of honor **Nina Niu '05, MD '09**, as well as **Medha Barbhuiya, MD '09, Crystal Hung, MD '09, Rebecca Lambert, MD '09, Kathleen Dean, MD '10, and Jonathan Chen, MD-PhD '14**. Deric and I enjoyed a fabulous honeymoon in Costa Rica in February.”

2010s

Prabhjot Singh, MD '11: “Our son, Hukam, was born last year and is starting to crawl in our Harlem home. My wife, Manmeet Kaur, launched a community health social enterprise called City Health Works that trains and hires community health workers, based upon developing country models, starting in our neighborhood (cityhealthworks.com). I’m co-chairing the One Million Community Health Worker Campaign for the U.N. and African Union, which I recently wrote about in the *Lancet*. On the domestic front, I had the honor of being one of the Robert Wood Johnson Foundation’s ten young leaders under 40 who are changing health and health care in America. I’m in the middle of my half-time IM residency and looking forward to connecting with WCMC alumni who are working on or thinking about health-care start-ups.”

In Memoriam

'41 MD—**C. Everett Koop** of Hanover, NH, February 25, 2013; former Surgeon General of the United States; government spokesperson and educator on HIV/AIDS; leader in the fight against tobacco use; director, Office of International Health; pioneer in pediatric surgery; professor of pediatrics and of pediatric surgery at the University of Pennsylvania; surgeon-in-chief of Children's Hospital of Philadelphia; founder of the C. Everett Koop Institute at Dartmouth's Geisel School of Medicine; author of more than 200 articles and books; recipient of the Presidential Medal of Freedom and Public Health Service Distinguished Service Medal.

'43 MD—**James W. Newell** of San Francisco, CA, December 22, 2012; obstetrician/gynecologist at Stanford, El Camino, and Sequoia hospitals; veteran, U.S. Navy Medical Corps.

'45 MD—**Harold J. Delchamps Jr.** of Los Angeles, CA, August 31, 2012; psychiatrist and psychoanalyst.

'43, '45 MD—**Paul R. Foote** of Seneca Falls, NY, April 18, 2013; medical director, Eastman Kodak Co.; served in the Occupational Unit at Strong Memorial Hospital; worked for NASA at the Johnson Space Center in Houston; veteran; helped found the Seneca Falls Historic District; winemaker; pilot; genealogist; active in civic and community affairs. Sigma Chi.

'46 MD—**Francis J. Gilroy** of Cary, NC, formerly of Ormond Beach, FL, October 23, 2012; staff physician, UMass Tri-River Family Health Center; staff president, Holy Name Medical Center (Teaneck, NJ); golfer; active in professional affairs.

'53 MD—**Robert W. Brown** of La Quinta, CA, and San Francisco, CA, December 23, 2012; solo practitioner; senior aviation medical examiner, Federal Aviation Administration; instructor and researcher, University of Chicago Clinics and Hospital; attorney; contributed to *The Drinking Man's Diet*; veteran; golfer.

'55 MD—**Milton Hollenberg** of San Rafael, CA, January 22, 2013; chief of cardi-

ology, San Francisco Veteran's Administration Medical Center; professor of medicine, UC San Francisco; scuba diver.

'55 MD—**Martin G. Jacobs** of New York City, February 10, 2013; nephrologist; pioneer in dialysis and kidney transplantation; carried out the first kidney transplant in New Jersey; senior attending physician, St. Barnabas Medical Center; clinical assistant professor of medicine, U. of Medicine & Dentistry of New Jersey; courtesy staff member, Newark Beth Israel Medical Center; veteran; active in civic, community, and professional affairs.

'56 MD—**John W. Espy** of New York City and Nantucket, MA, December 22, 2012; ophthalmologist; attending ophthalmologist, NewYork-Presbyterian Hospital; clinical professor emeritus of ophthalmology, Columbia University; veteran; member, Pilgrims of the United States; active in alumni affairs.

'59 MD—**Raymond F. Chen** of Rockville, MD, November 14, 2012; developed fluorescein angiograms of kidneys, retinas, and other organs; expert in the fluorescence of enzymes; author; senior Olympian gold medalist in tennis, swimming, and table tennis.

'55 BA, '59 MD—**Vincent DuVigneaud Jr.** of Scarsdale, NY, December 14, 2012; obstetrician/gynecologist; helped deliver more than 4,000 babies in his career.

'63 MD—**Francis M. Bohan** of Olean, NY, February 4, 2013; general surgeon;

president of the medical staff and chief of staff, Olean General Hospital; partner in Olean Medical Group; chief surgeon and head of professional services, Loring Air Force Base; helped develop EMT services in Cattaraugus County; veteran; active in community, professional, and religious affairs.

'63 MD—**Thomas Forde** of Oakland, CA, December 7, 2012; chief of cardiology and president of the medical staff, Samuel Merritt Hospital; founding partner, Cardiovascular Consultants Medical Group; provided volunteer medical care to Native Americans on Alcatraz Island; veteran; lifetime trustee, Alta Bates Sutter Foundation; member, Society of the Medical Friends of Wine; active in community affairs.

'66 MD—**Paul S. Clark** of Reno, NV, December 29, 2012; nephrologist, Northern Nevada Nephrology; developed first hemodialysis unit and organ transplant clinic in northern Nevada; served in the Epidemic Intelligence Service of U.S. Public Health Service in rural Alaska; worked with the International Red Cross in Biafra and Nigeria; author; Lotus car collector; volunteer, Nevada State Railroad Museum.

Other

'77 BS Nurs—**Linda Ann Pffingsten** of Naples, FL, December 22, 2012; head nurse and nursing administrator, Columbia-Presbyterian Medical Center, NewYork-Presbyterian Hospital/Weill Cornell Medical Center, Rahway Hospital, and Brooklyn Hospital Center.

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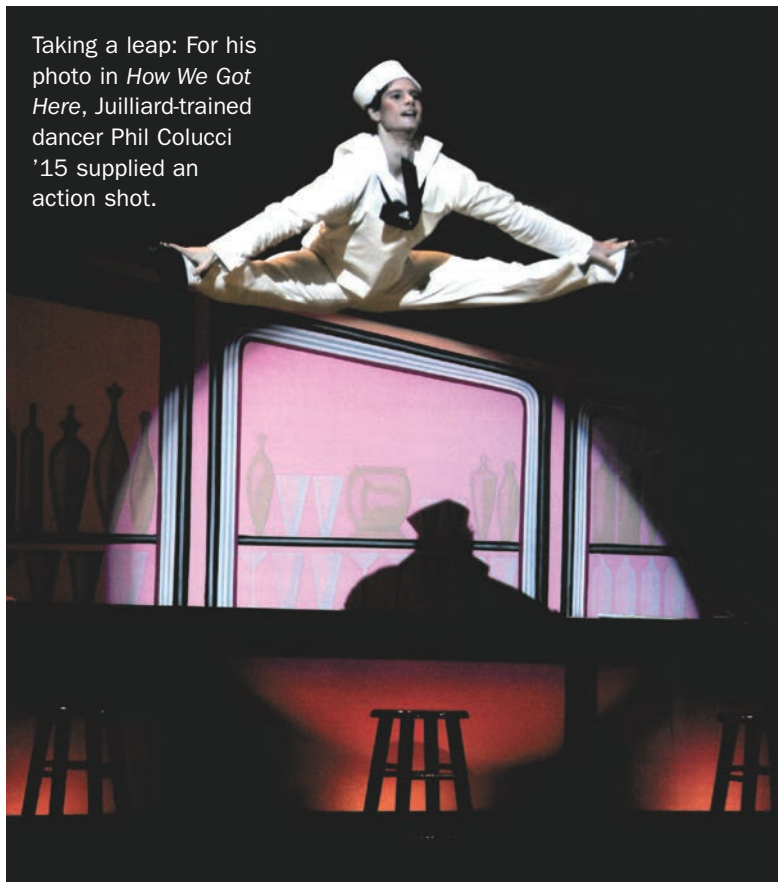
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How Did I Get Here?

From the Cherpumple to kosher giraffes, guidebook shows the diversity of Weill Cornell

Taking a leap: For his photo in *How We Got Here*, Juilliard-trained dancer Phil Colucci '15 supplied an action shot.



PAUL KOLNIK

Getting into medical school isn't easy. And once future doctors run the gauntlet of premed classes, MCATs, applications, and interviews, they still face one admissions hurdle: deciding which offer to accept. The Medical College's annual Revisit Weekend is designed to help accepted students figure out if this is the right place for them—and to convince some of the nation's best and brightest future doctors to choose Weill Cornell.

Held in mid-April, the event includes lab tours, sample PBL classes, sojourns to enjoy New York nightlife, and the like. But as Lori Nicolaysen, assistant dean of admissions, puts it, "the biggest

recruitment tool we have is the student body." Each year, the vice president of the first-year class is charged with organizing the weekend in collaboration with admissions staff; current students host tours and outings, dine with prospective Weill Cornellians, and mingle throughout the weekend. "One of the comments we get most," Nicolaysen says, "is that the visitors love how enthusiastic current students are about the school."

In the spring of 2007, then-first-year Jonathan Gordin, MD '10, came up with another way of helping visitors get to know their potential peers. *How We Got Here* is a slim, photocopied volume offering self-penned bios of the current first-year class. "Weill Cornell is known for diversity in terms of pathways to medicine—the humanities, the music industry, finance, acting," says Gordin, who earned an undergrad degree in computer science on the Ithaca campus and is now a medicine resident at NYP/Weill Cornell. "It's not just premed right into medical school."

Each year since, *How We Got Here* has been distributed to prospective students, either in its printed version during Revisit Weekend or online for those accepted from the waitlist. Last year's issue featured eighty-six bios from the Class of 2015—a healthy response rate, considering that the class numbers 103. "We want to let the incoming students know that, although medical school is difficult, the students themselves don't need to be intimidating," says former first-year vice president Maya Dimitrova '15, who oversaw the booklet. "They're just regular people, though some have done amazing things. It gives the prospective students a glimpse of the exciting people they can look forward to having in their own class."

The booklet is no dry directory. It lists not only each student's photo, hometown, undergrad college, and e-mail address, but also what they did before medical school and topics that new students can contact them about. Plus: a random "fun fact." The Class of '15 issue includes a Juilliard-trained dancer clad in a sailor suit, photographed in mid-leap; details of piloting for Delta Airlines and the U.S. Navy; praise for the "Cherpumple, the Turducken of desserts"; and the factoid that giraffes are kosher. "When I came to my revisit weekend, it made it so much better having this booklet, because you can't meet the whole first-year class," says Dimitrova, who earned an undergrad degree in human development on the Ithaca campus. "It was great to see who you'd be running into in the hallways, the people who'd be giving you advice later on."

In her own entry, Dimitrova says that her favorite part about Weill Cornell is being just a subway ride away from some of the world's best food. And what can prospective students contact her about? Among other things: "the corrupting effects of power and influence," "how to get the best free lunch in the city," and—as if anyone needed further proof that the booklet was written by students, for students—"pointers on keeping an exotic animal in your Olin room."

— Beth Saulnier

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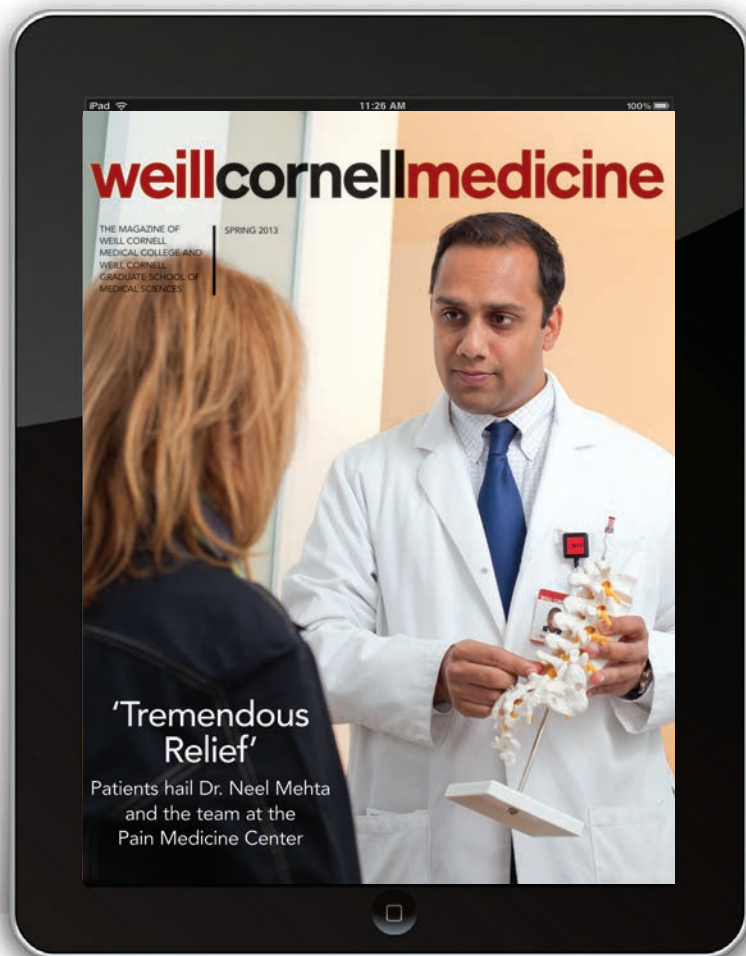
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