

The Big Chill

Thanks to Therapeutic Hypothermia, Victims of Cardiac Arrest Can Not Only Survive, but Also Have a Heartwarming Story to Tell

At first, Francine Kaley blamed the heartburn on pizza from a rest stop on the Garden State Parkway. But when it continued for weeks, no matter what she ate, she consulted a cardiologist, who found nothing wrong. Reassured, she endured the discomfort another month, until a restless night last August sent her to the ER of her local hospital. An EKG and a cardiac enzyme test came up normal, but Kaley, 39, says she “couldn’t take it anymore.” A friend had scheduled an appointment with a gastroenterologist at NYU Langone Medical Center. Kaley drank a barium wash in preparation for an upper-GI series to look for signs of a possible hiatal hernia. Laughing one moment, the next Kaley fell into a chair by the bathroom door, her eyes fixed open, her skin quickly turning red . . . then blue . . . then purple.

(continued on page 5)

Francine Kaley (foreground) with the team that saved her life. Second row (left to right): Christine Ren, MD, associate professor of surgery and chief of the Division of Bariatric Surgery; David Schwartz, MD, assistant professor of medicine; Lynn Myburgh, RN, administrative coordinator of resuscitation programs. Back row (left to right): Anthony Trinca, RRT, respiratory therapist; Elaine Rowinski, RN, nurse manager; David Fridman, MD, clinical assistant professor of medicine; Barbara Suggs, RN, senior nurse clinician; Danielle Mason, RN, senior staff nurse.



John Abbott

A Dream Come True

For Dr. Joseph Zuckerman, Recipient of New York University’s Distinguished Teaching Medal, It’s a Case of Life Imitating Art



Dr. Joseph Zuckerman (second from right) on rounds with residents.

As a young boy growing up in Hicksville, Long Island, in the early 1960s, Joseph Zuckerman was enthralled by the TV series *Ben Casey*, which chronicled the adventures of a chief resident in neurosurgery at a community hospital. The son of an accountant and homemaker, Zuckerman considered Dr. Casey “the coolest person I ever saw. He did things to make people better, and he’s the reason I wanted to become a doctor.”

Little did young Zuckerman imagine, however, that those early yearnings would not only lead him to become a doctor, but a surgeon of considerable renown and a leader in his profession: the Walter A. L. Thompson Professor of Orthopaedic Surgery and chair of the Department of Orthopaedic Surgery at NYU Langone Medical Center, surgeon-in-chief of NYU Langone’s Hospital for Joint Diseases (HJD), and the immediate past-president of the American Academy of Orthopaedic Surgeons. Nor could he have imagined that when he would join NYU Langone in 1984, one of his colleagues would be the man his brash childhood hero, Dr. Ben Casey, was loosely modeled after: the late Joseph Ransohoff, MD, chair of the Department of Neurosurgery from 1962 to 1992, who served as medical consultant to the TV series.

(continued on page 7)

Graduation 2011



John Abbott



From the Dean & CEO

Spring heralds two of NYU Langone Medical Center's most time-honored rituals: Match Day and Graduation Day. On March 17, as part of the National Resident Matching Program, this year's 172 graduates of NYU School of Medicine gathered in Alumni Hall to find out where they would spend their residency years. We are proud to welcome back 33 of these promising physicians, who will return to their alma mater to pursue specialty training. Two months later, on a glorious afternoon at Lincoln Center, NYU School of Medicine celebrated its 169th graduation exercises. Our distinguished faculty joined our graduates and their families at Avery Fisher Hall on May 19 for a celebratory rite of passage—one of my favorite milestones of the academic year. They were heartened by the presence of their loved ones and stirred by the words of our renowned keynote speaker, the Nobel Prize-winning scientist Dr. Ada Yonath.

In this issue, you will also read about a critical component of our new Curriculum for the 21st Century, or C21. It's a course called Introduction to Bedside Diagnosis, and it serves to remind us that NYU School of Medicine, at its best, teaches not only the beauty of science, but the elegance of medicine.

Bob

Robert I. Grossman, MD

Third Internationally Recognized Surgeon Joins Department of Neurosurgery

Howard Riina, MD, a cerebrovascular and endovascular neurosurgeon and leading expert in the treatment of intracranial aneurysms, carotid occlusive disease, vascular malformations of the brain and spine, and strokes, has joined the Department of Neurosurgery. He is the third world-renowned neurosurgeon in the last year to be recruited by the department. For three consecutive years, *U.S. News & World Report's* Best Hospitals Rankings has placed our program in neurology and neurosurgery among the top 10 in America. Chandranath Sen, MD, was recently appointed director of the Division of Skull Base Surgery and Cranial Nerve Disorders, and Noel Indranath Perinpanayagam, MD, was named director of Minimally Invasive Spinal Neurosurgery.

Dr. Riina is one of the only neurosurgeons who perform both open microcerebrovascular neurosurgery and interventional neuroradiology. He comes to NYU Langone Medical Center from NewYork-Presbyterian Hospital/Weill Cornell Medical College, where he served as professor of neurological surgery, co-director of neuroendovascular services/interventional neuroradiology, and director of the neurological surgery residency training program. Dr. Riina received a master's degree in molecular neurobiology from Cambridge University before earning his MD from Temple University School of Medicine. He trained in neurological surgery at the Hospital of the University of Pennsylvania, where he also completed fellowships in diagnostic neuroradiology. Dr. Riina trained in endovascular-interventional neuroradiology at the Institute of Neurology and Neurosurgery of Beth Israel Medical Center and in cerebrovascular/skull-base surgery at the Barrow Neurological Institute in Phoenix, Arizona.



Dr. Howard Riina.



Liz Ribicam

Make Me a Match

Just as they have every third Thursday in March since 1952, graduating medical students around the country joined their classmates on March 17—Match Day—to learn where they'll spend the next three to seven years of residency training. At NYU School of Medicine, members of the class of 2011 started gathering outside Farkas Auditorium at about 11:30 a.m. When the clock struck 12 noon, the envelopes were handed out, and emotions tumbled out. While some students hugged and cried, others texted their family and friends with the news. The National Resident Matching Program uses a computer algorithm to produce favorable results for applicants, aligning their preferences with those of residency programs. Of this year's 172 graduates from the School of Medicine, 86% percent matched to schools and hospitals ranked in the top 50 by *U.S. News & World Report*. The most popular specialties were internal medicine, pediatrics, orthopaedic surgery, anesthesiology, emergency medicine, general surgery, psychiatry, diagnostic radiology, neurology, obstetrics/gynecology, and ophthalmology. Thirty-three students will remain at NYU Langone for their residencies.



Liz Ribicam

NYU Langone Ranked #2 in New York Metropolitan Area by *U.S. News & World Report*

In its first-ever edition of America's Best Regional Hospitals Rankings, *U.S. News & World Report* ranked NYU Langone Medical Center number two in the New York metropolitan area. This places NYU Langone immediately behind NewYork-Presbyterian Hospital and ahead of Mount Sinai Medical Center (number three) and Memorial Sloan-Kettering Cancer Center (number four). Separate from the national Best Hospitals Rankings that *U.S. News* publishes each July, the Best Regional Hospitals Rankings are derived from the Best Hospitals methodology and data that produced the 2010-2011 national rankings. For this list, *U.S. News* ranked hospitals in 52 cities, focusing on metro areas with populations over 1 million, and hospitals are ranked according to the number of specialties in which they are nationally ranked. NYU Langone is ranked among the best hospitals in America for 14 adult specialties: cancer, diabetes and endocrinology, otolaryngology, gastroenterology, geriatrics, gynecology, heart and heart surgery, neurology and neurosurgery, orthopaedics, psychiatry, pulmonology, rehabilitation, rheumatology, and urology. Kidney disorders was also recognized as an area of high performance. Of the 180 hospitals in the New York metropolitan area, 66 were ranked on the Best Regional Hospitals list. The metro area includes New York City, Long Island, Westchester County, and northern New Jersey.



From Virtual Surgery to Pioneering Procedure

For a Young Woman with a Rare Tumor, Surgeons Fashion a New Jaw—and a New Life



This was one New Year's resolution, Maria Palma had promised herself, that was going to be kept. She was determined to exercise, slim down, and eat healthier. By October 2010, she could see the results: she was 35 pounds lighter and never felt better. "My mother said that in keeping with my program, I should get a dental checkup," she recalls. That suggestion probably saved her life.

An X-ray revealed a very large tumor in her lower left jaw. It was a rare type called an ameloblastoma, formed from rogue cells that normally develop into a tooth. "These tumors are usually benign," explains David Hirsch, MD, DDS, a member of the Division of Oral and Maxillofacial Surgery and the Institute of Reconstructive Plastic Surgery (IRPS) at NYU Langone Medical Center. But they are far from harmless. They grow large quickly, destroying bone tissue. Left untreated, they can become so big that they interfere with breathing, even completely blocking the airway.

Dr. Hirsch, clinical assistant professor of surgery and plastic surgery, presented two options. One was to scoop out the growth, remove a small section of jawbone, and replace it with a metal plate. That would involve years of additional procedures and only offered a 50% chance that the tumor would not recur. Because Palma, 28, was young and otherwise healthy, Dr. Hirsch also described a more aggressive approach: the removal of most of the infected lower jaw and the building of a new one from the fibula in her right leg. The advantages included no tissue rejection, fewer follow-up treatments, and virtual certainty that the tumor would not come back. After discussing both options with her close-knit Ecuadorean family, Palma chose the latter.

The surgical team also included Jamie Levine, MD, chief of microsurgery and assistant professor of plastic surgery, and Lawrence Brecht, DDS, director of IRPS's Center for Craniofacial Prosthetics and director of maxillofacial prosthetics at NYU College of Dentistry. The surgery was made possible, in part, by the National Foundation for Facial Reconstruction, which provides generous support to the institute. To prepare for the operation, a series of CT scans were made of Palma's head and leg. State-of-the-art computer animation was used to convert this radiological data into a three-dimensional duplicate of her skull, jaw, and fibula. Dr. Hirsch manipulated the images, performing virtual surgery. This helped him calculate, down to the last millimeter, where to cut the bones. Dr. Brecht also used



While one surgical team removed the tumor-laden section of Maria Palma's jaw, another removed a section of her fibula.

these images to precisely craft a replacement for her teeth that would be held in place by dental implants.

By the time Palma was scheduled for surgery, her tumor had tripled in size. There was a noticeable bulge in the side of her face. She had trouble chewing and was starting to have difficulty speaking, a worrisome development, since much of her work as an IT specialist involved talking on the phone. "It was a struggle to get the words out," she says.

The surgical team convened at 8:00 a.m. on February 16, 2011. In the bustling OR, they worked at both ends of the patient at the same time. Near the foot of the table, two teams removed a section of her fibula, drilled six holes into the bone for dental implants that would retain a dental prosthesis, then cut it into two pieces, which they angled in a "V" shape—the foundation of her new jaw. At the head of the table, Dr. Hirsch removed the tumor-laden section of Palma's jaw, making his incisions at its base so that the scars would be less conspicuous.

With well-practiced choreography, one team had the replacement ready shortly after the jaw was removed. Dr. Levine had meticulously fashioned the fibula into the shape of the removed section of Palma's jaw. The dental prosthesis was attached to the holes, and the new jaw was sewn in place and wired to the upper jaw. Eleven hours after it all began, Maria Palma became the first person in the US to have a full set of teeth replaced with this pioneering method.

Web Extra: for an article about members of the Department of Plastic Surgery and others who provide humanitarian aid worldwide, see "Missions of Mercy" at <http://newsandviews.med.nyu.edu/>.

An Ambitious Agenda

As Dr. Moses Chao Takes the Helm of the Society for Neuroscience, NYU Langone Is Poised to Take Neuroscience Research to New Heights

"I never liked biology when I was growing up," explains Moses Chao, PhD, professor of cell biology, physiology and neuroscience, and psychiatry. It's a surprising confession, coming as it does from the president-elect of the Society for Neuroscience, whose worldwide membership numbers 40,000. Dr. Chao takes the helm of the premier professional organization in his field at an especially fortuitous time for NYU Langone. In 2009, the Medical Center established its first Neuroscience Institute, thanks to a \$100 million gift from the Druckenmiller Foundation. The institute promises to make NYU Langone a leader in translational neuroscience. The following year, Richard Tsien, DPhil, an internationally renowned neuroscientist, who is a member of both the Institute of Medicine and the National Academy of Sciences, was appointed the institute's first director and the Druckenmiller Professor of Neuroscience. Dr. Tsien arrives in January 2012.

While on the faculty of Cornell University Medical College, Dr. Chao would begin to make his mark. He was studying neurotrophins, a family of proteins that act like a kind of brain nutrient, promoting the health of nerve cells and the connections between them. In the mid-1980s, Dr. Chao cloned the first neurotrophin receptor. Later, he identified a second receptor, the existence

of which was a total surprise to the neuroscience community. "It was one of those rare 'Eureka!' moments," he says. With those advances, scientists could understand the signaling by the receptors and determine how neurotrophins carry out their actions. He and others have since shown that these proteins play a key role in the brain's plasticity (its ability to respond to change) and that alterations in their levels can contribute to a host of neurodegenerative and psychiatric disorders.

Dr. Chao joined the faculty of NYU School of Medicine in 1998, continuing his focus on neurotrophins. For years, he's been looking for ways to use these proteins therapeutically. Early clinical trials for the treatment of neurodegenera-

tive disease proved disappointing, prompting many pharmaceutical companies to abandon this line of research. But not this investigator. "I'm certain," insists Dr. Chao, "that these proteins could benefit patients with a variety of diseases, including Huntington's, Parkinson's, Alzheimer's, even depression."

Neurotrophin levels can also be boosted through physical and mental exercises, which Dr. Chao recommends for anyone worried about memory loss or general cognitive decline. "As we grow older, we get more set in our ways. It's important to do different activities. Novel stimulation is what increases the brain's plasticity,"

notes Dr. Chao, who is a member of the Molecular Neurobiology Program at the Skirball Institute of Biomolecular Medicine.

Outside NYU Langone, Dr. Chao donates his time as a scientific advisor to several nonprofit organizations, such as the Christopher and Dana Reeve Foundation, the Simons Foundation, St. Jude's Children's Hospital Cancer Center, and the Glaucoma Research Foundation. As president of the Society for Neuroscience, Dr. Chao will work to raise public awareness of brain and nervous system research, garner more support for basic research into neurodegenerative diseases, and reduce gender inequality in the field's upper echelons. Getting a running start,

he has already begun working with former US Representative Patrick Kennedy on a national campaign for neuroscience research that focuses on war veterans with brain and spinal cord injuries.

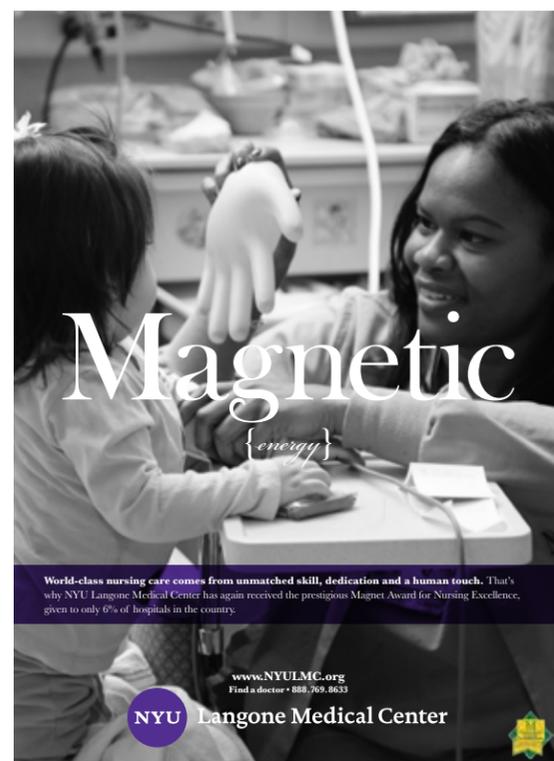
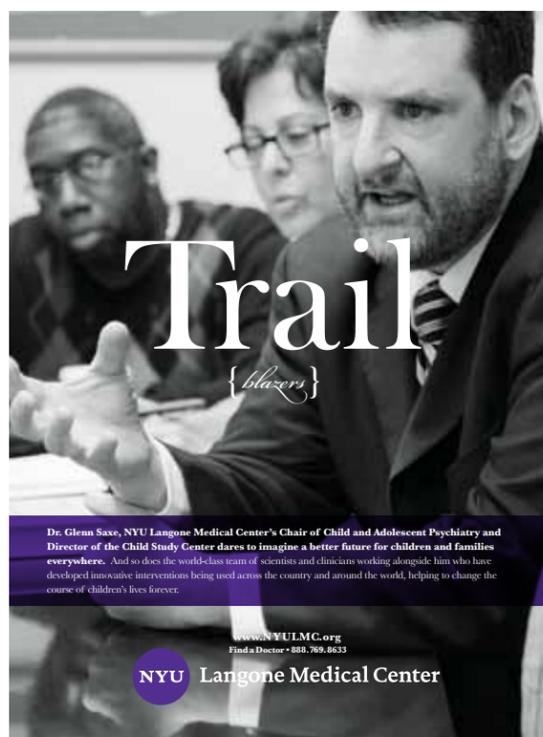
Dr. Chao's parents emigrated from China just before the Communist revolution, settling in Minnesota. They named their firstborn child Moses, after the Biblical prophet, who also made an exodus from home. "My parents must have had an ambitious agenda for me, giving me that name," muses Dr. Chao. As the new leader of the world's largest organization of scientists and physicians devoted to the study of the brain and nervous system, he is one step closer to fulfilling it.



Dr. Moses Chao.

New Round of Ads Showcases Excellence at NYU Langone

Since NYU Langone Medical Center launched its advertising campaign, “Any Given Moment,” nearly two years ago, our name recognition has increased fivefold, according to market research surveys. This spring, “Any Given Moment” has evolved into a new series of ads that focus on our expertise in neurosurgery, pediatric cardiac surgery, child and adolescent psychiatry, minimally invasive surgery, and nursing. The ads feature striking photos by Peter Turnley, an internationally renowned, award-winning photojournalist. Through the end of June, they will appear in *The New York Times*, *The Wall Street Journal*, *New York* magazine, and *Crain’s New York Business*, among others, as well as on a variety of websites and billboards. The Medical Center will also be showcased in radio ads and, this summer, in extensive outdoor advertising in the Hamptons on Long Island. Other ads highlighting our strengths in vascular surgery, otolaryngology, children’s services, cancer, and orthopaedics will be rolled out later in the year.



The Elegance of Medicine

With Its New Curriculum, NYU School of Medicine Revives the Lost Art of Teaching Bedside Diagnostic Skills

It's 5:00 p.m. on a Wednesday evening, and after a long day of classroom lectures and online modules, a group of second-year medical students at NYU School of Medicine is looking forward to one of their favorite extracurricular activities: bedside diagnosis. Part Socratic dialogue, part heart-to-heart, these sessions begin in the office of Beno Oppenheimer, MD, director of the Surgical Intensive Care Unit at the Manhattan VA Medical Center. Amid textbooks and Argentinean tea, the South American-born and -raised diagnostician offers an after-hours refresher—affectionately dubbed “Beno’s Evening Sessions” by its participants, who attend in rotating groups of six—for those who want to improve their bedside diagnostic skills.

The session is extracurricular in name only. In every other sense, it's quintessentially curricular. Part of the Introduction to Bedside Diagnosis course, it's a vital component of the School's recently implemented Curriculum for the 21st Century, or C21. Mel Rosenfeld, PhD, associate dean for curriculum, describes it as “a patient-centered curriculum.” Teaching old-fashioned bedside diagnostic skills has become a lost art, due in large part to increasing reliance on technology, the time pressures of managed care, and shorter hospital stays

that afford fewer opportunities for bedside teaching. “Our new curriculum,” explains Dr. Rosenfeld, “is designed to show physicians-in-training how medicine should be practiced.”

Dr. Oppenheimer, assistant professor of medicine, and his colleagues developed a curriculum that stresses a hands-on experience. “The course focuses on how to obtain a thorough medical history, perform a discerning physical exam, and integrate the mechanisms of disease and their physical manifestations across organ systems,” explains Dr. Oppenheimer. “This integration is vital in developing sound clinical reasoning skills as students learn the art of diagnosis.”

Tonight, there are two mentors: Dr. Oppenheimer and an 86-year-old World War II vet in critical condition after an aortic valve replacement. Though weak and tethered from head to toe, he once again pledges to serve. Before visiting the patient, Dr. Oppenheimer reviews proper procedure: “Wash hands. Smile. Introduce yourself. Be polite.” Once at the bedside, he adds: “Inspect. Palpate. Percuss. Auscultate.” In other words, look, feel, tap, listen. The students will have to reach their diagnosis without relying on monitors or test results—just observation and perception.

Turning to his students, Dr. Oppenheimer offers some words of wisdom, gleaned largely from his mentors in Argentina, where he earned his MD. There, he completed his first residency at a poorly equipped hospital where limited resources enhanced his ability to focus on clinical findings. “Heighten your senses, and let the tips of your fingers guide you,” he says.

Exploring the patient's neck and chest, they determine that his neck veins are distended. “Identify the heart sounds with your stethoscope while feeling the pulse. Do you hear a *lub-dub* or a *lub-trrrrup*?” he asks, noting the difference between a rhythm that is normal and one that may indicate pathology. “What do you notice about the cadence?” The students smile in recognition. “I can hear *lub-trrrrup*,” says Tara Russell. “The second heart sound is split.” Adds Eugene Won: “I think I hear a fourth heart sound.”

Preparing to teach his students how to palpate the abdomen, Dr. Oppenheimer reminds them: “Read the patient's face. Respect regions of pain. Your hands have to be soft but purposeful.” Sensing their tentativeness, Dr. Oppenheimer teaches them how to apply pressure and position their hands as they read the contours and textures of the organs in a Braille-like fashion.

One student, Taher Modarressi, examines the liver with a light touch despite his 6'5" frame. “Do you feel anything unusual?” Dr. Oppenheimer asks. Modarressi's eyes widen. “It's pulsating,” he says. With his classmates, he pieces together the findings—tachycardia, fourth heart sound, elevated jugular pressure, a pulsating liver—with the underlying mechanisms of disease. “Is his right heart failing?” the students ask. Dr. Oppenheimer beams. “Congratulations, my friends, you are correct! You have made your first diagnosis.”

“Dr. Oppenheimer's probing questions make the learning process an active one,” says Modarressi. “The things I get right make me feel like I really understand them. The things I get wrong I'll never forget. In the role of apprentice, you feel like you're part of something bigger than yourself—that you're a student now, but you'll be a teacher tomorrow.”

“All physicians aspire to be master clinicians,” notes Dr. Oppenheimer. “There is elegance in their approach to patient care. It's in the dexterity of their hands and the simplicity yet accuracy of their diagnosis. These students are going to be great doctors.”



Dr. Beno Oppenheimer instructs second-year medical student Taher Modarressi on the fine art of bedside diagnosis.

The Big Chill *(continued from page 1)*

With her left anterior descending coronary artery fully blocked, Kaley went into cardiac arrest. For 40 minutes, a team led by David Schwartz, MD, co-director of Tisch Hospital's Medical Intensive Care Unit, performed resuscitation on the floor of the hallway. The first two defibrillator shocks drew no response. The third brought her back to life, albeit unconscious and unresponsive.

Until this decade, patients like Kaley who remained comatose after resuscitation faced a bleak future. No proven medical interventions could prevent the cascade of neurological damage that left them permanently unconscious and destined for a nursing home. That changed in 2003, when groundbreaking studies from Australia and Europe showed that reducing the body's core temperature to about 92 degrees for 24 hours immediately following cardiac resuscitation had a powerful effect in minimizing neurological damage. This “induced hypothermia” slowed the body's functions, preventing oxygen-starved brain cells from emitting destructive chemicals.

In late 2003, NYU Langone became one of the first hospitals in New York City to practice the technique, initially by placing an ice blanket under the patient. Five years later, the protocol greatly improved

with the purchase of a portable machine that circulates chilled water in pads directly adhered to the patient's skin, safely reducing the body's temperature by eight degrees in less than two hours. The noninvasive device enables the transfer of up to five times more thermal energy than water blankets, wraps, or ice packs, resulting in more efficient temperature management. By 2009, the Medical Center had a 90% success rate using the device on 10 patients who had suffered cardiac arrest and met the criteria for its use. Recently, New York City's Department of Emergency Medical Services began training its paramedics to administer the treatment en route to the hospital.

“There have been a few great advances in medicine in the past 50 or so years,” explains Dr. Schwartz, assistant professor of medicine, “and I would say that therapeutic hypothermia is one of those home runs.”

Kaley's cooling began with an icy saline drip, as doctors in the catheterization lab opened her blocked artery with a stent. Nurses wrapped chilled gel pads around her torso and legs, as a catheter recorded her temperature. In Tisch Hospital's Critical Care Unit, the storm of activity became a waiting game.

The survival rate for this type of heart attack is about 5%, and doctors have no way of knowing

how much brain damage has occurred until the body has “thawed.” As that happened over 12 hours the following night, Kaley's family watched closely as she began to breathe on her own. Kaley remembers waking up, scared and unsure of what happened. “I thought I had been in a car accident,” she recalls.

Her short-term memory improved daily as she struggled to regain coordination in her hands and arms. Two weeks after the heart attack, as Kaley stood with assistance, she suddenly remembered all her work-related passwords and codes, dictating them to her grateful assistant. It was as good a cognition test as any, at least to her family. Though deprived of oxygen for 40 minutes, her brain had survived.

By the time she returned to her job last winter, Kaley had dropped 60 pounds, quit smoking, adopted a healthy diet, and vowed never to work 70-hour weeks again. A torn rotator cuff is the only lingering reminder of her ordeal. But to Kaley, it's no big deal. “I'm very lucky,” she says, “that everything happened the way it did.”

Web Extra: for an article about therapeutic hypothermia for newborns, see “Amid a Crisis in the Delivery Room, Everyone Remained Cool, Especially the Baby” at <http://newsandviews.med.nyu.edu/>.

A Two-Pronged Approach to Treatment For Early-Stage Abdominal Tumors

Karen Phillips is actually grateful for that pesky little cyst on her ovary. During minimally invasive surgery to remove it, her gynecologist noticed a mass on her appendix. She quickly conferred with a general surgeon, who took out the appendix and sent it to pathology. Two weeks later, Phillips, 33, was informed that she had cancer of the appendix—a type of mucinous tumor that can grow and spread in the form of a jellylike fluid.

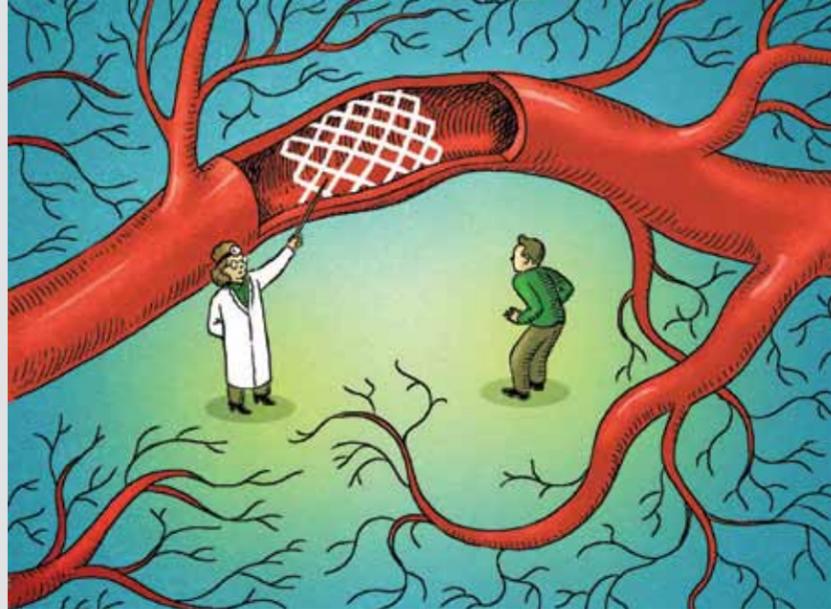
Phillips's gynecologist, Amy Bloomgarden, MD, clinical assistant professor of obstetrics and gynecology, referred her to Russell Berman, MD, and Umut Sarpel, MD, both assistant professors of surgery and members of the Cancer Institute at NYU Langone Medical Center, a National Cancer Institute–designated facility. They determined that she would be a good candidate for a procedure known as tumor debulking plus hyperthermic intraperitoneal chemotherapy (HIPEC). Used for more than a decade in Europe, where it has been widely adopted to treat certain advanced cancers of the abdominal cavity, including ovarian, stomach, and colon cancers, it is increasingly recommended by surgeons in the US and is now being offered by NYU Langone's new Peritoneal Surface Malignancy Program (www.hipec.med.nyu.edu).

To perform the procedure, one of many innovative surgical treatments offered to patients at the Medical Center, first the surgeon carefully explores the abdomen and removes all visible tumors. Next, because tumors that line the abdominal cavity are relatively inaccessible to intravenous chemotherapy, a heated chemotherapy solution is circulated throughout the abdomen. "Tumor cells are vulnerable to heat, and direct contact with the heated chemotherapy allows it to better diffuse into the remaining tumor cells," explains Dr. Berman.

Until recently, HIPEC was reserved for late-stage cancers. "It was a last-ditch effort," says Dr. Sarpel. "But we've come to learn through the literature that the sooner you treat, the greater the potential benefit." Early detection of cancers that line the abdominal cavity remains a challenge, largely because evidence of tumors on imaging can be very subtle. Rather than pursue a strategy of watchful waiting, however, Dr. Berman and Dr. Sarpel encourage their colleagues to maintain a high level of suspicion and consult with experts in the field. "In patients with high-risk cancers," warns Dr. Sarpel, "a small amount of new abdominal fluid on a CT scan may be the only sign of recurrence."

"Karen is someone who, not too long ago, would have been told, 'Hurry up if you're going to have kids, and live your life,'" says Dr. Sarpel. Now, Phillips could and did elect to have a procedure that would both treat her cancer and allow her to plan for her future—one she hopes will include children. In fact, she arranged to have her eggs preserved, just in case her ovaries were compromised.

After surgery, Phillips learned that more tumor deposits had been found and her spleen had to be removed, but her reproductive organs remained intact. Six months later, following a clean CT scan, she remains hopeful. "Cancer isn't as scary as before," she says. "I'm blessed that the cancer I had was treatable."



For Stent Patients, Commonsense Advice May Be the Best Medicine

When cardiovascular prevention fellow Lourdes Gonzalez-Santos, MD, shows newly stented patients plastic models of blood vessels clogged with cholesterol-laden plaque, their eyes, she says, light up. "If you say their bad cholesterol needs to be lowered, it doesn't have much impact," she explains. "But when they see a visual, they say, 'Ah-ha! Maybe I should strive to change.'"

Dr. Gonzalez-Santos works with a group of attending physicians from the Center for the Prevention of Cardiovascular Disease, as part of an Inpatient Consultation Service at NYU Langone Medical Center's Tisch Hospital. Their goals are to reduce the chances that patients with stents (small mesh tubes used to treat narrowed or weakened arteries) will need to be stented again and to lower their risk of additional cardiovascular problems—new lesions in other arteries, carotid artery disease, peripheral arterial disease, heart attacks, and strokes. Some 1.3 million stents are implanted annually in the US, and more than 4% of these cases eventually require repeat interventions.

Dr. Gonzalez-Santos meets with each patient undergoing elective intervention shortly after he or she has a stent implanted. "The scariest thing is not having control," says Dr. Gonzalez-Santos. "We give them tools to gain control." One is a conceptual understanding of the atherosclerotic process and how to control it. "We also teach them to know their numbers for cholesterol, blood sugar, and blood pressure, and what their targets should be," adds Eugenia Gianos, MD, assistant professor of medicine, who oversees the program. Another tool is lifestyle coaching about how to fit exercise into their lives (taking stairs instead of elevators, walking rather than hopping on a bus) and how to substitute healthier foods (fish for red meat, brown rice for white, olive or canola oil for butter).

The program, begun in 2010, is co-sponsored by NYU Langone's Cardiac Catheterization Laboratory, directed by James Slater, MD, professor of medicine. Although there is data from various studies indicating that a healthier lifestyle correlates with better heart health, NYU Langone's stent-intervention program has yet to be evaluated, but long-term follow-up is planned. "Our study," says Dr. Gianos, "will assess the effects of our consult on patients' knowledge about their risk factors, lifestyle changes, and changes in their lipids, sugars, blood pressure, and weight."

The reason people need stents, notes Dr. Gianos, is that their risk factors are poorly controlled. "Many," she notes, "continue to smoke, be obese, and remain physically inactive." Sometimes, family members can help. "When a patient's family is on board," explains Dr. Gonzalez-Santos, "the motivation is greater." Setting realistic goals, adds Dr. Gianos, is key. "Many patients think they have to eat a bland diet and exercise for hours. But if they can cut back just a few hundred calories a day and start moving more, small changes over time can make a really big difference."

LBD: the Second-Most-Common Dementia, But a Swifter Thief Than Alzheimer's

After retiring, William Finn, now 66, was looking forward to the next phase of his life. Then, about two years ago, he began experiencing troubling symptoms: sleep problems, mild memory loss, tremors, and difficulty doing things that once came easily. He also had frightening visual hallucinations at night. "A crowd of people and dogs seemed to be coming out of the walls of my bedroom," says Finn.

Finn's internist wasn't able to come up with a diagnosis. His wife, Eileen, suspected that the symptoms might be a side effect of her husband's cardiac medication, but they didn't remit when the drug was discontinued. The couple consulted a neurologist, who made a diagnosis of dementia but offered no suggestions for treatment. Finn's adult daughter, concerned about her father's deteriorating health and the burden it was placing on her mom, found the Pearl Barlow Center for Memory Evaluation and Treatment at NYU Langone Medical Center's Silberstein Alzheimer's Institute.

A few days later, the family scheduled an appointment with James Galvin, MD, professor of neurology and psychiatry, who directs the Barlow Center. After a comprehensive evaluation—including a detailed history, interviews with the patient and his wife, physical exams, neuropsychological tests, and brain scans—Dr. Galvin determined that Finn's symptoms were consistent with a diagnosis of Lewy body disease (LBD), the second-most-common dementia after Alzheimer's disease.

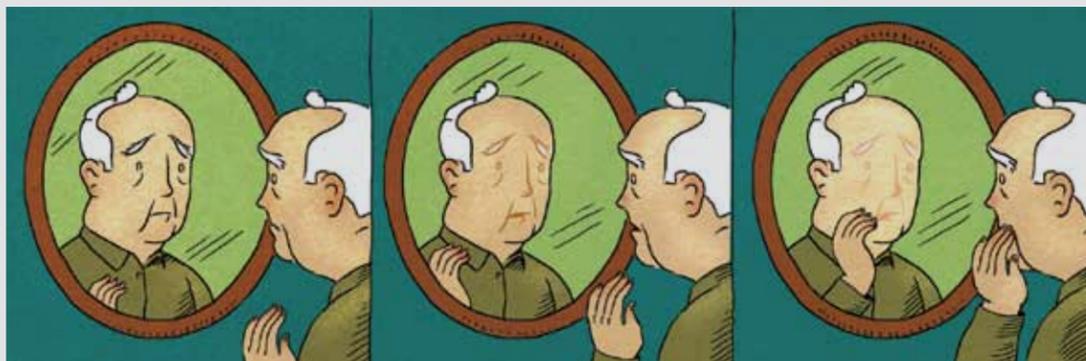
In September 2010, NYU Langone established a comprehensive center for the diagnosis and treatment of LBD, the first of its kind in the tristate region. LBD afflicts 1.3 million Americans, yet only one in four patients are properly diagnosed.

About 25% are believed to have Alzheimer's or Parkinson's disease, 25% are deemed mentally ill, and another 25% receive no diagnosis at all. "Patients typically go to several doctors for multiple visits over 12 to 18 months before being correctly diagnosed," explains Dr. Galvin, whose grandfather suffered from LBD.

Characterized by microscopic abnormal protein deposits in the brain (called Lewy bodies), LBD has four core features: a decline in cognitive abilities, the presence of Parkinsonian symptoms (tremors, muscle stiffness, shuffling gait, loss of spontaneous movement), recurrent visual hallucinations, and fluctuations in alertness (blank stares, frequent drowsiness). Some patients also experience sleep disturbances. "Although there's no cure," says Dr. Galvin, "medications can control the cognitive, motor, and psychiatric problems."

Dr. Galvin emphasizes that in the case of LBD, early and accurate diagnosis is crucial. "The disease progresses more rapidly than other dementias, so we need to prepare patients and families for what's coming," notes Dr. Galvin. "Also, people with LBD are exquisitely sensitive to the adverse effects of some medications commonly used to treat Alzheimer's, Parkinson's, and psychiatric disorders."

With medication, counseling, and psychosocial supports, William Finn's symptoms are better controlled. The couple is planning to visit their son in Virginia, something they couldn't even think of doing last year. "It was an absolute blessing for us to find Dr. Galvin," says Eileen Finn. "The more you know about something, the better you're able to handle it."



Illustrations by Wesley Bedrosian

A Dream Come True *(continued from page 1)*

There is perhaps one more thing that would have surprised young Joe Zuckerman: he would spend his entire career at one medical center doing what he loves—treating patients and training doctors—and its parent institution, New York University, would honor him with its highest award for teaching, the Distinguished Teaching Medal. Dr. Zuckerman is the eighth member of our faculty to be so hailed. The University awards the medal annually to faculty members who have demonstrated their excellence as educators over a sustained period of time and who have contributed significantly to the intellectual life of the University through their teaching.

Dr. Zuckerman had all but decided on a medical specialty as early as high school, when several injuries he sustained while playing basketball piqued his interest in orthopaedics. After graduating from Cornell University, he earned his MD at the Medical College of Wisconsin, where he was elected to the Alpha Omega Alpha honor society. After training in surgery and

orthopaedic surgery at the University of Washington, he completed a fellowship in adult reconstructive surgery/arthritis research at Brigham and Women's Hospital and was a visiting clinician in shoulder surgery at the Mayo Clinic. Dr. Zuckerman has served as surgeon-in-chief of HJD since 1994 and as chair of the Department of Orthopaedic Surgery since 1997. He is the author of, editor of, or contributor to 16 textbooks, 78 book chapters, and 283 peer-reviewed journal articles.

Dr. Zuckerman served as director of the one of the largest orthopaedic residency programs in the country from 1990 to 2006. In that role and others, he has helped train more than 250 residents and an equal number of medical students, whom he has mentored in their pursuit of orthopaedic surgery as a career. Performing nearly 300 operative procedures a year, on top of his administrative and academic duties, he is often referred to by colleagues and students alike as "the busiest man in the business." (His musings on many topics can be viewed at bigthink.com, a knowledge forum featuring top thinkers and does from around the globe.)

"Dr. Zuckerman always has time for medical students and residents," marvels Chief Resident Charles Jordan, MD, noting that Dr. Zuckerman typically responds to phone calls or e-mails within minutes and makes himself available 24/7. "He knows our wives' names, our birthdays, and where we grew up—all 62 residents." Orthopaedic residents have conferred their Teacher of the Year Award on Dr. Zuckerman five times, more than on any other faculty member in the department.

But as much as Dr. Zuckerman reveres teaching and appreciates being recognized for doing it well, he emphasizes that medicine, ultimately, is all about the patient. "Dr. Zuckerman is humble enough to acknowledge that surgery is a high-stakes profession and that even he learns new things every day," says John Mercuri ('12). "As a medical student, that grounds you. His patients love him because he really tries to understand how their problems affect their quality of life."

"Patients won't care how much you know," Dr. Zuckerman is fond of saying, "until they know how much you care."

The VIOLET BALL

NYU Langone Medical Center held its annual Violet Ball at Cipriani 42nd Street on May 4, raising a record \$9.7-plus million. Some 850 guests gathered to honor NYU Langone trustee Fiona Druckenmiller and her husband, Stanley Druckenmiller, for their tremendous generosity, particularly their \$100 million gift to create NYU Langone's Neuroscience Institute. Speakers included the institute's recently appointed director, Richard Tsien, DPhil; Mayor Michael Bloomberg; NYU Langone Board Chair Kenneth G. Langone; NYU President John Sexton; and Dean and CEO Robert I. Grossman, MD. Stanley and Fiona Druckenmiller paid tribute to Langone's vigorous outreach to donors, which generated more philanthropy for the event than ever before.



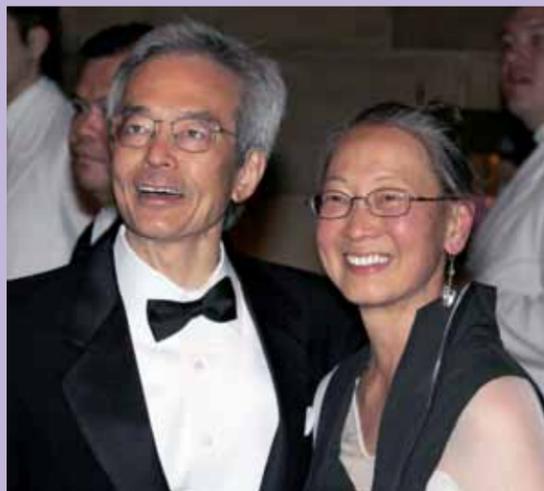
Ann Watt



Jay Brady



Ann Watt



Ann Watt

Top left: Dean and CEO Robert I. Grossman, MD, and Stanley Druckenmiller. Top right: Medical Center Trustee Fiona Druckenmiller. Bottom left: Mayor Michael Bloomberg. Bottom right: Dr. Richard Tsien and Dr. Julia Shiang.

KiDS of NYU Gala

At the 2011 KiDS of NYU Springfling Gala, held on May 10 at The Plaza Hotel, KiDS celebrated 20 years of health services for children at NYU Langone Medical Center and raised nearly \$1.3 million that night to enhance those efforts. This year's event, attended by more than 450 supporters, honored David Feldman, MD, chief of the Division of Pediatric Orthopaedic Surgery at NYU Langone Medical Center's Hospital for Joint Diseases. Speakers included his patients Maurice Elbaz, Kyra Slive, and Douglas Mu. KiDS Chair Alice Tisch; Event Co-chairs Patty Newburger and Brad Wechsler; Catherine Manno, MD, the Pat and John Rosenwald Professor of Pediatrics and chair of the Department of Pediatrics; and Dean and CEO Robert I. Grossman, MD, all expressed the community's excitement as they work together to create a comprehensive home for pediatrics, with a dedicated center for children's services at its heart.



Jay Brady



Jay Brady



Jay Brady

Top: Alice Tisch, chair of KiDS of NYU and a Medical Center trustee; Maurice Elbaz; Theresa Wong Mu; Kyra Slive; Dr. David Feldman; and Douglas Mu. Above: Patti Harris, first deputy mayor; Dr. David Feldman; Patty Newburger, KiDS of NYU board member; Brad Wechsler, NYU Langone Medical Center trustee; and Jane Rosenthal. Left: Trudy Elbaum Gottesman and Meg Geslin, KiDS of NYU board members.

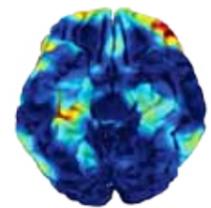
Inside This Issue



The Big Chill In cardiac arrest, Francine Kaley had no supply of oxygen to her brain for 40 minutes. Against all odds, she not only survived, but was left with no cognitive deficits—all thanks to a remarkable resuscitation team, and a revolutionary technique used to cool her body's core temperature. [page 1](#)



A Dream Come True New York University confers its highest award for teaching, the Distinguished Teaching Medal, on Dr. Joseph Zuckerman, chair of the Department of Orthopaedic Surgery, who has spent his entire career at NYU Langone. He is the eighth member of our faculty to be so honored. [page 1](#)



An Ambitious Agenda "I never liked biology when I was growing up," explains Moses Chao, PhD, professor of cell biology, physiology and neuroscience, and psychiatry. It's a surprising confession, coming as it does from the president-elect of the Society for Neuroscience. [page 3](#)



From Virtual Surgery to Pioneering Procedure An X-ray revealed a very large tumor in Maria Palma's jaw. It was probably benign, but far from harmless. This type of rare tumor grows large quickly, and left untreated, it can become so big that it interferes with breathing, even completely blocking the airway. [page 3](#)



The Elegance of Medicine Part Socratic dialogue, part heart-to-heart, Dr. Beno Oppenheimer's after-hours sessions are extracurricular in name only. In every other sense, they are quintessentially curricular—part of the Introduction to Bedside Diagnosis course, a vital component of the new curriculum. [page 5](#)

NEWS & VIEWS

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Below, top right: Robert I. Grossman, MD, dean and CEO; Steven Abramson, MD, vice dean for education, faculty, and academic affairs; Robert Berne, PhD, executive vice president for health; Martin Lipton, Esq., chair, Board of Trustees, NYU; Kenneth G. Langone, chair, Board of Trustees, NYU Langone Medical Center. For complete coverage of graduation 2011, including more photos of the event, visit www.med.nyu.edu.

Graduation 2011

