

news & views

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All Hands on Deck

At the outset of the crisis, members of NYU Langone's Incident Command Team gathered in the Thomas S. Murphy Conference Room on the first floor of the Medical Sciences Building. But as power and telecommunications were lost, the team was forced to relocate twice.

Lori Donaghy

An Unprecedented Natural Disaster Inspires an Unprecedented Response from the NYU Langone Community and a Safe, Swift Evacuation of Patients

All hands on deck—as a call to action, what phrase could be more apt to describe NYU Langone Medical Center's response to the greatest crisis in its history, the unprecedented assault by Hurricane Sandy that began on Monday, October 29, 2012? Arranging for separate ambulances to transfer 322 patients to 14 other hospitals within 13 hours was a physical and logistical challenge of epic proportions, requiring the efforts of all available caregivers. Some 1,000 medical and professional personnel—including nurses, physicians, fellows, residents, medical students, and therapists—along with firefighters and countless volunteers from our administrative and support staff rose to the challenge, safely evacuating every single patient.

With forecasts sounding more certain of the storm's path days before its arrival, the Medical Center began implementing a wide range of measures designed to mitigate its impact. Led by Bernard Birnbaum, MD, senior vice president, vice dean, and chief of hospital operations, the Incident Command Team (ICT)—a designated group of administrators charged with hospital-wide crisis management—began meeting and conferring frequently (*see photo*).

From the very start, the ICT and executive leadership faced an impossibly complex calculation. Would more than 575 inpatients, particularly those who were most frail, be less at risk if they were to be sheltered in place during the storm? "There are significant risks to transferring

patients," notes Dr. Birnbaum. "It's the least desirable option."

On the previous Friday, NYU Langone began to discharge all medically stable patients, reducing its census to 325. At the same time, Real Estate Development + Facilities began taking steps to secure the physical plant. As an additional precaution, the Medical Center announced on Sunday, October 28, that all scheduled surgeries and procedures—with the exception of emergent procedures—would be canceled through Tuesday, October 30, and that all off-campus ambulatory care centers and on-campus physician offices would be closed. To ensure that the patient census could be kept at a

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A Five-Star Performance

Measured against Its Top Peers Nationwide, NYU Langone Earns High Marks for Quality and Safety

Over the past few years, NYU Langone Medical Center has received numerous accolades for the high quality of its patient care and safety from nationally recognized organizations. But its most recent honor—from the University HealthSystem Consortium (UHC)—has touched off a new wave of pride. In its 2012 Quality and Accountability Performance Scorecard, UHC ranked NYU Langone eighth



among the top academic medical centers in the country. The group also conferred its Quality Leadership Award on the Medical Center, bestowing five stars for overall performance.

"This ranking is particularly meaningful because it was generated by data from more than 100 of our peer organizations," notes Martha Radford, MD, professor of medicine and chief quality officer. "It's a real honor to be included in

such a distinguished group." Robert Press, MD, PhD, chief medical officer, puts the achievement in perspective: "Only two academic medical centers in the country appear on the top-ranked list of both UHC and *U.S. News & World Report* for 2012: NYU Langone Medical Center and the Mayo Clinic."

UHC's Quality and Accountability Study, conducted annually since 2005, ranks academic medical centers across a wide range of key performance indicators, including mortality, patient safety, effectiveness, equity of care, patient centeredness, and efficiency. This year, 101 member institutions were included in the detailed analysis.

Underscoring its national leadership role, NYU Langone was ranked number one by UHC in the categories of effectiveness and equity. "Effectiveness" is measured on hospital readmission rates (the percentage of admitted patients who return for any reason within 30 days of discharge) and a host of

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From the Dean & CEO

In recent years, NYU Langone Medical Center has received numerous accolades for the high quality of its patient care, and now we have one more reason to be proud. The University HealthSystem Consortium ranked NYU Langone eighth among the top academic medical centers in the country. The group also conferred its Quality Leadership Award on the Medical Center, bestowing five stars for overall performance. This ranking is particularly meaningful because it was generated by data from more than 100 of our peer organizations.

Earlier this year, NYU Langone was named one of the nation's top hospitals by *U.S. News & World Report*. Additionally, *whynotthebest.org*, an online tool tracking performance on various measures of healthcare quality, ranked NYU Langone first among the nation's academic medical centers for both overall recommended care and surgical care. Last year, the

Niagara Health Quality Coalition recognized the Medical Center on its list of America's Safest Hospitals. We were one of only two hospitals in New York City to be awarded an "A" Hospital Safety ScoreSM by The Leapfrog Group. In addition, NYU Langone was awarded a Gold Seal of Approval by The Joint Commission and achieved Magnet[®] recognition by the American Nurses Credentialing Center for our three hospitals.

Robert I. Grossman, MD



Dr. Erjian Zhu, a physiatrist at Qingdao Municipal Hospital in northern China, joins Dr. Ira Rashbaum, clinical professor of rehabilitation medicine, on rounds at the Rusk Institute.

At Rusk, East Meets West

With his white coat and attentive eyes, the physician appears to be perfectly at home as he rounds with Ira Rashbaum, MD, clinical professor of rehabilitation medicine, and other physicians on an inpatient floor of NYU Langone Medical Center's Rusk Institute of Rehabilitation Medicine. But in truth, he's 7,000 miles from home—Qingdao Municipal Hospital (QMH) in northern China. As he listens intently to medical histories, his focus is as much on process as patients. "The idea of teamwork—of the doctor, nurse, and therapist working together closely—is what really impresses me," says Erjian Zhu, MD, a specialist in rehabilitation medicine at QMH, which served as the designated hospital for the 2008 Olympic Games in Beijing. "I want to learn as much as possible about how this mechanism works."

Dr. Zhu is getting ample opportunity to do just that as part of a cooperative agreement between Rusk and QMH, now in its second year. The exchange program enables a team of rehabilitation specialists (physicians, nurses, and physical therapists) from QMH to be trained at Rusk for three months, and for similar teams from Rusk to visit QMH four times a year, spending up to 10 days there each time. At both hospitals, the daily calendar is crammed with lectures, skill-building sessions, and time-honored patient rounds.

"When we started working with Qingdao Municipal Hospital, it was common practice for its patients to be put on bed rest for weeks following a knee replacement or an orthopaedic procedure," explains Geoffrey Hall, Rusk's department administrator, who developed the program with Steven Flanagan, MD, the Howard A. Rusk Professor of Rehabilitation Medicine and chair of the Department of Rehabilitation Medicine. "That's absolutely contrary to medical practice in the US. We've learned that the faster you get the patient on their feet, the faster recovery begins." But after a year of Rusk training, medical personnel at QMH now have their patients walking and performing weight-bearing exercises the day of surgery, a change in strategy that's not only improving the patient's function and movement, but reducing the length of hospital stays. Rusk is also benefiting from the East-West exchange. Among other synergies, it is learning how Chinese physicians integrate acupuncture with modern Western medicine.

With QMH planning to build a new rehabilitation hospital over the next three years, the relationship with Rusk couldn't be more vital or timely. For Rusk, it's business as usual. "Dr. Howard Rusk was the father of comprehensive rehabilitation medicine," explains Dr. Flanagan, "so the notion of extending our expertise to any place in the world where it's needed is part of our history, tradition, and mission."



A typical 64-ounce soft drink (right) contains 186 grams of sugar, totaling 744 calories. A 16-ounce beverage (left) — the largest size food service establishments would be allowed to sell under the city's new guidelines — contains 40 grams of sugar, totaling 150 calories.

When Downsizing Is a Good Thing

For the past five years, Mayor Michael Bloomberg has waged a pitched battle on obesity, and to support his case, he has relied, in part, on research by Brian Elbel, PhD, assistant professor of population health and medicine. In 2008, Dr. Elbel surveyed fast-food customers before and after the city required chain restaurants to post calorie counts on their menus. This summer, he and his research team released another blizzard of data around the city's first-of-its-kind proposal to limit the size of sugary beverages that could be sold at certain food-service establishments. His findings: if customers switched from a supersize drink to one that is 16 ounces, they would consume 63 fewer calories, on average. Consequently, the Bloomberg administration is seeking to ban serving sizes over 16 ounces.

Statistics have figured heavily in the public debate over sugary drinks. Nearly 60% of New York City adults are overweight or obese, as are 40% of public elementary school students. Moreover, one in eight adult New Yorkers has type 2 diabetes. A rash of studies indicate that high-calorie drinks are a major contributor to obesity, diabetes, and heart disease.

Dr. Elbel, whose work often focuses on consumer choices, has helped to inform the debate. As part of his research on soda consumption, he pooled data from two studies that included 1,624 sales receipts from diners at fast-food restaurants in New York City, Newark, Philadelphia, and Baltimore from 2008 to 2010. That research, concluding that a ban on beverages over 16 ounces could indeed impact the public's caloric intake, became exhibit A at public hearings over the summer. The new restrictions will be implemented in the spring of 2013.

Would a reduction of 63 calories at each meal purchased at one of these establishments really make a difference, though, in the health of the city's population? "That alone isn't going to solve the problem," concedes Dr. Elbel. "But if it's part of a broader set of changes to influence consumer choice, then it could be quite effective in the long run."



Mike Weymouth

Dr. Littman Elected to Institute of Medicine

Dan Littman, MD, PhD, the Helen L. and Martin S. Kimmel Professor of Molecular Immunology, professor of pathology and microbiology, and a member of the Skirball Institute of Biomolecular Medicine, has been elected to the Institute of Medicine (IOM). IOM membership is one of the highest accolades for outstanding professional achievement and commitment to service in medicine and health. A renowned immunologist

and molecular biologist, Dr. Littman has made seminal contributions to numerous fields, including understanding the molecular basis of immune recognition, HIV pathogenesis, T-cell differentiation and selection, and most recently, the role of commensal bacteria in immune system development and regulation. Dr. Littman is a Howard Hughes Medical Institute investigator, a member of the National Academy of Sciences, and a fellow at both the American Academy of Arts and Sciences and the American Academy of Microbiology. Dr. Littman has been a leader in applying molecular biology and mouse genetics to study specification of T lymphocyte lineages and the differentiation of inflammatory T helper cells. His work has had a major impact in both immunology and virology, and is being translated into therapies for multiple diseases.



Kaestlen Moran

A Boon for Baby Boomers

Thanks to a New Technique for Hip Replacement, Younger Patients Can Bounce Back Faster and Easier Than Ever

In his blue scrubs and sneakers, physical therapist Brian Mabrey is constantly in motion—squatting to adjust machines, bending to pick up balls and mats, hiking a leg onto a table to stretch a patient’s leg. To look at the stocky, muscular, 41-year-old bustling about his Brooklyn studio, it’s hard to believe that just three years ago he was so disabled that he had to have his left hip replaced.

“Ten years ago, such operations were mainly reserved for people in their late 60s and early 70s,” says Mabrey’s surgeon, Roy Davidovitch, MD, director of The New York Hip Center at NYU Langone Medical Center’s Hospital for Joint Diseases (HJD). “But over the past five years, we’ve seen an increase in hip replacements in people in their 40s and 50s. Half of the patients I see now are younger than 55.

“Some younger adults have always needed hip replacements, but the implants and the surgical technique weren’t that great,” explains Dr. Davidovitch, assistant professor of orthopaedic surgery. “We could relieve the pain, but patients had to spend three months in rehab, and they weren’t gaining back full function. Often they couldn’t return to work and couldn’t be as active as they liked. So hip replacement was put off as long as possible.”

All that has changed. With stronger, more varied materials, such as titanium, plastic, ceramic, and stainless steel, and more refined machining of surfaces, implants have become more durable, and they operate more smoothly. Surgical innovations have kept pace, too, causing less trauma, pain, and scarring, and cutting recovery time in half, from several months to a few weeks. Most important, patients return to being fully functional. “They won’t have the hip they had at 20,” concedes Dr. Davidovitch, “but they can do things like skiing, running, and biking.”

Mabrey’s left hip began aching and throbbing five years ago. For years, he’d been involved in vigorous activities that put stress on his hips. He was a competitive weightlifter in the 137-pound division, raising 220 pounds in the clean and jerk and 180 pounds in the snatch. Then, he took up golf, twisting his body from right to left.

As his aches and pains worsened, Mabrey began walking with a limp, then a cane. He knew he was headed for a hip replacement but resisted. “I had learned in training that the number one factor that prolongs return and full recovery is the standard surgical approach, which cuts the muscles that stabilize the hip joint and allow it to rotate.” Mabrey tried to

Brian Mabrey, back in full swing after anterior hip replacement surgery, a new minimally invasive approach that leaves muscles and tendons intact.

strengthen those muscles with wall squats, leg extensions, and leg curls, but the deterioration continued.

“It got so bad that I couldn’t work. I have to be able to lift at least 30 to 50 pounds,” he explains, “but I couldn’t do that.” One night while he was sleeping, Mabrey rolled over on his left hip and woke up screaming, frightening himself and his wife, Teresa. It was the last straw. “On the Internet,” he recalls, “I found Dr. Davidovitch, who was using a new, minimally invasive approach— anterior hip replacement surgery.”

Dr. Davidovitch agreed that Mabrey was a suitable candidate. “Brian had osteoarthritis of the hip,” notes Dr. Davidovitch, “but we also discovered that he had a developmental condition called femoral acetabular impingement—a mismatch between the ball of the femur and the socket of the pelvis. The ball is not quite as round as the socket, so when movement occurs, it’s like trying to roll an oval inside a circle.”

Dr. Davidovitch made a short incision in the front of Mabrey’s pelvis and followed a natural groove in the muscles to reach the left hip joint, leaving muscles and tendons intact. In the more traditional techniques, surgeons make a longer incision in the patient’s side or back, often cutting through muscles and tendons. Then, Dr. Davidovitch removed the head and neck of the femur bone, reamed and shaved the pelvic socket and—guided by X-rays—inserted an artificial head into the femur, positioning it to turn easily in the socket. (Dr. Davidovitch serves as a paid consultant to Stryker, the manufacturer of one type of hip-replacement device used at HJD.)

Three days after surgery, Mabrey went home. He was back at work within another week. One month later, his limp was gone. One year later, he was jogging. “Best of all,” says Mabrey, “I have more range of motion in my left hip that I ever had before.”

Web Extra: for an article about the surgical challenges of replacing an artificial hip that has worn out, see “MacGyver in the OR” at www.newsandviews-digital.com.

“The Doctor Will See You—Today If You Like”

At Great Neck Medical, the Most-Valued Specialty of All Is Same-Day Service

Michael Hammack, 35, was fortunate enough to have had few health problems. But anytime he came down with the flu, he knew he could call Great Neck Medical, and they’d get him in to see his primary care physician by the end of the day. The practice, which recently joined NYU Langone’s expanding network of ambulatory care centers, prides itself on same-day service, a guarantee that Hammack, an on-the-go commuter from the Howard Beach section of Queens, always appreciated. Last summer, however, he was diagnosed with multiple myeloma, the most common type of plasma cell cancer, and since then, he has come to appreciate Great Neck Medical for much more than little conveniences.

Through those terrifying early days, when a golf ball–size lump suddenly appeared on one of his lymph nodes, Hammack relied on his longtime physician at Great Neck, Jeffrey Spivak, clinical instructor in medicine, to provide a steady hand on his shoulder, comforting and counseling him through a battery of tests. Hammack’s team now includes an oncologist and other specialists at NYU Langone’s Clinical Cancer Center on East 34th Street, but his relationship with Dr. Spivak has only gotten stronger. Over the course of 30 rounds of chemotherapy, Hammack has often called Great Neck in the morning to schedule a quick afternoon appointment—to discuss a new symptom, get a checkup, or seek moral support when he’s feeling overwhelmed.

“There are a lot of things that he can explain to me because I know him well,” explains Hammack. “He doesn’t have to beat around the bush. I trust him. Anytime I feel I have to see him, I go. It’s never an issue.”

Being able to accommodate and reassure patients promptly is a goal Steven Kobren, MD, clinical associate

professor of medicine, Great Neck’s medical director, set for himself early on. During his residency in the mid-1980s, Dr. Kobren was struck by the number of patients at the hospital where he was training who complained about how long they often had to wait—sometimes several weeks—to get an appointment with their primary care physician. “I’m not feeling well now,” he recalls one patient telling him. “Why do I have to wait three weeks?”

Dr. Kobren decided that when he opened his own practice, same-day service would be its hallmark, so he created a business model and hired a support staff that has now grown to 43, all of whom are expected to stay late if need be. “If a new patient calls in the morning,” he says, “they’ll be asked if they want to see me today. It’s an open door policy.”

Roughly 20 to 25% of Great Neck’s appointment slots are reserved for same-day call-ins. Filling them, says Dr. Kobren, is rarely a problem, since all of the practice’s patients know they can always call the day they want to come in. Dr. Kobren attributes the growth of his practice over the last 23 years (five physicians in nine adult specialties), at least in part, to this policy.

Located about 35 miles from lower Manhattan, the practice, which draws its patients from all five boroughs, is located two blocks from Northern Boulevard, a busy commercial strip that feeds into Long Island from Queens. Just half a mile down Great Neck Road, manicured lawns and single-family homes grow in size and opulence with each passing block. Two miles away lies the wealthy enclave of Kings Point and the Gold Coast, where sailboats bob gently in the bay and private roads offer access to pristine beaches.

Dr. Kobren maintains close ties with NYU Langone’s main campus. When the need for emergency

procedures arises, the Medical Center’s state-of-the-art facilities are just a phone call and a quick ride away.

For patients like Hammack who require multidisciplinary care, Great Neck’s close working relationship with NYU Langone’s network of specialists is a valued strength. “Dr. Spivak has been working hand in hand with specialists in the city,” notes Hammack. “They always make sure he’s in the loop and that everyone is on the same page. Medically and on a personal level, the NYU Langone team has helped me get through this.”

For more information or to make an appointment, call 516-482-6747.



As medical assistant Brittany Holt looks on, Dr. Andrew Fan gives Michael Totoro a checkup.



Paralyzed from the waist down after being injured in a car accident, Thomas Wopat-Moreau, 22, plays in a wheelchair softball league, one of many activities he enjoys despite his disability.

then I thought, ‘How can I continue to live in this situation?’ ” He soon committed himself to adapting—and learning all that he could. “In physical therapy, my attitude was to live in the present,” he says. “If I can’t walk, so be it. But I’m still going to go out to concerts and theaters. There were days when I cried and days when I was really happy. But whatever challenge the therapists threw at me, I jumped at it.”

While some people seem naturally resilient, it’s a quality that can be cultivated by helping patients to think and behave as resilient people do. But it’s not easy to predict who will summon resilience when it’s needed. Studies indicate that those who have weathered crises well in the past tend to show more resilience than those who face a major hardship for the first time. At Rusk, clinical psychologist Hilary Bertisch, PhD, clinical assistant professor of rehabilitation medicine, is studying whether resilient patients recover better and faster than others. Based on her experience, Dr. Bertisch hypothesizes that “more resilient people will have a better perspective on treatment and more positive outcomes over the long term. It’s a self-fulfilling prophecy.”

“Some people are devastated by relatively minor injuries,” notes Tamar Press, PsyD, a clinical psychologist at Rusk who sees Wopat-Moreau for weekly psychotherapy. “The moment I met him, Thomas struck me as being incredibly upbeat. I asked him if he got anxious when he was hoping for someone to rescue him. He said he didn’t, because he knew that wouldn’t help him survive.”

Dr. Press points out that resilient people like Wopat-Moreau tend to have strong social support from loved ones. “My mom is a rock,” says Wopat-Moreau. “She’s shown a lot of strength, and that’s rubbed off on me. My friends are helpful when I need it, but they also push me to get back to normal. They don’t introduce me as ‘my friend Tom who is in a wheelchair.’ They introduce me as ‘Tom.’ ”

Though it’s hard to ignite this kind of inner fire, most patients willing to undergo intensive rehabilitation show a spark of resilience that therapists can stoke. “We can greatly help those individuals by providing tools and teaching them to maximize their functioning,” says Mary Hibbard, PhD, professor of rehabilitation medicine and Rusk’s director of psychology.

Today, Thomas Wopat-Moreau is playing in a wheelchair softball league, hosting friends at his new apartment in Manhattan, and focusing on the pursuit of a full-time position in wealth management. “I don’t see myself as a person stuck in a wheelchair who can’t accomplish anything,” he says. “I know my strengths and weaknesses. Yes, there are physical obstacles, but I don’t let them get in my way.”

Joshua Bright

The Healer Within

Why the Mind Must Recover before the Body Can Follow

When a deer leapt in front of his car at dawn on May 31, 2010, Thomas Wopat-Moreau felt like *he* was the one caught in the headlights. Cruising down the Taconic State Parkway, about 45 miles south of Albany, New York, he had no time to think. Instead of breaking, he swerved to avoid hitting the animal. His silver BMW station wagon flew off the unrailed road, soaring 480 feet and rotating three and a half times before landing upside down. When he regained consciousness, saved by his seatbelt and airbag, Wopat-Moreau, 22, realized that he couldn’t feel his legs. But he was alive—and determined to survive.

Using his arms to escape from the car and maneuver his body, Wopat-Moreau dragged himself to a nearby swamp for water but realized, after it made him sick, that it was not potable. Relying on the surrounding tall reeds for nourishment and hydration, he fended off insects for four and a half days, sustained by thoughts of his mother, family, and friends, and how he had to get back to them. Tracking the signal from his cell phone, the state police finally found the young man some 150 feet from his car, his back broken but his spirit fully intact. “I’m so happy to see you guys!”

Wopat-Moreau said in a parched voice as his rescuers neared.

Having graduated from the College of William and Mary the previous year, he was all set to start a job at a financial services firm a few days after the accident. Instead, he spent five weeks at Albany Medical Center before being transferred to NYU Langone Medical Center’s Rusk Institute of Rehabilitation Medicine. Paralyzed from the waist down, Wopat-Moreau gradually adjusted to the reality that he would probably spend the rest of his life in a wheelchair.

From the troopers who found him to his doctors, nurses, therapists, and fellow patients at Rusk, many have been inspired by Wopat-Moreau’s remarkable resilience. In the parlance of psychology, resilience is the ability to deal constructively with adversity or trauma over time, and it’s marked by acceptance, followed by repeated displays of strength and courage. While resilient people fully experience the emotional pain of their trauma, they’re able to activate a practical, positive mind-set that enables them to move past the loss and even find silver linings.

“I was depressed because I had just fought so hard to live,” Wopat-Moreau recalls, “and

A Five-Star Performance (continued from page 1)

other quality measures that appear on many websites comparing hospital performance, including the bellwether www.hospitalcompare.hhs.gov, managed by the Centers for Medicare and Medicaid Services (CMS). “We’ve been working for the past four years to bring our patient care into this nationally recognized range of excellence,” explains Dr. Radford, “and our low readmission rates compared to other UHC institutions are a great example of the progress we’ve made.”

“Equity” further parses the numbers to determine whether there are any differences in how a hospital treats men versus women, whites versus nonwhites, and higher versus lower socioeconomic classes. NYU Langone’s across-the-board equality of care was manifest in UHC’s highest possible rating.

The UHC scorecard also served to validate the wide-ranging programs NYU Langone has launched in recent years to enhance patient safety and quality. These include medical response teams that react quickly to patients in distress, tightened controls to prevent hospital-acquired infections and venous thromboembolisms (deep vein phlebitis and blood clots to the lungs), hourly nursing checks on every patient, and full documentation of each patient’s condition. According to Dr. Radford, the latter has meant “conducting a thorough physical and taking a complete history of each patient so that every member of the care team understands all aspects of the patient’s condition and what could go wrong during treatment.” Keyed into this information hub are not just doctors and nurses, but

respiratory therapists, lab technicians, even patient escorts—all part of what Dr. Radford refers to as our “whole team approach.”

Earlier this year, NYU Langone was named to *U.S. News & World Report’s* 2012–2013 Best Hospitals Honor Roll, which includes national rankings for 13 medical specialties. In addition, whynotthebest.org, an online tool for tracking hospital performance based on various measures of healthcare quality using CMS data, ranked NYU Langone first among the nation’s academic medical centers for both overall recommended care and surgical care. Also, last year, the Niagara Health Quality Coalition named NYU Langone to its honor roll for the third consecutive year and designated the medical center one of America’s Safest Hospitals.



Julie Nicholls / Photo Researchers, Inc.

A Condition of Self

A Conversation about Autism with Dr. Melissa Nishawala and Dr. Adriana Di Martino

Perhaps because of its enduring and confounding mysteries, autism—literally meaning “a condition of self”—has a long history of myths and misconceptions. In the 1940s, psychiatrists used the term to describe children with emotional and social disorders they believed were linked to schizophrenia. In the 1950s, autism was blamed on a lack of maternal warmth. By the 1980s, autism was finally defined as a disorder of the brain that affects information processing and inhibits language and social function. Today, it is part of a diagnosis known as autism spectrum disorders (ASD). At NYU Langone Medical Center’s Child Study Center, Melissa Nishawala, MD, assistant professor and medical director of the Autism Spectrum Disorders Clinical and Research Program, and Adriana Di Martino, MD, the Leon Levy Assistant Professor of Child and Adolescent Psychiatry and associate director of the Phyllis Green and Randolph Cowen Institute for Pediatric Neuroscience, search for answers to why ASD afflicts an estimated 1 in 110 children in the US.

Is autism reaching epidemic proportions, or does it just seem that way because clinicians are getting better at diagnosing it?

Dr. Nishawala: The definition has evolved over time, and we’re diagnosing kids at earlier ages or identifying kids thought to have other diagnoses as children with autism. Most researchers and clinicians are confident that the numbers have actually been stable and high all along. If there is an increase, it’s not as much as people might think.

Is autism inherited, caused by environmental factors, or a combination of both?

Dr. Nishawala: Autism is an incredibly heritable disorder, and we know this from the rate among

identical twins—about 80% or higher. Both fraternal twins and siblings have a 20% or so chance of developing autism, so that tells us that it doesn’t have much to do with the intrauterine environment. What we don’t understand is whether there’s an environmental factor that could be turning the genes that cause autism on and off. We know from research that certain things, such as vaccines, are not implicated, and that children who are vaccinated and those who are not are equally likely to have an autistic disorder.

Do we know enough about the causes of autism to prevent it?

Dr. Nishawala: We know that within the second year of life, perhaps even the first, the brain of a child with

autism starts to grow too quickly. There’s a process in which local connections become too great and distant connections become too few. So we’re trying to intervene with behavioral treatments and education as early as possible in the hope that we can influence a process that’s been genetically predetermined.

Dr. Di Martino: Prevention is definitely the goal, but we’re not there yet because we need to identify the causes of autism. Our strategy is to look for biological markers that can be used as targets to intervene as early as possible. For example, our group is working to identify early markers of brain functioning that will predict who is more likely to have verbal language. This type of information will help clinicians tailor early interventions to each child.

What new research findings are you excited about?

Dr. Di Martino: By comparing functional MRI images of the brains of children with autism with those of the brains of children with attention deficit hyperactivity disorder, as well as normal controls, we’ve identified in those with autism an important and unique “hub” of abnormal brain activity in the amygdala, the part of the brain that evaluates social information and emotion. We’ve also started an imaging study to compare the brains of children with autism with those of their parents so that we can determine neurological traits common to both that are likely genetically determined.

What’s the most important advice you give to parents of a recently diagnosed child?

Dr. Nishawala: Find a doctor you trust to lead your child’s treatment team. There are many helpful behavioral and medical treatments available. Beware of radical treatments. Review the evidence to support each treatment, as well as the potential risks and benefits, with your doctor.

Dr. Di Martino: The most overwhelming thing you’re going to face is making the right choices about your child’s care. Consulting an expert in autism development and talking to other parents who’ve gone through this process can help you navigate the world of services available to you and your child. It can make a real difference in how well you cope with all the challenges.

HJD and CMC Gala

NYU Langone Medical Center’s Hospital for Joint Diseases (HJD) and Center for Musculoskeletal Care (CMC) hosted their annual gala on September 24, 2012, raising \$1.4 million. This year’s event, held at the American Museum of Natural History, honored Jes Staley, chairman of J.P. Morgan’s Corporate and Investment Bank, and H. Michael Belmont, MD, associate professor of medicine, HJD’s medical director and associate director of clinical affairs, Division of Rheumatology. Staley was joined by his wife, Debora, a member of the Advisory Board of NYU Langone’s Cancer Institute. Nearly 600 guests attended the event, which was chaired by Medical Center Trustee and Musculoskeletal Advisory Board Chair Gary D. Cohn, president and COO of Goldman Sachs. Joining him as hosts were physician chairs Steven Abramson, MD, vice dean for education, faculty, and academic affairs, and professor of medicine and pathology; Robert I. Grossman, MD, the Saul J. Farber Dean and CEO; Andrew Rosenberg, MD, professor of anesthesiology and orthopaedic surgery, and chief of service, Department of Anesthesiology, HJD; and Joseph Zuckerman, MD, the Walter A. L. Thompson Professor of Orthopaedic Surgery and chair of the Department of Orthopaedic Surgery.

Web Extra: for more photos of the HJD and CMC gala, visit <http://development.med.nyu.edu/hjd-cmc-gala-2012>.

Clockwise from top left:
Patient speaker Debra Brand with honoree Dr. Belmont
Medical Center Board Chairman Kenneth G. Langone, Gary Cohn, honoree Jes Staley
Dr. Abramson, Dr. Zuckerman, Dean Grossman, and Dr. Rosenberg



Jay Brady



Jay Brady

NYU Cancer Institute Annual Gala

NYU Langone Medical Center’s Cancer Institute held its annual gala on October 17 at The Plaza Hotel, raising \$1.5 million. Over 400 friends and donors gathered to honor James Speyer, MD, professor of medicine, medical director of NYU Langone’s Clinical Cancer Center, and associate director for clinical hospital operations of the NYU Cancer Institute.

“We all come together this evening for a singular purpose. At the heart of our efforts is our commitment to patients,” said Lori Fink, chair of the Cancer Institute’s Advisory Board and a Medical Center trustee. “Patient-centered care has always been our driving force.”

The event was hosted by Robert I. Grossman, MD, the Saul J. Farber Dean and CEO of NYU Langone Medical Center, and chaired by the entire NYU Cancer Institute Advisory Board.

Clockwise from top:
Dean Grossman, Lori Fink, Dr. James Speyer, and Cancer Institute Director Dr. William Carroll
Dr. Kenneth Hymes, associate professor of medicine, and Cancer Institute Advisory Board Member Norman Feinberg
Cancer Institute Advisory Board Members Phyllis Barasch and Dr. Connie Silver, and Vice Dean for Science Dr. Dafna Bar-Sagi

Patients Who Are Young or Female Are Less Likely to Have a Heart Attack Assessed and Treated Promptly

In hospital emergency departments, the assessment and treatment of a suspected heart attack is a well-honed protocol. Within several minutes of arrival, a patient complaining of chest pain has an electrocardiogram (EKG) recorded to assess for criteria suggestive of an acute heart attack. Treatment, if needed, quickly follows.

But if the patient is a woman, a less prompt response seems to occur. The response time is even longer for patients 35 or younger, regardless of gender, and the death rate, despite the relatively young age, is higher.

So concluded Sripal Bangalore, MD, assistant professor of medicine, in a study published in June in the *American Journal of Medicine*. He arrived at this conclusion after analyzing data on more than 31,000 patients complaining of chest pain who visited the emergency departments of 380 hospitals nationwide. Their treatment and outcomes were included in the American Heart Association's Get with the Guidelines—Coronary Artery Disease registry.

The medical staff obviously did not recognize the symptoms of a heart attack in progress, or else diagnosis and treatment would have been much swifter, says Dr. Bangalore, an interventional cardiologist in NYU Langone Medical Center's Leon H. Charney Division of Cardiology. The question that remains is "Why?"

Dr. Bangalore used funds from his American Heart Association Young Investigator Database Research Seed Grant to look at age and gender differences in the quality of care and outcomes for patients who experience an ST-segment elevation—a finding on an EKG that can be linked to a heart attack.

As part of the largest study to date examining young patients with ST-segment elevation, Dr. Bangalore and his team discovered what he says are crucial facts that every emergency medicine physician and cardiologist should know. Foremost is the fact that 1 in 10 myocardial infarctions (MIs)—heart attacks—occurred in

people younger than 45 years old. While these patients, overall, had received similar quality of care and in-hospital outcomes as older patients experiencing a heart attack, that wasn't the case with the women in the group or with young patients of either gender—those 35 or younger—who actually experienced a higher mortality rate. In patients 35 or younger, doctors typically don't associate chest pain with heart attack.

Compared to their male counterparts, both older and younger women complaining of chest pain received lower-quality care and experienced a twofold increase in in-hospital mortality. The discrepancy was most apparent in the youngest women.

"This is a major cause for concern," says Dr. Bangalore. "Many physicians believe MI is a disease of men and postmenopausal women. Many younger patients may not believe they are having a heart attack, so they may delay a trip to the emergency department. Our conclusions are very sobering. The bottom line is that young adults shouldn't be dying this way."

As C-sections Rise, So Do Their Related Risks

Earlier this year, Ilan Timor, MD, professor of obstetrics and gynecology, was in his office at Bellevue Hospital when a resident called him to examine a pregnant woman who was bleeding severely. "It's a cervical pregnancy," the resident suggested, indicating a pregnancy in which the embryo had implanted in the lining of the cervix rather than in the uterus. "Has the patient had a previous Cesarean section?" Dr. Timor asked. Told that she had, the senior physician replied, "Then it's probably not a cervical pregnancy. I am almost certain that this pregnancy has implanted in the C-section scar."

An ectopic pregnancy, one that occurs outside the uterus, can never be safely carried to term. Most ectopics implant in the Fallopian tubes, some in the ovary, and some in the cervix. One of the most dangerous and rarest types of pregnancies in an unusual location is the one formed in the incision from a previous Cesarean section, termed Cesarean scar pregnancy (CSP).

In 1988, about one in four babies came into the world by C-section. By 2007, the C-section rate had jumped to about one in three. Dr. Timor, director of the Division of Obstetrics and Gynecology Imaging, says that the rising rate of C-sections has led to a dramatic increase in the rate of CSPs. There are no national statistics on this phenomenon, but in a July 2012 review article in the

American Journal of Obstetrics & Gynecology, Dr. Timor and co-author Ana Monteagudo, MD, professor of obstetrics and gynecology, noted that only 19 scientific articles were published on the subject between 1990 and 1999. Between 2000 and 2005, 48 articles appeared. Between 2006 and 2011, there were 104.

"Based on our literature review, we estimate that for about one in every 2,500 Cesarean deliveries, there is a subsequent scar pregnancy," says Dr. Timor. "There are about 1.4 million C-sections in the US annually, which means there are probably more than 560 CSPs."

Dr. Timor believes that all women who become pregnant after a C-section should undergo transvaginal ultrasound at around six weeks gestation. "If the pregnancy is in the uterine cavity, then everything is fine," he says. "But if it's not there,

then the doctor must examine the area of the section scar to see if there is an implantation of a gestational sac."

The earlier a CSP is discovered, the better the outcome. In another article that appeared in the July 2012 issue of the *American Journal of Obstetrics & Gynecology*, Dr. Timor reported on a 26-case series of CSPs treated between 2009 and 2011: none of those who had early local, intrages-

tational sac methotrexate injections to terminate the pregnancy experienced significant complications. If a CSP is diagnosed early and managed properly, the woman should be able to become pregnant again and carry a pregnancy safely to term, Dr. Timor says. "After we inject with methotrexate, the patient goes home and ultimately the lesion almost disappears. The uterus remains intact, so she can most likely get pregnant and have another healthy baby."



Iron and Its Ironies

One of the cruel ironies of breast cancer is that while fewer women develop the disease before menopause, it tends to strike young, strong, and otherwise healthy women hardest. Even after treatment, it tends to come back more often in younger women than in older women. Some have suggested that higher levels of estrogen may drive tumor growth, but younger women tend to develop tumors that are less responsive to anti-estrogen therapy.

Yet reproductive hormone levels aren't the only major difference between younger and older women. Younger women also tend to have lower levels of iron, due to their monthly menstrual cycle. Because iron plays a critical role in supplying oxygen to tissue and altering molecular pathways that keep cell growth in check, Xi Huang, PhD, research associate professor of environmental medicine and medicine at NYU Langone Medical Center, reasoned that chronically low levels of iron in the blood could influence the course a tumor takes once it develops.

Following up on his idea, Dr. Huang and his colleagues have now found an intriguing link between low circulating-iron levels and more aggressive tumor growth. The findings, which also show how low iron levels boost vascular epithelial growth factor (VEGF), a known driver of cancer, provide the first evidence that low iron levels may contribute to the spread of breast cancer in younger women. "We have found that in mice fed an iron-deficient diet, breast cancers grow faster and bigger, and there are more metastases compared to mice fed diets with normal amounts of iron," says Dr. Huang.

Dr. Huang is working with Deborah Axelrod, MD, the Kanas Family Foundation Associate Professor of Surgical Oncology and Surgery; Julia Smith, MD, PhD, clinical assistant professor of medicine; and Baljit Singh, MD, associate professor of pathology, along with collaborators in China, to provide evidence in both human and animal studies. Comparing hemoglobin levels as a marker for iron level in 148 newly diagnosed breast cancer patients at two hospitals in China, the research team found significantly lower hemoglobin levels in younger breast cancer patients whose tumors had spread to the lymph nodes than in those whose tumors had not spread.

Dr. Huang, however, noted that this association did not prove a causal relationship. Therefore, the NYU Langone research team went on to show that mice fed a low-iron diet had higher growth of implanted human breast tumors than those fed a normal diet. Additional studies indicated that low iron induces chronic lower oxygen levels, which in turn activate pathways that increase blood vessel growth and turn on a cell growth pathway called the epithelial-mesenchymal transition, which promotes metastasis. This research is complete and is being prepared for publication.

Dr. Huang is hopeful that his research in mice will provide enough evidence to lead to a clinical trial studying the effect of iron supplementation on outcomes in newly diagnosed, premenopausal breast cancer patients with low iron levels. But he remains cautious, because high iron levels have been suggested as a carcinogen, particularly in older women. Iron levels are tricky, according to Max Costa, PhD, professor of environmental medicine, chair of the Department of Environmental Medicine, and associate director of The Cancer Institute at NYU Langone Medical Center. Levels that are too low or too high may reduce the body's ability to cope with other stresses, such as cancer.

"We are mindful that trials with human patients require a high level of preclinical evidence," says Dr. Huang. Nonetheless, the research adds one more reason for women to keep their iron up to FDA-recommended levels.



Illustrations by Wes Bedrosian

All Hands on Deck (continued from page 1)



Dr. Bernard Birnbaum, chief of hospital operations (seated, center), led the Incident Command Team, a designated group of administrators charged with hospital-wide crisis management.



With the Medical Center's phone system still down on Wednesday morning, Kimberly Glassman, PhD, RN, vice president for patient care services and chief nursing officer, and Dean and CEO Robert I. Grossman, MD, used an iPhone to accept a call from the White House. "We've got your back," President Barack Obama reassured them after they expressed a need for substantial support from federal agencies, particularly for research projects lost or damaged by the storm.

minimum throughout the storm, Tisch Hospital's Emergency Department was also closed. "Based on all the preparations we had made, and knowing that we had emergency power in place if needed, we were confident that we could weather the storm," explains Dr. Birnbaum.

Hurricane Irene, which forced the evacuation of NYU Langone in August 2011, had been dubbed "the storm of the century." But Hurricane Sandy created a storm surge at Battery Park that was 2.68 feet higher than the record level set in 1821, qualifying it—in those terms, at least—as the worst storm to hit New York City in two centuries. Along Flood Zone A, which includes our campus, the surge rose to 14½ feet, more than ½ foot higher than at Battery Park. When the team learned on Monday night that water had reached buildings on campus, that the entire phone system was down, and that the emergency backup power system was at risk, the writing was on the wall. "The storm surge that crippled the city and overwhelmed our defenses occurred over only 30 minutes," Dr. Birnbaum notes. "When it became clear that our emergency power could be compromised, there was no doubt by the ICT, Dean Grossman, and executive leadership that the decision to evacuate patients was the best course of action."

At that point, the rapid discharge of remaining patients began, including seven from the Laurence D. and Lori Weider Fink pediatric intensive care unit (PICU), six from the congenital cardiovascular care unit (CCCU), and twenty from the KiDS of NYU Langone Neonatal ICU (NICU). Members of the ICT immediately notified the appropriate agencies, including the New York City Fire Department, Police Department, and Office of Emergency Management, that an evacuation

was imminent; called area hospitals to coordinate transfers; and visited clinical units throughout the Medical Center to inform physicians and nurses of the situation. For the most part, the evacuation was performed by hand—many hands, in fact. Working in teams of six or more and assisted by members of the NYC Fire Department, caregivers used "Med Sleds" designed for high-rise evacuations to maneuver patients down the dark, humid, twist-

From the very start, the Incident Command Team and executive leadership faced an impossibly complex calculation.

ing stairwells of Tisch Hospital and the Schwartz Health Care Center with carefully choreographed synchronization and tender loving care.

Numerous administrative departments also played key support roles in ensuring that the operation went smoothly. Among them were Emergency Management; Real Estate Development + Facilities; the Office of Science and Research; Information Technology; Security; Human Resources; Environmental Health and Safety; Building Services; Supply Chain; the Division of Animal Laboratory Resources; Facilities Operations; Patient Experience; Food Services; and Therapeutic Recreation, Child Life, and Creative Arts Therapies.

By 11:00 a.m. on Tuesday, October 30, the last patient had been evacuated from NYU

Langone Medical Center, and another kind of displacement—the removal of more than 15 million gallons of water—had already begun. About 24 hours later, amid the aftermath of the storm on Wednesday morning, Robert I. Grossman, MD, NYU Langone's dean and CEO, and Kimberly Glassman, PhD, RN, vice president for patient care services and chief nursing officer, gathered in a conference room to receive a scheduled call from the White House (*see photo*). President Barack Obama, hearing of NYU Langone's ordeal, wanted to personally extend his praise and support. "I want to thank you for the extraordinary work you and the whole Medical Center team did to safely evacuate patients," President Obama told them. "I hope you know how much the whole country appreciates what you're doing."

Damage to the Medical Center was costly and extensive, but there was a silver lining. During the period when Tisch Hospital, the Emergency Department, and other facilities on campus have been closed and without patients, NYU Langone has been able to advance planned improvements and new construction projects, including the installation of new telephone and fire alarm systems, and the construction of the Tisch elevator tower and the new Emergency Department.

"This crisis has brought many losses and lessons," Dean Grossman notes, "but it has also highlighted what I will always remain thankful for—the dedication of the entire NYU Langone community and our determination to prevail. I predict that we'll look back on these difficult times with much-deserved pride, seeing Hurricane Sandy as a turning point that ultimately propelled us to heights we might never have reached otherwise."



All photos: Lori Doraghy



Fielding questions from the audience at the inaugural Schwartz Center Rounds were Dr. Brenda Ohta; Dr. Ronald Goldenberg; Susan Quinn Vinci, RN; Jessica Berman, RN; and Frances Wong.

A Grand Idea for Rounds

In a Safe, Supportive Setting, Caregivers Grapple with the Anguishing Decisions and Everyday Dilemmas of Life in Medicine

As a young woman, wracked by seizures and infections, lay in a medically induced coma at NYU Langone Medical Center's Tisch Hospital, her medical team repeatedly made pleas to her family to allow additional treatment and procedures necessary to save her life and improve her chances of recovery. Each time, the family declined. Equipped with a suitcase full of remedies from their homeland, they believed that their Eastern approach was better suited to help the patient heal. The family, however, was divided in its opinions. Some members were willing to go along with Western medical interventions, while others were not.

This high-stakes culture clash was described in all its dramatic detail by members of that medical team on September 27th to a standing-room-only crowd at NYU Langone's inaugural session of Schwartz Center Rounds, held at some 250 hospitals nationwide. To promote a candid discussion and safe environment, the members were promised confidentiality.

Initiated at Massachusetts General Hospital

in 1996, the rounds program is funded by a bequest from one of its former patients, Kenneth Schwartz. Unlike traditional grand rounds, which address the clinical aspects of diagnosis, pathophysiology, and treatment, Schwartz Rounds focus on the human dimensions of caregiving: complex conflicts, emotional tensions, and ethical dilemmas.

Studies on how these rounds affect caregivers have shown an increased insight into the social and emotional aspects of patient care, improved teamwork, improved communication, new strategies for dealing with challenging patient situations, and decreased stress reported by caregivers as well as increased ability to cope with the emotional demands of the job. Better patient adherence to medical regimens, decreased readmission rates, and decreased malpractice claims were also noted.

"We're hoping these rounds will start an ongoing dialogue," Steven Field, MD, clinical assistant professor of medicine, told the audience. Dr. Field, a hospital ethicist, introduced the discussion, along

with Robert Press, MD, PhD, clinical professor of medicine and chief medical officer. The expert panel consisted of Ronald Goldenberg, MD, assistant professor of medicine; Jessica Berman, RN; Susan Quinn Vinci, RN, care manager; and Frances Wong, MSW, director of NYU Langone's Asian Health Institute. The discussion was facilitated by Brenda Ohta, PhD, senior director of care management.

The case presented was a rich one indeed. The family attempted to use unapproved therapy, which could have had significant harmful effects. "It was increasingly more stressful," explained Berman, recalling one meeting with the family that brought her and another nurse to tears. "The family wanted the best and we wanted the best, but we clashed on how to get there."

Elaine Rowinski, RN, nurse manager of the MICU, related how she had told the patient's father that if the young woman were her daughter, she would allow the procedure. Finally, the father consented to additional medical treatment.

Following the presentation, several caregivers reported that they had experienced similar clashes of culture. The last audience member to speak at the event, however, was not a caregiver but a student. Over the summer, he explained, a member of his family had been stricken with a life-threatening disease. Another family member, an herbalist, offered to help. But the patient refused, choosing standard care instead. After she died, her family was tormented by the possibility that medicinal herbs might have saved her.

"If you realized that your patient was going to pass away," the young man asked Dr. Goldenberg, "would you have allowed her father to do what he wanted?"

"Yes," Dr. Goldenberg responded, "for their own benefit. They are the ones who had to live with the outcome."

Magic You Can Believe In

For One Fun-Filled Hour, Young Patients Can Feel Like Kids Again

At first, Motti Tyberg showed little interest in watching *Hocus Pocus*, the cheery theatrical production that unfolded before him, much less in participating. Here at NYU Langone Medical Center for hip surgery, the redheaded 10-year-old sat in his wheelchair, silent and still. Appearing likewise unmoved in the fifth-floor playroom of the Rusk Institute of Rehabilitation Medicine was Elliott Lissner, 22 months old, perched in a smaller but taller wheelchair, a brace around his neck. Here to rehabilitate from surgery to remove a tumor between the base of his skull and the top of his spine, the tiny sandy-haired boy looked away from the upbeat musical, unwilling to play even the role of spectator.

But such reluctance proved short-lived. Within minutes, Elliott broke into a little smile and clapped along to the songs. Motti, more demonstrative, cheered, sang, and even danced in his wheelchair to the strains of salsa. "I want to dress up!" he called out at the chance to don a cape and crown. Soon all eight kids in wheelchairs, all but one under the age of 12, felt a ripple effect and joined in, laughing and high-fiving each other.

This is the kind of magic you can believe in—another Monday-night visit to NYU Langone Medical Center from Only Make Believe. This nonprofit organization has created and performed interactive theater for some 25,000 children in hospitals since 1999, sprinkling enough fairy dust to convert every skeptic into a true believer. "I believe!" sang the three performers, mugging and miming, eyes agog. "I believe! I believe in make-believe!"

Launched at NYU Langone as a pilot program—thanks to longtime volunteer Dena Hammerstein, daughter-in-law of legendary Broadway librettist Oscar Hammerstein—Only Make Believe tours hospitals citywide year-round, performing in six-week cycles. Originally, Hammerstein led children

in wheelchairs on field trips to Broadway productions, such as *Beauty and the Beast*, even taking them backstage to meet cast members. Wanting to bring the excitement of live performance to the kids instead, she concocted Only Make Believe, a fanciful blend of music, magic, and mirth. The underlying concept was interaction, enabling kids not only to be entertained, but to entertain themselves and each other. "Participation frees the imagination and gives the kids a voice," she says. "It has a feel-good effect."

"The shows give kids a chance to get out of themselves," says Lisa Del Guidice, senior recreation therapist. "They start to make eye contact. They speak for the first time. They have the feeling of somehow leaving the hospital without actually leaving the hospital."

Marianne Hardart, director of the Therapeutic Recreation, Child Life, and Creative Arts Therapies Department and a founding board member of Only Make Believe, adds: "For that hour, they're no longer patients, but just kids being kids."

An evening of playing pretend delivers another bonus, says Hardart: a therapeutic aftereffect. The kids come away feeling united in recovery, a new community forged in the face of adversity—maybe even a braver one. "My son feels more comfortable being here now, more confident" says Tessy Tyberg, Motti's mother. "The shows definitely make a difference," says Scott Lissner, Elliott's father. "Elliott is finally getting back to his normal self. The other day, for the first time since his operation, he walked a few steps."

A small but magical beginning . . .



NEWS & VIEWS

Inside This Issue



A Five-Star Performance Over the past few years NYU Langone has received numerous accolades for the high quality of its patient care and safety from nationally recognized organizations. But its most recent honor—from the University HealthSystem Consortium (UHC)—has touched off a new wave of pride. [page 1](#)



A Boon for Baby Boomers With stronger, more varied materials, such as titanium, plastic, ceramic, and stainless steel, and more refined machining of surfaces, hip implants have become more durable, and they operate more smoothly. Best of all, a new minimally invasive approach leaves muscles and tendons intact. [page 3](#)



"The Doctor Will See You—Today If You Like" Dr. Steven Kobren decided that when he opened his own practice, same-day service would be its hallmark. Great Neck Medical, where he is medical director, recently joined NYU Langone's expanding network of ambulatory care centers. Roughly 20 to 25% of its appointments are reserved for same-day call-ins. [page 3](#)



A Condition of Self Perhaps because of its enduring and confounding mysteries, autism—literally meaning "a condition of self"—has a long history of myths and misconceptions. At NYU Langone's Child Study Center, Dr. Melissa Nishawala and Dr. Adriana Di Martino search for answers to why autism spectrum disorders afflict 1 in 110 children in the US. [page 5](#)

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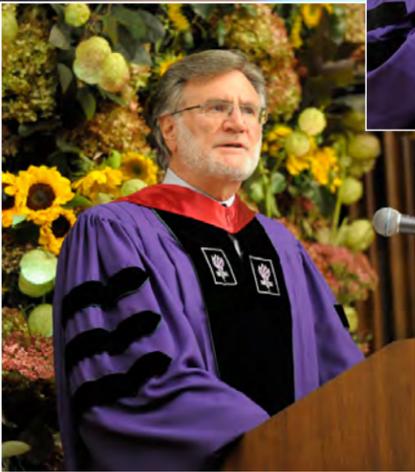
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Top: Dean and CEO Robert I. Grossman, MD, and Larry Silverstein, recipient of the Valentine Mott Founders Award. Center, left: Dr. Steven Abramson, vice dean for education, faculty, and academic affairs. Center, right: Dean Grossman congratulates (left to right) Master Scientist Dr. Danny Reinberg, Master Educator Dr. Linda Tewksbury, and Master Clinician Dr. Philip Moskowitz. Bottom, right: (left to right) NYU Board Chairman Martin Lipton, NYU President John Sexton, Medical Center Board Chairman Kenneth G. Langone, and Executive Vice President for Health Dr. Robert Berne.

Dean's Honors Day 2012



La Bella Figura

Unable to Study Anatomy with the Aid of a Human Cadaver in Their Native Italy, Medical Students Discover Unseen Marvels at NYU Langone

The history of human anatomy is replete with ironies. Galen, one of the most revered anatomists of antiquity, never dissected a human cadaver. Neither did Hippocrates, the father of medicine. The Anatomy Theater of the University of Padua, built in 1594, is the oldest and most famous structure of its kind in the world, but its activities were performed in secret, as the practice of dissection was forbidden.

For centuries, Italy was the epicenter of the science of anatomy, the place where Leonardo da Vinci and Andreas Vesalius (a Belgian transplant) made countless discoveries about the workings of the human body, profoundly changing the practice and teaching of medicine. But gradually, dissection fell out of favor, mainly for cultural reasons, with budget pressures dealing a final, fatal blow in the late 20th century. Today, Italian medical schools are hard pressed to obtain cadavers, leaving students to study anatomy from books and models.

For Bruce Bogart, PhD, clinical professor of cell biology, longtime director of the gross anatomy course at NYU School of Medicine, and a frequent guest lecturer in Italy, this was one irony that was unacceptable. About 15 years ago, he created an intensive, seven-week summer anatomy course specifically for visiting Italian medical students. A dozen outstanding students are accepted each year. One could call the course Dr. Bogart's thank-you gift to the country that almost singlehandedly revolutionized the study of human anatomy.

On a steamy afternoon in mid-July, this year's class—three to a cadaver—painstakingly teased apart the various components

of the heart. Lunchtime had come and gone, but no one seemed to notice—certainly not Sara Venella, a dental school graduate now in her second year of medical studies at the University of Ferrara. "I felt like I was doing well in anatomy," she says. "But coming here, I realize how much I didn't know. It's so different from what I had imagined. Arteries are not red, veins are not blue, and nerves are not yellow, as depicted in the books." At first, Venella was reluctant to cross the threshold to the anatomy lab, fearful of fainting, a common reaction to the pungent scent of formaldehyde and the otherworldly sight of dissected bodies. Today, after having held a human heart, she can barely contain her enthusiasm for the course. "I never thought about becoming a surgeon," she says. "Now, I'm thinking, 'Why not?'"

Serena Manfreda, a fifth-year medical student at the G. d'Annunzio University in Chieti, had a decidedly different reaction to her first hands-on anatomy lesson. "I was angry," she says. "I realized I was finally studying anatomy—after four years. In Italy, we have only books, only theory. Some of my classmates thought it would be a waste of time. But there's no substitute for actually seeing the relationship of the various structures."

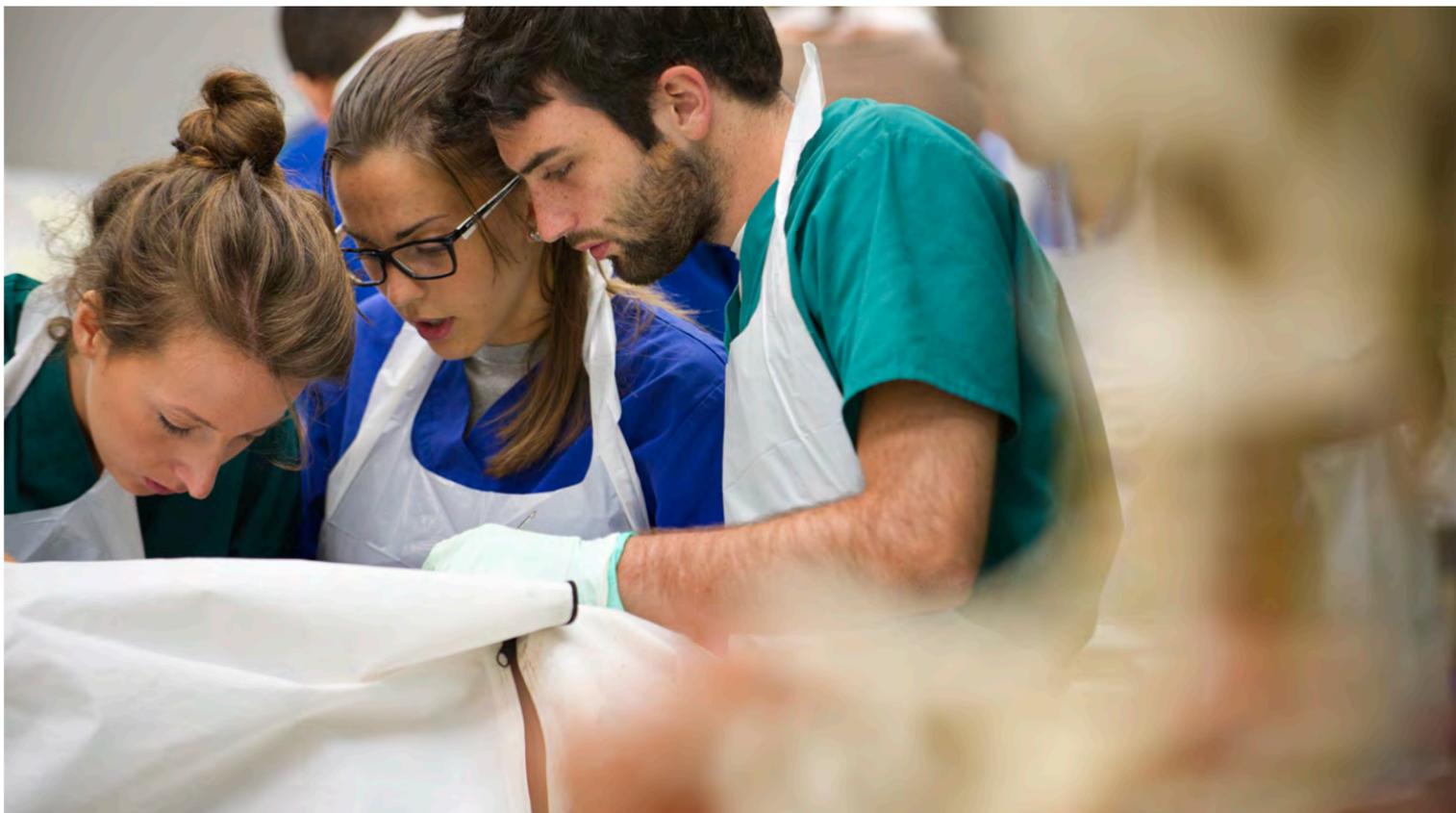
Bone by bone, muscle by muscle, vessel by vessel, the students are learning from their first "patients" that anatomy is the foundation of all medicine. "To understand the abnormal," notes Dr. Bogart, "you have to know the normal: what it looks like, feels like, where it should be."

Donatella Schiavone, a fifth-year student at G. d'Annunzio University, couldn't agree more. From her very first anatomy lecture in Italy, she knew she wanted to become a surgeon. "The first step is to know the anatomy as best you can," says Schiavone, who is making her third visit to NYU Langone, this time as a student-teacher. "I studied a lot from an atlas, but you have to touch the body to really understand it, to see how the anatomy varies so much from one person to another."

Dr. Bogart says that his hope is that these students, privileged to study anatomy in such an intimate manner, will share these lessons and insights with their peers back home, extending the impact of the program beyond such a relatively small group.

"There's a tactile sense to dissection that you can never acquire by looking at an atlas or digital recreation," says Michael O'Guin, PhD, assistant professor of cell biology and dermatology, and an instructor in anatomy. "For those going into surgery, that's a huge lesson. We've had students who are about to begin their surgical residency but have never touched a specimen of any sort. They're like walking anatomy textbooks, but if you ask them to put their finger on this or that structure, they're lost."

Even after standing for hours, the students seem enthralled. "It can be hard getting them to leave the lab," says Dr. O'Guin. "One day, we changed the schedule so that they could leave early to watch the Italian soccer team play for the European Cup. Half of them came back before the game was over."



Joshua Bright

A Continuum of Care

A New Program for Children with Cancer Focuses on Thriving, Not Just Surviving



Karsten Moran

“Cancer is not who I am but part of who I am,” says Lauren Alexanderson, 28, who began her battle with osteosarcoma at age 10.

For Matthew Zachary, being diagnosed with a malignant brain tumor at the age of 21 “shut off” his life. With his plans to study film in graduate school dashed, even the successful completion of his treatment caused him unease. “I didn’t know what was in store for me afterwards. I had to figure out what to do with my life,” Zachary recalled in his keynote speech at Thrive after Cancer, a Medical Center event supported by the Tom Coughlin Jay Fund Foundation. It was held on board the *Queen of Hearts* on October 6 to celebrate a survivorship program for children and young adults at the Stephen D. Hassenfeld Children’s Center for Cancer and Blood Disorders, part of the Hassenfeld Pediatric Center at NYU Langone Medical Center.

For youngsters, life after cancer is not only different, but different for decades—many decades. The five-year survival rate for children and adolescents is nearly 80%. At least 328,000 of these survivors live in the US—1 in 640 young adults under age 39. Overall, 13.7 million Americans have a history of cancer, but beating cancer in youth isn’t the end of the story. Research from the Childhood Cancer Survivor Study—funded by the National Cancer Institute and started in 1994 to better understand the “late effects” of treatment for childhood cancer—shows that young survivors face higher morbidity rates and a lower quality of life than peers unaffected by cancer. More than 60% face chronic lifelong health problems. The good news is that these findings have been used to tailor today’s pediatric cancer treatments to reduce the risk of such late effects without compromising effectiveness.

“In pediatrics, we’ve appreciated this for a long time, because many kids were surviving and coming back to the clinic. While they were cured of disease, they were having neuropsychological side effects, emotional side effects,

developmental side effects, obesity, and emotional issues relating to employment and relationships,” says William Carroll, MD, the Julie and Edward J. Minskoff Professor of Pediatrics, professor of pathology, and director of the NYU Cancer Institute. “That has helped bring a fundamental shift in cancer treatment. It’s not just about living. It’s not just about giving drugs, but also giving a 360-degree prescription that includes the whole person. It’s about wellness.” That means mitigating the side effects of treatment by avoiding brain radiation when possible and appreciating the slim difference between a therapeutic and toxic dose of chemotherapy drugs, some of which, like doxorubicin, can cause heart disease years later.

The survivorship program, called *Thriving!*, was launched in 2011. It is supported by Brian and Abbe Walter, whose son, Ben, was diagnosed with acute lymphoblastic leukemia at 23 months of age. He was successfully treated at the Stephen D. Hassenfeld Children’s Center for Cancer and Blood Disorders starting in 2003. Today he is a fourth-grader who excels in school.

From the first day of care until long after treatment ends, the program draws upon the unique strengths of NYU Langone’s comprehensive services for pediatric cancer patients. Each survivor works closely with members of his or her individualized team at the Center, which can include a personal physician or nurse practitioner, psychologist, social worker, nutritionist, recreation therapist, medical librarian, teacher, fertility specialist, and physical and occupational therapist, as needed. The patient also receives a Passport to Care, a binder that includes a detailed treatment history and follow-up guidelines—the drugs they received and at what doses, what kind of surgery they had and when, how much radiation therapy they received. “This information is critical to ensure

continuity of care,” explains the program’s coordinator, Katy Donahue, RN. “We encourage and empower patients to become strong advocates for their self-care.

“It’s about understanding what we’ve been through and knowing how to take care of ourselves,” says Donahue, who recently celebrated her own 30th “cancerversary,” marking the years since she was diagnosed with osteosarcoma at age three.

As the paddleboat-style *Queen of Hearts* motored around the Statue of Liberty, speakers addressed the concerns of young survivors—health insurance, fertility, legal rights, employment, and fitness—often prefaced by a personal cancer history.

“Cancer is not who I am but part of who I am,” explained Lauren Alexanderson, 28, a Brown University graduate whose osteosarcoma at age 10 left her with a fused wrist and slightly impaired hearing, but cultivated her inner strength. Seated in the front row, her childhood oncologist, Linda Granowetter, MD, professor of pediatrics, chief of the Division of Pediatric Hematology and Oncology, and director of the Stephen D. Hassenfeld Children’s Center for Cancer and Blood Disorders, beamed with pride. “To know that I had some part in helping this delightful young woman,” Dr. Granowetter said, “makes it all worthwhile.”

“We may not fully understand the reasons how or why a 3-year-old or a 33-year-old or a 73-year-old gets cancer,” says Donahue. “But we do know that curing cancer goes far beyond treatment with drugs, surgery, or radiation. Survivorship is a continuum of restoring the patient’s physical, emotional, spiritual, and cognitive health. These efforts are accomplished by a team that works collaboratively with the survivor, the family, and their community, and that’s what this new program is all about.”



A Continuum of Care

John Abbott

Allison Amoruso and her oncologist, Dr. Linda Granowetter, director of the Stephen D. Hassenfeld Children's Center for Cancer and Blood Disorders.



A Continuum of Care

Quantil Jones and his oncologist, Dr. William Carroll, director of The Cancer Institute at NYU Langone Medical Center and former director of the Stephen D. Hassenfeld Children's Center for Cancer and Blood Disorders.

MacGyver in the OR

When Replacing an Artificial Joint, It's Déjà Vu All Over Again and Improvisation Every Step of the Way



Joshua Bright

"I don't wanna know nothin'. I don't wanna see nothin'," insists the patient, a woman in her 70s—eyes tightly shut, head moving rapidly from side to side—as she's wheeled into an operating room at NYU Langone Medical Center's Hospital for Joint Diseases (HJD). Her fear of the unknown—and her embrace of blissful ignorance—are totally understandable. The procedure she's about to undergo, a revision total hip arthroplasty, is one of the most complex, ambitious, and challenging of all orthopaedic surgeries. The procedure is more commonly known as hip revision surgery, so called because the previously implanted artificial hip joint must be replaced with a new prosthesis.

In another sense, however, the patient's fear is unfounded, for she's in the best of hands, in the best of hospitals. Her surgeon, Scott Marwin, MD, clinical associate professor of orthopaedic surgery, has personally performed hundreds of hip revisions, and HJD performs some 200 of these procedures per year. As Joseph Zuckerman, MD, the Walter A. L. Thompson Professor and chair of the Department of Orthopaedic Surgery, explains, "The results of revision surgery are very much dependent on experience and volume."

An initial hip replacement is considered one of the most beneficial orthopaedic operations, with 97% of patients reported to have a good outcome and improved lifestyle. The second time around, however, is not quite as simple or straightforward. Over time, hip replacements wear out. A prosthesis is either press-fit into the bone or cemented into position. Either way, it's fit snugly into the femur and pelvis so that the implant can't move. After years of constant force and friction, however, the implant eventually loosens within the bone. It begins to move

slightly, but enough to cause increasing pain and reduced range of motion.

According to the American Academy of Orthopaedic Surgeons, hip replacements function well for about 15 years in some 90% of all cases. But as active baby boomers age, they are getting joint replacements at younger ages than ever before—and requiring revision surgeries in record numbers. "The demand is growing at an exponential rate," explains Dr. Marwin. "About 650,000 hip replacements and 900,000 knee replacements are performed in America annually. In just five years, there will be a severe nationwide shortage of surgeons properly trained to replace all of these artificial joints."

Watching Dr. Marwin at work, it's no wonder that so few surgeons are willing to choose this subspecialty, despite the projected demand for their expertise. "This is a big deal," says Dr. Marwin, "a risky, rigorous, stressful ride. It's one of the most invasive procedures you can subject the human body to, requiring one of the greatest amounts of anesthesia—and it's all improvisation."

What makes that improvisation possible, of course, is meticulous, methodical preparation. A revision surgery is a masterpiece of choreography and logistical planning. For Dr. Marwin, one of several surgeons at HJD who specialize in revisions, the surgery begins long before the day of the operation. "The most important factor is the quality of the bone surrounding the implant, but scans tend to underestimate the amount of bone deficit. Going in, I have three general plans: A, B, and C. But as I move along the implant highway, I do whatever I need to do. There is a series of algorithms in the decision-making process, and all solutions must be available to ensure success."

Dr. Marwin spends much of his surgical time preparing the site and reconstructing the joint with "trial implants," only installing the final implant (usually made of cobalt and chromium) when he's convinced that fit and function are just right. Clad in ventilated "space suits" to shield them from airborne blood and bone, the surgical team may spend up to eight hours on a case involving severe bone loss. For all the high-powered, high-tech equipment at their disposal, much of the work demands old-fashioned elbow grease and a surgeon who is as strong-willed as he or she is strong-bodied. "I thrive on challenges," admits Dr. Marwin, "but sometimes when it's all over, I just need to go lie down."

Having all solutions available means having a wrench for every conceivable kind of socket. For complex cases, that means having up to 40 trays of instruments and devices from three different manufacturers—as many as 2,000 pieces of hardware—sterilized, unpacked, and within reach, though only 25 to 30% of them are typically used. "Very few hospitals are capable of materials management on this scale," notes Dr. Marwin.

As mighty as the tool kit may be, however, he emphasizes that the people on the team, and the various departments that support them, are what really makes him feel equipped and empowered. "They know all the widgets," he says, "and just how to respond to my improvisation. The beauty of HJD is that there's a concentration of effort here like nowhere else. Everyone in this building is oriented to orthopaedics."

He has equal admiration for his patients. "It's amazing what the human body can tolerate," he marvels. "My career is based on the fact that people can bounce back from this. And they do."