
FAMILY TIES

A Mom and Her Son Triumph Over Cancer

PAGE 2

MATERNAL-FETAL MEDICINE

Midwifery with a Built-In Medical Team

PAGE 30

TRANSPLANTATION

One Donor Liver Saves Two Lives

PAGE 34

BACK ON HER FEET

After **Emie Papadopoulos** spent 27 years in a wheelchair, her genetic defect was diagnosed by NYU Langone doctors—and cured with a common pill.

PAGE 22



A LIFE-CHANGING DIAGNOSIS

Back on Her Feet, Thanks to Genetic Testing

PAGE 22

MATERNAL-FETAL MEDICINE

Midwifery with a Built-In Medical Team

PAGE 30

TRANSPLANTATION

One Donor Liver Saves Two Lives

PAGE 34

CANCER CARE CLOSE TO HOME

Donna-Marie Manasseh, MD, and Nina D'Abreo, MD, are expanding breast services at NYU Langone Hospital—Brooklyn. PAGE 6



A LIFE-CHANGING DIAGNOSIS

Back on Her Feet, Thanks to Genetic Testing

PAGE 22

MATERNAL-FETAL MEDICINE

Midwifery with a Built-In Medical Team

PAGE 30

TRANSPLANTATION

One Donor Liver Saves Two Lives

PAGE 34

FAMILY TIES

Alma and Malik Membreno overcame the same pediatric cancer, a credit to the care team at NYU Langone Cancer Center for Kids—Mineola.

PAGE 2



Pediatric Cancer Care

A MOM AND HER SON SHARE A SCARY DIAGNOSIS, EXPERT CARE, AND A SUCCESSFUL OUTCOME

“NYU Langone has an amazing collection of experts, and they all communicated with each other to figure out the right treatment for my son at the right time.”

ALMA MEMBRENO



Alma and Malik Membreno, photographed at Halls Pond Park in West Hempstead, Long Island. Malik was diagnosed with a rare pediatric cancer in utero—the same disease his mother was treated for at NYU Langone during childhood.

“Alma kept her cool throughout this challenging time. She had real strength, perhaps because she is a survivor herself.”

PEDIATRIC HEMATOLOGIST-ONCOLOGIST
SYLWIA JASINSKI, MD

When Malik Membreno was born on July 29, 2021, at NYU Langone Hospital—Long Island, his pediatric cancer care team was poised for action. They’d been preparing for this moment for weeks—ever since an ultrasound at Alma Membreno’s 32-week prenatal visit revealed a mass on Malik’s adrenal gland. Alma’s obstetrician at another hospital suspected it was neuroblastoma, a rare pediatric cancer that affects about 800 patients each year in the US. She had good reason to think so: Alma had been treated for the same disease when she was 2.

“When I found out what it was, a tear rolled down my cheek, thinking about what Malik might go through,” says Alma, 25, a single mom who lives in West Hempstead, Long Island.

The diagnosis was agonizing, but the choice of where Malik would be treated was easy. As a child, Alma had undergone surgery and chemotherapy for the same disease at NYU Langone Cancer Center for Kids—Mineola. The center is renowned for treating a wide variety of pediatric cancers and blood disorders, pairing compassionate care with multidisciplinary expertise. “My own experience made me feel comfortable taking Malik there,” says Alma.

Even more reassuring to Alma was seeing familiar faces from years ago, including Charles Coren, MD, site director for pediatric surgery at NYU Langone Hospital—Long Island, and pediatric hematologist-oncologist Mark Weinblatt, MD, chief emeritus of pediatric hematology and oncology. “I was pleased to see not only Alma, but also her mom, Ana, who was relieved to have our team involved,” Dr. Weinblatt says.

For her high-risk pregnancy, Alma switched her care to NYU Langone Hospital—Long Island, meeting with numerous clinicians in preparation for Malik’s aftercare.

Neuroblastoma doesn’t always require treatment, but doctors knew the fast-growing tumor, now the size of an apricot, would require some form of intervention.

At birth, Malik cried but no sound came out. Within hours, his breathing became labored, his skin turned bluish, and his tongue quivered. He was rushed to the neonatal intensive care unit and given supplemental oxygen and a nasal feeding tube to provide proper nutrition. An MRI revealed that the cancer had spread to the base of his skull, pressing on the cranial nerve that controls the tongue and vocal cords.

After conferring with her team, pediatric hematologist-oncologist Sylwia Jasinski, MD, decided to transfer Malik to Hassenfeld Children’s Hospital—34th Street in Manhattan, under the care of pediatric otolaryngologist Megan Gaffey, MD. “Hassenfeld Children’s Hospital has exceptional expertise in high-risk ENT surgery among newborns,” says Dr. Gaffey, who sees patients in Long Island and Manhattan.

Once she determined that the tumor wasn’t blocking Malik’s airway, Dr. Gaffey inserted a tube into his trachea to ease his breathing and used tiny instruments to extract a biopsy through his mouth, avoiding a neck incision.

In the end, the team chose chemotherapy as first-line treatment over surgery. “With a newborn, we try to avoid surgery whenever possible,” Dr. Gaffey says. A catheter was inserted into a vein in Malik’s chest, and on August 5, the 1-week-old patient received his first infusion.

Alma shuttled back and forth to Manhattan each day to be with her son. “She kept her cool throughout this challenging time,” Dr. Jasinski says. “She had real strength, perhaps because she is a survivor herself.”

On August 20, Malik, still on supplemental oxygen and nutrition, was transferred to the pediatric in-

tensive care unit at NYU Langone Hospital—Long Island. Malik’s second round of chemotherapy caused his white blood cell count to plummet, requiring an adjustment to his medications and several blood transfusions. On September 22, after nearly two months in the hospital, Malik was discharged to the home Alma shares with her parents, brother, and aunt. With her family looking after their new addition, Alma was soon able to return to her sales job.

While neuroblastoma is rarely inherited, genetic tests found that both Alma and Malik have a highly heritable mutation, called ALK, that was unknown back when Alma was treated. The discovery means that Malik has a higher risk of recurrence of neuroblastoma and other neuroendocrine tumors. He will continue to have follow-up scans and ultrasounds until age 10, but the outlook remains positive. “He is in continued remission, and he is thriving,” says Dr. Jasinski. If his cancer does return, an ALK inhibitor may be available. The drug is currently in phase 2 clinical trials, notes Berrin Monteleone, MD, chief of medical genetics at NYU Langone Hospital—Long Island.

Malik still sees a speech language pathologist but has made rapid gains in communication since starting childcare. Otherwise, he is a healthy, energetic 3-year-old who loves trains, animals, and playing catch. Alma is grateful for their shared good health and, above all, the exceptional care he received. “NYU Langone has an amazing collection of experts, and they all communicated with each other to figure out the right treatment for my son at the right time,” she says. “Honestly, I wouldn’t change anything.”

MEET THE EXPERTS



Sylwia Jasinski, MD
HEMATOLOGY-ONCOLOGY



Megan Gaffey, MD
PEDIATRIC OTOLARYNGOLOGY



Berrin Monteleone, MD
MEDICAL GENETICS



TO FIND A DOCTOR WHO TREATS
CANCER IN CHILDREN, VISIT NYULAN-
GONE.ORG/PEDIATRICCANCERDOC-
TORS, OR CALL 212-263-8400.

Thanks to coordinated cancer care at NYU Langone Cancer Center for Kids—Mineola and Hassenfeld Children's Hospital, Malik Membreno is now a healthy, energetic 3-year-old.



Early Screening, Quality Care

WITH BREAST CANCER RISING, NYU LANGONE HOSPITAL—BROOKLYN EXPANDS ITS FIRST-RATE PATIENT CARE



Photograph by Jonathan Kozowyk



Surgeon Donna-Marie Manasseh, MD, and medical oncologist Nina D'Abreo, MD, in Cobble Hill, one of four Brooklyn neighborhoods where Perlmutter Cancer Center offers mammograms, shown to reduce mortality from breast cancer by up to 40%.

“Breast cancer is particularly difficult for patients because there’s a lot of emotion associated with it. Every member of our team has been hired for their emotional quotient—passion paired with compassion.”

**DONNA-MARIE MANASSEH, MD, DIRECTOR
OF NYU LANGONE’S BREAST PROGRAM IN BROOKLYN,
QUEENS, AND STATEN ISLAND**

Donna-Marie Manasseh, MD, who joined NYU Langone Hospital—Brooklyn in January as chief of the Division of Breast Surgery, doesn’t reside in New York City’s most populous borough, but she’s a Brooklynite in every other sense. “My family emigrated from Jamaica when I was 2,” she explains, “and Brooklyn was the first place we called home.”

Dr. Manasseh has cared for Brooklyn residents for the past 12 years, and now she is doing so at Perlmutter Cancer Center, the only NCI-designated Comprehensive Cancer Center in the borough with access to a local acute-care hospital. “Brooklyn is a very special place, where people genuinely care about each other,” says Dr. Manasseh. “I call it ‘Brooklyn love.’”

As a clinician who has developed three breast programs over the past two decades and has been a surveyor for the accreditation of breast cancer centers nationwide, Dr. Manasseh is passionate about the importance of early screening and the need to reduce health disparities—both priorities in a borough where the average annual number of breast cancer diagnoses rose by more than 8%, from 1,715 between 2011 and 2015 to 1,858 between 2016 and 2020.

NYU Langone’s mission, says Dr. Manasseh, is to provide comprehensive breast cancer care that’s tailored to each patient’s physical, emotional, and social needs. Her partner in this pursuit is Nina D’Abreo, MD, appointed chief of the Division of

Hematology and Medical Oncology, Perlmutter Cancer Center—Sunset Park, in September 2023. Dr. D’Abreo was previously director of breast medical oncology at Perlmutter Cancer Center—Long Island, where she built a model program for breast cancer care.

Recognizing the challenges of providing seamless care in Brooklyn, a melting pot of cultures and languages, Drs. Manasseh and D’Abreo practice what they call predictive management. “Even top-notch clinical services can only go so far when caring for such a complex, diverse community,” explains Dr. Manasseh. “We try to anticipate the patient’s needs—logistically, financially, and socially—aside from their treatment.”

One valuable resource in achieving this goal is Perlmutter Cancer Center’s Beatrice W. Welters Breast Health Outreach and Navigation Program, directed by breast surgeon Kathie-Ann Joseph, MD, MPH, vice chair for diversity and health equity in the Department of Surgery, and Joseph Ravenell, MD, associate dean for diversity affairs and inclusion and director of diversity in research at Perlmutter Cancer Center. The program’s navigators guide recently diagnosed patients through the healthcare system to eliminate barriers they may encounter. Among their other advocacy efforts, patient navigators help women secure free or low-cost mammograms and help women from underrepresent-



Perlmutter Cancer Center has long endorsed annual mammograms starting at age 40 rather than 50.

ed groups learn about Perlmutter Cancer Center’s nearly 200 open clinical trials institution-wide. “Previously, these populations in Brooklyn didn’t have access to clinical trials, which are really the backbone of cancer care,” notes Bret Rudy, MD, executive vice president and chief of hospital operations at NYU Langone Hospital—Brooklyn.

In a borough where minority communities represent 58% of the population, women of color stand to benefit greatly from early screening. For Hispanic women, breast cancer is a leading cause of cancer-related death. Also, according to a 2022 study led by Dr. Joseph, Black women have a 42% greater risk of death than White women when diagnosed before age 50, largely because they are more likely to get diagnosed at advanced, harder-to-treat stages. Black women are also twice as likely to be diagnosed with triple-negative breast cancer, an aggressive form of the disease with few treatment options.

Triple-negative breast cancer is the focus of one of five therapeutic clinical trials currently under way at Perlmutter Cancer Center—Sunset Park. The nationwide phase-3 trial will compare the results of a five-drug regimen to a shorter and less

risky three-drug course. “We’re the only cancer center in Brooklyn that offers this trial,” notes Dr. D’Abreo, “so if these patients were not willing or able to travel to a hospital in Manhattan, they would not otherwise have access to it.”

Cancer patients treated at NYU Langone’s Brooklyn sites can now benefit from other types of expertise as well. Gynecologic oncologist Emeline Aviki, MD, MBA, founder of Perlmutter Cancer Center’s Onco-Fertility Program, the first and only one of its kind in Brooklyn, specializes in fertility preservation for patients of child-bearing age. Cardiologist Michelle Bloom, MD, system director of the Cardio-Oncology Program, manages patients who have developed or are at risk of developing cardiac complications from their treatments. Dermatologist Mario Lacouture, MD, medical director of the Symptom Management Program at Perlmutter Cancer Center at NYU Langone Hospital—Long Island, treats skin-, hair-, and nail-related side effects.

“Breast cancer is particularly difficult for patients because there’s a lot of emotion associated with it,” notes Dr. Manasseh, director of NYU Langone’s Breast Program in Brooklyn, Queens, and Staten Island. “Every member of our team has been hired for their emotional quotient—passion paired with compassion. Brooklyn deserves all the love it gives, and we want that love to come through in our care.”



FOR INFORMATION ABOUT BREAST CANCER TREATMENT AT PERLMUTTER CANCER CENTER, VISIT NYULANGONE.ORG/BREASTCANCERCENTER, OR CALL 212-731-6000.

The Expert Is In

40 IS THE NEW 50 FOR BREAST CANCER SCREENING. AT PERLMUTTER CANCER CENTER, THAT'S NOTHING NEW.

In April, the US Preventive Services Task Force, an independent national panel of experts in evidence-based medicine, reversed its long-standing guidelines for breast cancer screening. The influential group now recommends that women at average risk should begin mammography screening every two years at age 40 instead of age 50. Driving the change is an alarming trend: breast cancer among women in their 40s is increasing by 2% annually. By initiating screening earlier, an approach long embraced by Perlmutter Cancer Center, the task force estimates that more than 8,000 lives can be saved each year.

Mary L. Gemignani, MD, MPH, who joined Perlmutter Cancer Center in May from Memorial Sloan Kettering Cancer Center, has devoted her career to treating this dreaded disease. An internationally renowned surgeon and chief of the Division of Breast Surgery at NYU Grossman School of Medicine, she offers her insights and perspectives on the new screening guidelines.

Do you agree with the task force's new recommendations?

I'm happy to see that their guidelines now fall in line with other major professional organizations so that screening recommendations are more consistent. We're seeing more younger women, particularly those in their 40s, developing breast cancer. It's a vexing and poorly understood trend. Diet, obesity, lifestyle, and environmental toxins are all likely contributing factors, but we may also be detecting breast cancer at younger ages because we have better diagnostic tools, including genetic testing for those with a family history of the disease.

Is there anything about the guidelines that concerns you?

I'm not pleased that the task force still recommends imaging every other year rather than annually. Radiation exposure from mammography is relatively low, so starting yearly screenings at age 40 doesn't significantly increase risk. We want to find cancers earlier to provide more and better treatment options. For instance, an aggressive

type of cancer, known as triple-negative breast cancer, is more prevalent in younger women. It's fast-growing, so if you skip a year of screening, you could miss the window of opportunity for early diagnosis. I'm also disappointed that the new guidelines put women with a family history of breast cancer in the "average" risk category. Research has shown that these women are at higher risk and should discuss genetic testing with their doctor to determine whether they have a mutation that in-

Mary Gemignani, MD, MPH,
Perlmutter Cancer
Center's new chief of
breast surgery



creases their risk, and if they should start screening younger.

How will these recommendations affect Perlmutter Cancer Center?

We don't plan to change our own screening guidelines at all, just as we didn't alter them when the task force previously recommended screening at age 50. We continue to advise annual mammograms for all women, starting at age 40, because it's a simple fact: early diagnosis saves lives.

MEET THE EXPERTS



Kathie-Ann Joseph, MD, MPH
BREAST SURGERY



Emeline Aviki, MD, MBA
ONCO-FERTILITY



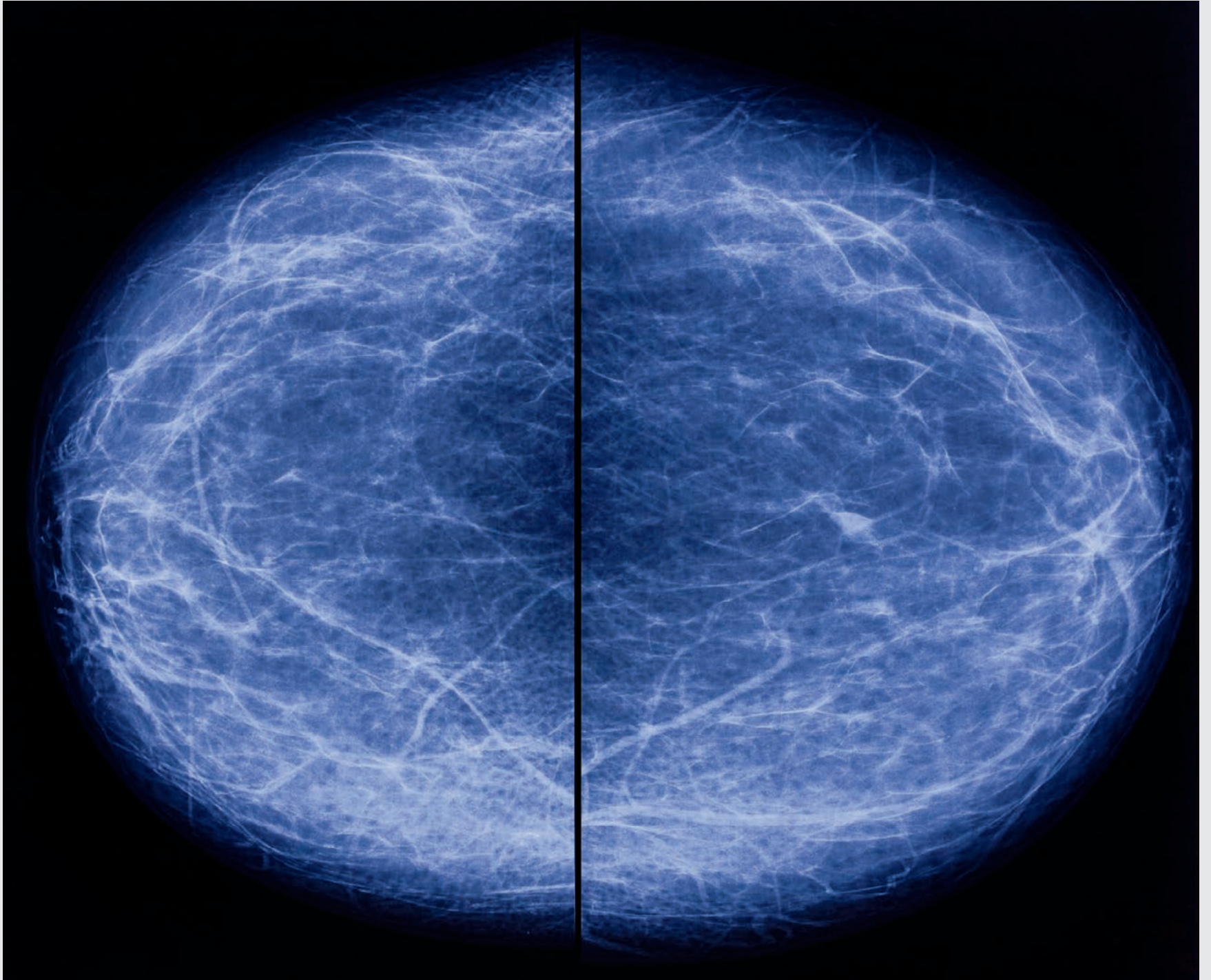
Michelle Bloom, MD
CARDIO-ONCOLOGY



Mario Lacouture, MD
ONCO-DERMATOLOGY



Joseph Ravenell, MD
DIVERSITY IN RESEARCH



A SCREENING PROGRAM GROWS IN BROOKLYN

Detecting breast cancer at an early stage is critical to optimize treatment options and improve outcomes. When the disease is localized, the five-year survival rate is 99%. Mammograms, screening X-rays of the breast, are proven to reduce mortality by as much as 40%. Yet Brooklyn has the lowest proportion of women who are diagnosed early among the city's five boroughs. With the recent opening of two new sites that perform mammograms, Perlmutter Cancer Center now offers screening in four distinct neighborhoods in the borough: Sunset Park, Cobble Hill, Midwood, and Bay Ridge.

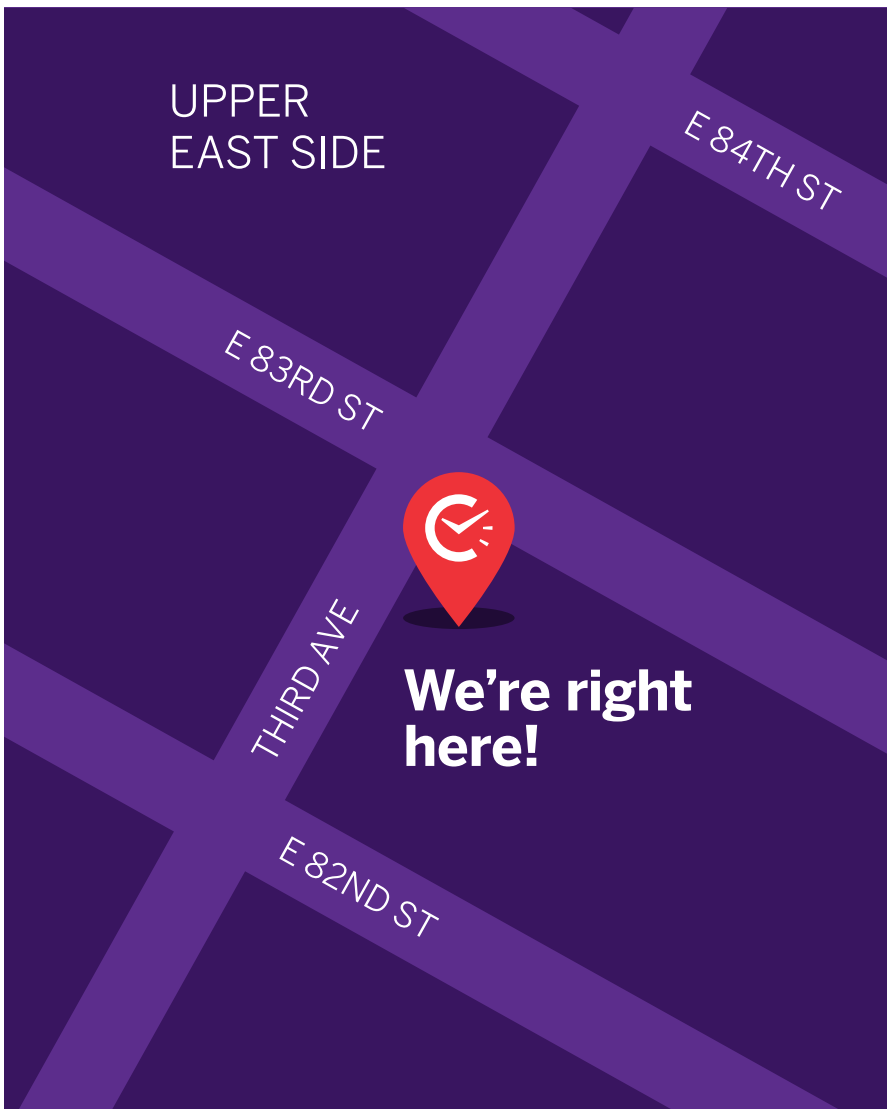
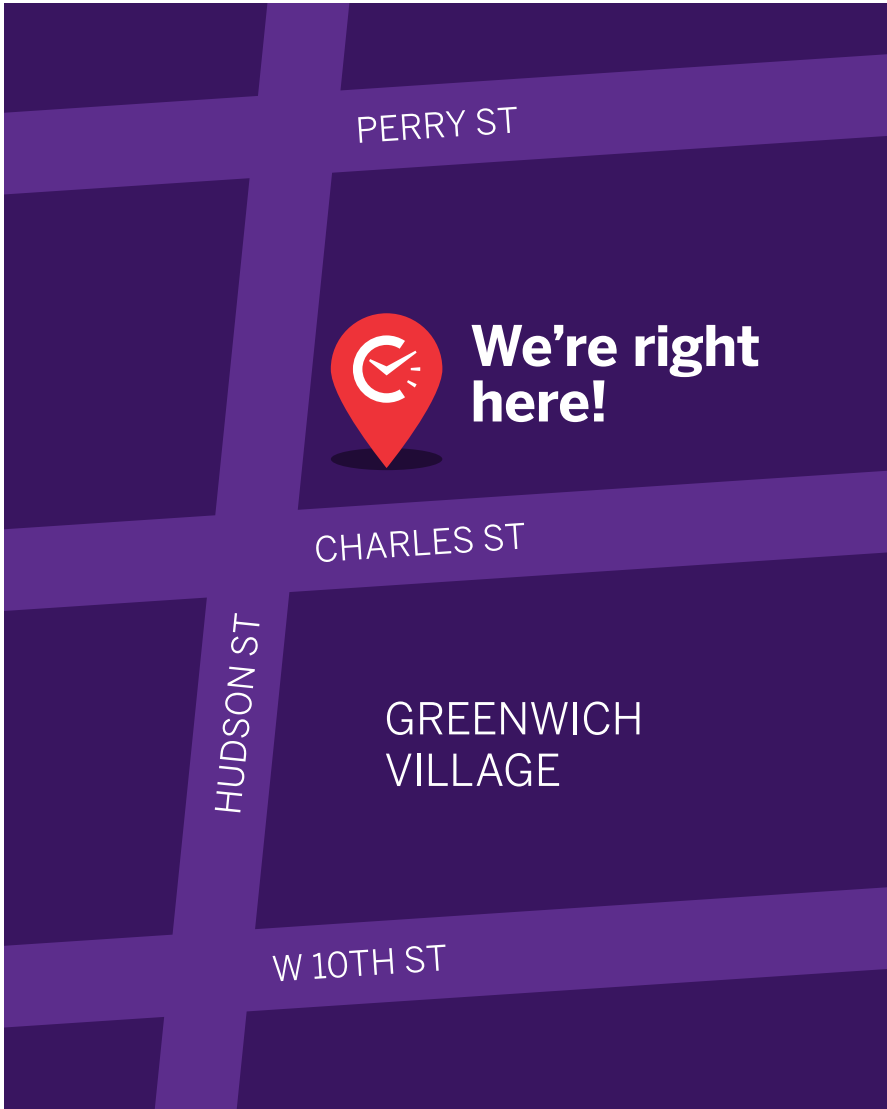
► **Sunset Park**
 NYU Langone Radiology—
 NYU Langone Hospital—Brooklyn
 150 55th Street
 718-630-7400

► **Cobble Hill**
 NYU Langone Radiology—
 Joseph S. & Diane H. Steinberg
 Ambulatory Care Center
 70 Atlantic Avenue
 347-689-0800

► **Midwood**
 NYU Langone Radiology—Avenue P
 1300 Avenue P
 718-954-3840

► **Bay Ridge**
 NYU Langone Radiology—
 Fort Hamilton
 8721 5th Avenue
 917-536-9240

X-ray images from mammograms, like the ones shown above, are adequate for most patients, but women who are at high risk or have dense breast tissue benefit from breast MRI, an advanced imaging tool available at Perlmutter Cancer Center.



Debuts

WALK-IN PRIMARY CARE SITES OFFER MANHATTANITES A FRONT DOOR TO NYU LANGONE'S CLINICAL EXCELLENCE



New Yorkers are a demanding crowd, and NYU Langone Health has introduced a clinical service to meet their high expectations. This summer, the institution launched NYU Langone Care on Demand, ambulatory care sites in two residential neighborhoods of Manhattan—the West Village and the Upper

East Side—that provide walk-in primary care to people who don't have a primary care physician or are unable to see their doctor as soon as they'd like.

Care on Demand sites are located at 540 Hudson Street, near Charles Street, and 1465 Third Avenue, at East 83rd Street. Adults can walk into either of these facilities from 8:00 a.m. to 8:00 p.m. Monday through Friday and from 8:00 a.m. to 6:00 p.m. on Saturday without an appointment.

Care on Demand is designed to address a growing need. Physicians and nurse practitioners specializing in internal medicine, general medicine, and family medicine are considered the foundation of the healthcare system. Yet the nationwide shortage of these primary care providers, who prevent, diagnose, and treat illnesses, as well as promote wellness, is worsening. By 2030, New York City is forecast to experience at least a 12% gap between supply and demand, the largest shortfall projected for any region in the state, according to the Center for Health Workforce Studies.

Unlike urgent care facilities, which treat acute conditions, and emergency departments, which provide immediate care for serious illnesses and injuries, Care on Demand is staffed by clinicians who treat a variety of common health issues, including allergies and asthma, viruses, gastrointestinal problems, chronic or periodic pain, pink eye, rashes, and urinary tract infections. Following an evaluation, the physician or nurse practitioner may prescribe medication or provide aftercare instructions. A follow-up appointment is scheduled to ensure continuity of care. Patients who require further treatment by a specialist or wish to be connected to a primary care provider will receive a referral.

While Care on Demand is intended to serve people who don't already have a primary care provider at NYU Langone, existing patients are welcome to visit these sites as well. Alternatively, they can schedule a same-day video visit with their own doctor through NYU Langone's Virtual Urgent Care service.

"Care on Demand is an apt name for this first-of-its-kind service at NYU Langone because it reflects the tenor and tempo of a city that insists on quality, speed, and convenience in all services," says Andrew Rubin, senior vice president for clinical affairs and ambulatory care. "By welcoming new patients to NYU Langone, Care on Demand not only serves Manhattan residents in need of primary care, but it also provides access to NYU Langone's physician practice network, rated #1 for quality in the US by Vizient, a leading healthcare performance improvement organization."



FOR INFORMATION ABOUT CARE ON DEMAND, VISIT [NYULANGONE.ORG/CARE-ONDEMAND](https://nyulangone.org/care-on-demand). FOR INFORMATION ABOUT VIRTUAL URGENT CARE, VISIT [NYULANGONE.ORG/VUC](https://nyulangone.org/vuc).

ROBERT MONTGOMERY, MD, PHD, DIRECTOR OF NYU LANGONE'S TRANSPLANT INSTITUTE, ON THE PROMISE OF PIG ORGANS



“Fewer than 1% of registered organ donors die in a way that allows for organ donation. We need an additional source for organs, and xenotransplantation is the approach that’s closest to providing one.”

ROBERT MONTGOMERY, MD, PHD, CHAIR OF
THE DEPARTMENT OF SURGERY AND DIRECTOR OF
NYU LANGONE'S TRANSPLANT INSTITUTE

For over two decades, Robert Montgomery, MD, PhD, the H. Leon Pachter, MD, Professor of Surgery, has pioneered techniques to make organ transplants more readily available to patients who need them. Among his pioneering innovations are domino kidney transplants—in which multiple living-donor kidneys are swapped so each recipient receives a compatible organ—and the safe use of organs that test positive for hepatitis C. More recently, Dr. Montgomery, director of the NYU Langone Transplant Institute, has championed another potentially transformative approach: using organs from other species, known as xenotransplantation. In 2021, he performed the first investigative transplant of a kidney from a gene-edited pig into a decedent patient whose circulation was sustained artificially. Then, in April 2024, he and colleagues completed the first combined mechanical heart pump and pig kidney transplant surgeries in a living patient. For these breakthroughs, Dr. Montgomery, chair of the Department of Surgery at NYU Grossman School of Medicine, received the prestigious 2024 Jacobson Innovation Award from the American College of Surgeons. We spoke with Dr. Montgomery about these promising advances in transplantation and the next steps in solving the organ shortage.

You inherited a rare form of heart disease and ultimately received a heart transplant six years ago, making you possibly the only transplant surgeon who is also a transplant recipient. From both perspectives, why is the recent progress in xenotransplantation so exciting?

I’m living proof that transplantation works for those who are lucky enough to receive an organ. But I underwent seven cardiac arrests before I was considered sick enough to be prioritized for a heart, and more than 6,000 patients in the US die each year while awaiting a match. The fundamental problem is that fewer than 1% of registered organ donors die in a way that allows for deceased organ donation. We need an additional source for organs, and xenotransplantation is the approach that’s closest to providing one.

During the past two years, we’ve seen successful transplants of pig hearts and kidneys into a handful of living patients, though the organs have ultimately failed or the patients have died from other causes. Meanwhile, experiments on decedents at NYU Langone Health and elsewhere have offered encouraging evidence that pig-to-human transplants can function well over the long term. As someone whose children have inherited my heart disease—meaning they’ll likely need transplants themselves someday—I have lots of reasons to be excited.

So far, xenotransplantation into living patients has been achieved under expanded access authorization from the FDA, which permits experimental therapies for individuals with life-threatening conditions and no other options. Will full-scale clinical trials start anytime soon?

Phase I trials are expected to launch in 2025. We’ve already begun the planning process.

What has it taken for xenotransplantation to reach this stage, and what needs to happen before it can start solving the donor organ shortage?

The first step was figuring out the right species to use as the donor. In the 1960s, researchers began experimenting with organs from primates, because they’re very much like us. It wasn’t until the ’90s that we realized pigs were a better choice—in part because they’re less like us and



Photograph by **Brad Trent**

Under Dr. Robert Montgomery's leadership, NYU Langone's Transplant Institute has expanded the viability of donor organs infected with hepatitis C. The institute's current focus is on using genetically modified pig organs to help address the worldwide donor-organ shortage.

thus less likely to infect humans with any diseases they might carry. Then, we had to develop both gene-editing techniques that would make pig tissue more compatible with the human immune system and immunosuppressant drug regimens that would prevent rejection.

We spent years experimenting with pig-to-primate transplants before transitioning to human decedents. Now that we've started working with living humans, we're realizing there's a lot we still don't know. It will likely take another 6 to 10 years to make xenotransplantation viable for widespread use.

What was your goal in the transplant case that combined a mechanical heart pump and a gene-edited pig kidney?

First and foremost, it was about trying to save a life. The patient, Lisa Pisano, a 54-year-old woman with end-stage heart and kidney failure, wasn't a candidate for a conventional organ transplant because she had several chronic medical conditions. We knew a left ventricular assist device, or LVAD, might prolong and improve her life, but only if she could get a kidney transplant soon afterward. The solution to this catch-22 was a gene-edited pig kidney. A team led by Nader Moazami, MD, chief of heart and lung transplantation and mechanical circulatory support, implanted the LVAD on April 4. We transplanted the kidney eight days later.

The organ functioned well for the first month, enabling us to wean the patient off dialysis and stabilize her cardiovascular function significantly. Unfortunately, she had several episodes of low blood pressure that damaged the kidney, forcing us to remove it after 47 days, and she died six weeks later after her family decided to move her to hospice care. Still, Lisa's courage and good nature,

and her contributions to medicine, surgery, and xenotransplantation, cannot be overstated.

Were there takeaways that could be helpful for other patients?

Absolutely. This was the first time a patient with the device received an organ transplant of any kind. The case showed that LVADs and kidney xenotransplants could eventually be viable for patients with combined heart and kidney failure, and that xenotransplants could become an option for patients who develop kidney failure after a heart pump is implanted.

Your team uses pig kidneys with a single edited gene, versus the multiple edits that some other researchers favor. Why?

One of the advantages of using pigs over other species is that they breed quickly and in large numbers. However, when you add a lot of edits, the animals must be cloned, a slow, laborious process that's difficult to scale for medical use.

We believe the most important edit involves a gene for a molecule known as alpha-gal that causes a severe immune reaction in humans. By using pigs from herds bred to lack alpha-gal, our team has avoided rejection in every xenotransplant we've done so far. If the approach proves sustainable, it will be far easier to meet the needs of patients around the world.

What's up next in NYU Langone's xenotransplantation research?

We continue to refine and improve, building on what we know. We'll take the results from living patients and use them to guide further experiments with our decedent model. Then, we'll use the results from decedent studies to guide new ones with living patients. I feel very fortunate to be working at an institution with a strong commitment to big-idea research, as well as the resources to support it and the culture of excellence to do so at the highest possible level.

Ratings & Recognitions

OUR CLINICAL SPECIALTIES RISE TO NEW HEIGHTS IN THE ANNUAL "BEST HOSPITALS" RANKINGS

Rankings are just one measure of a health system's quality. Yet they provide a valuable way to compare institutions, benchmark performance, and above all, promote a culture of excellence. Based on the 2024–25 *U.S. News & World Report* "Best Hospitals" rankings, released in July, NYU Langone Health is shining in all these areas.

Securing its status as one of the nation's top-rated health systems, NYU Langone scored its best-ever results, with 9 ranked clinical specialties in the top 5, 11 in the top 10, and 13 in the top 20.

NYU Langone reaffirmed its preeminence in neurology and neurosurgery, ranking #1 in the nation for the third straight year, while attaining the #1 ranking in pulmonology and lung surgery for the first time. The institution was recognized as the top hospital in New York for cardiology, heart surgery, and vascular surgery, ranking #2 nationally.

U.S. News & World Report no longer ranks hospitals numerically. However, it named NYU Langone to its honor roll of the top 20 hospitals in the nation. The accolade extends across the institution's inpatient locations, including Tisch Hospital, Kimmel Pavilion, and NYU Langone Orthopedic Hospital in Manhattan; NYU Langone Hospital—Brooklyn; and NYU Langone Hospital—Long Island.


"Our culture of exceptionalism continues to deliver the best outcomes for our patients, with one consistently high standard of care across all of our locations," says Robert I. Grossman, MD, CEO of NYU Langone and dean of NYU Grossman School of Medicine. "I am so proud of each and every one of our employees for helping deliver these fantastic results."

Reflecting its expertise across various specialties, NYU Langone received High Performing ratings for all 20 procedures and conditions included in the Common Adult Procedure and Condition Ratings. Among them are kidney failure, diabetes, cardiac care, cancer surgery, chronic obstructive pulmonary disease (COPD), leukemia, lymphoma and myeloma, orthopedic surgery, pneumonia, and stroke.

Additionally, Long Island Community Hospital, NYU Langone's affiliate in Patchogue, was named a High Performing Hospital for the second year in a row. The hospital received the top rating in treating five conditions (two more than last year): heart failure, heart attack, kidney failure, pneumonia, and COPD.



FOR INFORMATION ABOUT THE NYU LANGONE TRANSPLANT INSTITUTE, VISIT NYULANGONE.ORG/TRANSPLANT, OR CALL 855-698-9998.



Anthony Frempong-Boadu, MD (below right), director of the Division of Spinal Surgery, belongs to a team of renowned neurosurgeons who account for NYU Langone's #1 ranking in neurology and neurosurgery by *U.S. News & World Report*.

“Our culture of exceptionalism continues to deliver the best outcomes for our patients.”

ROBERT I. GROSSMAN, MD, CEO OF NYU LANGONE HEALTH
AND DEAN OF NYU GROSSMAN SCHOOL OF MEDICINE



Michelle Bloom, MD
Heart Failure Cardiology

NYU Langone
Health

NYU Langone's new Cardio-Oncology Program, led by system director Michelle Bloom, MD, treats patients who develop cardiac complications from cancer treatments.

First Person

MICHELLE BLOOM, MD, EXPLAINS WHY HER SPECIALTY IS ONE EVERY CANCER PATIENT—AND DOCTOR—SHOULD KNOW ABOUT

When I was in medical school, my maternal grandfather was diagnosed with cancer. As a consequence of his intense chemotherapy regimen, he wound up dying from heart failure. I always knew I wanted to be a doctor, but that experience drew me toward the intersection of heart disease and cancer, the two leading causes of death in the US.

Some 40% of Americans will be diagnosed with cancer at some point during their lifetimes. Advances in early detection and novel treatment modalities have led to overall improvements in outcomes. Unfortunately, with longer survival comes an increase in long-term cardiac toxicity associated with chemotherapy, immunotherapy, targeted therapies, and radiation therapy. The vast majority of these treatments have the potential, either directly or indirectly, to contribute to cardiovascular conditions, including heart failure, high blood pressure, heart attack, valve disease, arrhythmia, and pericardial effusion, a buildup of fluid around the heart that can prevent it from pumping adequate blood to meet the body's needs.

As one of the pioneers of the emerging field of cardio-oncology, I've spent more than a decade managing the health of thousands of patients on Long Island who have developed or are at risk of developing cardiac complications from

cancer treatments. In December 2023, I joined NYU Langone Health with dual academic appointments at NYU Grossman Long Island School of Medicine and NYU Grossman School of Medicine. I serve as the system director for NYU Langone's Cardio-Oncology Program, which unites oncologists, immunologists, and researchers from the Laura and Isaac Perlmutter Cancer Center with cardiologists and cardiac surgeons across the institution to coordinate personalized care for patients. Ultimately, we hope to expand the model to all of our campuses.

Cardiac toxicity is much more common than most oncologists and cardiologists realize, and it could warrant adjustments or even discontinuation of the cancer therapy regimen, adversely affecting outcomes. Cancer therapies have evolved so rapidly and so expansively in recent years that for many therapeutic agents, we simply don't have longitudinal data on cardiac safety to guide us.

Since there's no formula I can plug in, I look at a patient's individual risk profile. Someone who has cancer, along with uncontrolled high cholesterol, elevated blood pressure, or diabetes, has a greater risk of developing a cardiovascular condition that could lead to a heart attack, heart failure, or stroke. The art of being a cardio-oncologist is trying to figure out

how cancer and its treatment impact cardiovascular risk and finding the optimal balance.

If a patient has cardiac risk factors and the prescribed therapy is high risk, I will explore alternative therapies with the oncologist that might be less toxic to the heart but without compromising the patient's outcome. When the patient is at high risk for a cardiac complication, the balance always comes down to the risk versus benefit of any given cancer therapy. I monitor the patient with ongoing blood tests and imaging, treating cardiovascular problems that may arise. The aim is to help patients receive and complete optimal treatment while protecting their heart, and to provide ongoing preventive care and/or treatment once their therapy is completed, well into survivorship.

My mission is to ensure that a patient understands and is comfortable with the short- and long-term risks of their cancer therapy. I take care of people for years beyond their treatment. I cherish these relationships, and I treat patients like members of my own family.



FOR INFORMATION ABOUT THE
CARDIO-ONCOLOGY PROGRAM, VISIT
NYULANGONE.ORG/
CARDIOONCOLOGYPROGRAM, OR
CALL 646-929-7800.



Eileen Perry shares wedding photos of her late husband, Lawrence, with Dr. Michelle Bloom, who determined that Perry suffered from “broken heart syndrome” after her traumatic loss and prescribed medications to strengthen her weakened heart.

HOW A CARDIO-ONCOLOGIST COURSE-CORRECTED A PATIENT’S CARE DURING CANCER TREATMENT

When Eileen Perry, a 70-year-old special education teacher who lives in Levittown on Long Island, learned in 2006 that she had breast cancer, she was scared but somewhat reassured. The diagnosis was ductal carcinoma in situ, a highly treatable form of the disease. But Perry’s anxiety grew in September 2013 with news of another diagnosis. Oncologist Nina D’Abreo, MD, found evidence of triple-negative breast cancer, an aggressive form that’s extremely challenging to treat. After undergoing a double mastectomy, Perry was treated with chemotherapy, radiation, and additional surgeries. “Everything would work for a while,” she says, “but the cancer would keep coming back.”

In August 2023, a lesion was found on Perry’s liver. Oncologist Douglas Marks, MD, medical director of the Clinical Trials Office at Perlmutter Cancer Center at NYU Langone Hospital—Long Island, started Perry on a newly approved medication that combines a monoclonal antibody with a cancer-killing drug. Because it can affect heart function, potentially causing blood to back up into the lungs, patients are required to have regular echocardiograms. When the test was performed in January 2024, a severe abnormality was discovered.

Fortunately, Dr. Marks was able to refer Perry to Michelle Bloom, MD, director of the newly launched Cardio-Oncology Program, which monitors and treats patients at risk for developing cardiac complications from cancer treatments. Because Perry had lost her husband of 46 years, Lawrence, on New Year’s Day, Dr. Bloom wondered whether the abnormal test result indicated that she was suffering from “broken heart syndrome,” a sudden weakening of the heart muscle brought on by a highly stressful event.

Testing ruled out coronary artery disease, supporting Dr. Bloom’s hunch that Perry’s weakened heart was likely a consequence of her traumatic loss. Dr. Bloom prescribed a cocktail of medications to strengthen Perry’s heart and better control her blood pressure, which enabled Perry to continue her treatment.

“Dr. Bloom was very directed about what I needed to do,” says Perry. Through their efforts, Dr. Bloom and Dr. Marks have ensured that Perry can maintain her quality of life. “I’ve been working throughout my treatments, visiting my son in California, and doing everything I want to do,” she says.

Nursing at Its Best

STEPHEN STARK, MSN, RN, ON WHY NYU LANGONE HOSPITAL—BROOKLYN IS A MAGNET FOR QUALITY NURSES

NYU Langone Hospital—Brooklyn is the only hospital in the borough that has earned Magnet recognition from the American Nurses Credentialing Center, considered the gold standard for nursing. Only 9.4% of hospitals in the US have achieved Magnet status. Stephen Stark, MSN, RN, a nurse manager and 12-year veteran in the Emergency Department (ED), is one of over 900 nurses who exemplify the hospital's high standards of clinical care and personal caring. Here, he discusses the tenets that guide him daily—and the accident that changed the direction of his career.

Discovering his calling. During my senior year of high school, we had off every Monday for eight hours to participate in volunteer services. The weekend before I was scheduled to start a clerical filing job in medical records at a hospital, I shattered my wrist snowboarding. Instead, they assigned me to the hospital's pediatric unit, where I shadowed doctors, residents, and pharmacists, among others. After I shadowed a nurse practitioner, I knew in my heart of hearts that I was meant to be a nurse. I obtained a bachelor of science degree in nursing and joined the ED at NYU Langone Hospital—Brooklyn as a registered nurse in 2012. I didn't always see myself as a leader. But in 2018, during a strenuous hike with another nurse through the Burmese jungle, I had an epiphany: this hospital was my home. I cared deeply about this community, and I really wanted to grow here. There was a position open for a nurse manager, so I applied and was accepted. Then, I completed schooling for a master's degree in nursing executive leadership in 2022 while working full-time.

Sweating the details. One of my idols is Bill Belichick, the former New England Patriots coach, whose mantra was "Sweat the small stuff." That's how we approach things at the hospital, to ensure that we're prepared for the big stuff. The morning of the mass subway shooting in Sunset Park on April 12, 2022, was



Stephen Stark, MSN, RN, belongs to a team of Emergency Department nurses at NYU Langone Hospital—Brooklyn that was recently honored with the Emergency Nurses Association's Lantern Award for exceptional practice and innovative performance.

the definition of triage. We had to determine what could wait and what needed immediate attention—and to stay calm. We treated 22 people, and 5 needed surgery. More than 200 staffers were enlisted to ensure their safety and well-being. The way we all came together showed why we are so successful. I have a book I constantly refer to that helped me that morning: *The Daily Stoic: 366 Meditations on Wisdom, Perseverance, and the Art of Living*. One of its principles is that only you decide how you respond to a situation. That's how I stay collected here.

Finding mentors to guide him. I've had three mentors over the years. Ian Wittman, MD, chief of service

of emergency medicine, taught me how to engage, to manage up, to manage down, to manage laterally, and most important, to think critically. One of his tenets is "Solve problems, don't create them." Then, there's Staci Mandola, MSN, RN, our director of the Department of Emergency Medicine. Staci trained me as a newbie nurse in 2012, then to be a nurse manager in 2018. Now, she's my boss. Staci taught me from day one to lead from the front, meeting the needs that come up and supporting the team. Finally, there's Liz Douglas, MSN, RN, one of our senior directors of nursing. Her clinical acumen is second to none. She operates with the transformational leadership we strive for, and she

checks in to ensure that my professional growth continues.

And returning the favor. I always make time for people looking for guidance. When I meet with students from NYU Rory Meyers School of Nursing, I show them around the ED and talk about "reflective practice," which is the ability to learn from your own professional experiences. At the end of a tour, I tell students that once they get settled into their roles, they should stop, turn around, and help advance the next person behind them. That's what others did for me, and it's the reason I have succeeded in this profession. That is the way we drive nursing forward.



No mismatched base pairs

strand 1

T A C G G T T C G C
↑ ↑ ↑ ↑ ↑
A T G C C

strand 2

strand 1

strand 2

With mismatched base pairs

strand 1

T A C G G T T C G C
↑ ↑ ↑ ↑ ↑
T T C C G

strand 2

strand 1

strand 2

A ← DAMAGE →

A T T C G

T A A C

Breakthroughs

DNA

DETECTING CHANGES BEFORE THEY BECOME PERMANENT MUTATIONS

You probably know that DNA, the molecule inside every cell that contains a blueprint for the development and function of an organism, comprises two long chains that form a double helix. The two strands are composed of a code of four molecular letters, A, T, C, and G. The letters on each strand are paired with letters on the other strand in a specific way: A pairs with T, and C with G. When a pair of these letters change—for example, an A:T pair changing to a C:G pair—it’s called a mutation, an alteration that can lead to cancer or a variety of genetic diseases.

However, mutations usually begin with a change in only one of the two DNA strands, such as when the G in a C:G pair changes to a T, creating a mismatched C:T pair. Fortunately, such mismatches occur rarely. “And when they do, our cells fix them most of the time,” explains Gilad Evrony, MD, PhD, a member of NYU Langone Health’s Center for Human Genetics and Genomics. But if the mismatch in one strand is not repaired, it can cause a corresponding change to the other strand, leading to a permanent mutation.

“Mutations are responsible for an immense burden of disease,” Dr. Evrony says. They elevate a person’s risk for many types of cancer and, when combined with environmental risk factors, can lead to many other health conditions.

What if those single strand molecular changes in the DNA code could be detected before they become mutations? A pioneering technique developed by Dr. Evrony and his research team, along with international collaborators, is designed to do just that.

Hairpin Duplex Enhanced Fidelity Sequencing, or HiDEF-seq, can read the billions of A, T, C, and G bases comprising each DNA strand with unparalleled accuracy. While other scientists have developed methods to “see” changes that are

present in both DNA strands, Dr. Evrony’s project went a step further. The study, published in the June 12 issue of *Nature*, demonstrates an approach that, for the first time, accurately detects DNA changes in only one strand, when they can still be repaired. The research could advance our understanding of the basic causes of mutations in both healthy cells and cancerous ones.

For their research, Dr. Evrony and colleagues examined DNA from people with syndromes that predispose them to cancer. They found that subjects with polymerase proofreading-associated polyposis, a hereditary condition linked to colorectal cancer, or with congenital mismatch repair deficiency, a genetic condition that increases the risk of childhood cancer, had substantially more DNA mismatches even in their healthy cells. The technique can also detect a common type of DNA change called cytosine deamination—when a C base on one of the two DNA strands is damaged, potentially leading to mutations.

Eventually, the Evrony Lab hopes to identify DNA damage that occurs as a result of environmental exposures and chemotherapy. Such advances could one day lead to methods for reducing the rate at which our DNA mutates and might even aid in improving treatments for cancer.

“We’re laying the groundwork to measure to what degree people have differences in their DNA repair, and predict their risk for cancer,” Dr. Evrony says. “Those are potential applications on the five-year horizon. It’s ambitious but not impossible.”

Disclosure: Dr. Evrony owns equity in the DNA-sequencing companies Illumina, Pacific Biosciences, and Oxford Nanopore Technologies, some of whose products were adapted for use in this study. All of these arrangements are being managed in accordance with the policies and practices of NYU Langone Health.



Photograph by **Jonathan Kozowyk**

Life-Changing Diagnoses

EMIE PAPADOPOULOS SPENT 27 YEARS IN A WHEELCHAIR. GENETIC TESTING FREED HER FROM IT WITHIN DAYS.

No longer bound to a wheelchair, Emie Papadopoulos finds the seashore “a healing place.” She enjoys strolling along Jones Beach on Long Island (shown here) and other favorite coastlines in Greece, Puerto Rico, and Florida.

**“I just want to live life. I want to do everything,
and tell everyone I meet that whatever battle you’re
facing, don’t give up.”**

EMIE PAPADOPOULOS

“I don’t believe it,” George Papadopoulos said to his daughter, Emie, when he opened the door of his apartment and saw her standing there. Emie lives on the 11th floor of a condominium in Manhattan’s East Village, and whenever she visited her parents, who reside on the 7th floor, she would roll her wheelchair into the elevator. But on this day, in late March 2019, she stepped into the elevator and ventured there on foot. Seeing the shock on her father’s face, she said to him, “Daddy, I don’t need my wheelchair anymore!”

For Emie, now 46, who works as a civilian administrator in the New York City Police Department, it was the first time in three decades that she felt strong and confident enough to walk on her own two feet.

Emie’s improbable journey from dependence to independence is a tale of resilience, perseverance, and hope. It’s also a case of medical detective work and diagnostic tenacity, performed at NYU Langone Health, at its finest.

When Emie was 8, she started tiring easily and falling during walks. Scraped knees and sprained ankles became the norm. As her classmates raced up stairs, Emie struggled, gripping the banister to pull herself up, one step at a time. When the class went on field trips, she stayed behind. “I felt left out of everything and became a target for bullies,” she says. “People have wonderful memories of their childhood. I don’t.”

Emie’s parents consulted numerous specialists, who believed that the weakness in her shoulders and hips suggested an inherited disease known as limb girdle muscular dystrophy. However, a muscle biopsy proved inconclusive.

In 1991, at age 12, Emie started seeing Mary-Lynn Chu, MD, director of the Elly Hammerman Center

for the Treatment of Neuromuscular Disorders at NYU Langone Orthopedic Hospital. “At that time, the genetic testing available was limited and expensive, and wasn’t covered by insurance,” explains Dr. Chu.

By the following year, as Emie started high school, her fatigue and weakness had become so severe that she needed a wheelchair to get around. Undeterred, she finished high school, earned a degree in advertising and marketing from the Fashion Institute of Technology, and held full-time jobs.

Some two decades later, Emie refocused on identifying her disease. Dr. Chu persuaded her health insurance carrier to cover a test that would search for genes linked to limb girdle muscular dystrophy; the results were negative. In 2014, Emie took advantage of free testing sponsored by the Muscular Dystrophy Association that targeted 35 newly identified genes related to the disease. When the results turned out to be inconclusive, Emie, frustrated once again, vowed not to undergo further genetic testing.

That changed late in 2018, when Dr. Chu told Emie about recent advances in genetic testing and suggested she see John Pappas, MD, director of the Division of Clinical Genetics at Hassenfeld Children’s Hospital at NYU Langone. Fearing another devastating letdown, Emie consulted her mother, Susanne. “Before something happens to me or your father,” Susanne advised, “don’t you think it would be good to let them put the pieces of this puzzle together?”

Emie agreed to proceed with genetic testing. That December, Dr. Pappas drew blood samples from Emie and her parents for whole exome sequencing, a technique that can identify mutations in genes that affect protein function. Although these genes comprise only about 1%

of the human genome, they contain 85% of disease-associated variants.

Three months later, Emie was working late when her cell phone rang. Glancing at the caller ID, her heart began to race. “I have some good news,” said a genetic counselor who works with Dr. Pappas. The diagnosis, she reported, was congenital myasthenic syndrome, a disease that affects less than one in 100,000 children. “And the best news is that there’s a treatment,” Emie wept.

Emie’s genetic defect impairs the communication between motor nerve endings and the muscle fibers. An unlikely medication—an oral form of albuterol, commonly used in inhalers to treat asthma and other lung conditions—stabilizes the neurotransmitters connecting the peripheral nerves and the muscles so that commands are received.

She started taking the drug on March 22, 2019. Her progress was almost immediate. “Within a few days, I felt my body coming alive,” she says. “I call it my magic pill.”

Dr. Chu describes Emie’s mobility today as “close to normal,” and for Emie, it has been a true awakening. She still has her wheelchair in storage but no longer needs it and, like most Manhattanites, does a lot of walking. Emie finds the seashore “a healing place.” She visits Greece, where her family has a seaside home, every year and also frequents the beaches of Puerto Rico and Florida. “I just want to live life,” she says. “I want to do everything, and tell everyone I meet that whatever battle you’re facing, don’t give up.”

MEET THE EXPERTS



Mary-Lynn Chu, MD
NEUROLOGY



John Pappas, MD
CLINICAL GENETICS



TO FIND A DOCTOR WHO TREATS NEUROMUSCULAR DISORDERS, VISIT NYULANGONE.ORG/NEUROMUSCULARDOCTORS, OR CALL 646-929-7800.



“Penn District further expands access to NYU Langone Health’s award-winning and consistently high standard of care, with multiple services in a new location on the west side of Manhattan.”

ANDREW W. BROTMAN, MD,
EXECUTIVE VICE PRESIDENT AND VICE DEAN
FOR CLINICAL AFFAIRS AND STRATEGY,
CHIEF CLINICAL OFFICER

THIS WEST SIDE STORY FEATURES CONVENIENT OUTPATIENT CARE

Penn District, on the far west side of mid-Manhattan, draws its name from Pennsylvania Station, the busiest transit terminal in the US, with more than 600,000 daily commuters. Recognizing that the people who live, work, or commute in this bustling area need convenient, high-quality medical care, NYU Langone Health has opened a multispecialty ambulatory care center in the heart of the neighborhood. NYU Langone Medical Associates—Penn District, located at 360 West 31st Street, down the block from Penn Station, is easily accessible to the thriving Hudson Yards and Manhattan West complexes.

Occupying the third floor of a historic building where Sears, Roebuck and Co. had offices, the 18,000-square-foot facility houses 25 exam rooms, three procedure rooms, and imaging services. Its clinical staff includes specialists in internal medicine, family medicine, cardiology, endocrinology, gynecology, gastroenterology, urology, orthopedic surgery, spine surgery, sports medicine, and podiatry.

“We’ve taken a design approach with this space that is innovative, consistent, and reflective of the quality of our care, incorporating an abundance of natural light and prioritizing the use of sustainable materials in furnishings throughout,” says Vicki Match Suna, AIA, executive vice president and vice dean for real estate development and facilities. “Our objective was to create environments that are warm, inviting, and comfortable for patients and staff.”

NYU Langone Medical Associates—Penn District, NYU Langone’s newest multispecialty ambulatory care center, serves a large number of residents, workers, and commuters in the bustling neighborhood that surrounds Penn Station on the far west side of mid-Manhattan.

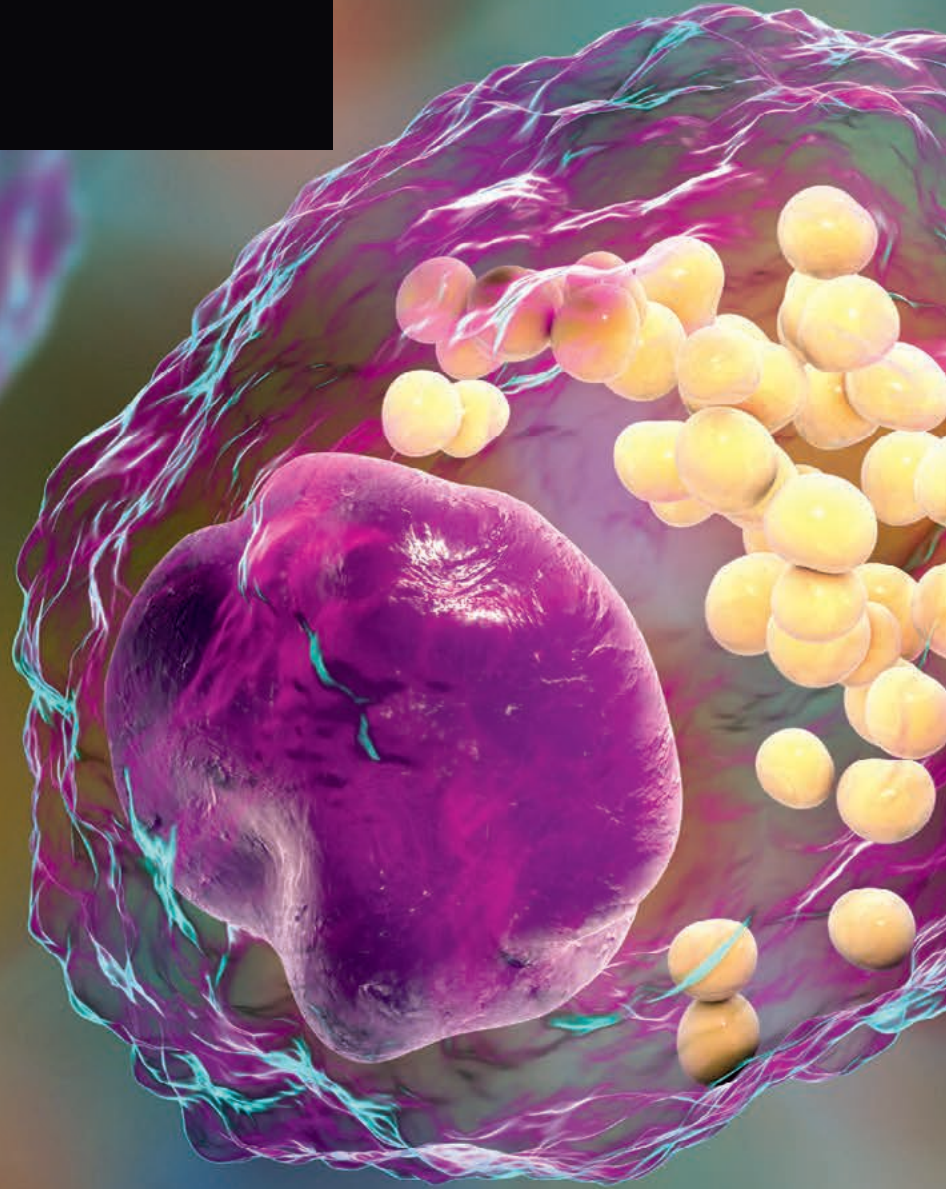


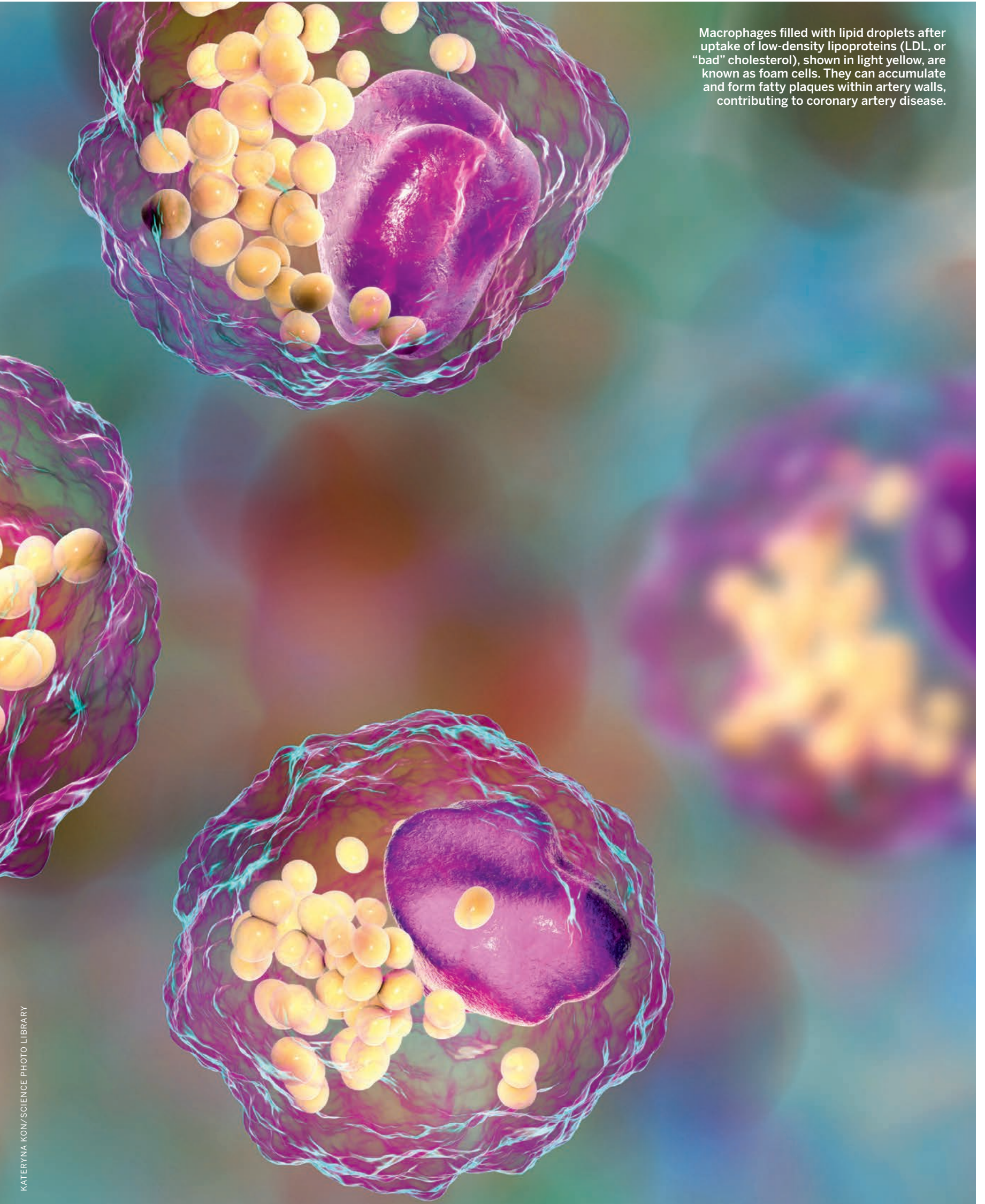
FOR INFORMATION ABOUT NYU LANGONE MEDICAL ASSOCIATES—PENN DISTRICT, VISIT NYULANGONE.ORG/PENNDISTRICT, OR CALL 646-987-3436.

Discoveries

FOR HER NOVEL FINDINGS IN CORONARY ARTERY DISEASE RESEARCH, KATHRYN MOORE, PHD, EARNS A GRAND PRIZE

SEE STORY ON PAGE 28.





Macrophages filled with lipid droplets after uptake of low-density lipoproteins (LDL, or “bad” cholesterol), shown in light yellow, are known as foam cells. They can accumulate and form fatty plaques within artery walls, contributing to coronary artery disease.

“My focus is trying to understand the pathways that drive chronic inflammation and plaque formation in the arteries, and see whether we can reverse them.”

KATHRYN MOORE, PHD

As a graduate student studying infectious diseases, Kathryn Moore, PhD, became fascinated by macrophages, the specialized white blood cells charged with seeking out and destroying perceived threats. For her doctoral research at McGill University in Montreal, she investigated how a deadly parasite could overcome their defenses and take up residence within the immune cells.

More than two decades later, the Moore Lab’s groundbreaking cardiovascular research at NYU Langone Health has shown how these first-line defenders of the immune system can also serve as unwitting accomplices to coronary artery disease. Dr. Moore, the Jean and David Blechman Professor of Cardiology and professor of cell biology at NYU Grossman School of Medicine, has painstakingly pieced together the mechanism by which macrophages respond to internal threats, such as excess levels of low-density lipoproteins (LDL), more commonly known as “bad” cholesterol. In this case, though, the seek-and-destroy mission goes awry and triggers an inflammatory response that can give rise to coronary artery disease, the leading cause of death in the US.

“My focus is trying to understand the pathways that drive chronic inflammation and plaque formation in the arteries, and whether we can reverse them,” says Dr. Moore, a member of the National Academy of Sciences. For her work in clarifying the link between inflammation and disease, the Institut de France named Dr. Moore a corecipient of its Grand Prix Scientifique, at a June 19 ceremony in Paris. The prestigious prize is awarded annually to those who have made significant contributions to the fields of cardiovascular physiology, biology, or medicine.

As a natural phenomenon, inflammation is readily apparent when you twist your ankle or catch a virus. The immune system quickly mounts an inflammatory response, recruiting immune cells to the site to eliminate threats and promote healing. The swelling gradually resolves when the

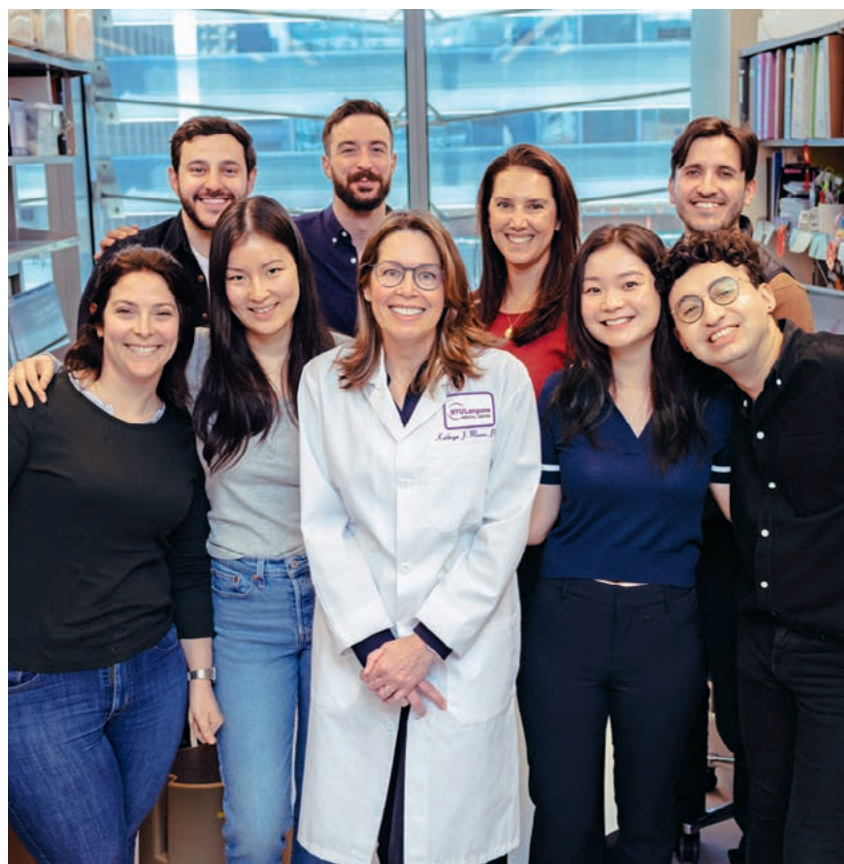
danger to the body subsides.

Excess cholesterol along the walls of arteries can trigger a remarkably similar immune response, causing macrophages to flag an apparent threat and root it out. Dr. Moore’s research found that macrophages identify the cholesterol via tiny identification tags that resemble those from bacterial threats, setting off an inflammatory response. Compounding the problem, the macrophages themselves become stuck in the wall of the artery after clearing away the cholesterol, inadvertently contributing to the disease process.

“It’s clearly a good deed gone bad,” Dr. Moore says. “Rather than being able to resolve the inflammation, the cholesterol-laden macrophages persist, and the process becomes chronic.” In turn, the unresolved inflammation drives the formation of fat- and cholesterol-filled plaques in coronary arteries, causing blockages that limit blood flow to the heart and can lead to coronary artery disease.

In another major advance, Dr. Moore’s lab clarified how molecules made of RNA, DNA’s single-stranded cousin, help regulate cholesterol and inflammation in the body. By studying noncoding RNA molecules, which are abundant in our genome but poorly understood, Dr. Moore identified new therapeutic targets for raising levels of high-density lipoprotein (HDL), or “good” cholesterol. Many noncoding RNA sequences that are found exclusively in humans and other primates serve an important function in regulating the expression of genes, offering a potential explanation for why certain therapies that have proven effective in treating other animals have failed when applied to human patients.

All of the lab’s breakthroughs have resulted from a highly productive partnership between Dr. Moore and the dozens of graduate students and postdoctoral fellows she has helped train over the years. “I’ve truly flourished in the collaborative and supportive environment at NYU Langone,” Dr. Moore says. “It has taken my science to a different level.”



Clockwise from top: Dr. Kathryn Moore and members of her team; in her lab; conducting research; and posing in front of a statue at the Institut de France, where she received the Grand Prix Scientifique on June 19.



Partners in Birthing

MIDWIFERY, AN AGE-OLD PRACTICE, IS MODERNIZED AT NYU LANGONE HEALTH

When Nicolette Diaz, 35, delivered her first child nine years ago at an understaffed New York City hospital, the experience was chaotic. She never had a chance to speak with the anesthesiologist or obstetrician, her epidural numbed only her right leg, and she was in extreme pain for 50 hours before finally giving birth to a baby girl, Claire. “It was very stressful,” recalls Diaz. “I didn’t feel I was treated with respect.”

Diaz, who lives in Jackson Heights, Queens, and is studying to become a pediatric therapist, became pregnant again last year. This time, she sought out a birthing experience “where my voice would be heard,” she says. Her search led her to select NYU Langone Health’s Department of Obstetrics and Gynecology and, ultimately, its midwifery service. When it was time for her to deliver, at Tisch Hospital on January 25, 2024, she met certified nurse-midwife (CNM) Aisha Olivacce and was immediately struck by her gentle manner. “Her voice was soothing,” Diaz says. “She wasn’t commanding me. She was just giving me advice. It was exactly what I needed.”

When Diaz indicated she was in discomfort, Olivacce called in an anesthesiologist to administer an epidural. After a 13-hour labor and less than an hour of pushing, she gave birth to a healthy daughter, Leah. “My birthing experience was the best,” she says. “Aisha was by my side the whole time. I felt like I was with family.”

Midwifery, a centuries-old practice, is on the rise. About 12% of

births in the US are now attended by a midwife, according to the US Government Accountability Office, and about 14,000 certified midwives are practicing nationwide, according to the American College of Nurse-Midwives. Clearly, a new generation of moms is attracted to a core belief among midwives that “pregnancy and childbirth are normal, healthy processes,” explains Eugenia Montesinos, CNM, inaugural director of midwifery services at Tisch Hospital. “Our bodies were made for that.”

Montesinos says the mission of her team is to provide holistic, evidence-based care for pregnant patients and improve outcomes. Indeed, a systematic review published in *BMC Pregnancy and Childbirth* showed that midwife-led care contributes to a reduced rate of emergency Caesarean sections.

At NYU Langone, women who are at low risk for complications can choose a midwife to create a birth plan, guiding them throughout pregnancy and delivery. A vast majority qualify for the services, including many women 35 or older. “Our midwives offer personalized care, emphasizing natural labor methods,” says Ashley Roman, MD, Silverman Professor of Obstetrics and Gynecology and chief of obstetrics.

The team includes six midwives in Manhattan, all board certified with graduate degrees in midwifery. Together, they provide 24/7 care. NYU Langone Hospital—Brooklyn has four midwives, led by Meleen Chuang, MD, chief of obstetrics and gynecology, with plans to expand to

an around-the-clock care model.

Midwives at NYU Langone also partner with obstetricians and maternal-fetal medicine specialists, who are fully integrated into every patient’s care. Seeing a midwife at an academic medical center affords crucial safety benefits, notes Andrew Rubenstein, MD, director, Generalist Division, Department of Obstetrics and Gynecology. For example, a patient at a birthing center who experiences complications must be transferred quickly to a hospital. “By contrast, we have multidisciplinary care within an institution renowned for its safety and best outcomes,” says Dr. Rubenstein.

Beyond their role in pregnancy and delivery, NYU Langone midwives provide gynecologic care from adolescence to menopause and beyond. “I can prescribe birth control pills, put you on an IUD, and recommend hormonal treatments at menopause,” says Montesinos. Midwives also make it a priority to be attuned to a patient’s mental health at every stage of their care. “I treat every patient like I’m the person in that chair or bed,” says Olivacce.

Diaz still chokes up when talking about her midwifery experience. “Aisha is amazing, and I’m grateful for the anesthesiologist who kept checking on me,” she says. “They love their jobs—you could tell—and really made me feel at ease.”

MEET THE EXPERTS



Eugenia Montesinos
CERTIFIED NURSE-MIDWIFE



Aisha Olivacce
CERTIFIED NURSE-MIDWIFE



Ashley Roman, MD
OBSTETRICS AND GYNECOLOGY



Andrew Rubenstein, MD
OBSTETRICS AND GYNECOLOGY



Meleen Chuang, MD
OBSTETRICS AND GYNECOLOGY



FOR INFORMATION ABOUT MIDWIFERY SERVICES, VISIT NYULANGONE.ORG/MIDWIFERYSERVICES, OR CALL 646-929-7800.



Nicolette Diaz with her partner, Luis, and baby girl Leah (being fed by her big sister Claire, 9, upper right). Diaz says her birthing experience with a midwife at NYU Langone Health was "the best."



AI-Enhanced Medicine

MINING MEDICAL SCANS FOR CLUES TO PREVENT AND DETECT A HOST OF DISEASES

Every year, more than 80 million computerized tomography (CT) scans are performed in the US. These diagnostic exams use X-ray technology to generate detailed anatomical images of a specific part of the body, enabling clinicians to identify tumors, fractures, and other abnormalities.

NYU Langone Health's Department of Radiology is convinced that a mountain of valuable data contained in these images remains largely untapped. A team of faculty, led by Miriam Bredella, MD, MBA, the Bernard and Irene Schwartz Professor of Radiology and director of the Clinical and Translational Science Institute; Soterios Gyftopoulos, MD, MBA, MSc, chief of radiology at NYU Langone Hospital—Brooklyn; and Bari Dane, MD, director of computerized tomography, uses information from clinical CTs that is currently “discarded” to uncover emerging health problems, a process called opportunistic imaging.

Advances in both artificial intelligence, or AI, and machine learning have allowed radiologists to quantify the amount of fat, muscle, mineral deposits in veins and arteries (known as vascular calcification), and bone mineral density in each image. “There are new things we’re discovering every day about the potential these images hold for disease prevention and detection,” says Dr. Dane, who oversees the technical component of harnessing CT scans for opportunistic imaging.

Dr. Bredella, who joined NYU Langone from Harvard Medical School in 2023, is using abdominal CT scans to measure the extent of vascular calcification. In a recent study, she and colleagues showed that the level of calcification measured in those scans accurately predicted a patient’s risk of cardiovascular disease, heart attack, and stroke.

Dr. Bredella is also using opportunistic imaging to quantify the amount of bone mineral density, muscle, superficial fat, and the deeper “bad fat” that surrounds abdominal organs, thereby revealing critical details

about body composition that well-established measurements like body mass index, or BMI, can’t. “If you just measure someone’s BMI or waist circumference, you don’t know whether the fat is superficial or deep,” Dr. Bredella explains. “From extracted CT data, we can see not only how much fat there is, but also where it is.”

Another emphasis of NYU Langone’s radiological research is to accurately measure a patient’s muscle mass and the detection of sarcopenia, a condition in which muscle mass, strength, and performance are compromised due to advancing age or inactivity. Opportunistic quantification of muscle mass can forecast how well someone will fare after surgery or, say, a cancer diagnosis, findings that could eventually impact clinical decisions about treatment plans. “If we can use scans to quantify how much muscle patients have, how much they’re losing, and how quickly, that might influence the choice of certain drugs,” says Dr. Bredella.

Opportunistic imaging may even help address certain healthcare disparities. Medical education long taught that Black and Hispanic women were better protected against bone loss than White women, so they were less likely to be referred for bone mineral density tests. Using opportunistic imaging, Dr. Gyftopoulos can quantify a patient’s bone density and osteoporosis risk on CTs performed for routine clinical care.

In a study published in the September 2024 issue of the journal *Bone*, Dr. Bredella and other researchers showed that, with the assistance of AI, CT imaging obtained for lung cancer screening can be used for osteoporosis screening. They also found that having more visceral fat, vascular calcification, and fatty liver disease were tied to bone loss. “Our study offers proof of concept that opportunistic screening could help with diagnosing osteoporosis in groups at greater risk, particularly the elderly and those who smoke,” says Dr. Bredella.

Dr. Bredella believes opportunistic-imaging-based assessments could one day become an automa-

tically generated add-on for routine scans, detecting signs of trouble that might otherwise go unnoticed. “I think we are close,” she says. “My goal and passion are to see it influence clinical decision making and positively impact patient care.”

MEET THE EXPERTS



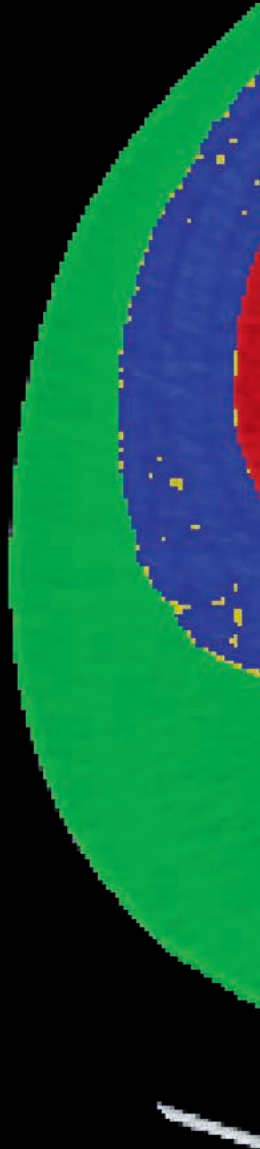
Miriam Bredella, MD
MUSCULOSKELETAL IMAGING,
RADIOLOGY



Soterios Gyftopoulos, MD
MUSCULOSKELETAL IMAGING,
RADIOLOGY

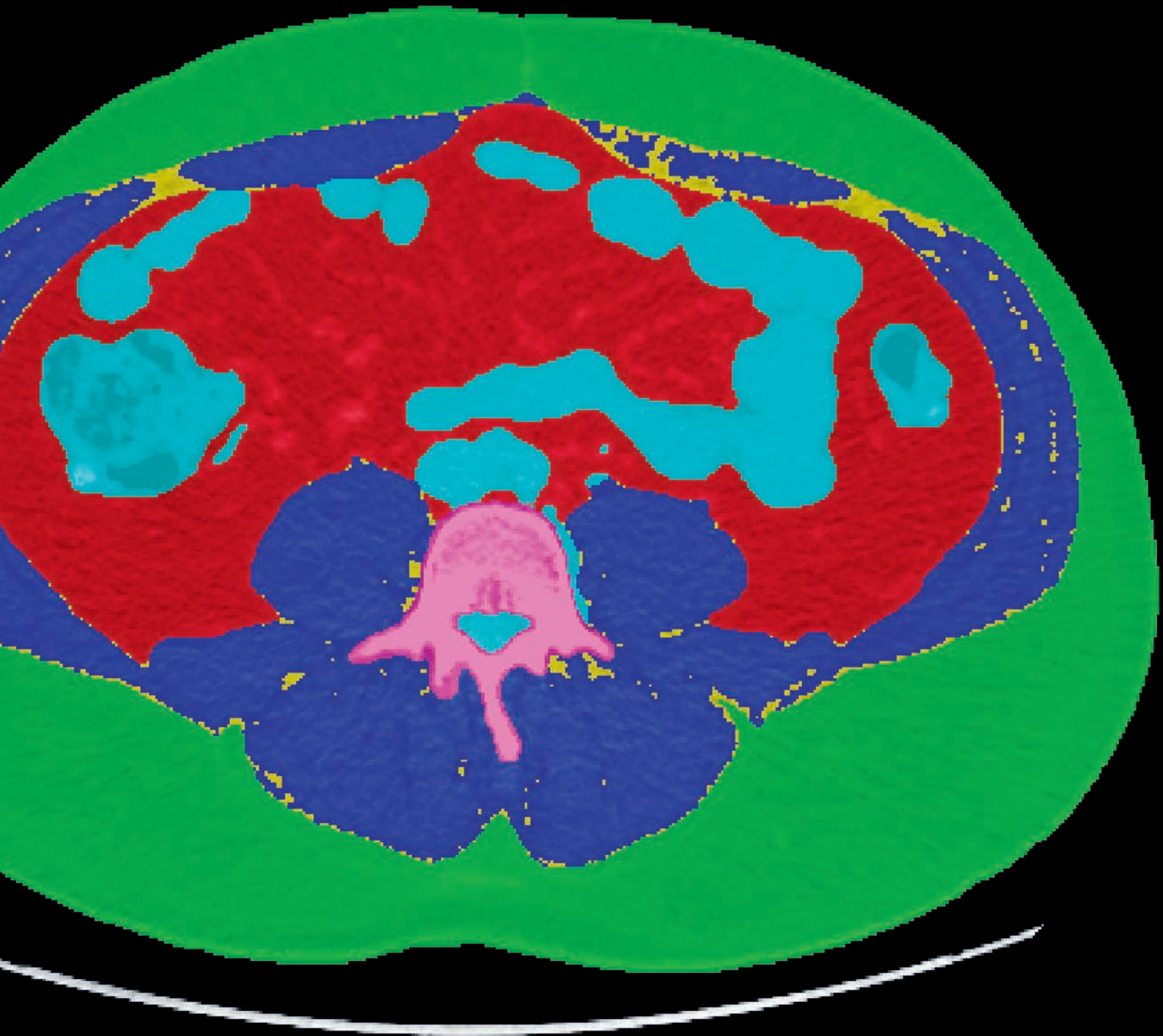


Bari Dane, MD
RADIOLOGY



“Our study offers proof that opportunistic screening could help with diagnosing osteoporosis in vulnerable groups at greater risk, particularly the elderly and those who smoke.”

MIRIAM BREDELLA, MD, THE BERNARD
AND IRENE SCHWARTZ PROFESSOR OF RADIOLOGY



An AI algorithm used on a CT image of the abdomen shows body composition that can reveal emerging health problems. Green indicates fat right below the skin; red is deeper “bad fat”; blue depicts muscle; pink is the vertebrae; yellow highlights fat between muscles; and turquoise shows the bowel and cerebrospinal fluid.

Hassenfeld Children's Hospital

A FIRST FOR NYU LANGONE'S TRANSPLANT INSTITUTE: ONE DONOR LIVER IS DIVIDED TO SAVE TWO LIVES



Cooper Cota, now 3, with his mom, Amanda; below, Cooper looks out at the East River from his room at Hassenfeld Children's Hospital.



Cooper Cota's liver was barely functioning by the summer of 2023. The two-year-old's skin was yellow, and the unfiltered bile salts circulating in his bloodstream caused a perpetual itchiness that consumed his young life. "He would wake up every hour screaming because he just couldn't get comfortable," says his mother, Amanda, who lives in Egg Harbor Township, New Jersey. "We tried to keep his nails short, but still he would scratch his eyes and ears until they bled."

Born with Alagille syndrome, a potentially fatal genetic disorder that causes a buildup of liver-damaging bile, Cooper was small for his age and late to walk and talk. His pediatric liver team at Hassenfeld Children's Hospital at NYU Langone Health monitored him carefully, hoping his condition might stabilize as he got older. But once he reached end-stage liver failure, Amanda and her husband, Sherman, were told he was being put on the waitlist for a transplant. That meant being perpetually on call; deceased donor livers remain viable for only a short time. "Every single time my cell phone rang, I would jump out of my skin because I knew it could happen at any moment," Amanda recalls. The call she was waiting for finally came on September 2, 2023.

Two hours away in Jersey City, New Jersey, Susana Casio, 63, a retired nurse, was so fatigued she could barely walk. Diagnosed with fatty liver disease, she was in constant pain and suffered periodic bouts of confusion when the toxins her liver couldn't clear reached her brain. She joined the transplant list in June 2023, expecting a lengthy wait. But early on the morning of September 2, she got a call, much like the Cotas'. "Mrs. Casio, you have a donor." Thinking it was a dream, she hung up and went back to sleep. Thankfully, her daughter also received the good news, and within hours, Susana; her husband, Rex; and three of their grown children were in the car heading for the Kimmel Pavilion at NYU Langone. "We were on cloud nine," Susana

MEET THE EXPERTS



Adam Griesemer, MD
TRANSPLANT SURGERY



Bonnie Lonze, MD
TRANSPLANT SURGERY



Karim Halazun, MD
TRANSPLANT SURGERY



Nadia Ovchinsky, MD
PEDIATRIC GASTROENTEROLOGY
AND HEPATOLOGY



Cooper Cota and Susana Casio (left), whose lives were saved by the same donor liver, met for the first time at Cooper's third birthday party at Hassenfeld Children's Hospital. Through Sala Institute for Child and Family Centered Care, Cooper (right) enjoyed daily diversions and activities that enhanced his development.



recalls. "I keep asking myself, 'Why am I the lucky one?'"

On a normally quiet Sunday during Labor Day weekend, these two desperately sick patients and two full teams of surgeons, nurses, and support staff converged for a complex, uncommon procedure known as a split-liver transplant. It requires three operating rooms, high-level surgical skill, and two patients compatible with the donor—one an adult, the other a young child.

In one OR, Adam Griesemer, MD, surgical director of the Pediatric Liver Transplant Program at Hassenfeld Children's Hospital, carefully divided the donated organ, which had been removed and transported from Maryland by transplant surgeon Bonnie Lonze, MD, PhD. The smaller left lobe, roughly 20% of the donor liver, would go to Cooper, with the larger right lobe designated for Susana. "You have to separate the liver very precisely so that you preserve an intact artery that can be connected to both the recipients," Dr. Griesemer explains.

Dr. Griesemer then shifted to Cooper's OR for an eight-hour surgery to remove his damaged liver and connect the new one. He and his team performed a complex procedure that bypasses the bile duct so as to allow digestive juices to drain directly from the liver into the small intestine. In parallel, Karim Halazun, MD, surgical director of the Adult Liver Transplant Program, replaced Susana's diseased liver with the larger portion of the donor liver.

A majority of deceased donor organs are too large for the children who need them. But the NYU Lan-

gone Transplant Institute proactively seeks out ways to provide transplants for young patients with chronic liver disease, metabolic or genetic disorders, and acute liver failure.

Split-liver transplants are just one approach to accomplish this mission. Another is living donation, in which a family member or friend donates a portion of their healthy liver, the body's only solid organ that regenerates. NYU Langone transplant surgeons use minimally invasive robotic surgery to reduce recovery time for the donor. As a result of these efforts, "We are more likely to get these children transplanted before they become too sick," says Nadia Ovchinsky, MD, director of pediatric gastroenterology and hepatology.

By the summer of 2024, NYU Langone's liver transplant program had already completed three split-liver surgeries, with plans to do more, given their efficiency in saving two patients at once. Both Susana and Cooper, who met for the first time at Hassenfeld Children's Hospital on February 26, 2024, to celebrate Cooper's third birthday, continue to do well. Susana's pain is gone, and she has returned to taking morning walks and gardening. As for Cooper, he's "a whole different child," says his mom. "The itchiness is gone, and he's sleeping well. He was so sick before that he never hit any of his milestones. Now, he's flourishing physically and intellectually—and he's a little firecracker."

THANKS TO SALA INSTITUTE, KIDS IN THE HOSPITAL CAN JUST BE KIDS

While technical virtuosity is a mainstay of NYU Langone Health's Pediatric Liver Transplant Program, the developmental and emotional support young patients receive at Hassenfeld Children's Hospital plays a central role as well. Sala Institute for Child and Family Centered Care, integrated into every child's inpatient stay, complemented Cooper Cota's exceptional clinical care and made a challenging time more manageable, productive, and fun.

Cooper spent nearly three months in the hospital recovering after his transplant. During that time, he received a variety of child-life and creative arts therapy, from riding in a push car to petting a therapy dog. A music therapist visited regularly to sing songs like "The Wheels on the Bus," even broadcasting to the ward over the closed-circuit TV system a live performance that included Cooper's invented lyrics ("The dinosaurs on the bus go RAWR RAWR RAWR"). Nurses, even those not assigned to Cooper, dropped by to spend time with him.

Amanda Cota, Cooper's mother, says the Sala team was transformative in enhancing his social skills. "Now, he loves people," she says. Cooper so enjoyed the experience that he didn't want to go home. "When I got him dressed in street clothes, he said, 'No home, back in bed. I want my jammies,'" Amanda recalls.

Michele Lloyd, vice president of children's services and of Sala Institute for Child and Family Centered Care, says Cooper is a perfect illustration of the institute's mission. "It's the heart and soul of our children's hospital," she says. "Sala is the engine that drives our culture."



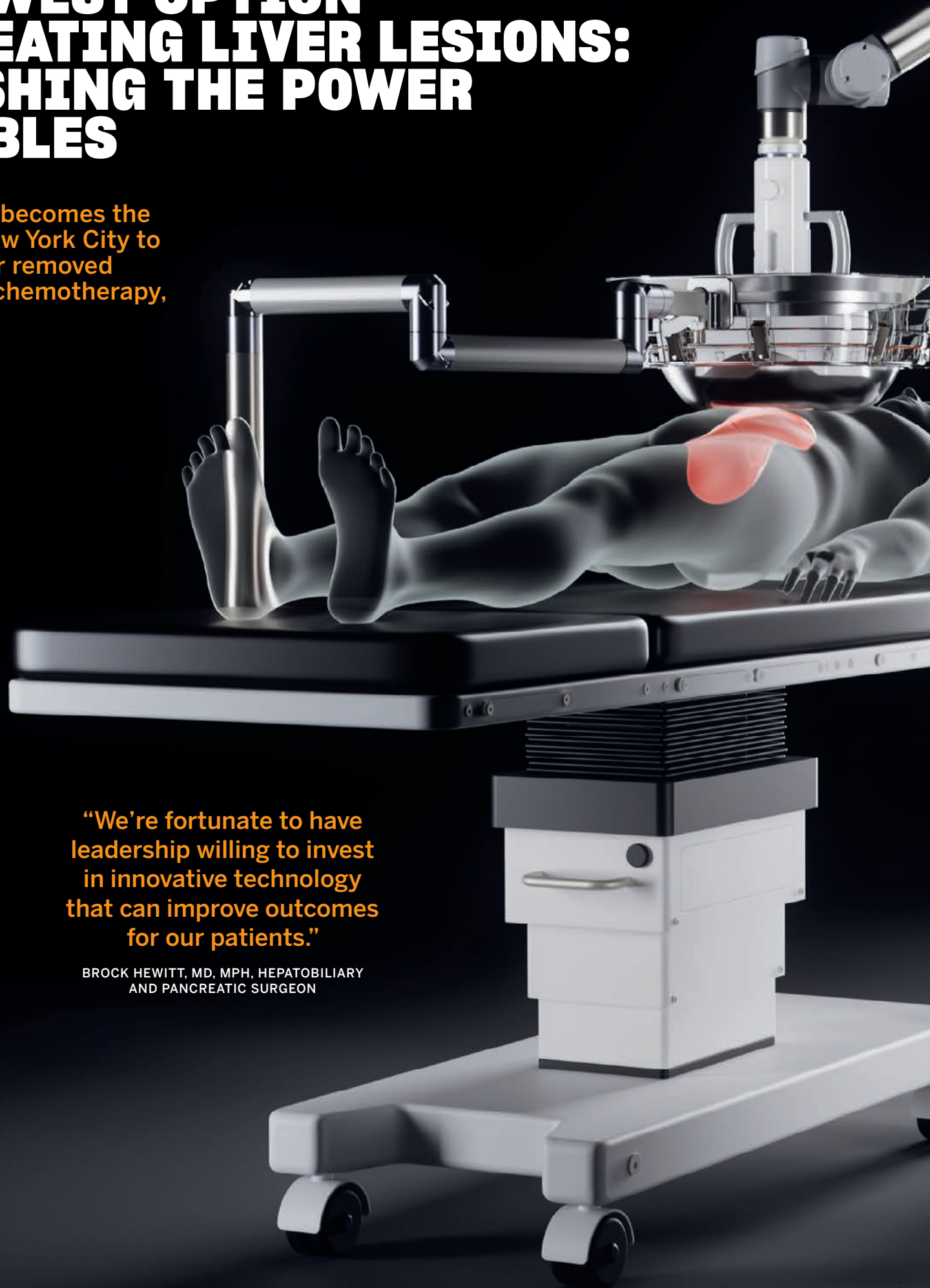
FOR INFORMATION ABOUT THE PEDI-
ATRIC LIVER TRANSPLANT PROGRAM,
VISIT [NYULANGONE.ORG/PEDIATRIC-
LIVER TRANSPLANTPROGRAM](http://NYULANGONE.ORG/PEDIATRIC-
LIVER TRANSPLANTPROGRAM), OR
CALL 212-263-5940.

Innovations

THE NEWEST OPTION FOR TREATING LIVER LESIONS: UNLEASHING THE POWER OF BUBBLES

Chrissy Martinez becomes the first patient in New York City to have a liver tumor removed without surgery, chemotherapy, or radiation.

SEE PAGE 39



“We’re fortunate to have leadership willing to invest in innovative technology that can improve outcomes for our patients.”

BROCK HEWITT, MD, MPH, HEPATOBILIARY AND PANCREATIC SURGEON



In February 2024, NYU Langone Health became the first health system in New York City to treat some liver tumors with histotripsy, a novel form of focused ultrasound that uses very short, high-amplitude pulses to mechanically destroy and liquefy targeted tissue. The device is equipped with a touchscreen that enables the clinician to target and plan the procedure in real time, and an automated arm that precisely maneuvers the treatment head to destroy cancerous tissue.

After successful treatment for liver cancer, Chrissy Martinez (right) says she's looking forward to January, when her son, Jeffrie, graduates from Mercer County Police Academy in New Jersey.



“You have to find doctors who are willing to help you and care as much as my doctors do. I’m extremely grateful. They saved my life.”

CHRISSEY MARTINEZ

Bubbles have a whimsical reputation. We blow bubbles, we take bubble baths, we enjoy bubbly drinks. But bubbles are occasionally deployed for more serious business. Case in point: in February, experts at NYU Langone Health’s Laura and Isaac Perlmutter Cancer Center became the first in New York City to begin using a bubble-based technology called histotripsy to treat some tumors in the liver.

Histotripsy operates by pulsing high-intensity sound waves into cancerous tissue, generating minuscule gaseous bubble clouds. These tiny bubbles swiftly form and collapse, exerting mechanical forces that can destroy tumors while sparing the surrounding healthy tissue, explains surgical oncologist Brock Hewitt, MD, MPH.

Unlike other cancer treatments, histotripsy requires no scalpels, no radiation, and no toxic chemicals. Dr. Hewitt and Christopher Wolfgang, MD, PhD, chief of hepatobiliary and pancreatic surgery at Perlmutter Cancer Center, advocated for the technology shortly after it was approved by the Food and Drug Administration last October with the goal of expanding treatment options in cases where other ablation methods were deemed unsafe. The

procedure had a 95% success rate in destroying liver tumors in clinical trials. “It’s a game changer for select patients,” Dr. Wolfgang says.

Chrissy Martinez is among those patients. A 52-year-old mother from Edison, New Jersey, Martinez was diagnosed with metastatic pancreatic cancer in June 2023. She had hoped to undergo a Whipple procedure, a highly complex surgery primarily used to treat pancreatic cancer. But her medical plan was stalled when doctors discovered that the cancer had spread to her liver. Liver tumors can complicate the Whipple procedure by increasing surgical risks, such as bleeding or infection.

On February 26, Martinez became the first patient in New York City to undergo histotripsy to treat tumors in the liver. In under two hours, Dr. Hewitt and Mikhail Silk, MD, a vascular and interventional radiologist, operated the histotripsy machine, carefully guiding the pulsed ultrasound to precisely ablate the tumors. Martinez went home the next day with minimal discomfort and underwent a successful robotic Whipple procedure just one month later.

Martinez is feeling well, and she’s grateful to be able to plan for

the future, including her son’s graduation from Mercer County Police Academy in January 2025. “You have to find doctors who are willing to help you and care as much as my doctors do,” says Martinez. “I’m extremely grateful. They saved my life.”

With 25 successful cases already in the books by late August, Dr. Hewitt, Dr. Silk, radiation oncologist Colin Hill, MD, and the team anticipate performing at least 50 histotripsy cases annually. A clinical trial using histotripsy to treat kidney cancer is currently under way at NYU Langone, and Dr. Hewitt believes the technology will eventually treat lesions in the breast, pancreas, and other areas.

“We’re fortunate to have leadership willing to invest in innovative technology that can improve outcomes for our patients,” says Dr. Hewitt. “We’re already seeing the tangible benefits of our forward-thinking strategy.”

MEET THE EXPERTS



Brock Hewitt, MD, MPH
SURGICAL ONCOLOGY



Colin Hill, MD
RADIATION ONCOLOGY



Mikhail Silk, MD
VASCULAR AND INTERVENTIONAL RADIOLOGY



Christopher Wolfgang, MD, PhD
SURGICAL ONCOLOGY



FOR INFORMATION ABOUT LIVER CANCER TREATMENT AT PERLMUTTER CANCER CENTER, VISIT NYULANGONE.ORG/LIVERCANCER, OR CALL 212-731-6000.



550 First Avenue
New York, NY 10016

WE'RE #1 IN ALL THINGS 'HEART.'

#1 FOR CARDIOLOGY, HEART AND VASCULAR SURGERY IN NEW YORK.



What does it mean to be the best in cardiovascular care?

It means having a team of over 600 specialists with a deep knowledge of all aspects of heart disease—a team committed to preventing heart disease before it starts and treating the most complex conditions when needed. It means bringing together some of the world's preeminent cardiologists and heart surgeons for every patient and leading the world in cutting-edge scientific discovery and clinical research to improve outcomes.

We're proud to have attained some of the nation's highest success rates for treating heart rhythm disorders, coronary artery disease, valve disease, heart failure, and congenital heart disease. From prevention to diagnosis to recovery, patients can expect the highest standard of care across our system.

MANHATTAN | BROOKLYN | LONG ISLAND



Learn more about what makes us a Best Hospital

Source: 2024-2025 U.S. News & World Report Best Hospitals, national ranking; highest ranked of New York hospitals.



Kenneth G. Langone CHAIR, BOARD OF TRUSTEES
Robert I. Grossman, MD DEAN AND CEO
Elizabeth Golden EXECUTIVE VICE PRESIDENT, COMMUNICATIONS, MARKETING, AND GOVERNMENT AND COMMUNITY AFFAIRS
Matthew Bianco VICE PRESIDENT, ENTERPRISE COMMUNICATIONS
Jess LoCicero DIRECTOR, ENTERPRISE COMMUNICATIONS
David Sparrow ASSOCIATE DIRECTOR, PUBLICATIONS
Thomas A. Ranieri SENIOR EDITOR
Modus Operandi Design CREATIVE DIRECTION

► For more information about NYU Langone Health, visit us online at nyulangone.org. **We Hear You.** Submit your comments, story ideas, and subscription requests to publications@nyulangone.org.
Copyright © 2024 NYU Langone Health. All rights reserved.