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SUMMER 2018



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Weill Cornell Medicine

Alumni Association Award of Distinction 2019



Thomas Lee, MD '79,
2018 Award of Distinction Recipient

Call for Nominations

Do you know an alumna or alumnus who demonstrates exceptional achievement as a physician, scientist, and/or educator, and who has brought honor and acclaim to the Medical College? Would you like to honor a former classmate who has made a difference in science and medicine?

You can help the Weill Cornell Medical College Alumni Association recognize alumni by nominating worthy candidates for the 2019 Award of Distinction.

All nomination packets must be received by Thursday, November 1 and include letters of recommendation and a CV for the nominee. To learn more about the Award of Distinction, past award winners, and the nomination process, visit the Alumni Association's website: weill.cornell.edu/alumni.

Alumni Association Award of Distinction Recipients

- | | | |
|--------------------------------------|--|---|
| 1949 – William S. McCann, MD 1915 | 1972 – Harriet L. Hardy, MD '32 | 1996 – Carlton C. Hunt, Jr., MD '42 |
| 1950 – David P. Barr, MD 1914 | 1973 – Thomas H. Ham, MD '31 | 1997 – Gerald David Fischbach, MD '65 |
| 1951 – Connie M. Guion, MD 1917 | 1974 – Charles G. Child II, MD '34 | 1998 – Heinz F. Eichenwald, MD '50 |
| 1952 – Niles P. Larsen, MD 1916 | 1975 – Gustave J. Dammin, MD '38 | 1999 – Merlin K. DuVal, Jr., MD '46 |
| 1953 – William C. Menninger, MD '24 | 1976 – David E. Rogers, MD '48 | 2000 – Thomas Killip III, MD '52 |
| 1954 – Samuel Z. Levine, MD 1920 | 1977 – Alfred E. Maumenee, Jr., MD '38 | 2001 – Albert Z. Kapikian, MD '56 |
| 1955 – Irving S. Wright, MD '26 | 1978 – Charles A. LeMaistre, MD '47 | 2002 – Gerald L. Mandell, MD '62 |
| 1956 – Preston A. Wade, MD '25 | 1979 – Edwin D. Kilbourne, MD '44 | 2003 – Elizabeth Barrett-Connor, MD '60 |
| 1957 – Henry H. Kessler, MD 1919 | 1980 – W. Clarke Wescoe, MD '44 | 2004 – Francis V. Chisari, MD '68 |
| 1958 – Paul F. Russell, MD 1921 | 1981 – Walter F. Riker, Jr., MD '43 | 2005 – John Allen Clements, MD '47 |
| 1959 – Ida S. Scudder, MD 1899 | 1982 – William A. Barnes, MD '37 | 2006 – George H. McCracken, Jr., MD '62 |
| 1960 – Dean F. Smiley, MD 1919 | 1983 – Fred Plum, MD '47 | 2007 – Jay N. Cohn, MD '56 |
| 1961 – Irvine H. Page, MD '26 | 1984 – Harry M. Rose, MD '32 | 2008 – Elizabeth G. Nabel, MD '81 |
| 1962 – Paul Reznikoff, MD 1920 | 1985 – Robert C. Hickey, MD '42 | 2009 – John Ross, Jr., MD '55 |
| 1963 – May G. Wilson, MD 1911 | 1986 – J. Robert Buchanan, MD '54 | 2010 – William Schaffner, MD '62 |
| 1964 – Milton Helpern, MD '26 | 1987 – Robert J. Haggerty, MD '49 | 2011 – Anne A. Gershon, MD '64 |
| 1965 – S. Bernard Wortis, MD '27 | 1988 – C. Everett Koop, MD '41 | 2012 – Michael D. Gershon, MD '63 |
| 1966 – Armand J. Quick, MD '28 | 1989 – Joseph F. Artusio, MD '43 | 2013 – R. Gordon Douglas, Jr., MD '59 |
| 1967 – Thomas P. Almy, MD '39 | 1990 – George A. Wolf, Jr., MD '41 | 2014 – Kathleen M. Foley, MD '69 |
| 1968 – Philip Levine, MD '23 | 1991 – Forrest C. Eggleston, MD '45 | 2015 – Steven G. Gabbe, MD '69 |
| 1969 – Alexander D. Langmuir, MD '35 | 1992 – Anthony S. Fauci, MD '66 | 2016 – Stephen L. Hoffman, MD '75 |
| 1970 – William D. Holden, MD '37 | 1993 – John H. Laragh, MD '48 | 2017 – W. Michael Scheld, MD '73 |
| 1971 – Harry Gold, MD '22 | 1994 – Mary Ann Payne, MD '45 | 2018 – Thomas H. Lee, MD '79 |
| | 1995 – Roy C. Swan, MD '47 | |

The honoree will be celebrated during Commencement and at the annual Award of Distinction Dinner in May.

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THE MAGAZINE OF
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SUMMER 2018



LETTERS TO THE EDITOR

Weill Cornell Medicine welcomes comments and correspondence from readers. Letters may be edited for length, clarity, and civility. We may not be able to publish all correspondence received, but we would like to hear from you. Please write to: wcm@med.cornell.edu.

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COVER ILLUSTRATION BY
ALEXANDER VIDAL

FEATURES

24 10 THINGS TODAY'S DOCTORS NEED TO KNOW

BETH SAULNIER

As a new academic year begins, *Weill Cornell Medicine* asked faculty and alumni physicians to contemplate the essential things that today's doctors should know—the kinds of key skills that the Medical College is teaching its students about how healthcare is delivered in the twenty-first century and what today's patients need. Their answers include such things as optimizing technology and prioritizing self-care—but, as Peter Marzuk, MD, a professor of psychiatry and the Gertrude Feil Associate Dean of Curricular Affairs, notes: “The core skills of being a physician are what they probably were five hundred years ago—talking to patients and the laying on of hands.”

32 MORTAL MATTERS

ANNE MACHALINSKI

Sociologist Holly Prigerson, PhD, has focused much of her research over the past three decades on two important questions: Why are patients who are close to death typically unaware that the end is near—and why do the circumstances of their deaths often diverge from their wishes? The Irving Sherwood Wright Professor in Geriatrics and co-director of the Center for Research on End-of-Life Care at Weill Cornell Medicine, Prigerson hopes that her work will help reimagine medical care at life's end. One essential element, she says, is for patients, their physicians, and their families to have honest conversations about prognoses and the likely benefits and harms of available treatments. “No one should ever be denied their right to choose how they live their final days because of a paternalistic notion that they don't want to know their prognosis,” Prigerson says, “or a misguided sense that someone else knows better and should decide for them.”

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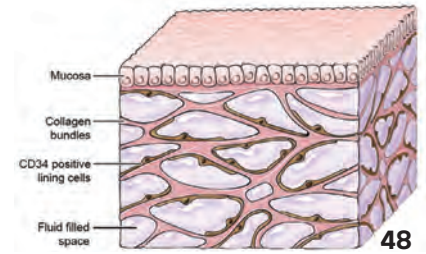
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Big Red STEM Day 2018 focuses on inspiring girls.

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Barrier-breaking cardiothoracic surgeon Erin Mills Iannacone, MD. *Plus:* A resident works to increase the number of minority men in medicine, combatting a peril of extreme exercise, the rise of telemedicine at NewYork-Presbyterian/Weill Cornell, and a conversation with the leader of the new Mentoring Academy.

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Augustine M.K. Choi, MD
Dean of Weill Cornell Medicine

The Good Doctor: Inspired to Greatness



As dean, I'm often asked what distinguishes a great doctor. For me, it comes down to a simple but essential concept: she cares.

At Weill Cornell Medicine, our world-class physicians deliver the finest clinical care to the more than 1.7 million patients who visit us each year, at more than forty sites throughout New York City. Our researchers endeavor every day to discover new therapies and groundbreaking innovations that will improve quality of life for all. And we're not in this alone: our physicians and scientists work closely with colleagues within the Weill Cornell community and across New York's top-tier institutions—including NewYork-Presbyterian, Memorial Sloan Kettering Cancer Center, Hospital for Special Surgery, and The Rockefeller University—to ensure that there are no barriers to providing the best possible care.

We don't just care *for* those who come to us seeking help—we care *about* them. They are far more to us than charts or tests.

But there's more to what makes our doctors truly great. We don't just care *for* those who come to us seeking help—we care *about* them. They are far more to us than charts or tests. They are mothers, fathers, spouses, sisters, brothers, sons, and daughters; they're people, not just patients. Our physicians, nurses, and other clinical staff build relationships with them, consider their chief complaints from the patient's perspective, and tailor medical strategies to each individual's specific needs, with the goal of healing the whole person.

That's something that we teach our medical students from day one—to provide patients with empathy as well as expertise. As we note in our cover story, our future doctors not only master fundamental clinical skills, but learn

first-hand the importance of the doctor-patient connection. We educate our students about how to focus on the person in front of them, not just the problem at hand—and we encourage them to remember this lesson throughout their careers. Beyond taking a history and conducting the physical exam, our physicians get to know their patients. They ask about their lives and listen to what's bothering them. They look them in the eye, hold their hand when needed, and answer their questions fully and honestly. Not only is providing emotional support the right thing to do, but this kind of active, compassionate care can ultimately lead to better outcomes—since research suggests that the more someone trusts their doctor, the more likely they are to follow their healthcare recommendations.

As physicians, we are dedicated to our patients' care throughout all stages of their lives, including—as our feature on Holly Prigerson, PhD, highlights—their final days. In our story on Dr. Prigerson, who is co-director of Weill Cornell's Center for Research on End-of-Life Care, we delve into the important work to which she has dedicated her career. She and her colleagues in research and clinical care aim to ensure that patients receive the appropriate level of treatment at life's end—and avoid more aggressive interventions, if that's their preference—with a goal of giving them the most compassionate and peaceful experience possible. At such a delicate juncture, the need for physicians to communicate meaningfully and completely, and to practice empathy and understand a patient's values and goals, could not be more vital.

Dr. Prigerson's work is just one more example of why Weill Cornell Medicine is a leader in health and medicine: because we combine scientific excellence with a personal approach. We don't simply write a prescription or order a test, then send patients on their way. We care about their wellbeing on every level. Because that's what great doctors do. They care. ■



Make a powerful
impact on the
lives of children

Children's Health Council

The Weill Cornell Medicine Children's Health Council provides support to physicians and scientists as they pursue discoveries that tackle the most prevalent health issues facing children and adolescents today. Join the Council and make a powerful difference in the future of children's healthcare.



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The Council is composed of incredible people. It's truly a group for everyone who shares a common purpose: improving the lives of children."

– Mara Feil, CHC Vice Chair

New Koch Center Dedicated to Ambulatory Care



DESIGNED WITH PATIENTS IN MIND (from top): The lobby of the NewYork-Presbyterian David H. Koch Center ambulatory care facility at York Avenue and East 68th Street; dignitaries at the ribbon-cutting last spring; a state-of-the-art operating suite

NewYork-Presbyterian/Weill Cornell Medical Center celebrated the opening of its new ambulatory care center in April. Located on the hospital's campus at York Avenue and East 68th Street, the NewYork-Presbyterian David H. Koch Center is home to a wide range of services from multidisciplinary teams of physicians from Weill Cornell Medicine, including outpatient surgery, interventional radiology, diagnostic imaging, and infusions, as well as an integrative health and wellbeing program. The 740,000-square-foot facility was made possible by a \$100 million gift from David Koch, a longtime NewYork-Presbyterian trustee. "The NewYork-Presbyterian David H. Koch Center is a wonderful addition to our academic medical center," says Dean **Augustine M.K. Choi, MD**. "This cutting-edge facility provides a tremendous opportunity for Weill Cornell Medicine's physicians to translate the latest biomedical research breakthroughs made at the bench into superior treatments and therapies for our patients."

The center is designed to be a one-stop destination for individualized, coordinated care—from diagnosis to treatment. It includes smart technology systems to make visits as smooth as possible; for example, patients can complete paperwork remotely in advance, on a mobile phone or online. Upon arrival, they're offered a "smartband" that provides access to the building, and they can receive information and directions through the NYP app. Constant communication, including text updates, keep loved ones apprised of a patient's progress, or they can view such information in the private prep/recovery area. "Our goal in creating the NewYork-Presbyterian David H. Koch Center was to develop a new vision for what ambulatory care could be by focusing first and foremost on patients' needs and the delivery of exceptional care," says **Steven Corwin, MD**, president and CEO of NewYork-Presbyterian. "Every decision about the design and operation of this building was made with the patient in mind, from the quick and easy check-in to the private prep and recovery rooms, light-filled treatment areas, and real-time status updates. This is truly an environment that was designed for healing, and we believe it represents the future of ambulatory care."

PHOTOS: NEWYORK-PRESBYTERIAN

WCM Helps Lead Massive NIH Study

In May, the NIH opened national enrollment for the All of Us Research Program, a large-scale effort to advance individualized prevention, treatment, and care by analyzing the health information of more than a million volunteers—particularly from communities traditionally underrepresented in research. In New York City, enrollment is being spearheaded by a consortium that includes Weill Cornell Medicine, Columbia University Irving Medical Center, NewYork-Presbyterian, and NYC Health + Hospitals/Harlem. Participants in All of Us will be asked to share health and lifestyle information, including through online surveys and electronic health records; over the coming months and years, some will be asked to provide blood and urine samples and have basic physical measurements taken, such as height and weight. In the future, participants may be invited to share data through wearable devices and to join follow-up research studies, including clinical trials.

New Director Tapped for Appel Institute

A neuroscientist who has conducted internationally acclaimed research into neurodegenerative diseases has been appointed director of WCM's Helen and Robert Appel Alzheimer's Disease Research Institute. **Li Gan, PhD**, was recruited from UC San Francisco, where she was associate director of the Gladstone Institute of Neurological Disease. Established in 2006 with a \$15 million gift from Helen and Robert Appel, the institute is dedicated to understanding the molecular, cellular, and genetic underpinnings of Alzheimer's disease and related degenerative neurological disorders for the benefit of patient care. Headquartered in the Belfer Research Building, it's an integral part of the Feil Family Brain and Mind Research Institute (BMRI).



LI GAN, PHD

Emergency Medicine Becomes a Department

Recognizing the increasing importance of emergency medicine as an academic discipline, WCM has expanded its Division of Emergency Medicine into a comprehensive department. **Rahul Sharma, MD**, who has led the Lisa Perry Emergency Center at NewYork-Presbyterian/Weill Cornell Medical Center as emergency physician-in-chief and served as division chief since 2016, has been appointed the inaugural chairman, as well as chief and medical director of the NewYork-Presbyterian Emergency Medical Services enterprise. "It is an exciting milestone that Weill Cornell Medicine established the Department of Emergency Medicine, not only for academic medicine, but also for our specialty," says Sharma, an associate professor of clinical medicine and of clinical healthcare policy and research. "Becoming an academic department further enhances our tremendous reputation and will allow us to recruit stellar faculty, build a robust research enterprise, and maintain clinical excellence."

Lee Named Chair of Psychiatry

Francis Lee, MD, PhD, a physician-scientist whose research focuses on anxiety disorders, has been named chairman of the Department of Psychiatry and psychiatrist-in-chief at NewYork-Presbyterian/Weill Cornell. He will oversee one of the largest academic psychiatry programs in the country, with some 600 faculty, more than 300 inpatient beds, and numerous outpatient programs across two campuses: NewYork-Presbyterian/Weill Cornell in Manhattan and NewYork-Presbyterian Westchester Division in White Plains. "My vision is to capitalize on our strengths in order to maintain the department's national presence," Lee says, "not only as a leader in education, but also in our exceptional clinical care delivery and groundbreaking research." A member of the WCM faculty since 2002, Lee is the Mortimer D. Sackler, MD, Professor of Molecular Biology in Psychiatry and a professor of psychiatry, pharmacology, and neuroscience. He succeeds **Jack Barchas, MD**, who served as chair for twenty-five years and will remain on the faculty.



FRANCIS LEE, MD, PHD

PHOTOS: GAN, CHRIS GOODFELLOW; LEE, JOHN ABBOTT

TIP OF THE CAP...

Charbel Abi Khalil, MD, PhD, assistant professor of genetic medicine and of medicine at WCM-Q, elected a fellow of the American Heart Association.

Samuel Bakhom, MD, PhD, a Holman research fellow at WCM and a senior resident in radiation oncology at Memorial Sloan Kettering Cancer Center, winner of a Tri-Institutional Breakout Award for Junior Investigators for his work on the role of chromosomal instability in cancer.

Janet Braam, PhD '85, chair of biosciences at Rice University, winner of the Distinguished Alumnus Award from the Weill Cornell Graduate School of Medical Sciences.

Donald D'Amico, MD, the John Milton McLean Professor of Ophthalmology and chair of the department, who received the Distinguished Clinical Achievement Award from the Harvard Medical School Department of Ophthalmology.

Dean Emeritus **Antonio Gotto Jr., MD, DPhil**, named president-elect of the National Lipid Association.

Thomas Lee, MD '79, a WCM overseer, chief medical officer of Press Ganey Associates Inc., and an internist and cardiologist at Brigham and Women's Hospital, winner of the Weill Cornell Medicine Alumni Association Award of Distinction.

Geraldine McGinty, MD, assistant professor of clinical radiology and of clinical health-care policy and research, the first woman ever elected chair of the American College of Radiology's board of chancellors.

Tony Rosen, MD, assistant professor of medicine at WCM and an attending emergency physician at NewYork-Presbyterian/Weill Cornell Medical Center, winner of the American Geriatrics Society's Jeffrey H. Silverstein Memorial Award for a comprehensive literature review of programs that combat elder mistreatment.

Ellen Scherl, MD, director of the Jill Roberts Center for Inflammatory Bowel Disease, the Jill Roberts Professor of Inflammatory Bowel Disease, and a professor of clinical medicine, who won the Distinguished Physician Award from the Long Island Chapter of the Crohn's & Colitis Foundation.

Fei Wang, PhD, assistant professor of health-care policy and research, winner of a Faculty Early Career Development Award from the NSF—which comes with a minimum \$500,000 in funding over five years—for his work on developing computer models to predict disease.

Commencement Celebrated in New York and Doha



RITE OF PASSAGE: Commencement 2018 in Carnegie Hall (top). Above: WCM-Q grads take the Hippocratic Oath in Doha.

Weill Cornell Medicine marked the accomplishments of the Class of 2018 with the annual Commencement ceremony in Carnegie Hall in May. Degrees were conferred on eighty-eight medical doctors from New York and thirty-four from Qatar, as well as fifty-six PhDs, seventy-six masters of science, and thirty-four physician assistants. “You represent compassion and integrity, and you have a responsibility to try to make society better for everyone, and particularly for

those most in need of care,” Dean **Augustine M.K. Choi, MD**, said in his remarks. “The impact you have extends far beyond yourselves, and I urge you to take seriously your ability to improve the communities and organizations around you.” Earlier in the month, WCM-Q marked its own Commencement at a hotel in Doha. At the ceremony, Dean **Javaid Sheikh, MD**, noted that the graduates included a record number of Qatari nationals—thirteen, or more than a third of the class—which he called a “testament to the vision of Qatar’s leadership of creating a knowledge economy and a hub of biomedical excellence within the region.”

Health Hackathon Nurtures Ingenious Ideas

Last spring, WCM’s second annual Health Innovation Hackathon brought some seventy-five participants together in teams to brainstorm creative solutions to healthcare challenges using 3D printing and other advanced technologies. Participants included faculty, students, and staff from WCM, the Ithaca campus, Cornell Tech, Hospital for Special Surgery, Memorial Sloan Kettering Cancer Center, Hunter College, and Tufts University. It was organized and directed by **Julianne Imperato-McGinley, MD**, principal investigator of WCM’s Clinical and Translational Science Center (CTSC) and the Abby Rockefeller Mauze Distinguished Professor of Endocrinology in Medicine. The event culminated in the awarding of a \$10,000 grand prize, which was shared by two teams. One designed a wearable, 3D-printed mask that senses muscle movement in the face and neck and uses machine learning to produce speech, which is sent wirelessly to a cell phone; the other developed a 3D-printed prosthetic hand that can give sensory feedback and control how much force to use when touching and holding an object. As Imperato-McGinley noted at the event, the Hackathon’s spirit is exemplified by a quote from Albert Einstein: “We cannot solve problems with the same thinking that created them in the first place.”



PETER MEINKE, PHD

New Tri-I TDI Director Named

Chemist **Peter Meinke, PhD**, is the new head of the Tri-Institutional Therapeutics Discovery Institute (Tri-I TDI). Dedicated to expediting early-stage small molecule and antibody drug discovery into novel treatments for patients, Tri-I TDI is a nonprofit corporation created by Weill Cornell Medicine, Memorial Sloan Kettering Cancer Center, and The Rockefeller University, in partnership with Takeda Pharmaceutical Company Ltd. Meinke will be the institute’s Sanders Director and director of its Sanders Innovation and Education Initiative, which was created in recognition of the \$15 million gift from Lewis and Ali Sanders to help establish the institute in 2013. (The couple made an additional \$15 million gift to the TDI in 2015.) Since last year, Meinke has been Tri-I TDI’s vice president of preclinical development, as well as vice president of medicinal chemistry at Bridge Medicines, Tri-I TDI’s for-profit collaborator.

‘Academy’ Program Promotes Mentoring

With the aim of nurturing the next generation of healthcare leaders, WCM has established a new Mentoring Academy within the Office of Faculty Development. It will take a proactive approach to mentoring—creating an environment in which faculty at all career levels have the opportunity to be both mentors and mentees. It will promote formal mentorship opportunities—in large groups or one on one—and organize activities that encourage mentorship in informal settings, such as networking opportunities and workshops. “The need for mentorship is particularly strong among junior faculty, who may or may not have had training in conducting research, teaching, or building a clinical practice,” notes **Katherine Hajjar, MD**, associate dean for faculty development and the Brine Family Professor of Cell and Developmental Biology. “There are so many pressures on everybody’s academic endeavors that training in these areas has become particularly important.” A Q&A with *Mentoring Academy* director **Ruth Gotian, EdD**, appears on page 20.

FROM THE BENCH



MARK SOUWEIDANE, MD

Drug Delivery Method Promising

Mark Souweidane, MD, calls it “the most exciting thing I’ve done in my career by far.” Souweidane, a professor of neurological surgery at WCM and a pediatric neurosurgeon at NewYork-Presbyterian/Weill Cornell Medical Center and Memorial Sloan Kettering Cancer Center, led a promising clinical trial on a new way to combat diffuse intrinsic pontine glioma (DIPG), a lethal pediatric brain tumor that can’t be treated by surgery. As described in the *Lancet*

Oncology, the phase I trial tested a technique in which drugs are infused through tubes inserted deep into the brain stem. The trial, he says, “shows we can use this very powerful drug-delivery platform repeatedly and safely”—offering hope not only in treating DIPG, but other tumors located deep in the brain.

New Treatment Option for Kidney Tumors

Many cases of early-stage kidney cancer can be treated with a nonsurgical procedure, a new study suggests. Percutaneous ablation—the insertion of a needle through the skin into the tumor, which is then destroyed by heating or freezing—is less invasive than surgery and can often be performed in an outpatient setting. The study, in *Annals of Internal Medicine*, evaluated outcomes for more than 4,000 patients aged sixty-six and older in a large national registry. It found that for these patients, ablation is associated with fewer complications and lower renal failure rates compared with kidney-removal surgery. “Older patients, who are already at increased risk for chronic renal failure, shouldn’t always have to get their kidney taken out for a golf-ball or smaller sized tumor,” says lead author **Adam Talenfeld, MD**, an assistant professor of clinical radiology at WCM and a radiologist at NewYork-Presbyterian/Weill Cornell.



RUCHIKA GOEL, MD

Transfusions Raise Clot Danger

Patients who receive red blood cell transfusions before, during, or immediately after surgery are twice as likely to develop life-threatening post-operative clots as those who don’t get them, researchers report in *JAMA Surgery*. **Ruchika Goel, MD**, assistant professor of pathology and laboratory medicine and of pediatrics, and colleagues analyzed a database of about 751,000 patients who had surgery in 2014. Their findings, they say, underscore the need for physicians to consider alternatives when treating anemia during surgery.

“Every drop of blood we are transfusing should be used only if necessary,” says Goel, also assistant medical director of transfusion medicine and cellular therapies at NewYork-Presbyterian/Weill Cornell, “and it needs to be an evidence-based decision.”

Study Targets Bone Formation

New drugs to treat osteoporosis and fractures could result from research, published in *Nature Medicine*, on a molecule that promotes blood vessel growth in bone. Working in a mouse model, **Matthew Greenblatt, MD**, PhD, assistant professor of pathology and laboratory medicine, and colleagues found that a substance called SLIT3, best known for spurring nerve growth, can create an environment suitable for bone building—reversing the weakening effects of osteoporosis and helping fractures heal. While existing drugs for osteoporosis work either by blocking the cells that destroy bone or promoting bone formation by cells called osteoblasts, Greenblatt says, “our findings have potentially demonstrated a third category: drugs that target blood vessel formation within bone, prompting new bone to form.”

‘Mediterranean’ Diet Better for Brain Health?

A Western-style diet—one low in fiber and high in red meat, saturated fats, and refined sugar—triggers changes in the brain that may predispose people to Alzheimer’s disease long before they show signs of cognitive decline. In studies published in *BMJ Open* and *Neurology*, investigators demonstrated that as early as age thirty, diet was a predictor of structural and functional changes in the brain that are hallmarks of Alzheimer’s. Patients who ate a Mediterranean-style diet—rich in fruits, vegetables, whole grains, and lean protein—exhibited fewer such changes. “There is consensus in the scientific community that we might be able to prevent at least one in every three Alzheimer’s cases by addressing lifestyle factors,” says lead author **Lisa Mosconi, PhD**, who was recruited to WCM as an associate professor of neuroscience in neurology. “Our results point us strongly in the direction that diet should be one of those factors.”



ARI MELNICK, MD

CU Engineers Aid in Lymphoma Study

Ari Melnick, MD, the Gebroe Family Professor of Hematology/Oncology and a professor of medicine, has teamed up with engineers on the Ithaca campus to develop a device that could deepen understanding of why some lymphomas resist chemotherapy. The researchers, who have been exploring how fluid forces in the lymphatic system may relate to the tumors’ drug resistance, have developed a “micro-reactor” that exposes human lymphomas to fluid flow

similar to that in the body. The work “shows that the underlying biology of lymphoma cells is linked to the physical properties of the host micro-environment,” says Melnick, also a member of the Meyer Cancer Center. Published in *Cell Reports*, the research could point the way to new classes of therapeutics.

Key Discovery in Vaccines

A new approach to vaccine development may allow for the creation of immunizations with “dead” virus that are as effective as their live-virus counterparts. In *Immunity*, a team led by **Julie Magarian Blander, PhD**, the Gladys and Roland Harriman Professor of Immunology in Medicine, describes how a molecule, called bacterial RNA, that’s found in live vaccines produces a robust immune response—and that adding it to an inactivated vaccine can create the same results. The work could aid in engineering vaccines that deliver strong immunity while overcoming concerns about the health risks of live vaccines.



MARIANNE NELLIS, MD, MS '14

Platelet Transfusions Assessed

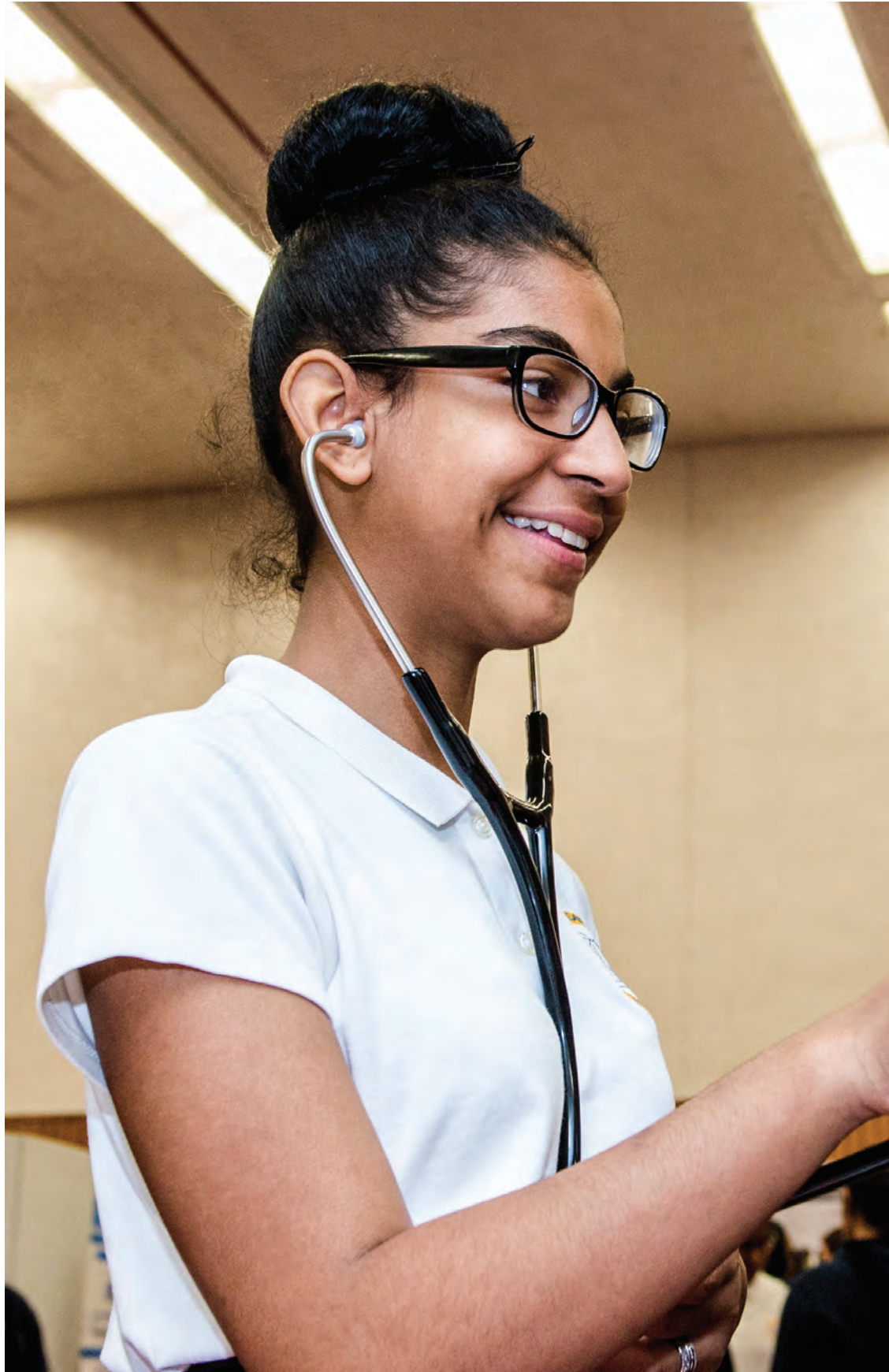
Marianne Nellis, MD, MS '14, the John D. & Lili R. Bussel, MD, Assistant Professor in Pediatric Hematology and an assistant professor of pediatrics at WCM and a pediatric intensivist at NewYork-Presbyterian/Weill Cornell, and colleagues have published the first paper ever to assess when and why critically ill children receive platelet transfusions and to describe their associated outcomes. They found that two-thirds of children in the pediatric ICU who receive platelets—a component of the

blood that helps it to clot—do so to prevent bleeding, while the rest receive them to stop active bleeding. But, Nellis says, some children who receive platelets for preventive purposes may not need them, and the risks include allergic reactions, immune changes, and infection. The work, based on data from about 17,000 patients, was published in *Critical Care Medicine*.

Empowering Girls

In May, Big Red STEM Day brought about 100 students from Young Women's Leadership Network public schools across New York City to the Olin Hall gym for workshops on science, technology, and engineering topics such as genetics, polymers, and Internet privacy. The annual event—organized by Weill Cornell Medicine, Cornell Tech, the Cornell Center for Materials Research, and Cornell Cooperative Extension—is aimed at encouraging underrepresented minority youth to pursue STEM-related education and careers, while facilitating meaningful interactions between youth and potential mentors. The WCM volunteers included members of the Women in Medicine student group, who taught the middle- and high-schoolers how to use stethoscopes, blood pressure cuffs, and suture kits, and talked to them about careers in medicine.

PHOTO: STUDIO BROOKE





Leading by Example

Cardiothoracic surgeon Erin Mills Iannacone, MD, aims not only to bring more women to her field, but to broaden NewYork-Presbyterian/Weill Cornell Medical Center's surgical offerings



Erin Mills Iannacone, MD

Growing up in the San Francisco Bay Area, Erin Mills Iannacone, MD, often spent Sunday mornings at the hospital with her father, an orthopaedic surgeon, as he checked on patients before church. Back then, she wasn't planning to follow in his footsteps, instead thinking about becoming an astronaut or a psychologist. But when she was home during a break from her undergraduate studies at UCLA, Iannacone watched her dad perform a hip replacement—an experience she describes as a “lightning bolt” moment that helped set her career path. “I realized how exciting surgery was—you're actually fixing people with your hands,” she recalls. “And then seeing the patients in his office afterward, how much happier they were; being able to improve people's quality of life was a major motivating factor.”

Today, Iannacone is a surgeon, too, although she mends hearts—treating aortic aneurysms, repairing damaged arteries,

replacing diseased valves, and more. She's also a trailblazer: the first female cardiothoracic surgeon at Weill Cornell Medicine and NewYork-Presbyterian/Weill Cornell Medical Center. Iannacone is one of the few women in the U.S. who practice in the specialty, which requires at least seven additional years of training after medical school, one of the longest in medicine. The American Board of Thoracic Surgery (ABTS) certified its first three female diplomats in 1961, with the total number of women reaching ten by 1980. Although that figure has grown to more than 200 today, women still account for less than 5 percent of practicing cardiothoracic surgeons—with even fewer choosing cardiac surgery as their primary specialty. The disparity, however, never deterred Iannacone from pursuing her dream. “There are very few women in my field—that is definitely true—and I knew this as I moved forward in my training,” says Iannacone, also an assistant professor of clinical

PHOTO: JOHN ABBOTT

cardiothoracic surgery. “Cardiac surgery just happened to be the only field in which I could imagine myself fulfilled.”

After earning her MD at Oregon Health Sciences University, Iannacone completed a five-year residency in general surgery at UCSF Fresno, where she handled a heavy load of trauma cases that included gunshot wounds, burn injuries, and car accidents. In 2014, she moved east for a two-year cardiothoracic fellowship at WCM. She stayed for another year to complete an advanced cardiovascular and aortic surgery fellowship under Leonard Girardi, MD ‘89, chairman of the Department of Cardiothoracic Surgery and the O. Wayne Isom Professor of Cardiothoracic Surgery, before being recruited to the faculty. Girardi says he was impressed by how Iannacone never accepted “anything less than perfection” from herself or those around her, a crucial quality in a cardiac surgeon. “With heart surgery, when you have errors of a millimeter or two, that’s a problem,” he says. “Understanding the nuances of critical care also makes a huge impact on outcomes. We deal with conditions that are potentially fatal or life altering. You need a commitment to detail and the drive to stay on top of things.”

Girardi points to a recent case that Iannacone skillfully handled: a man in his early fifties with an aortic dissection, or tear in the largest artery carrying blood from the heart. The emergency operation to repair the rupture was successful, but the patient later developed an unusual complication involving decreased blood flow to the spinal cord, something that could have left him paralyzed from the waist down. Iannacone immediately ordered diagnostic tests and determined that increasing his blood pressure with medication would solve the problem, and the patient recovered. “Erin doesn’t sit around and wait for things to play out. She took control and was involved at every step,” says Girardi. “Within a few days, this guy was walking and talking and feeling better than when he came in. I don’t think everybody gets that job done.”

In addition to her duties at the hospital and medical college, Iannacone is leading the charge to establish a program at WCM for the surgical treatment of chronic thromboembolic pulmonary hypertension (CTEPH). The disease results from repeated or unresolved clots in the blood vessels of the lungs, causing shortness of breath and leading to possible heart failure and death. Though CTEPH is identified in only about 5,000 Americans each year, most experts agree that the condition is widely under-diagnosed. It is curable, however, with a complex procedure called pulmonary thromboendarterectomy (PTE), in which doctors suspend heart and blood circulation while they clear the pulmonary arteries of any blockages. But PTE has never been done at WCM, so patients flagged as candidates for the surgery are transferred elsewhere. Determined to change that, Iannacone spent a month last fall training with specialists at UC San Diego Health, which boasts more successful PTEs than any other medical center. She expects to move forward with the first at WCM before

year’s end. “Our goal is to be able to perform this here so our patients can stay with us,” she says. “We do a great job of providing the best cardiac care, but it’s important that we continue to expand what we offer.”

So why haven’t more women chosen to specialize in cardiothoracic surgery, as Iannacone has? The reasons include worries about work-life balance, given the rigorous, lengthy training and often-grueling surgical schedule—coupled with the fact that women still often shoulder the bulk of family caretaking responsibilities, both for children and for aging

‘Cardiac surgery,’ says Iannacone, ‘just happened to be the only field in which I could imagine myself fulfilled.’

parents. In 2012, the *Annals of Thoracic Surgery* published a survey of more than 90 percent of the 204 living female diplomats of the ABTS, noting that among the younger women, there were nearly twice as many general thoracic surgeons as adult cardiac or congenital heart surgeons—attributed partly to what is thought to be a more flexible lifestyle. The report cited other studies that found that overall, female surgical residents tend to be concerned with how pregnancy and maternity leave might fit into a demanding training program, as well as their impact on job security and future opportunities. “There is a perceived need for more female mentors in cardiothoracic surgery,” it noted, “which is contingent on increased numbers of satisfied women in the field and especially in academics, where there is increased exposure to medical students and residents.” It underscored that need by citing a study that found that among residents with mentors, 67 percent go into the same field as that mentor.

The importance of mentorship in recruiting women into the field was also highlighted in a 2016 study in the same journal, which surveyed 354 cardiothoracic surgery residents, both men and women. “Most female CT surgeons are satisfied with their career choice,” it said, adding: “However, additional challenges remain.” Though the study found that women now account for 20 percent of cardiothoracic residents—a significant uptick compared with the 5 percent for full-fledged surgeons—it reported that women felt less prepared technically, were less likely to pursue research during their careers, and were less likely to be married and have children than their male counterparts. Iannacone says she’s lucky to have had supportive mentors at WCM—and an understanding husband who “takes care of nearly everything in my life outside of work, so I can be completely focused on my patients.” In her professorial role, she also hopes to inspire the next generation of female physicians, calling her glass ceiling-breaking appointment “the greatest honor.” Says Iannacone: “I’m thrilled to provide an example to other women to show them that this kind of career is possible.” ■

— Heather Salerno

Role Model

Fewer men of color are pursuing medicine—but Maurice Hinson, MD, who was the first in his family to go to college, aims to change that



Maurice Hinson, MD

For African American internist Maurice Hinson, MD, it has happened more times than he can count. He'll walk into a hospital room, and—despite his white coat—the patient will assume that he's there not to treat them, but to draw blood or transport them for a test. "I'm not offended by it; these are respectable positions," Hinson says. "And in a weird way it's empowering, because it affords me the opportunity to demonstrate that black doctors do exist—and we're good doctors." But as he admits, it's also disheartening. "It shows you that patients still aren't used to seeing physicians of color—which points to the fact that we need to do a better job at increasing the number of under-represented minorities in medicine. We still have a long way to go."

Hinson, who recently completed his internal medicine residency at NewYork-Presbyterian/Weill Cornell Medical Center and is now an attending physician in the observation unit at NYU, has been working to bring those numbers up. In 2016, he founded WCM's

Black and Latino Men in Medicine Initiative—and was thrilled that more than forty students, trainees, and faculty showed up for the first meeting. It began as a forum for networking, socializing, and mutual support; they'd discuss relevant issues over pizza and beer. But Hinson and his colleagues have widened their ambitions. Last spring, the group held a day-long conference, "Closing the Representation Gap," which drew more than eighty people—from WCM, NYP, Columbia, Memorial Sloan Kettering Cancer Center, Hunter College, and other institutions—to Uris Auditorium. The agenda included a keynote speech by the head of a national diversity-in-education organization, as well as brainstorming sessions on how to increase the number of minority male doctors (for example, by offering implicit bias training for people who make admissions decisions). The group will continue after Hinson's departure, with a men's health fair and a mentoring mixer planned for the fall. "We need to offer more support for those who get to the point where they're applying to medical school," says Kevin Holcomb, MD, an associate professor of clinical ob/gyn, interim chair of ob/gyn, and the group's faculty adviser, "and also do more to feed the pipeline—to open up opportunities for exposure to careers in medicine for young men who might not consider it otherwise."

Why focus on men? As Hinson and Holcomb point out, their MD numbers have not only failed to increase in recent decades—they've actually declined. In 2016, the American Association of Medical Colleges (AAMC) released a report noting that in 1978, 1,410 black men applied to med school and 542 matriculated; by 2014, those numbers had dropped to 1,337 and 515, respectively. "No other minority group has experienced such declines," the report stated, adding that, "The inability to find, engage, and develop candidates for careers in medicine from all members of our society limits our ability to improve healthcare for all." Black women, by contrast, have seen significant gains: as the AAMC has reported, between 1986 and 2015 the number of black female graduates increased by

'Patients still aren't used to seeing physicians of color,' Hinson says, 'which points to the fact that we need to do a better job at increasing the number of under-represented minorities in medicine.'

53 percent—compared with a decline of 39 percent for men. (While that report didn't include raw numbers of female graduates during those years, other AAMC statistics underscore the current gender disparity; for example, 3,234 black women were enrolled in medical school in 2015–16, compared with 2,271 black men.) Contemplating the reasons for the male numbers, the AAMC cited "unequal K–12 opportunities, the absence of mentors, negative public perceptions



EXPANDING OPPORTUNITIES: Hinson (seventh from left) outside NewYork-Presbyterian/Weill Cornell Medical Center with fellow members of the Black and Latino Men in Medicine Initiative, and (opposite page) on the WCM campus last summer

of black men, and lack of financial resources.”

Hinson himself faced some of those challenges as a youth—financial constraints in particular—but other advantages helped him beat the odds. He was raised in Philadelphia by his father, who’d dropped out in the eleventh grade and worked for the city in street maintenance and sanitation, but was a strong proponent of education who forbade his son to bring home C’s. (Hinson’s mother, a certified nursing assistant, struggled with drug addiction for much of her adult life; she’s now sober and doing well.) When Hinson was young, their apartment building was owned by a surgical oncologist, who had an outpatient clinic across the street; when Hinson’s dad had to work, he’d drop him off to play with the daughter of a staffer. “They’d dress us up in white coats and stethoscopes,” he recalls. “My earliest memories are me in this white coat dragging on the floor, listening to people’s heartbeats. That was the first thing that exposed me to medicine, that jump-started my fascination with the human body.” When he was six or seven, a neighbor who was a physician’s widow gave him her late husband’s medical books. “At that time I couldn’t understand the words,” he says, “but I’d flip through the pages.”

When Hinson was around eight, he and his dad had to move because their building in the relatively affluent Society Hill neighborhood was sold—and housing wise, he says, “it was all downhill from there,” with the family relocating more than a half-dozen times. “They weren’t the best areas by any means,” he says. “Drugs were always a big thing, but my pop tried his best to keep me away

from that.” He attended a program for gifted elementary school students and a magnet high school for science and engineering, then earned a BA in neuroscience from Johns Hopkins and spent two years doing neonatology research at Children’s Hospital of Philadelphia. But halfway into his second year of med school at Drexel University, he found himself in danger of failing three courses—in large part because he was working overnight as a parking valet to support himself. He quit the job, logged long hours in the library, and passed.

While at Johns Hopkins, Hinson started a group that brought minority male undergrads to a Baltimore high school to mentor students; he launched a similar effort at Drexel, offering campus visits and tutoring to encourage Philly high schoolers to consider careers in medicine. Starting the WCM initiative—for which he was honored last spring with one of the institution’s 2018 Pioneer in Diversity Awards—was a natural evolution of his long-standing commitment to empowering other young men of color. “He is unbelievably dedicated to this topic,” says Holcomb. “He’s passionate not only about the numbers of black and Latino men in medicine, but in improving health outcomes and decreasing disparities in the black and Latino community, and he sees increasing the [physician] numbers as critical to that.” Hinson, he says, “is a doer, not a talker. You mention something to him once, and the next time you speak to him he’s going to give you his plan—and the time after that, he’s telling you how he got it done.” ■

—Beth Saulnier

'Rhabdo' on the Rise

The trend toward intense exercise has triggered an increase in a potentially life-threatening condition



On a Saturday morning about four years ago, a Manhattan resident in his mid-twenties agreed to accompany his wife to a spin class on the Upper East Side. With his shoes clipped into the stationary bike's pedals, he spent sixty minutes trying to keep up, as the music blasted and the trainer shouted encouragement. Afterward, his legs were wobbly as he walked down the stairs, but he wasn't worried. "It felt no different than if I'd just done a bunch of squats or played a competitive game of tennis," says the man, who asked that his name be withheld to protect his privacy. They went to brunch and ate dinner out that evening; the next day he was in much more pain than he would have expected, but he still wasn't concerned.

Come Monday, though, he took a turn for the worse—waking up to find that his thighs had swollen to twice their normal size. When he went to the bathroom, he saw that his urine was brown. "I could barely get out of bed," he recalls, "and I couldn't make it to work." He googled his symptoms and found that all signs pointed to rhabdomyolysis, a rare and potentially life-threatening condition that can be caused by extreme exercise.

His wife helped him into a cab and they went to the emergency department at NewYork-Presbyterian/Weill Cornell Medical Center, where physicians confirmed that he did indeed have rhabdomyolysis. Known as "rhabdo" for short, the condition occurs when skeletal muscles break down and release their contents—including a protein

PHOTO: GRADY REESE/ISTOCK

called myoglobin and an enzyme called creatine kinase—into the bloodstream. Rhabdo can be triggered by any type of strenuous physical activity, from marathon training to CrossFit classes; it can also be caused by drugs (both illicit and prescribed) as well as trauma, such as when someone is trapped under rubble after an earthquake.

But Todd Cutler, MD, a hospitalist who treated the man, has observed that cases of spinning-induced rhabdo seemed to be on the rise—and in fact, the nurse who first saw the patient in the ED said, “Oh my God, it’s another one” when she introduced him to the case. Each time, Cutler says, it’s a similar story. “People in their twenties or thirties push themselves through an hour-long class when they’ve never done that activity before, and end up with muscle damage,” says Cutler, an assistant professor of clinical medicine at WCM and an attending physician at NewYork-Presbyterian/Weill Cornell. “They’re usually in shape and are in no way couch potatoes. But this activity is not something their bodies are acclimated to, and the outcome is relatively incapacitating.”

After treating the patient, Cutler decided to conduct some retrospective research to back up his anecdotal observation about rhabdo’s increasing prevalence and its apparent connection to the popularity of spin classes. In 2016, he published a study in the *Clinical Journal of Sports Medicine* showing that in a four-year period ending in November 2014, fourteen of twenty-nine patients admitted to NewYork-Presbyterian/Weill Cornell with exertion-induced rhabdo came in after spinning. “The incidence of spinning-induced rhabdo went from essentially zero the first year,” Cutler says, “to the most common reason people came into the hospital with exercise-induced rhabdo three years later.” That increase can likely be attributed to the growing popularity of spin classes, an intense form of exercise in which exertion is focused on the quadriceps muscles rather than spread throughout the body—combined with the fact that anyone can walk in off the street and try spinning, regardless of fitness level.

Cutler’s patient spent that first night in the ED, receiving morphine for the pain and saline through an IV in each arm—up to two liters of fluid per hour in the beginning—to flush out the muscle protein and enzyme that had built up in his blood and urine. He was then admitted to a hospital room, where he stayed for a week, continuing to receive fluids as doctors tracked the color and contents of his urine. While he was fortunate not to suffer any long-term consequences, in its most extreme cases rhabdo can cause a severe type of muscle swelling called compartment syndrome, which requires surgery; it can also cause temporary or permanent kidney damage, potentially requiring long-term dialysis or even a transplant. “This was the first time I ever had to go to the hospital—and here I was after one workout class, admitted for a whole week,” the patient marvels. “I had no idea this could happen.”

Cutler’s rhabdo research was the subject of one of the *New York Times*’s most popular health stories last year, a piece that has



Todd Cutler, MD

generated more than 800 comments online; it has also been covered by other outlets including NBCNews.com and *New York* magazine’s blog “The Cut.” Spreading the word about the condition, Cutler stresses, is key to preventing future cases. “Trainers need to know that if someone has never done an exercise before—it doesn’t have to be spinning—their initial session should be less intense and more

‘This was the first time I ever had to go to the hospital—and here I was after one workout class, admitted for a whole week,’ one patient marvels. ‘I had no idea this could happen.’

gradual,” he says. And to exercisers, he says that while rhabdo is relatively rare, they should be aware of the potential danger—particularly if they’re new to a physically demanding activity. “If you push yourself too hard,” he says, “you could be putting yourself at risk.” ■

—Anne Machalinski

'Webside' Manner

Telemedicine is a growing field at NewYork-Presbyterian/Weill Cornell Medical Center—and WCM is at the forefront of training future physicians in the art of the virtual exam

Bronx resident Andrea Ablack and her family are longtime patients of NewYork-Presbyterian/Weill Cornell Medical Center. Not only do they come to the hospital for routine care, but she was born there—as were her four sisters—and she gave birth to her own daughter there four years ago. So when the twenty-eight-year-old childcare worker stopped by the emergency department for treatment of some flu-like symptoms in early March, she thought she knew what to expect—including the fact that because her illness was relatively minor, she might have to wait a few hours to see a doctor.

But after checking in and seeing a physician assistant—who conducted a brief exam and noted Ablack's symptoms, which included a sore throat, swollen lymph nodes, a headache, and chills—she was given a surprising option: instead of waiting, she could be seen in a matter of minutes. The twist was that she wouldn't be consulting with a physician in person, but rather by video conference. She agreed and was escorted to a private room, where she and a board-certified emergency medicine doctor—located in another building on campus—communicated over webcam. "It went well," she recalls. "He knew everything that was going on with me before I got in the room, so all I had to do was explain how I was feeling. It was very detailed, very helpful." Ablack was swiftly diagnosed with an upper respiratory infection and given a prescription for prednisone—she has asthma, and her illness had triggered some wheezing—as well as a recommendation for over-the-counter cough medicine. "At the end, the discharge papers were printed right there in front of me," she marvels, "which I thought was very cool."

Ablack is among the more than 5,000 patients who have used the ED's new telemedicine system, NYP OnDemand Express Care, since it was launched in July 2016. Designed for patients with non-life-threatening conditions—colds, minor rashes, sprains, and the like—the system has proved highly popular. According to Peter Greenwald, MD, the ED's co-director of emergency medicine telehealth services and director of emergency medicine telehealth quality assurance, more than 95 percent of patients who are offered the service opt for it. Last fall, Express Care was honored with the 2017 Emergency Care Innovation of the Year Award, presented at the American College of Emergency Physicians Scientific Assembly in Washington, D.C. "When we were first planning this, many people, myself included, were quite skeptical," says Greenwald, an attending physician in the ED and an assistant professor of medicine at WCM. "But patients have been remarkably happy with these encounters.

Satisfaction has been as good or better as with comparable patients in the emergency department." And while planners originally assumed that Express Care would primarily appeal to a younger demographic, that hasn't held true. "This has been readily embraced by patients over sixty; we've had quite a few over ninety—and two who were ninety-nine," Greenwald says. "We've gotten comments like, 'I can't wait to tell my friends I did this.' It's been surprising."

Rahul Sharma, MD, emergency physician-in-chief at NewYork-Presbyterian/Weill Cornell and chair of the Department of Emergency Medicine at Weill Cornell Medicine, likes to compare Express Care's role in the ED to that of ATMs in the banking world. When the machines first appeared decades ago, he says, many people doubted their usefulness, since cash could be obtained from a teller. "But when was the last time you went to a teller to get cash?" asks Sharma, also an associate professor of clinical medicine and of clinical healthcare policy and research. "You go to the teller if you have a question or a problem with your account. We have the same approach in terms of the low-acuity patients in our emergency department. This is not for people with chest pains or stroke symptoms." And fears that onscreen interactions would seem impersonal have proved unfounded. "It's actually a more intimate encounter," Sharma says. "You're one on one with the patient, in a private room, and there are fewer interruptions." Greenwald adds that although nothing can replace a hands-on exam, clinicians can learn a surprising amount

'When we were first planning this, many people, myself included, were quite skeptical,' says Peter Greenwald, MD. 'But patients have been remarkably happy with these encounters.'

through virtual means. "I've been practicing for almost twenty years, and it's interesting to exercise a new set of muscles," he says. "You'd think this would be purely talking, but the amount of information you can get visually is impressive. You can get a good skin exam, look in the back of someone's throat, count their breathing. You can get people to examine their own wrist or ankle, press on their own belly, take their own heart rate."

Greenwald, Sharma, and colleagues are currently conducting research on Express Care, including studying how the system affects the length of time spent in the ED; exploring whether there are differences in antibiotic prescribing rates when patients are seen via telemedicine or in person; and comparing the experiences of younger versus older patients. All told, Sharma says, WCM faculty have published some twenty articles and abstracts



VIRTUAL MED: Emergency physician Alexis Halpern, MD, (seen on monitor) demonstrates an NYP OnDemand ED Express Care telemedicine visit.

on telemedicine topics over the past year and a half. In February, he co-authored an essay in *JAMA* coining a term for a potential new specialty: the “medical virtualist.” The essay noted that by 2022, telemedicine—which began as a way to reduce geographic barriers to healthcare in rural areas—is expected to grow into a \$12.1 billion industry worldwide.

Given telemedicine’s increasing role in healthcare, Sharma stresses that it’s vital for future physicians to get specialized training. In fall 2017, the Medical College launched a two-week elective in telemedicine, one of the first of its kind in the country. Open to fourth-years as well as visiting students and interested residents, it includes sessions with standardized patients—professional actors trained to participate in simulated medical encounters—at the Margaret and Ian Smith Clinical Skills Center. “Telemedicine, and technology in general, is creating a new need for communication skills training in medical education,” says Yoon Kang, MD, the center’s director and the Richard P. Cohen, MD, Associate Professor of Medical Education. “Given the growth of telemedicine in clinical practice, the national boards may also consider an assessment of students’ skills at using a technological platform for patient communication in the near future.”

At the Smith Clinical Skills Center, all physicians-in-training receive a checklist for patient encounters that includes calling people by name, avoiding leading questions, and letting patients speak without interruption. Now, there’s a telemedicine version, which adds guidelines such as making sure that the background is uncluttered and professional-looking; staying in the camera frame;

maintaining eye contact; and speaking loudly and clearly enough to be understood through the microphone. The two-week elective in telemedicine also includes guidance on techniques for optimal “webside” manner—so physicians can convey the same warmth and compassion over a video screen as they can in person. Says Sharma: “You can’t just put someone in front of a monitor and expect them to do a good job.”

Express Care is just one of several ways in which WCM and NewYork-Presbyterian/Weill Cornell are harnessing technology to better serve patients—and in many cases, they don’t even need to come to the hospital. Using an online system, for example, patients can have a “virtual visit” with their physician or request a second opinion without leaving home. Through a collaboration with Walgreens, customers can see a doctor using kiosks in private rooms at several drugstores in New York City. And instead of going to an urgent care center, non-emergent patients can be seen by an emergency physician through an app or Web browser from 8 a.m. to midnight, seven days a week. The suite of services, some of which require out-of-pocket fees that may be reimbursable under individual insurance plans, is being offered under NewYork-Presbyterian’s umbrella program, NYP OnDemand; it also includes a system for specialists—in such fields as psychiatry, pediatrics, and stroke medicine—to quickly consult with each other across the NewYork-Presbyterian system. “The most important take-home is that if patients didn’t like this, it wouldn’t have gone anywhere,” Sharma says. “They’re the ones who are really driving this.” ■

—Beth Saulnier

Guiding Principles

A new program—led by Ruth Gotian, EdD, a veteran educator and administrator—aims to promote mentorship at Weill Cornell Medicine



'EVERYONE MENTOR ONE':
Ruth Gotian, EdD, is leading
the new Mentoring Academy.

Ruth Gotian, EdD, has a passion for education—the locus of her entire career, except for two youthful years she spent in investment banking. For nearly the last quarter-century, Gotian has held a variety of roles at Weill Cornell Medicine—most recently as administrative director of the Tri-Institutional MD-PhD Program—with one common denominator: tapping her talents to help students and faculty succeed. Now, she's the founding executive director of WCM's Mentoring Academy, a new initiative devoted to fostering what Stephen and Suzanne Weiss Dean Augustine M.K. Choi, MD, calls "a vibrant and dynamic culture of mentorship" at the institution. Under the aegis of the Office of Faculty Development, the Academy will offer a variety of programs and activities—from talks to training sessions to networking events—geared toward helping faculty at all levels form mentoring relationships that will better position them to win research grants, get promoted, set appropriate career benchmarks, and more. And, Gotian stresses, "We are going

to do things in a very academic way," starting with a thorough needs analysis to identify the primary challenges to be addressed.

In addition to her undergraduate and master's degrees in business management from SUNY Stony Brook, Gotian holds a doctorate in education from Columbia; for her dissertation, she studied what makes very high-achieving physician-scientists so successful. (The key factors, she says, include "perseverance, work ethic, reflection, curiosity, and mentorship.") During her time with the MD-PhD program, she oversaw Gateways to the Laboratory, which brings talented undergrads from minority groups underrepresented in medicine to campus for a summer of research, aimed at preparing them to pursue the combined degree; she also founded a program that trains MD-PhD students to mentor Gateways participants. In her new leadership role, Gotian will also serve as assistant dean for mentoring, chief learning officer in the Department of Anesthesiology, and assistant professor of education in anesthesiology. Her motto: "Everyone mentor one."

PHOTO: ABBOTT

Why is mentoring important?

All the research has shown that those who've been mentored succeed more than those who have not. Mentors have significantly more experience than their mentees, have a vast network, and know the politics and nuances needed to get ahead. Having someone who can help you through that terrain—which can be very isolating—helps chart the way to success.

What qualities make a good mentor?

Listening. Observing. Understanding that your way isn't the only way; just because it worked for you doesn't mean it would for other people. Also, you need to understand that there are different forms of mentoring. Some mentees like to talk through a challenge, others like to read articles. People have different ways of absorbing information, and as mentors we need to know how to pivot.

What makes a good mentee?

Someone who will listen, who is open to asking questions and asking for assistance; someone who understands that it's OK not to know everything.

How do you match the right mentor-mentee pair?

The matches have to be organic, and we need to create opportunities for them to occur. There have to be informal events where junior and senior people can meet; you will click with somebody, and when you do, you'll know. At the end of the day, the mentor needs to be able to get the mentee to think deeper, to think differently. That's why a network of mentors from different areas—including outside medicine and science—is helpful, and something that the Mentoring Academy will encourage.

What do mentors get out of it?

I feel that my success is measured by that of those I've mentored; when they're successful, I feel successful. Knowing you've had a part in that is incredible. Everyone has something they can bring to the table, and when they can share it with others, we all become more successful.

Can mentoring happen at any level?

Absolutely. Everyone's journey is different. Even when you're senior faculty, there's always more you can do. Figuring out what that "more" is, and how to get it, can be so exciting. If you want to go on to a senior administrative role, there are people who have charted that course ahead of you and can help.

Is mentoring especially important for members of under-represented minority groups?

Yes, because it's difficult to be what you can't see. For example, if there are very few women in senior-level positions and that's what you aspire to, the more mentoring and role-modeling you get, the easier it is to attain that goal.

You've talked about the value of "horizontal mentoring." What's that?

It's peer mentoring, when you help other people at your level. Every person's experience and perspective is unique. If I'm a junior faculty member, a peer might have heard about an opportunity, a lecture, a grant, a journal, or something else that might help me get promoted. In the adult learning arena, we call that a "community of practice." Most of what we learn occurs informally, and this provides opportunities to learn from other people. Everyone gets the opportunity to be a mentor and a mentee.

As part of the Gateways program, you created an online platform for virtual mentoring. What's the advantage of that?

It allows students to pose questions and get multiple perspectives from trained peer mentors. Someone can say, "I'm in week four of the program and I'm not getting any data," which can feel like the end of the world. But the mentors can reply, "This is perfectly normal. Here's someone you can talk to. Here's an article you can read. Walk me through the steps of your experiment; have you tried this?" It creates a many-to-many mentoring dialogue. I'm really excited about that initiative, as it's the first of its kind for a STEM summer program.

'I feel that my success is measured by that of those I've mentored; when they're successful, I feel successful.'

How do you approach mentoring?

At the beginning, I do a lot of listening and very little advice-giving. I want to figure out what excites the person, what challenges them. Often mentees come to me feeling that they're having a crisis. When I can convince them that what they're going through has happened to many other people, it's less isolating. And it really helps reduce imposter syndrome, which is the fear that you don't deserve a position that you've actually earned.

Can you give an example of how a mentor has shaped your career?

I had one mentor, Dr. Bert Shapiro, who was director of all MD-PhD programs at the NIH. He told me, "Don't do something interesting; do something important." Those words have stuck with me forever. Because if we can do something important, we can make a change. ■

— Beth Saulnier

Lost and Found

A year in Guatemala reconnects a student physician to her love of medicine



LIVING & LEARNING: Sasha Hernández '18 (left) in Guatemala with one of the *comadronas* (birth attendants) that she worked with. Opposite page: Two more of Hernández's *comadrona* colleagues.

In the midst of my second year of medical school, I was lost. The never-ending days of lectures, studying, and memorizing felt devoid of the deep connection between doctor and patient that had called me to medicine and that I was anxious to cultivate as a student. But more terrifying than my disillusionment was the feeling of absolute isolation as everyone but me appeared passionate about medical school. It wasn't the first time I'd felt this way. A couple of decades earlier, as a newly immigrated ten-year-old from Colombia, I experienced fear and isolation on a grander scale, as I couldn't grasp why my single mother would move us across an ocean. Those feelings soon morphed into excitement about my new country and gratefulness for my mother, as I understood that she had sacrificed her home to raise us in a country where obtaining higher education—especially for her daughters—would be easier to achieve.

From these early life experiences, I began to see education as a way to acquire agency and independence as a Colombian-American woman. Yet here I was, fifteen years later, questioning the driving force that had taken me from an honors high school, to an Ivy League college, to education work abroad, and now to what seemed like the culmination of it all, pursuing a doctorate in medicine to help underserved communities in New York. Realizing that I drastically needed to change my surroundings, I serendipitously found myself as the new programs coordinator for a small NGO called Saving Mothers that uses health education to help reduce maternal mortality in rural Guatemala. My new title meant that after my third year of medical school, I would be taking a year off from my studies and living in Central America, supporting a training program for Mayan traditional birth attendants known as *comadronas*.

After that third year—marked by re-rounding, morning conferences, scurrying

after my team on rounds, and experiencing death, suffering, and the magic of birth—I was off to Guatemala. Three flights, two rickety buses, and one moto-taxi ride later I finally reached the tiny mountain town, San Martin Sacatepéquez, that I would call home for the next year. My main responsibility during my initial weeks was to grasp how to deliver a clinical curriculum to mostly illiterate *comadronas*. As an intent observer—a skill every third-year medical student painstakingly learns—I quickly appreciated the challenges of teaching fetal heart rate ranges. Understanding that the appropriate range was between 120 and 160 was a simple lesson for the *comadronas*. But it would take hours for them to recognize the written numbers on the fetal Doppler, a hand-held ultrasound used to detect the baby's heartbeat. As I quietly observed each lesson, I was finally grasping the weight of this training program and, more importantly, the resolve of the women.

Six weeks later, I was ready to lead a class. Buzzing with nervous energy, I began to relax as the class of *comadronas* filed into the classroom and during our customary greeting of a kiss on the cheek would gently sigh in my ear different iterations of "I don't know if I can do this." I wasn't the only one with jittery nerves. The tense energy in the room was heightened as I began to hand out the midterm exam. I sensed this part of the class would be difficult since test-taking was a foreign concept for our *comadronas*; most of them hadn't finished primary school and were now in their mid-sixties. Each timidly accepted her exam, sharpened pencil in hand, and began to intently and slowly murmur every test question under her breath. Thirty minutes into the midterm, I noticed some of them nervously shifting in their seats and stealing side-glances at each other. Realizing something wasn't right, I paced around the room and began to see every single answer choice circled on each page of their exams. I suddenly realized that they didn't know how to take a multiple-choice test.

I tried my best to hide the astonishment I could feel flooding over my face. Sure, I



had known that these women never studied past the first grade. I had witnessed how printing a name was a five-minute task. I had neurotically reviewed with them how to recognize numbers on a Doppler screen. Although the dedication to these tasks gave me deep respect for them, it took a multiple-choice exam—an innate concept in my own career of learning—to show me how truly extraordinary these women were and, more importantly, how alike we were. I recognized that they were seeking the same autonomy I had already found through

'I THOUGHT I WOULD BE FUNDAMENTALLY CHANGING MY LIFE'S COURSE, PERHAPS EVEN BY LEAVING MEDICINE. INSTEAD, I REDISCOVERED MY LOVE FOR HEALTH EDUCATION—AND MEDICINE ITSELF.'

education. We intimately shared a desire to attain knowledge in order to better help the women we take care of.

After regaining my composure, I spent the next three and a half hours methodically explaining the ten test questions and confirmed that everyone understood how to choose just one answer. When the last *comadrona* turned in her exam, the room erupted in celebration. As each woman left for home, I was embraced and thanked profusely for my patience during

their test. I struggled to express my pride, admiration, and respect in return. How could I convey that I was floored by the commitment they had made to be better healthcare practitioners despite their lack of formal schooling? I understood that taking a multiple-choice exam was not just a simple test of knowledge, but a real way for these women to stretch the strict boundaries that their traditional Mayan culture had placed on them.

By going to Guatemala, I thought I would be fundamentally changing my life's course, perhaps even by leaving medicine. Instead, I rediscovered my love for health education—and medicine itself—by witnessing its simple but transformative nature on the *comadronas* and the lasting impact it would have on their patients. As I continued to hug each of them, I knew words would do no justice. I could only hope that through our physical touch they understood that they had helped me find the physician I would become, who believed in the power of connection and love in medicine. ■

—Sasha Hernández '18

Sasha Hernández '18 is a resident in obstetrics and gynecology at NYU Langone Medical Center and a member of the Saving Mothers advisory board. A version of this piece first appeared in Ascensus: Weill Cornell Medicine Journal of the Humanities.



10 Things Today's Doctors NEED TO KNOW

FROM OPTIMIZING TECHNOLOGY TO PRIORITIZING SELF-CARE, A PRESCRIPTION FOR THE MODERN MD

By Beth Saulnier

Illustrations by Alexander Vidal

"The core skills of being a physician," observes Peter Marzuk, MD, a professor of psychiatry and the Gertrude Feil Associate Dean of Curricular Affairs, "are what they probably were five hundred years ago—talking to patients and the laying on of hands." At Weill Cornell Medicine, physician educators pass on those essential skills—connecting with patients, taking a comprehensive history, conducting the physical exam—while preparing students to practice medicine in a modern era marked by scientific innovations and rapid change. But as technology takes on an ever-larger role in healthcare, the doctor-patient relationship will only become more vital. And the WCM curriculum is continuing to evolve to meet the challenge—educating future physicians in how to use every resource in their

arsenal to give patients the best, most compassionate care modern medicine can provide.

As a new academic year begins, Weill Cornell Medicine asked faculty and alumni physicians to contemplate the essential things that today's doctors need to know—the kinds of key skills that the Medical College is teaching its students about how healthcare is delivered in the twenty-first century, and what today's patients need. "Regardless of what the healthcare system looks like, or how technology enhances clinical care, the patient-clinician relationship will remain a focus," stresses Yoon Kang, MD, the Richard P. Cohen, MD, Associate Professor of Medical Education and director of the Margaret and Ian Smith Clinical Skills Center. "Our foundation of core clinical skills is never going to change—because it can't."

Empathy and Connection Are Essential

As Keith LaScalea, MD, associate professor of clinical medicine, notes, “The literature is rife with evidence that suggests that the more you’re connected to your patient—the more a patient trusts their doctor—the better they’ll adhere to their treatment plan. It’s not enough to tell people to do things; when you partner with them and they trust you, it works better for the patient.” WCM students get a grounding in the importance of connecting with patients from day one with the Essential Principles of Medicine course, which teaches not only basic scientific concepts but core clinical skills and the fundamentals of physicianship. “It’s so important to listen to your patient, to look them in the eye,” says Shari Midoneck, MD ’89, an internist and WCM clinical associate professor of medicine, “to meet them where they’re at, whatever that situation is.” Stuart Mushlin, MD ’73, an internist at Brigham and Women’s Hospital and president of the Weill Cornell Medical College Alumni Association, is a firm believer in the importance of the hands-on physical exam as a point of connection between physician and patient, even—or, he says, especially—in an era when so much of practicing medicine entails ordering tests. “Nothing can replace the shamanistic act of touching people—or in the hospital setting, sitting on their bed, with permission, and either examining them or just holding their hand,” he says. “I think it has important anthropologic meaning, and it shouldn’t vanish, but it takes time. Our job is to be, to the best of our ability and knowledge, healers.”



You Have to Be Able to Translate Complex Information to Patients

As Mushlin puts it simply: “If you’re a clinician, you have to make sure that when your patient is leaving, they understand what you were talking about.” Kang notes that when WCM students work in the Smith Clinical Skills Center—where they conduct simulated encounters with trained actors, called “standardized patients”—they receive a checklist that stresses the importance of avoiding overly technical terms. Another good habit that students are encouraged to adopt, Kang says, is “always allowing patients to ‘ask the last question,’ to confirm understanding of the discussion and agreement with the management plan. As medicine becomes more complex, that’s going to become more and more important.” And it isn’t only a matter of couching scientific concepts in a way that laypeople can understand. LaScalea points out that even the seemingly straightforward suggestion that a patient exercise more needs precision and clarification to be most effective. “You should actually write down on a prescription pad what you want the patient to do,” he says. “You’re not just saying, ‘Exercise is good for you.’ You’re saying, ‘I want you to commit to walking a mile a day and doing twenty pushups every other day’—translating a broad concept into a specific skill. Then you put it in their chart, and when your patient sees you again, you ask, ‘How did it go?’ ”



You'll Be Caring for People with Different Backgrounds, Beliefs, and Opinions from Your Own

As America has grown increasingly diverse, the issue of cultural competency has become more important in society in general, and in medicine in particular. In the clinical sphere, cultural competency is the ability to understand and appreciate the differences (be they due to racial, ethnic, socioeconomic, religious, or other factors) that can affect a patient's healthcare experiences and outcomes—for example, understanding that a person from a disadvantaged household might have trouble finding transportation to medical appointments, or that certain religious beliefs might guide a patient's treatment choices. The concept has been part of the WCM curriculum for years—both in the classroom and on the wards—and

this summer, a new student-faculty task force has been charged with examining how it can be better taught. Students learn culturally competent approaches to patient interviews and management through didactic sessions and case-based discussions, and apply them during standardized patient sessions and through patient care activities. “We are so blessed to live in the most diverse city in the world, to have such a rich and diverse patient population with whom students are able to engage as part of their clinical curriculum,” says Kang, noting that “as we work more with our clinical affiliates in Queens and Brooklyn, there will be an increased spectrum of patient care opportunities for our students.”





Practicing Medicine Is a Team Sport

“Doctors are increasingly just one of many providers in the health-care system,” says Marzuk, “so being able to work with other professions such as physician assistants, nurse practitioners, and social workers is going to take on even more importance.” At WCM, students learn that lesson in myriad ways; for instance, during the medicine clerkship, they spend a day working solely with a nursing team. And they’re exposed to how teamwork enhances care as part of the LEAP (Longitudinal Educational Experience Advancing Patient Partnerships) Program, a required part of the curriculum that assigns students to follow specific patient cases throughout their education. As LaScalea notes,

the program includes sessions in which a complex patient case is presented, and representatives of the entire care team—from areas such as nursing, medicine, physical and occupational therapy, social work, and even the clergy—weigh in. “Each person talks about their various piece,” he says, “and how they can benefit the patient as they’re going through their care.” Kang notes that as patients spend less time in direct encounters with their doctors, the role of these non-MD clinicians will become even more prominent. “We have to be really effective in how we interface with all providers,” she says, “to ensure that we’re collaborating to give patients the very best care.”

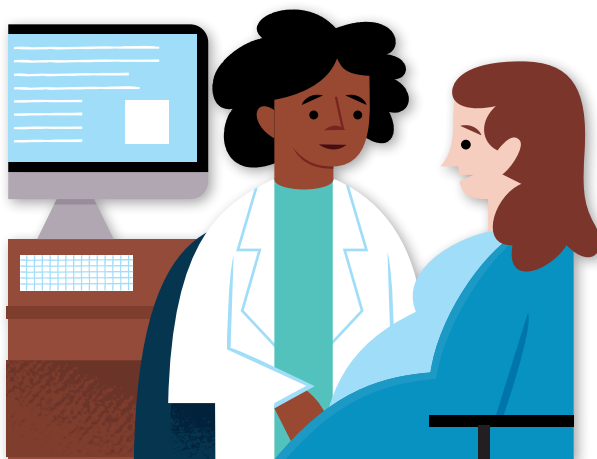
Know When to Use Technology—and When Not To

As Midoneck notes, information technology has greatly enhanced care—from the ability to consolidate a patient’s entire history in an electronic record to the ease of looking up a potential drug interaction in seconds during an appointment. “But at the same time, it interferes with the doctor-patient relationship,” she says, “because you’re typing away as you talk to your patient, and you’re not looking at them.” The question, she says, is, “How do we responsibly use technology to improve what we can do for our patients, but at the same time feel like we’re present in that interaction?” One of the lessons that students receive in the Smith Clinical Skills Center is the importance of making direct eye contact when asking questions, Kang says—“but even more importantly, at the beginning of the encounter, if you’re going to use electronic medical records, lay out this expectation up front and say, ‘It’s not that I’m not paying attention to you, but I would like to capture what we’re discussing accurately in your record, so I’ll need to type.’” Marzuk teaches his students that the beginning and end of a patient encounter are often the key moments. “That’s when you don’t want to be using technology,” he says. “When you’re greeting the patient and establishing rapport, you want to have a personal interaction. And at the end—when you’re counseling a patient, giving them advice, or dealing with bad news—that’s the point not to be looking at your computer screen. It’s common sense; the computer is useful for gathering and organizing information, but these key points are times to step away from it and interact.”



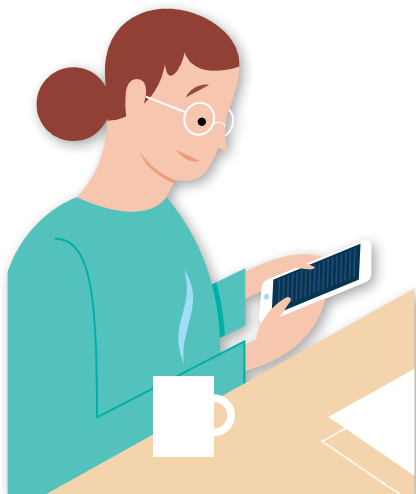
The Digital Age Offers New Ways to Help Patients Take Charge of Their Own Health and Wellness

As part of an elective called Foundations in Lifestyle Medicine, LaScalea teaches medical students how to help their future patients make positive changes in their daily habits regarding sleep, exercise, diet, stress-reduction, and more. From the beginning, one element has been counting how many steps they take each day (though since today’s smartphones are equipped with accelerometers, he no longer has to hand out pedometers). Today, step-counting is just the most basic way that patients can monitor their own activity and health metrics. Gizmos like the Fitbit and Apple Watch can track various forms of exercise; wearable devices can monitor heart rate or blood sugar; and myriad apps help guide everything from healthy eating to mindfulness meditation to post-surgical recovery. “Clinicians will have to help patients adjust to the fact that some of their care is going to be much more in their own hands,” says Kang. “A lot of the new clinical tools are self-management tools, and an ongoing focus in our curriculum will be to familiarize students with these technologies and how they and their patients might utilize them to enhance management of a given condition.”



Practicing Medicine Means Being a Lifelong Learner

As Mushlin puts it, medicine “is a commitment and a calling”—and one of its fundamentals is that a physician is never done learning. For one thing, of course, medical science is constantly evolving and expanding, and continuing medical education courses are an inherent (and required) part of the profession. “At some point, there are going to be topic areas, procedures, and technologies where the most seasoned attending will be learning it at the same time as the students,” says Kang. “The most important thing we can do is give students the tools to apply new data and advances effectively.” One key concept that WCM has promoted in recent years is “self-directed learning”; in contrast to traditional lecture courses, students are expected to come to class having absorbed key concepts, ready to take their understanding to the next level. And, as Marzuk notes: “The students really become lifelong learners when they get to the wards and they’re confronted with real patients who don’t exactly follow the textbook, and they have to be inquisitive and figure out the best way to help. We try to teach them how to find information that’s authoritative, efficiently and quickly—either in real time, or when they get home that evening and have to ponder a complex case.”



The Rise of Telemedicine Will Demand New Skills

Telemedicine—in which patients consult with care providers over video chat, apps, or other interfaces—is becoming more and more popular. That shift has given rise to new aspects of medical education, as students learn specialized skills for examining and connecting with patients remotely—developing what Kang has called “webside” manner. In the Smith Clinical Skills Center, a specialized checklist offers tips (such as making sure to stay in the camera frame), and the Department of Emergency Medicine hosts a two-week elective in telemedicine using remote standardized patient encounters. As Kang notes, such communication skills are increasingly essential in various arenas; for example, fourth-years applying for emergency medicine residency nationwide now have to do web-based video interviews in which they receive written questions and have three minutes to record their responses in front of the camera. “As telemedicine and virtual healthcare modalities increase, students are going to need even better core clinical skills related to communication, interviewing, and history-taking,” she says. “Once we put any technical platform between the provider and the patient, it becomes even more critical that those skills are nuanced and effective.”

For more on telemedicine initiatives at WCM and NewYork-Presbyterian/Weill Cornell Medical Center, see page 18.

Precision Medicine Is a Game-Changer

In many ways still in its infancy, precision—or “personalized” medicine—has the potential to revolutionize healthcare. In precision medicine, a patient’s care is guided not only by understanding of their disease’s general principles, but by their own individual case—informed by such factors as genetics, family history, and data on the outcomes that specific treatments have had in similar patients. (An early example, LaScalea notes: the identification of the BRCA genes, which carry increased risk of breast and ovarian cancer, and may prompt patients to have their breasts or ovaries removed as a preventive measure.) Today, doctors treating patients with certain types of cancer can make decisions about whether to prescribe radiation or chemotherapy—and if so, which drug—based on analysis of the patient’s particular tumor. “In precision medicine, patient education and counseling become increasingly important,” Kang observes. “As we’re able to individualize healthcare, that’s a very different dialogue than we’re used to having. Interpreting that scientific data, coupled with taking into account a patient’s preferences, then integrating it into a completely personalized plan—it’s a much more complex discussion.” As she and Marzuk note, it’s not so much a question of teaching students the details of all precision approaches—although in their future practice, they’ll be expected to keep abreast of such options in their individual specialties, in part through self-directed learning—but putting it into the context of core clinical skills. For instance: how do you explain to a patient that despite the promising headlines, there’s no precision approach for their disease? “We already teach the students counseling skills in the context of some of the clerkships—issues like talking to patients about losing weight, breaking bad news, or when someone wants a certain medication and it’s not right for them,” Kang says. “The communication skill set is not that different.”



Remember to Take Care of Yourself

In the past, says Dana Zappetti, MD, assistant professor of medicine and associate dean for student affairs, “there wasn’t a lot of education in medical school about self-care. We tell our patients to do a lot of things that we don’t practice ourselves.” Several years ago, WCM launched Well at Weill, a multi-faceted program aimed at instilling healthy, sustainable habits in future doctors. It offers a variety of activities including lectures, an advising system that matches students with early-career physicians, peer-to-peer counseling, and events promoting wellness activities. The messages, she says, include the importance of keeping up with your own healthcare maintenance, recognizing signs of potential burnout, taking time for exercise and family—and even basics like not skipping lunch. “The responsibilities of being a physician are many, and there’s a long-standing culture of self-sacrifice, which the students and most of us who practice still feel,” Zappetti says. “We really do believe the patient comes first—but you have to figure out how to keep yourself well, while taking good care of your patients.” ■





Mortal Matters

BY STUDYING THE POWERFUL INFLUENCES SHAPING HOW WE DIE, HOLLY PRIGERSON, PHD, IS LEADING THE EFFORT TO REIMAGINE MEDICAL CARE AT LIFE'S END

By Anne Machalinski

Illustration by Jon Krause

For the past thirty years, sociologist Holly Prigerson, PhD, has focused much of her research on unpacking two all-important and related questions: Why are patients so close to death typically unaware that the end is near? And why do their deaths often diverge from their wishes?

The questions have personal resonance for Prigerson, the Irving Sherwood Wright Professor in Geriatrics and co-director of the Center for Research on End-of-Life Care at Weill Cornell Medicine. Two decades ago, she was building a reputation as an iconoclast, challenging traditional ways of caring for terminally ill older adults and long-held notions of how we grieve, when her father began to die of pancreatic cancer. Despite his delirium, Prigerson recalls, the physician from Long Island knew he was dying, yet his oncologist dismissed her concerns, asserting instead that an upcoming surgery might give him more time.

Now, nearly twenty years after Prigerson's father died, the data she's amassed show a recurring theme that she thinks helps explain why so many of our deaths diverge from our ideals: that because patients and their loved ones are often in denial that the end is near, and doctors are reluctant to dash their hopes, they avoid honest conversations about patients' prognoses and the likely benefits and harms of available treatments. Ultimately, patients' involvement

in their own care is undermined. As with the kind of poor doctor-patient communication she experienced during her father's last days, many terminally ill patients and their family members are not told when death is approaching. "And if patients do not understand that, they are denied the opportunity to make informed choices, and receive the care that's consistent with their values and preferences," says Prigerson, a professor of sociology in medicine whose current work is supported by several National Institutes of Health grants, including a seven-year, \$7 million "outstanding investigator" grant from the NIH's National Cancer Institute.

But she believes that she's hit upon a strategy that may increase the chances that more of us will understand our prognoses—both when cure is possible, but also when it is not. If it works, it could enable us to live and die in ways that more closely reflect our last wishes.

A Life's Work

Prigerson was born in Brooklyn and raised in the small, suburban town of Bay Shore on southern Long Island. Her father practiced medicine in the adjacent town of Islip, and her mother left doctoral studies in English literature to pursue a master's degree in social work. Prigerson shared her mother's academic interest in the >



Holly Prigerson, PhD

humanities (though for her it was as a doctoral student in history), but, ultimately, decided as her mother had to focus her studies to improve social welfare. She graduated from Barnard College with high honors in history in 1984 and was accepted to a doctoral program at Stanford. Fully immersed in her doctoral fellowship, she began having doubts about the broader public health impact she could have as an historian. “It was a very Ivory Tower existence,” she says. “I was also getting not-so-subtle messages from my parents to be more pragmatic.” After getting her master’s, Prigerson moved to the sociology department, where she had a pre-doctoral fellowship sponsored by the National Institute of Aging to study organizations, mental health, and aging. For her dissertation topic, she focused on a newly established Medicare benefit, which covered receipt of hospice services of older adults in the last six months of a person’s life—which meant that patients would die more comfortably and in a home setting, if that’s what they wanted and circumstances permitted. But although surveys indicated that most patients wanted to die comfortably at home, most weren’t using the Medicare Hospice Benefit. Why? On a fundamental level, she hypothesized, they didn’t

understand that they were terminally ill and had a life expectancy of only months. To Prigerson, that disconnect made total sense: “Why would patients enroll in hospice if they didn’t think they were dying?”

It was at Stanford that Prigerson met her husband and long-time collaborator, Paul Maciejewski, PhD, co-director of the Center for Research on End-of-Life Care. Maciejewski received his doctorate in mechanical engineering, then master’s degrees in statistics and philosophy. An associate professor of biostatistics in radiology and in medicine, he is instrumental in designing research that rigorously tests Prigerson’s hypotheses about what are often existential questions. “Paul is wonderful with study design, logical arguments, precise language, and statistical analysis,” Prigerson says. “He’s more numerical, technically proficient, decidedly less interactive and often less ‘user friendly’; I’m more intuitive, psychosocially-minded, and more communicative. He is more left brain and I’m more right brain; I’d like to think that together we have a whole brain.”

Both were in junior faculty positions at Yale when Prigerson’s father became ill. In the following decades, at Yale and then as a

PHOTO: JOHN ABBOTT

tenured professor of psychiatry at Harvard Medical School and an academic researcher at the Dana-Farber/Harvard Cancer Center and Brigham and Women's Hospital—and at Weill Cornell Medicine, where the couple was recruited in 2013—Prigerson continued to look at how terminally ill patients and their physicians and caregivers engaged in end-of-life discussions. She always paid close attention to the gaps between what patients and family members actually understand about the patient's condition, and the care that they would want if their understanding were accurate, known as patient-informed or patient-centered care. She has found myriad factors that can impede a clear understanding of one's prognosis, including stress and anxiety; a lack of health literacy; cultural factors such as feelings of mistrust and discrimination on the basis of race or ethnicity, age, gender, or immigration status; a religious belief in miracles; and poor doctor-patient communication. The research she conducted in those years was cited by medical societies in open letters urging then-President Barack Obama to support the reimbursement of clinicians who engage in end-of-life discussions—an entitlement that Congress ultimately enacted.

But the political landscape around these issues has long been thorny. While Prigerson's work showed that clear end-of-life discussions could give people a death aligned with their values, opponents of the Affordable Care Act said that this would translate into committees of bureaucrats deciding who's worthy of care—the so-called “death panels.” While such an interpretation has largely fallen out of the public consciousness, in 2010 it saturated the debate with fear—and “when fear is the motivating factor, people aren't capable of reasoning as well,” Prigerson says. “Fear overrides rational debate about the consequences of a policy.”

Today, Prigerson senses the beginning of a culture shift: Weill Cornell Medicine has been eager to support her research and share her findings—even if they suggest that physicians may need to alter the time-honored ways they practice. The results of a 2016 study she published in the *Journal of Clinical Oncology*, which showed that as few as 5 percent of advanced cancer patients comprehended that their disease was incurable and that they were within months of death, underscored for Prigerson the need to reimagine the script between doctors and their dying patients so that patients would better understand basic facts of their illness. Not long after, Maciejewski told her she should read up on the work of Valerie Reyna, PhD, the Lois and Melvin Tukman Professor of Human Development on the Ithaca campus. Director of Cornell's Human Neuroscience Institute and co-director of the Center for Behavioral Economics and Decision Research, Reyna has studied how “getting the gist”—understanding the essence or core meaning of information—often helps people make better decisions. “She found you don't really need to know all the specifics, the medical details that may make little sense and confuse a layperson,” Prigerson says, “and that in fact, less information may actually be more likely to promote a patient's grasping the relevant medical facts.”

Almost immediately, Prigerson could envision ways to apply this concept to end-of-life communication in medicine. By getting the gist—Prigerson now uses the word as an acronym for “getting information simply and transparently”—patients should be able to

participate in end-of-life conversations and achieve better outcomes, including a death that is consistent with their preferences. “Rather than discussing details about test results, lab values, and medical technicalities, I want to get healthcare providers to talk to patients in ways that communicate the meaning of this information for them, which is to say how it will affect their survival, quality of life, and their ability to check off boxes on their ‘bucket list,’ because that's what patients really want to know,” she says. For example, physicians should convey the results of a diagnostic test as simply and meaningfully as possible, clearly stating whether they indicate that the patient's condition is better, worse, or the same, and what that result suggests about how well they're likely to function in the future.

“This is not merely an approach that uses simpler words or lower-grade reading levels,” Prigerson says. “The point is to communicate in ways that make the situation comprehensible. To borrow a term from economics, there are ‘information asymmetries’ between doctor and patient; we strive to level the playing field so that patients know enough to choose wisely the care that they would want if they better understood the choices before them.” >

‘RATHER THAN DISCUSSING DETAILS ABOUT TEST RESULTS, LAB VALUES, AND MEDICAL TECHNICALITIES,’ PRIGERSON SAYS, ‘I WANT TO GET HEALTHCARE PROVIDERS TO TALK TO PATIENTS IN WAYS THAT COMMUNICATE THE MEANING OF THIS INFORMATION FOR THEM.’

'WHEN PATIENTS REPORT A LIFE EXPECTANCY OF MONTHS, NOT YEARS,' PRIGERSON SAYS, 'THEY ARE MORE LIKELY TO ENGAGE IN ADVANCE CARE PLANNING AND ENROLL EARLIER IN HOSPICE—AND NOT WITHIN DAYS OF DEATH, WHEN IT CANNOT HAVE MUCH BENEFIT.'

The 'Gist' in Practice

Prigerson has been pleasantly surprised that physicians from oncology, palliative medicine, and critical care have been eager to collaborate on these studies, with the common aim of improving doctor-patient communication and end-of-life care. "Meeting a scientist who is interested in this topic was like hitting the jackpot," says one of those colleagues, Lindsay Lief, MD, an assistant professor of medicine at Weill Cornell Medicine and an assistant attending physician and director of the Medical Intensive Care Unit at NewYork-Presbyterian/Weill Cornell Medical Center. She notes that 20 percent of Americans—including people with end-stage cancer, COPD, or heart failure—now die in the ICU. "Through this research, we can make a difference," says Lief, a pulmonary critical care specialist. "We can take these issues that I care about and study them and make them better."

These collaborations have led to research findings that point the way toward better deaths for patients, Prigerson says, such as the finding by post-doctoral associate Heather Derry, PhD, that sadness and anger are related to a patient being *better* able to process a negative prognosis. Anxiety, shock, and numbness, by contrast, are more likely to prevent a patient from fully absorbing bad news—and therefore to opt for more aggressive care that may not have meaningful



PHOTOS: PATRICIA KUCHARIC

benefits. Understanding how these emotions influence decision-making could inform how physicians and other caregivers approach conversations with patients about the type of care they want at the end of their lives.

Prigerson emphasizes that her research should not be misunderstood as suggesting that no one should receive palliative chemotherapy (designed to prolong survival and ease symptoms, but not cure disease) or experimental treatments. But she stresses that patients should make these choices armed with accurate information, in which they understand that—based on the best available evidence—they mostly likely have months, not years, to live, that the interventions aren't intended to cure them, and that they may result in side effects that could affect their quality of life. "When patients report a life expectancy of months, not years, they are more likely to engage in advance care planning and enroll earlier in hospice—and not within days of death when it cannot have much benefit," Prigerson says, referring to work she collaborated on with medical student Jason Lambden '19. In fact, Reyna's research suggests that understanding gist allows patients to better connect with their values.

Still—as David Nanus, MD, chief of hematology and medical oncology and the Mark W. Pasmantier Professor of Hematology and Oncology in Medicine, points out—oncologists have compelling reasons for declining to offer a specific prognosis about how long a patient will live. The most important is, simply, that these predictions often prove to be wrong. Also, while it is important to be realistic, losing all hope can have a negative psychological impact on a cancer patient. "Part of the role of an oncologist is to give patients and their families hope and try and help them cope with the many issues they have to deal with," says Nanus, who is also an oncologist at NewYork-Presbyterian/Weill Cornell. "The last thing an oncologist wishes to do is to cause a patient to feel like they don't have anything to live for." New treatment options—including immunotherapies and cell therapies—are constantly emerging, although oncologists can't always predict which patients will benefit from them. When oncologists feel that they've tried all the effective options and are ready to consider comfort care or hospice, Nanus says, some patients will ask about a recent news article on a novel therapy—although more often than not, it is not applicable to their cancer type.

Finally, Nanus says, there are instances in which oncologists are frank about prognosis and life expectancy, but then the patient does much better than expected. "Now it's a year later and they've had this amazing response to treatment and their quality of life has been good, but then their disease progresses again," Nanus says. "At this point, it's as if you never had the first conversation about prognosis, and told them their cancer was incurable."

Prigerson hopes her work will help physicians manage these concerns as they communicate with their patients. Her research has shown that discussing prognosis and end-of-life care does not make patients significantly more depressed or hopeless, nor does it negatively affect the doctor-patient relationship nor patient survival; in a 2008 study in *JAMA*, she found that such discussions improved the quality of care cancer patients received and enhanced their quality



COMMON CAUSE: Prigerson with members of her research team (above) and (opposite page) with her husband, Paul Maciejewski, PhD, her partner in life and work.

of life. For all patients, better outcomes can likely be achieved just by making end-of-life conversations a routine part of a primary care or specialized practice, says John Leonard, MD, the Richard T. Silver Distinguished Professor of Hematology and Medical Oncology and associate dean of clinical research. Other approaches could include enacting policies that encourage physicians to broach these topics, or mandating that insurance companies pay for such conversations; also, hospitals could help patients complete relevant paperwork, such as an advanced directive (which documents wishes for end-of-life treatments) or a healthcare proxy (in which people appoint someone to make medical decisions for them if they're unable to) as they're checked in, and have them update this paperwork at regular intervals. "These big-picture discussions are important," says Leonard, a hematologist/oncologist at NewYork-Presbyterian/Weill Cornell, "but you want to make sure they are had in the right context, and with the right person."

Looking ahead, Prigerson is hopeful that the "gist" concept will empower patients and families with the information they need to choose care based on realistic projections, rather than overly optimistic or pessimistic ones. She recently received funding to allow a cross-campus team—including herself, Maciejewski, and Reyna—to conduct research on how to apply the concept to clinical care. They aim to explore the best ways to overcome obstacles that impede a patient's understanding of his or her medical status—be they psychological, belief-based, or caused by racial, ethnic, gender, or language issues—while respecting their wishes to know their prognosis. Eventually, they hope to apply for an NCI grant to fund further research on "gist" communication in end-stage cancer care. Prigerson also plans to target the racial and ethnic disparities in end-of-life outcomes—for example, by increasing the number of black and Latino patients who complete advanced directives and healthcare proxies. "No one should ever be denied their right to choose how they live their final days because of a paternalistic notion that they don't want to know their prognosis," she says, "or a misguided sense that someone else knows better and should decide for them." ■

NEWS OF MEDICAL COLLEGE AND GRADUATE SCHOOL ALUMNI



Dear Alumni,

It is with mixed emotions that I write my last letter as president of the Weill Cornell Medical College Alumni Association. It has been an enjoyable two-year term thanks to the support of Dean Choi, the Alumni Association board of directors, and the Office of Alumni Relations staff.

During my tenure, I have seen significant changes to the composition of the campus. For starters, renovations to create the Feil Family Student Center are well under way. With many thanks to the Feil Family, our students will have a wonderful new space to study, collaborate, and relax—all important aspects of their welfare, and vital to our ability to recruit future students.

However, medical student debt remains a significant problem; it influences a potential student's choices when selecting a medical school and their ultimate career path when it comes time for residency and subspecialty training. For students who choose Weill Cornell Medicine, the Alumni Association makes every effort to increase financial support through the Alumni Association Scholarship Fund, supporting student services and activities, and advocating for increased scholarship donations from alumni like you—but much more needs to be done to make attending Weill Cornell Medicine feasible.

Six years since the founding of Cornell Tech, the Roosevelt Island campus is up and running, and the potential for collaboration between Weill Cornell Medicine, Cornell University, and Cornell Tech is just starting to be realized. Those of you who are planning to attend Reunion on October 5 and 6 will have the opportunity to learn more about this very topic as Dr. Rainu Kaushal, chairman of the Department of Healthcare Policy and Research, will speak about the collaboration opportunities between our Cornell campuses. We hope to see all alumni there—especially those from the classes of 1967 and 1968, who are celebrating fifty years since graduation, and the classes of 1992 and 1993, celebrating twenty-five. A full program is planned, including a discussion with former astronaut Mae Jemison, MD '81, and Robert Lee Hotz, science writer for the *Wall Street Journal*.

My platform as Alumni Association president is one way I have been able to thank Weill Cornell Medicine for the many gifts it has bestowed upon me: mentors for life, a commitment to lifelong learning, the tools to evaluate new knowledge, and friendships that have endured for over forty-five years. I have been honored to be your president, but I remind all of you that your commitment to the institution, its growth, and its greatness, are what motivated me to serve in a more public way.

I look forward to seeing you all at Reunion, and should any of you have thoughts you wish to share about your Alumni Association or alumni experience, I am readily available to listen.

Stuart B. Mushlin, MD '73
President, Weill Cornell Medical College Alumni Association
stuartmushlin@icloud.com



MARCHING ORDER: Eric Kutscher, MD '18 (center), and classmates line up for Commencement in Carnegie Hall.

Medical College

1950s

Charles A. deProse '46, MD '50: "It was great news to note in a recent *Weill Cornell Medicine* magazine that **Bob Greenwood, MD '50**, had finally ferreted out The Moose, **Al Berkenfield, MD '50**. I was heartened by this, as I had wondered about both of them. Nobody but **Frank Wood, MD '50**, and I had attended the 65th class reunion. I was not surprised to read that Bob was 'indulging the endless crafts I have cultivated all my life.' I have a picture in my mind of Bob, at Wildwood, endlessly knitting argyle socks. This is graphically borne out by the picture on page 17 of the 1950 *Samaritan* under the notation, 'Multip in the bath.' After a dozen years in the private group practice of ob/gyn in Ithaca, I spent a year in the family planning division of the public health department on St. Thomas in the Virgin Islands before obtaining an MPH from UC Berkeley. I joined the faculty of the University of Iowa in Iowa City in 1972. Over the years, I took up bicycle touring, the highlight of which was a twelve-day tour along the Danube River from Passau, Germany, to Vienna. Another activity I started in midlife

was rock and ice mountain climbing in the US, Canada, and Europe. I missed out on summiting the Matterhorn due to the weather, but did summit Mont Blanc. After retiring in 1996, I continued those activities as long as possible, well into my eighth decade. I added reading non-medical books and taking adult education classes at four nearby schools of higher learning. My only professional activity is through the Iowa and American Public Health Associations. I plan on attending my 44th annual meeting of the APHA in San Diego in November. OK, Bob and Moose and others, it is time to fess up!"

Willard Thompson, MD '50: "I remember running bridge games in the dorm with the same buddies. Always returned each day to the same unplayed cards. I'm most proud of graduating from such a fine institution as Weill Cornell. Since graduation, I've gotten married, had six children, been chief of staff at Presbyterian Hospital, and spent summers in Blowing Rock, NC, and the mountains near Charlotte, NC. My hobbies include wood-working, golf, and gardening (dahlias)."

Jack Richard, MD '53: "In March 2018, I finally retired. Having stopped practicing in 2013, I continued to teach medical ethics at Weill Cornell Medicine and work for the New York State Department of Health half time in the Office of Professional Medical Conduct. I am busy taking all kinds of courses, including one in acting. (Some of you will remember our class productions in med school.) I am also class leader for our 65th Reunion in October and encourage any of you who read this to come if you are physically able."

Edward Margulies, MD '56: "Damn near died of congestive failure last year. I was in roaring tricuspid insufficiency. But they lasered out five old pacemaker wires and re-wired me through the coronary sinus. My cardiologist said that my recovery 'made his summer.' You can imagine what it did to mine. Paulette and I wintered in Naples again. I am back to the golf course and the bridge table. Life is good."

Mildred Rust, MD '56: "I'm a retired psychiatrist, living in a full-blown retirement community, an Erickson CCRC. I recently

'In retirement from family practice, I've discovered the multiple pleasures of beekeeping. It's been fascinating and deeply engaging and has offered me a way to continue being of service.'

— David Chipkin, MD '67

celebrated my 90th with a lovely party (120 attendees) organized and facilitated by my talented daughters, Paula and Lynn, here at Riderwood Village. Though I have Parkinson's, I am actively mobile and participate in many activities, including singing in our women's chorus and a madrigal group; volunteer visits to people in our rehab unit (also an infirmary and hospice); concerts; steering committee of my religious group; Scrabble; and trying to get enough walking and exercise, required for treatment. My walker ensures my quality of life. Paula is a sociologist, and currently training the future trainers of social service caseworkers on a legislated curriculum (which she and her group developed) on how to handle bullying in families. Lynn is a microbiologist at NIH who recruits and facilitates scientists' discussions to review grant applications."

Bernie Siegel, MD '57: "My wife died peacefully in her sleep here at home and the mystical experiences since she died are incredible. When my mother died, I found over two dozen pennies. They were everywhere with no explanation. At times I would walk to the mailbox and find them only on the way back. Her great-grandchildren called them 'Pennies from Heaven.' After my wife died this year, I was anxious to see what would happen. Well, the pennies have been everywhere and incredible—found in the woods while walking the dog, Stop & Shop checkout and parking lot, in our house when they weren't there an hour before, and hidden under my notes on a podium when I was lecturing. An incredible and mind-blowing experience relating the message of Liberty, In God We Trust, and 'a penny can make you rich.' There is even more to tell about her spirit and consciousness still being present, even a call from a mystic who was my patient telling me Bobbie's mom had contacted her to say everything is fine. They are all together again."

John Queenan, MD '58, and his wife, Carrie, are taking their granddaughter, Margot Queenan, to London for eight days. Following the trip, they will return to Washington, DC, and join **Mike Stone '54, MD '58,** in preparing to make their 60th class reunion (on Friday and Saturday, October 5 and 6) a great success. He hopes all classmates are planning to attend.

1960s

William R. Schaffner, MD '62, professor of preventive medicine in the Department of Health Policy and professor of infectious diseases at Vanderbilt University School of Medicine, received the Stephen B. Thacker Excellence in Mentoring Award from the CDC's Epidemic Intelligence Service Alumni Association on April 24 during the 66th Annual EIS Conference in Atlanta. Since 1970, he has served as a mentor to 25 EIS officers who were stationed at the Tennessee Department of Health and is the longest continuously serving mentor for EIS officers in state assignments. His trainees have gone on to successful careers in public health in state health departments, federal health agencies, and academe. He was elected to the Tennessee Health Care Hall of Fame and received a distinguished service award from the Tennessee Medical Association.

Barry D. Smith, MD '62: "I transferred to Weill Cornell from the then-two-year school at Dartmouth. After a five-year residency in obstetrics and gynecology at New York Hospital and two years in the Navy, I joined the faculty of Dartmouth Medical School and the Hitchcock Clinic, now Dartmouth Hitchcock Medical Center. As a busy clinician, I enjoyed a wonderful practice career for the next 34 years. I also became involved in administration, and in 1977 became the chair of the ob/gyn section within the Department of Maternal and Child Health. In 1991, I was asked to form a Department of Obstetrics and Gynecology, which I chaired until 2004. We developed a new residency program in 2006 that has been a successful effort, training many physicians who have gone on to fellowship and many who now practice general ob/gyn in northern New England and across the country. After my retirement as chair, I spent eight years working half time on patient safety efforts for our system across the Northern New England states and with the American Congress of Obstetrics and Gynecology (ACOG). For the past twenty years, I've been active in legislative advocacy in New Hampshire, Vermont, and nationally with ACOG. I'm still skiing and enjoying golf and tennis while watching my children and grandchildren grow up in what is currently, in my view, a difficult but

exciting world. Sadly, my wife, MaryAnn, who worked at HSS as an OR nurse while I was a resident at NYH, died in 2005."

Donald Catino, MD '64: "I have finally retired from active medical practice. It makes me sad to leave the practice of medicine in a worse place than when we started in 1965. It was a personalized art and science then. It has become a business with most doctors now employees and 'shift workers.' 'Doing it all,' continuity of care, and a professional lifetime in one place are almost gone. I really loved what I did, so I want to keep my hand in by teaching at Dartmouth Medical School and at the nursing school in my town, Colby-Sawyer College. We love to travel and have just returned from a two-week bicycle trip in Vietnam and Cambodia. Things have changed a lot since I was there at the 1968 Tet Offensive. I am happy to say that things are much better. The people are forgiving and very friendly, and the damage to the cities and countryside almost invisible. I have felt substantial guilt about what we did there for money, power, and politics. The communist 'domino effect' was a big lie. I feel better now, and would suggest a similar trip to other classmates similarly troubled."

Richard U. Levine, MD '66, writes that this year he celebrated 50 years of service at Columbia University Irving Medical Center. He was honored that the administration at Columbia threw a party in his honor at Le Bernadin Privé in New York with over 100 guests including family, friends, patients, faculty, and leadership from New York-Presbyterian. He is proud to have established the Richard U. Levine, MD '66, Scholarship at Weill Cornell Medicine in 2013 and continues to support it annually. He was pleased to meet the 2017-18 recipient of the scholarship this spring and looks forward to meeting many more.

David Tucker, MD '66: "My memoir, *The Hard Bargain*, has just been released on Amazon Books. This is a father-son story and is directly related to my becoming a physician. I have commissioned a playwright, Adam Kraar, to write a play based on my book, co-authored by a gifted writer, Burton Spivak. A staged workshop reading took place at the JCC in NYC this past October to a sold-out audience. I'm hoping to continue the momentum to



GUEST OF HONOR: Richard U. Levine, MD '66, was fêted at Le Bernadin Privé in celebration of his half-century of service to Columbia University Irving Medical Center.

Broadway eventually. Visit my website (thehardbargainbook.com) for further information on both projects."

David Chipkin, MD '67: "In retirement from family practice, I've discovered the multiple pleasures of beekeeping. It's been fascinating and deeply engaging and has offered me a way to continue being of service."

Patrick Soles, MD '67: "After graduating, I spent too much time in residency programs. I interned at Moffit Hospital in San Francisco and then did three years of general surgical training there. This was interrupted by a tour in Vietnam. I volunteered to go because I was single and I wanted the surgical training. It was good for that, but bad for my trust in our government, which I have yet to get over, and I saw things that still give me bad memories. I returned for my last year of general surgery at UC and then went down the road to Stanford for my urology residency. I've been in Olympia, WA, since, working most of the time in a large multi-specialty clinic. I retired early because I hadn't spent enough time with my three boys; it was a very good decision for me. Our hospital here is a regional center and had 440 beds when I left. It's very up to date. I was president of the medical staff and chair of the surgery department twice. After retirement, I was a reading tutor at my wife's middle school (she was a science teacher there) for ten years. I also helped one of my Aussie buddies coach

area U-16 and U-19 boys' rugby for twelve years. That was great fun and we won the Northwest Regionals three years and went to Nationals those years. My wife and I are pleased that our sons have all turned out to be great guys with families of their own. I keep fit with daily gym workouts, and I keep my golf handicap around 10. I paint regularly and work in oils. I've had several shows and would like to have more time in the day for this. I love to eat good food and have been the family cook for years. We have a family beach home on the Oregon coast, and I would love to have classmates stay with us to enjoy the beauty of the rugged coast. You're invited."

Jeffrey Borer, MD '69: "During the past few months I've received the Albert Nelson Marquis Lifetime Achievement Award, named in 2017 *Marquis Who's Who*; and the Distinguished Humanitarian Award, *Marquis Who's Who* 2018. I have also become chair of the International Standardization Organization Technical Committee 150, Subcommittee 2 (cardiovascular devices)."

1970s

Eric J. Thomas, MD '70: "I hired more staff, upgraded my website (middlesexdermatology.com), and started new procedures such as platelet rich plasma injections. These are extremely safe and provide some



SOLEMN PROMISE: New physicians take the Hippocratic Oath at Commencement 2018.

degree of cutaneous improvement. It's great fun to have something new to offer at this later stage of my career. My current after-hours activity is bicycling. I'd rather be writing the great novel, but realize reality. I remember the Nursing School invasion one time per year and water in the elevator shaft."

Frank Bia, MD '71, and Margaret Johnson Bia, MD '72, were highlighted in a recent article in Fordham University's planned giving and development office newsletter on their careers at Yale School of Medicine and their 50th wedding anniversary. Frank is the former co-director of the international health program at Yale and the former medical director of AmeriCares; Margaret was the first director of transplant nephrology at Yale and the founder and director of the clinical skills program. They have two sons: one is attending medical school, and the other received his doctorate in anthropology from University College London.

Richard Lynn, MD '71: "I had the incredible thrill to attend the 2018 scholarship night at the medical school, hosted by Dean Choi. For me personally it was so humbling to meet the first recipient of the Richard A. Lynn, MD '71, Scholarship. It had been established by a main principal benefactor and other grateful patients. To say that I am grateful and honored is an understatement. This young man, who is

going into surgery (coincidental!), will graduate in 2021—50 years from our graduation in 1971. In Hebrew, there is an expression, "*L'dor v'dor*—from generation to generation." Who would have ever believed while being interviewed by Dr. Hanlon...? On a different note, having the privilege of serving on the Weill Cornell Medicine Alumni Board, I am distressed to see that less than one-fifth of our class are dues-paying members of the Alumni Association. To those of you who are not: please take this gentle hint to reconsider. We were all so fortunate to have been at 1300 York Ave. during those years."

Allan Gibofsky, MD '73, was recently honored by the University of Arkansas School of Medicine as the Richard V. Ebert Visiting Professor, speaking on "The Application of Biomarkers in Precision Medicine and Drug Development." He is co-director of the Clinic for Inflammatory Arthritis and Biologic Therapy and attending rheumatologist at Hospital for Special Surgery and NewYork-Presbyterian.

Jonathan Kaplan, MD '74: "I retired in 2016 from a 35-year career at the Centers for Disease Control and Prevention in Atlanta. In the last ten years of my career, I had the privilege of directing a branch that oversees our HIV care and treatment efforts in over 40 countries as part of the President's Emergency Plan for AIDS Relief (PEPFAR), which was

initiated by President George W. Bush in 2003. There are now over 20 million persons on antiretroviral therapy in low- and middle-income countries around the world (over 11.5 million of them PEPFAR-supported), up from only 50,000 or so when this initiative began. It was a privilege and an honor to work with so many hard-working, dedicated people around the world who have been responsible for this progress. Since retirement, I keep up a modest level of clinical expertise at the Atlanta VA Hospital, where (when in town) I work about one day a week in either our HIV clinic (which cares for more HIV-infected persons than any other VA in the country) or our hepatitis C clinic. I have been able to maintain contact with a few of our classmates who went into infectious diseases (there are nine of us) at ID meetings. My wife of 35-plus years, Linda, and I have two daughters who graduated from medical school in 2017 and are in the second year of residency programs in ob/gyn and internal medicine. We are very proud of them! I consider myself a member of the Class of 1973 and plan to attend this year's reunion. I hope to see classmates there for our 45th!"

Milagros Gonzalez, MD '75: "My husband, Keith Bracht, and I had a wonderful and exciting trip to Japan and China in May. It was great to see Mount Fuji in Japan, wonderful to walk a tiny part of the Great Wall and see the Forbidden City in Beijing, and fascinating to see the Terracotta Warriors in Xian, China. It was a truly amazing trip and I would recommend anyone to see these two countries."

Howard I. Schenker, MD '75: "I've just retired from a glaucoma practice after 38 years. I was involved in clinical research in addition to regular patient care. I'm an associate clinical professor at the University of Rochester and still teach residents. My wife, Arlene, is a children's book writer. Our son, Andrew, is a writer and was recently married. Our daughter, Emily, recently moved back to Rochester from DC and is an ASL interpreter. I'm watercolor painting, building models, studying World War I history, and exercising. Though I used to be an avid cyclist—10,000 miles per year and sponsoring a local racing team—about four and a half years ago I had a bad crash with an acetabular and pelvic fracture that resulted in permanent sacral plexus damage. No more

biking outside. I still ride a trainer and hike. I remember **Michael Gershon, MD '58**, and doing research on serotonin receptors in the myenteric plexus. I'd love to hear from **Pat Ballen, MD '75**."

Steven Bass, MD '76: "Nancy and I are about to celebrate our 46th wedding anniversary. Two children and three grandchildren—everyone's healthy. We're about to spend the entire summer in Chautauqua, NY (check out the Chautauqua Institution website). I've retired from clinical practice, but still have administrative duties at my hospital. We visited **Bob Marcus, MD '76**, on the West Coast and had a great time reminiscing. If anyone is passing through Cleveland, we'd love to hear from you."

Barry M. Weintraub, MD '77, appeared on CNN's "Crime and Justice with Ashleigh Banfield" on May 23 to discuss the proper conduct for plastic surgeons in and out of the operating room.

Connie Baum Newman, MD '78—an endocrinologist, physician-scientist, and adjunct professor of medicine at NYU—was elected president of the American Medical Women's Association. She is an expert in hypercholesterolemia and other lipid disorders, as well as an advocate for reproductive rights, access to healthcare, gender equity, and ending discrimination and violence against women.

Paul Mayo, MD '79: "I am still in front-line critical care practice at Long Island Jewish Medical Center/North Shore University Hospital where I work full time in the MICU. I am academic director of critical care for the Division of Pulmonary, Critical Care, and Sleep Medicine and clinical professor of medicine at the Zucker School of Medicine at Hofstra/Northwell. My sideline is critical care ultrasonography. I work with the American College of Chest Physicians to design and implement their national-level courses on the subject and with European colleagues in developing the field at the international level. I have been happily married for 32 years to Charlotte Malasky, MD, who is a far better doctor than her husband and much smarter as well. We are the proud parents of three adult sons, one a medical intern and another a third-year medical student. The non-medical son is the father of our first beautiful granddaughter. My four years at Weill Cornell gave me a solid basis for

everything that followed. The emphasis of physical diagnosis and clinical bedside reasoning are still with me. Point of care ultrasonography fits well into this 'old school' approach, as it serves to complement the physical examination."

1980s

Kevin Kelly, MD '80: "My daughter was featured in the business section of the Sunday *New York Times* on June 3, 2018, in a piece about balancing career and motherhood."

Jonathan Javitt, MD '82: "I'm the CEO and chairman of NeuroRx, Inc., a biotechnology company that seeks to develop the first oral drug to treat suicidal depression and PTSD. The only 'after hours' in my life is the time between midnight and 6 a.m. that I spend sleeping. Other than that, my full-time calling has been to combine medical expertise with biotechnology, information technology, and health economics in projects that focus on areas of unmet medical need and lifesaving treatments. Those organizing principles have taken me from academia to service in three presidential administrations to a series of startups and large corporate positions. I began my career as an ophthalmologist and have taken the lessons learned from caring for patients into my other activities. I have worked on initiatives related to international blindness prevention, national security and bio-defense, medical error prevention and interdiction, electronic health records, outcomes research, and the development of the first-in-class drugs and medical devices for blinding eye disease, diabetes, and suicidal depression/PTSD. In addition to my day job, I serve as an adjunct professor at the Johns Hopkins School of Medicine, a senior fellow in the National Security Health Policy Center of the Potomac Institute for Policy Studies, and a founding member of the George W. Bush Presidential Center. I have spent the past four years building NeuroRx, which has been issued Fast Track Designation, a Biomarker Letter of Support, and a Special Protocol Agreement by the FDA to enter phase 3 with the first oral drug targeting suicidal depression. We lose 100 Americans to suicide each day, 22 of whom are veterans and soldiers. This is the

first biomarker letter of support that the FDA has issued in the field of neuropsychiatry. Marcia and I moved to Israel so that she could serve as chair of radiology for the Rambam Healthcare Campus. There is nothing I would rather be doing. Every day is a new adventure. I treasure memories of my later mentors Ben Kean, Bob Ellsworth, and Barret Haik and miss them frequently."

David Haughton, MD '84: "On Sunday, October 29, 2017, at the end of my last overnight shift in pediatric emergency, I packed up some photos, handed away my medical textbooks, and cancelled my medical license. As of that moment, I became a full-time artist. I have been working on three shows for 2018. *40+ views of Mount Baker: Homage to Hokusai* was exhibited in March at Gallery 110 in Seattle's Pioneer Square area. The Canadian Consulate for Seattle sponsored the reception. A great party! *Angry White Men*, a further extension of the *Face of Evil* series, is scheduled for September 2018, also at Gallery 110. The final installment of the *Mount Baker* series is scheduled for September 13–26, 2018, in Vancouver, BC, at the Visual Space Gallery. That unencumbered part of my mind's 'bandwidth' previously involved in the politics of medicine now has a new focus: I am working with other artists to make Gallery 110 a premier artist-owned, nonprofit gallery. I am hoping that my mind will atrophy more slowly if I keep using it."

Lisa Nagy, MD '86, and some of her patients will be featured in a Netflix series on environmental medicine, chemical sensitivity, and electrical sensitivity.

Randy Jacobs, MD '87: "I'm still working in the ER in Denver at Saint Joseph Hospital. We teach the Denver Health ER residents and I continue to enjoy this. Zak just finished his first year in engineering at CU Boulder. Reed is a theatre major at Denver School of the Arts and will be in their production of *Shrek* next fall. Max will enter the International School of Denver next fall. I continue to thrive on mountain biking and skiing as well as classical and jazz piano. Jill and I cycled through Italy this summer when Max and Reed were at JCC Ranch camp for three weeks. Life is good in Colorado. If anyone from our class is planning to be out West, give me a shout."

Carol McIntosh '83, MD '87: "I am proud to note the work I have done with the Ministry of Health and Social Security in Grenada over the last year: the VIA Screening and Cryosurgical Therapy Cervical Cancer Prevention Program (launched in two clinics in Grenada and Carriacou in February 2018 and run by nurses who participated in the VIA training course and became certified in VIA screening and cryotherapy under my direction); CME courses in obstetrical emergencies for health professionals in Grenada; and Team Strategies and Tools to Enhance Performance and Patient Safety, an evidence-based teamwork system designed to improve the quality, safety, and efficiency of healthcare. In addition, I'm doing ongoing work in Bo, Sierra Leone, assisting in developing a VIA Screening and Cryosurgical Therapy Cervical Cancer Prevention Program."

Theresa Rohr-Kirchgraber, MD '88, was recently named an "Exemplar of Professionalism" for her respectful, caring, and professional attitude and actions toward Indiana University School of Medicine (IUSM) students and patients. Because of her commitment to upholding the IUSM Honor Code, she is now a member of the IUSM Honor Roll. She is a professor of clinical medicine and pediatrics at IUSM and executive director of the IU National Center of Excellence in Women's Health.

Abigail Falk, MD '89: "I have been elected to the executive council of the American Society of Diagnostic and Interventional Nephrology (ASDIN). I'm an interventional radiologist and fellow of the Society of Interventional Radiology who firmly believes in interdisciplinary cooperation between different medical specialties to advance patient care. I believe I am the first radiologist and interventional radiologist to be elected to the executive council of ASDIN in its history."

Howard L. Weiner, MD '89: "I spent 27 years at NYU Langone Medical Center. In May 2016, we moved to Houston, where I became chief of neurosurgery at Texas Children's Hospital and professor and chair of neurosurgery at Baylor College of Medicine. Our three kids are all in college, with one about to graduate. Barbara is working at a local

pre-school and will volunteer as a docent in our museums."

1990s

Daniel B. Jones '86, MD '90, gave the presidential address, "It's Better to Be Lucky," at the 2018 meeting of the Society of American Gastrointestinal and Endoscopic Surgeons on April 13, 2018, in Seattle, WA. He is chief of minimally invasive surgical services and director of bariatric programs at Beth Israel Deaconess Medical Center and a professor of surgery at Harvard Medical School.

Robert K. Cato, MD '93: "I'm now in the 21st year of a busy internal medicine practice at Penn, continuing to enjoy a heavy load of resident teaching in both inpatient and outpatient venues. I'm enjoying watching how medicine has changed, remembering Baker 13 with dying AIDS patients and now nobody has to die of AIDS with appropriate medical care. I'm enjoying administrative duties as well as being medical director of Penn Center for Primary Care, chief of the Division of General Medicine at Penn Presbyterian Medical Center, and a new two-year position elected as president of the medical staff. Still finding time to do some hiking, golf, and reading, and enjoying time with my wife of 25 years, Lori, and my two children, ages 16 and 20."

Doug Graham, MD '95, is a tenured professor of medicine at the University of Utah School of Medicine. He is an interventional gastroenterologist, director of therapeutic endoscopy, and GI fellowship director. He has more than 300 original publications and has published seven gastroenterology textbooks. Married with two children, he is in touch with **Ari Gershon, MD '99, Margaret Holmes, MD '95,** and **Theresa Chan, MD '95.**

Julie Marin Monroe, MD '95: "I have recently started a concierge oncology practice called Cancer Consulting Services. I am seeing patients in the New York metropolitan area, providing second-opinion oncology consultations and patient navigation services as well as extra education and support to patients and their families. I reside in Westchester County with my husband, Jason, two teenage children, Sydney and Ben, and my black Lab-

rador retriever, Bogey. I am enjoying my new venture and the extra time it has afforded me to spend more time with my family and do more traveling."

Michael S. Irwig, MD '99, was appointed to two working groups for the World Professional Association for Transgender Health (WPATH) Standards of Care 8: Hormone Therapy for Adolescents and Adults, and Applicability of the Standards of Care to Eunuchs. He authored a book chapter, "How to Manage Men with Low Testosterone," in the 5th edition of the *Manual of Endocrinology & Metabolism.*

Quan Nguyen, MD '99, announced that his son, Kevin, graduated from UC Davis Medical School in May 2018 and is now at the Stanford University pediatrics program at Valley Children's Hospital in Madera County, CA.

2000s

Rebecca Gilbert, PhD '02, MD '03, a neurologist specializing in Parkinson's disease and other movement disorders, is vice president and chief scientific officer of the American Parkinson Disease Association (APDA). She is responsible for APDA's research strategy and funding and serves as the organization's spokesperson; she will continue to see patients one day per week.

Edward Nejat, MD '04: "In 2017, I opened a private fertility practice, Generation Next Fertility, on East 57th Street in Manhattan. We proudly offer state-of-the-art fertility care and strive to deliver an exceptional patient experience from start to finish. I hope you are all doing well."

Neha Pathak, MD '06, received the Leading Change Award from SEEDS, a nonprofit that provides educational access to high-achieving, low-income students. (She graduated from SEEDS' first class in 1994.) Board-certified in internal medicine, she is a medical editor at WebMD, where she works to develop content and ensure the accuracy of health information. She cares for patients at the Atlanta VA Medical Center and is an adjunct assistant professor of medicine at Emory University School of Medicine. She completed her primary care and internal medicine residency at NewYork-Presbyterian/

Weill Cornell, then participated in the VA Quality Scholar Fellowship Program, where she focused on improving the quality of care delivery for veterans at high risk for hospitalization or emergency care and served as the site lead for a national VA pilot program.

Rafael Vazquez, MD '06: "I work at the Massachusetts General Hospital, Department of Anesthesia, Critical Care, and Pain Medicine. I'm the director of interventional radiology anesthesia and was promoted to assistant professor at Harvard Medical School."

2010s

Justin Mascitelli, MD '10, a cerebrovascular fellow at Barrow Neurological Institute in Phoenix, AZ, reports that he and **Michael Nanaszko, MD '11**, chief resident, and **Michael Money, MD '13**, recently operated together.

Matthew L. Goodwin, MD '13, completed his orthopaedic surgery residency at the University of Utah and started his fellowship in spine surgery in the Johns Hopkins neurosurgery department, focusing on tumors of the spine and spinal cord. He and his wife, Mandy, have two children, ages 5 and 2. He plans to continue his research on lactate metabolism and tumors.

Theresa X. Zhou, MD '14: "I have a fellowship in pediatric cardiology in Washington, DC. I'll be moving to Montreal this fall—need to find a job! Let me know if you can help: general pediatrics outpatient or pediatric hospitalist."

Paul Furlow, MD '15, and his wife, Jennifer, welcomed baby William James Furlow on November 20, 2017. Will is happy and healthy, and his parents are having a great time watching him grow.

Eileen H. Koh, MD '15, completed her internal medicine residency at the University of Washington and will be a hospitalist at Harborview Medical Center. She is applying for an endocrinology fellowship to start the following year. Outside the hospital, she and her spouse like to spend time outdoors hiking the Cascades, Mount Rainier, and the Olympic peninsula.



ALL IN THE FAMILY: Cornell University President Martha Pollack (right) greets Jennifer Chia, PhD '16, MD '18, and her daughters as they cross the Carnegie Hall stage.

Graduate School of Medical Sciences

Albert S. Kuperman, PhD '57: "I had a very fulfilling 56-year career following my PhD in pharmacology from what was a relatively small graduate school in the 1950s. I retired in 2013 after a 40-year run as associate dean for educational affairs and associate professor of molecular pharmacology at Albert Einstein College of Medicine. Prior to working at Einstein, I served on the Rockefeller Foundation field staff as professor and chairman of pharmacology at Mahidol University in Bangkok, Thailand. My experiences, teachers, and colleagues at Weill Cornell Graduate School of Medical Sciences prepared me well for an enjoyable and interesting life in medical education and research. I am particularly grateful to my mentor and good friend, the late **Walter F. Riker, MD '43**, who encouraged and supported me in seeking out new pathways and opportunities and whose teachings and advice were instrumental to whatever success I achieved in various professional endeavors. I am awed by the tremendous growth of the Graduate School over the past seven decades and by the quality and outstanding achievements of its students and alumni. I would be happy to hear from former colleagues and classmates at Weill Cornell; I can be reached at albert.kuperman@einstein.yu.edu."

Arthur J. L. Cooper, PhD '74, is a professor of biochemistry and molecular biology at New York Medical College in Valhalla,

NY. He is also an adjunct professor of biochemistry in neuroscience at the Feil Family Brain and Mind Research Institute at Weill Cornell Medicine. In June 2017, he became editor-in-chief of *Analytical Biochemistry*. He maintains an active research interest in enzymes, metabolism, and neurochemistry.

After earning his doctorate, **Dennis Grab, PhD '77**, went on to a postdoctoral fellowship in cell biology at The Rockefeller University, where he identified calmodulin and other regulatory molecules in a little-known synaptic structure called the post-synaptic density (PSD). Afterward, during the 13 years he spent in Kenya working at the International Laboratory for Research on Animal Diseases (ILRAD, now ILRI), he befriended a Rothschild's giraffe named Betty June, and developed a passion for protozoan parasites known as African trypanosomes. Since leaving Kenya he has held faculty appointments at Tulane University (1993–98), Saga and Kurume Universities in Japan (1998–2000), and Johns Hopkins (2001–15). He is currently a professor in the Department of Pathology at Uniformed Services University of the Health Sciences in Bethesda, MD, where he continues his studies to better understand the mechanisms that African trypanosomes and other neurotropic pathogens use to subvert the human blood-brain barrier to cause CNS disease.

Joseph Colacino, PhD '85, lives in



A MATTER OF DEGREES: Diplomas await the members of the Class of 2018.

'I'm a member of and student teacher at the Vajradhara Meditation Center, a meditation community in Brooklyn, a loving husband, and a father of two.'

— Michael Repucci, PhD '05

Asbury, NJ, and serves as senior vice president at PTC Therapeutics, Inc. in South Plainfield, NJ, where he focuses on drug discovery in the areas of oncology and genetic disorders. After earning his PhD, he did postdoctoral research on equine herpes viruses at Louisiana State University Medical Center in Shreveport. In 1989, he obtained a position at Lilly Research Laboratories in Indianapolis as a senior virologist. He was promoted to research scientist and conducted research on the discovery and development of antiviral agents for hepatitis B and C, influenza, and HIV. He was a member of teams that discovered viral protease inhibitors for the treatment of HIV/AIDS and chronic hepatitis C infection that were marketed by Pfizer and Vertex, respectively. In 2003, he joined PTC Therapeutics as vice president of drug discovery, and is actively involved in the development of drugs for the treatment of muscular dystrophy, Huntington's Disease, and leukemia. He and his wife, Elizabeth, have two grown daughters, Sarah and Jennifer, and one grandson who just turned one this May.

Michael Repucci, PhD '05: "I'm the director of software engineering at Nanotronics, an automated microscopy and machine learning company. I'm a member of and student teacher at the Vajradhara Meditation Center, a meditation community in Brooklyn, a loving husband, and a father of two."

Maria T. DeSancho, MD, MS '09: "I became an American Society of Hematology (ASH) ambassador in January 2018. The term is three years. The mission of the new ASH ambassador program is to enhance the number of applicants (mainly underrepresented minority medical students, residents, and fellows) to apply for ASH awards with the purpose of increasing the number of academic hematologists. Another goal is to identify potential mentors that can contribute to this mission." Dr. DeSancho, who earned her MD at the Autonomous University of Madrid, is associate professor of clinical medicine and clinical director of benign hematology in the Division of Hematology and Medical Oncology at Weill Cornell Medicine.

Sarah Fuzesi, MD, MS '17, earned her master's in clinical epidemiology and health and is currently completing her surgical residency at St. Barnabas Medical Center in Livingston, NJ.

Aaron Chang, PhD '18, is a postdoctoral fellow at Pfizer conducting research in immuno-oncology.

Rajat Singh, PhD '18, plans to attend medical school at Sidney Kimmel Medical College (Thomas Jefferson University) in Philadelphia. His long-term goal is to return to academia to pursue a career in clinical research with additional teaching and patient care responsibilities.

LETTERS TO THE EDITOR

Weill Cornell Medicine welcomes comments and correspondence from readers. Letters may be edited for length, clarity, and civility. We may not be able to publish all correspondence received, but we would like to hear from you. Please write to: wcm@med.cornell.edu.

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ALUMNI

'45 MD—David S. Brown of New Canaan, CT, May 18, 2018; physician; skilled diagnostician; craftsman; gardener; sailor; tennis player; ice skater; musician; outdoorsman; poet; active in civic, community, and professional affairs. Wife, **Charlotte Rush Brown, MD '45**.

'48 MD—Theodore F. Thomas of New Hartford, NY, March 11, 2018; internal medicine physician; president of the medical staff at Faxon Hospital; US Air Force captain; president, Oneida County Medical Society; president, Academy of Medicine; traveler; member, Tramp and Trail Club; taxidermist; painter; photographer; active in professional and religious affairs.

'52 MD—David Goebel of Forest Hills, NY, May 1, 2018; physician at New York Hospital.

'56 MD—Robert H. Stackpole of Elizabeth, NJ, January 28, 2018; urologist; founding partner, Urological Group of Union County; president of the medical staffs of Elizabeth General Medical Center and Alexian Brothers Hospital; veteran; active in professional affairs. Wife, **Henriette Abel Stackpole, MD '59**.

'58 MD—Edward S. Hartmann of New York City, February 18, 2018; psychiatrist; teacher; member of the New York Psychoanalytic Society & Institute.

'59 PhD—Audrey Larack Stone of Mt. Airy, MD, formerly of Bethesda, MD, August 7, 2012.

'57 BA, '61 MD—Marylyn Enck Broman of Coral Gables, FL, April 25, 2018; pediatrician.

'58 BA, '62 MD—Donald A. Vichick of Sandia Park, NM, June 9, 2015; orthopaedic hand surgeon, New Mexico Orthopaedic Associates; colonel, US Army Medical Corps; Porsche aficionado.

'71 MD—Fred C. Chu of St. Louis, MO, October 31, 2017; ophthalmologist; director of ophthalmology, Washington University in St. Louis's Children's Hospital; research fellow in neuro-ophthalmology at NIH; lieutenant, US

IN MEMORIAM

Public Health Service's National Eye Institute; competitive dancer; traveler.

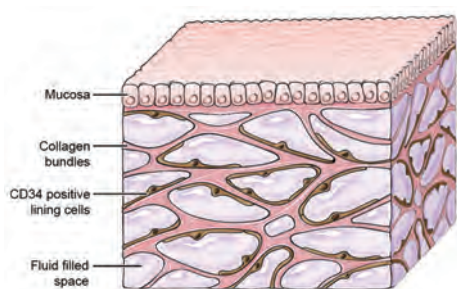
'77 MD—Fred M. Gordin of Rockville, MD, March 18, 2018; researcher and clinician who devoted his career to the fields of HIV/AIDS and tuberculosis; founding member, Terry Beirn Community Programs for Clinical Research on AIDS (CPCRA); led studies to improve care for people living with AIDS; helped bring cutting-edge HIV research to Washington, DC, and increased access to clinical trials for people living with the virus; internal medicine resident (chief resident), Georgetown University Medical Center; infectious disease fellowship, UCSF; served the Veterans Affairs Medical Center in Washington, DC, for three decades as an administrator, clinician, teacher, mentor, and leading researcher in HIV and tuberculosis; at the time of his death, held prominent leadership roles in INSIGHT (International Network for Strategic Initiatives in Global HIV Trials) and the Tuberculosis Trials Consortium; professor of medicine, George Washington University School of Medicine and Health Sciences; served on numerous national and international advisory committees; participated in or led over 100 medical and scientific articles, chapters, and editorials; survived by his wife, **Anne Willoughby, MD '78**, and two children. Contributions may be made to the Fred Gordin INSIGHT Memorial Fund.

FACULTY

Douglas Labar, MD, of New York City, April 24, 2018; clinician and researcher in the field of epilepsy; developed the rapid cycling technique for vagus nerve stimulation for medically resistant epilepsy; joined Weill Cornell Medicine in 1988 and created the epilepsy center within the Department of Neurology; served as chairman of the American Epilepsy Society's Neuro-stimulation for Epilepsy Special Interest Group; winner of the J. Kiffin Penry "Eagle Award" for pioneering new therapies.

Anatomically Correct

Gastroenterologist David Carr-Locke, MD, and colleagues describe a new bodily structure—and the media takes notice



INSIDE INFORMATION: David Carr-Locke, MD, with the type of endomicroscopy equipment he used to help identify the interstitium. Left: An illustration of the structure that ran in *Nature: Scientific Reports*.

As David Carr-Locke, MD, sees it, the achievement that made international headlines last spring—the identification of a previously unknown anatomical structure in the human body—harkens back to the medical discoveries of centuries past. “You’d think we had run out of things like that, because everything has been described,” says Carr-Locke, a professor of medicine at Weill Cornell Medicine and a gastroenterologist at NewYork-Presbyterian/Weill Cornell Medical Center. “And yet that’s how it came about—by observing a clinical phenomenon in a new way.”

The discovery that brought Carr-Locke and his colleagues to worldwide attention is something they dubbed the “interstitium” and described in a paper published in *Nature: Scientific Reports* in March. In the words of the *New York Times*, which featured the research in its health section, the interstitium is a “fluid-filled, 3-D latticework of collagen and elastin connective tissue that can be found all over the body.” And what’s more—as some news outlets enthused, to the researchers’ chagrin—the structure could potentially be considered something even more remarkable: a previously unidentified organ. “We’re not saying that; the press did,” stresses Carr-Locke, a native of the UK. But then again, he admits, “it’s not so crazy. You have to decide, what is the definition of an organ? If you define an organ as something that’s recognizable as a structure and has a function of some sort, then it probably fulfills those criteria. That’s why we haven’t said, ‘No, you can’t call it that.’ It’s a nice idea.”

The work that led to the identification of the interstitium has its roots in the mid-1980s, when Carr-Locke—then at Beth Israel Medical Center—and colleagues began using a new piece of diagnostic equipment: a powerful, miniaturized microscope that works with an endoscope. Observing the bile duct in a live patient, he says, “we saw a pattern, a network of black wiggly lines with white

spaces in between.” Years later, they set about identifying what those structures were. With patient consent during related procedures, they took small biopsies of the bile duct—and rather than fixing them in the preservative formalin, they froze them. “The reason the interstitium hadn’t been seen before is that when you take a specimen or biopsy and fix it in formalin, it takes all the water out, so the spaces disappear,” he explains. “In all the textbooks, that’s what you see: a band of stuff, mostly collagen, underneath the surface, that has no spaces.”

Further study revealed that the black lines were indeed collagen, and the spaces in between were filled with something akin to lymphatic fluid. They wondered if it could be found in other parts of the body—and the answer was a resounding yes. They identified interstitium in the pancreas, duodenum, stomach, intestine, bladder, skin, lungs, and more. “Everywhere there was a lining to something, it seemed to be there,” he says. “We called it the interstitium because it’s between things—a layer between the surface and something deeper.”

Organ or not, Carr-Locke says, the interstitium could have implications for a wide variety of diseases and conditions—including how cancer spreads, what triggers some aspects of Crohn’s disease, and how scars form after injury. Now, he and his collaborators are deciding on their next steps in exploring its specific composition and its role in the human body. “It could explain a lot of phenomena; it may be that when things are diseased, the interstitium gets interrupted or interfered with,” he muses. “It really is everywhere. It’s real. It’s reproducible. And once you know it’s there, you see it all the time.” ■

—Beth Saulnier

Dr. Carr-Locke is a consultant for Boston Scientific Corporation. He has received royalties from US Endoscopy and Telemed Systems, has been a consultant for Cook Medical, EndoChoice, Mauna Kea Technologies, and Olympus Corporation, and held a patent with ValenTx.

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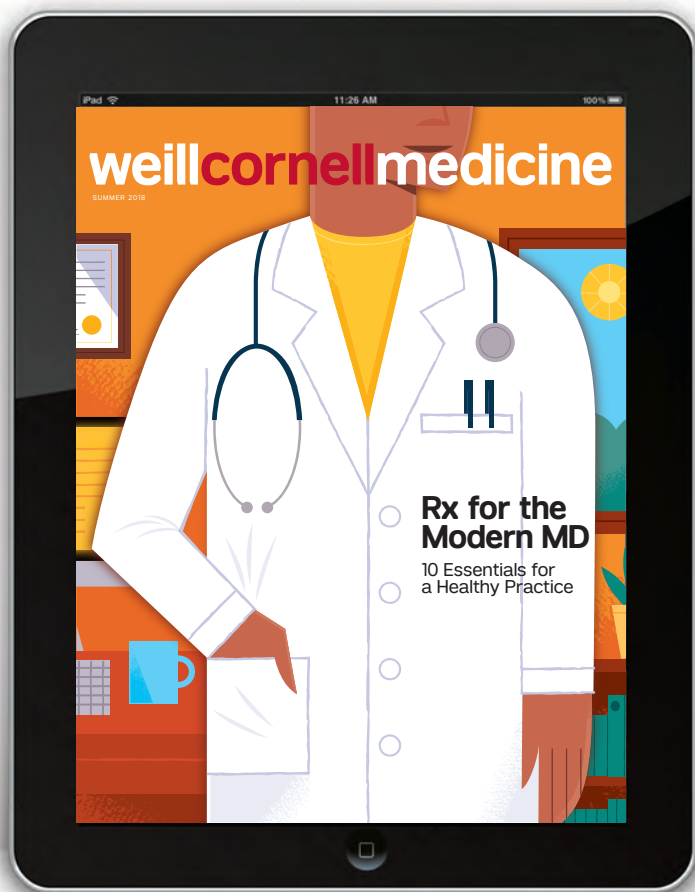


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