Believing in Your Own Brain

One Small Triumph at a Time, Survivors of Traumatic Brain Injuries Rebuild Their Lives

Of the event that changed her life, Stephanie Quito remembers nothing. In March 2010, she was on spring break in the Dominican Republic. With Quito in the passenger seat of an all-terrain vehicle, the driver—one of her friends—oversaw to avoid a bump in the road. As the vehicle started to tip over, her friend hit the brakes, throwing both of them onto the ground. Quito was knocked unconscious, her head badly injured and bleeding profusely.

At a local hospital, she underwent surgery to remove a blood clot pressing against her brain. Once back home with her parents in Ozone Park, New York, Quito was admitted to NYU Langone Medical Center, where her mother, Zoila, is a patient care technician.

Despite the pain and discomfort of having had knee replacement surgery, the 65-year-old patient flashes a smile when the nurse enters her room at NYU Langone Medical Center’s Hospital for Joint Diseases (HJD). In the banter that follows, the reason becomes clear. The nurse, Francesca Tedesco, RN, was the woman’s caregiver one year earlier, when she had the same procedure performed on her other knee, and for her return visit, she insisted on the same proven performer.

“Working at a smaller hospital gives me more time to be with my patients and get to know them,” says Tedesco, who shelved a college degree in business to become a registered nurse. “I love this work. I can’t imagine doing anything else.”

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All Three of NYU Langone’s Hospitals Now Boast a Coveted Status

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Now, that admiration is official. In August, HJD received Magnet® recognition for its nursing excellence and quality patient care. The new status, conferred by the American Nurses Credentialing Center (a subsidiary of the American Nurses Association), puts HJD in the select company of only 6% of hospitals and medical centers nationwide, including NYU Langone’s Tisch Hospital and Rusk Institute of Rehabilitation Medicine, which earned Magnet recognition in 2005 and were redesignated in 2009. “We began applying for Magnet 10 years ago as part of our plan to become a world-class institution,” notes Vanderberg. “The designation is recognition by our peers of the culture of excellence we’ve built here, and which we now have to work harder than ever to maintain.”

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run with physicians to help ensure that drug selection, dosage, and titration are all on target. In Tisch’s outpatient pharmacy, a vaccine for shingles, a potentially devastating disease, is now available by prescription, thanks—I’m proud to say—to the crusading efforts of my wife, Dr. Elisabeth Cohen, professor of ophthalmology.

Run to Your Heart’s Content

It’s a marathon runner’s worst fear: after months of training, hopes are dashed in the instant it takes to pull a muscle or twist an ankle during a rigorous workout. That’s why “Marathon Training: Your Guide to a Smart Start and Safe Finish”—the first wellness seminar from NYU Langone Medical Center’s new Center for Musculoskeletal Care (CMC) on East 38th Street—was something of a runner’s high for many of those 40 or so people who attended the August event, some of them in training for the upcoming New York City Marathon.

Physical therapist Colleen Brough, PT, offered valuable advice on how to avoid the seven most common running injuries, including pulled hamstring, Achilles tendinitis, plantar fasciitis, and stress fracture. “There’s a consistency between weakness and injury risk. The proper running shoe, she pointed out, is critical. Striking with the mid to forefoot provides the ideal weight distribution and minimizes the impact with your heel, which slows you down and leads to injuries, she cautioned, whereas hitting the ground with all of your weight is also a no-no. The proper form is key, she said, and this seminar from the CMC’s Sports Performance Center, explored the mechanics of running, including the proper foot strike. Hitting the pavement with your heel slows you down and leads to injuries, she cautioned, whereas striking with the mid to forefoot provides the ideal weight distribution and minimizes the injury risk. The proper running shoe, she pointed out, is critical.

An admitted “heel-striker,” four-time marathoner Jennifer Ishii (shown below) found the seminar “extremely helpful” and vowed to retool her workouts around the seven most common running injuries, including pulled hamstring, achilles tendinitis, plantar fasciitis, and stress fracture. “There’s a consistency between weakness and injury risk. The proper running shoe, she pointed out, is critical. Striking with the mid to forefoot provides the ideal weight distribution and minimizes the impact with your heel, which slows you down and leads to injuries, she cautioned, whereas hitting the ground with all of your weight is also a no-no. The proper form is key, she said, and this seminar from the CMC’s Sports Performance Center, explored the mechanics of running, including the proper foot strike. Hitting the pavement with your heel slows you down and leads to injuries, she cautioned, whereas striking with the mid to forefoot provides the ideal weight distribution and minimizes the injury risk. The proper running shoe, she pointed out, is critical.

A Meal Fit for a Mom

Less than 24 hours ago, the young woman had given birth to a beautiful, healthy baby boy. As she held him in her arms, sitting up in bed in the mother-baby unit on the 13th floor of NYU Langone Medical Center’s Tisch Hospital, it was time to celebrate in style. Calling room service, she ordered spinach salad mimosa, red wine-braised beef short ribs on a bed of smoked gouda polenta, sautéed asparagus spears, and Tahitian vanilla crème brûlée. The restaurant-style menu was developed by Ronald Brandl, director of culinary operations, who is a talented, internationally trained chef with years of experience in the resort business. Dinner, delivered by a cheerful, vested concierge, was served with a linen napkin, elegant flatware, fine china, and a fresh flower in a tapered vase.

The gourmet-style meal program for obstetrics patients was introduced in January 2012 to “acknowledge the specialness of having a baby,” explains Karen Goodman, RN, nurse manager of the unit. Because babies arrive on their own schedule, it makes sense to give new moms the opportunity to order at a time that’s convenient for them, rather than make them adhere to the hospital’s meal-time schedule. While patients in other parts of the hospital often have dietary restrictions, new mothers are typically healthy and able to eat whatever they want.

Betty Perez, senior director of Food and Nutrition Services, says that many patients are “amazed” when they see the top-notch selections. Mothers who have sampled the breakfasts, lunches, and dinners from the room service menu offer high praise: “Fantastic to be able to order at a time that suited me.” “I felt like I was ordering from a five-star restaurant.” “Excellent menu, presentation, quality, and service.”

The room service staff includes chefs, concierges, and dining associates with degrees in nutrition. When mothers phone in their orders, the meals are prepared individually and delivered to their rooms within 45 minutes. Special diets are no problem, and the kitchen caters to any palate. “Our goal was to create a world-class dining experience,” says Perez. “The fact that our OB patients actually look forward to a hospital meal testifies to the success we’ve achieved.”

NYU Langone is First in the US to Offer New Ultralow-Dose CT Scans

NYU Langone Medical Center is the first medical center in the US to offer patients an ultra-low-dose CT scanner. The Siemens Edge CT, a single-source, 128-slice-per-second scanner, combines rapid scanning speeds with even less radiation than our current low-dose scanners to provide the highest-quality 3-D images. Advanced electronics in its detector system allow radiologists to capture images of structures as small as 0.3 mm.

Without sacrificing image quality, the Edge CT makes possible precise diagnoses using doses that are 70 to 80% lower than levels already considered safe by accrediting organizations, explains Alec Megibow, MD, professor of radiology and director of outpatient imaging services. Some patients may need only a dose comparable to natural background radiation in the outdoors. This is a significant improvement over the current scanning doses of NYU Langone’s other CTs, which are 50 to 60% lower than national standards.

Decreasing the amount of radiation normally results in images that are less clear because there is insufficient X-ray to create the image. But the Edge CT decreases the force of the X-rays and uses a more sensitive and efficient detector and advanced image-processing techniques, yielding images that are indistinguishable from those obtained at higher dose levels. While the patient is scanned with a lower dose, the technology provides 3-D capabilities that contribute to a proper diagnosis. The first Edge CT system is now available at NYU Langone’s Faculty Practice Radiology. A second is planned for Tisch Hospital.
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them. But when she asked me the names for ‘knife’ and ‘fork,’ I couldn’t answer.”

More than 1.7 million Americans suffer traumatic brain injuries (TBI) each year from causes that include motor vehicle accidents, sports injuries, and assaults. But that number is rising because our aging population is more prone to falls—the leading cause of TBI.

Serious brain injuries like Quito’s affect virtually every aspect of life, from attention and mood to reasoning and communication. As one of the country’s leading brain injury treatment centers, Rusk marshals an array of specialists to address each patient’s various deficits, based on comprehensive evaluation of brain function.

“We treat all the problems associated with brain injury,” explains Steven Flanagan, MD, the Howard A. Rusk Professor of Rehabilitation Medicine and chair of the Department of Rehabilitation Medicine, “including difficulty walking and performing daily activities, depression, irritability and sleep disorders, and problems with memory and concentration.” Dr. Flanagan, a leading expert in the field, plans to expand Rusk’s rehabilitation services for TBI patients in the years to come.

Like the stark realities that become apparent only after the fog of war has lifted, the true damage from any brain injury becomes discernible during the early stages of treatment. In the weeks following the initial trauma, as bruising and swelling subside, some damaged brain cells heal, while other damage may require months of therapy. Deficits that don’t respond to treatment may be permanent.

Rehabilitation aims to maximize healing, helping patients to retrain their brains and develop coping and compensatory strategies.

When Stephanie Quito entered Rusk, her gait and balance were impaired, and she was having difficulty using and processing words, a condition known as aphasia. Stephanie was prescribed a regime of physical, speech-language, cognitive, and occupational therapy, plus psychological counseling.

Drills included tracing letters with her hand, conjugating words for different categories, and relearning how to follow instructions.

By the end of her three-week stay, Quito’s physical and behavioral issues were resolving themselves, and her vocabulary had improved markedly—progress that boded well for her ultimate recovery and also reflected her will to succeed.

“We talk about the science of recovery,” says Karen Gendel, Quito’s speech-language therapist, “but there’s a lot to be said about people’s own belief that they’ll get better. Stephanie really believes in herself.”

In May, Quito graduated from the State University of New York at Stony Brook with a dual degree in healthcare management and art. Her outpatient therapy with Gendel focuses on spelling, word finding, reading comprehension, and note taking. Meanwhile, she is sharpening her cognitive skills, such as attention, organization, and planning, with the help of neuropsychologist Donna Langenbahn, PhD, clinical associate professor of rehabilitation medicine. “She has to work harder than before to accomplish similar tasks,” says Dr. Langenbahn, “but she’s willing to put in that effort.”

Although her cognitive abilities still aren’t what they used to be, Quito, now 24, has seen steady improvement. “My memory and concentration get better all the time,” she says. “It’s incredible to me how far I’ve come. I want to inspire people who’ve had accidents like mine. I want them to understand that if you’re motivated and involved in your recovery, it will happen.”
The experience has turned her into an advocate. “My goal,” she says, “is to help protect people from this disease.” That means prevention. According to the Centers for Disease Control and Prevention (CDC), one in three Americans will develop herpes zoster at some point—a number that could be greatly reduced if more people were vaccinated. Since 2006, the CDC and the Food and Drug Administration (FDA) have recommended the vaccine for everyone age 60 and over with a healthy immune system, yet only 14% of those eligible receive it. (Last November, the FDA extended its endorsement to those 50 and over, but the CDC has not yet followed suit.) “We need doctors to recommend the vaccine to their 50- plus patients the way they do the flu vaccine,” says Dr. Cohen. “I’d be happy if they’d encourage people in their 50s to get it, too.”

The shot doesn’t guarantee immunity, but it reduces the incidence of shingles by 55%. For patients under 60, whose insurance won’t cover the vaccine, the cost (up to $250) can be prohibitive. But in vaccinated patients who still contract the disease, symptoms are greatly lessened. For Dr. Cohen, that’s reason enough to roll up your sleeve. At NYU Langone, she’s striving to increase both availability and awareness of the vaccine. The logistics, however, are complex and challenging. Because the vaccine is made with a live virus, it must be stored in a special freezer and administered within 30 minutes of removal. Most doctors don’t have those freezers, and though pharmacies do, New York State pharmacists won’t be authorized to administer the shingles vaccine until October 2012.

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HJD Earns Magnet Recognition for Nursing Excellence

Even before Magnet, HJD was special. One of only five hospitals in the US dedicated solely to orthopaedics, it performs more than 20,000 orthopaedic and musculoskeletal procedures annually. It is ranked among the nation’s top 10 institutions for both orthopedics and rheumatology by U.S. News & World Report’s annual survey of the best hospitals in America.

For nurses, working at a specialty hospital presents both opportunities and challenges. “People think being a nurse here is simple because our focus is so specialized, but it’s not,” notes Vanderberg, who joined HJD 13 years ago. “Our patients often have co-morbidities, such as diabetes and heart failure, and we ask our staff to do a lot. But we also give them considerable support and encouragement in areas like professional development and lifelong learning.”

HJD’s culture of achievement and expertise was not lost on the Magnet appraisers, who found the high number of certifications per nurse and the nursing staff’s overall level of engagement “exemplary.” On average, 27% of nurses at Magnet organizations have specialty certifications, but at HJD the number is nearly 46%, with many nurses holding multiple certifications in, say, orthopaedics, medicine, surgery, rehabilitation, and critical care. What’s more, 86% of HJD’s nursing staff hold a bachelor of science in nursing (BSN) degree, twice the nationwide average. An emphasis on ongoing education translates into enhanced patient care.

“I like the way we’re empowered because it allows us to be advocates for our patients,” says Virginia Brossan, RN, a nurse in the postanesthesia care unit and a 10-year HJD veteran. “If we have issues, we’re encouraged to sit down and talk about them. At most other hospitals, we’d have no voice. We feel valuable here, and that makes a difference for us.”

Magnet status is the culmination of a rigorous evaluation process. Appraisers—all senior nurses from Magnet institutions—spent three days shadowing HJD’s nurses on every patient floor of the 190-bed hospital, including the night shift. Reams of quality and performance-based data were assembled and handed over, a project coordinated by Patricia Lavin, RN, director of quality and outcomes. HJD’s nursing administrators acknowledge, however, that the coveted Magnet status is no excuse to rest on their laurels. “Because we’re a specialty hospital and 90% of our surgeries are elective, patients come here expecting a lot,” says Vanderberg. “Magnet will change the meaning of excellence for us. It will require us to constantly evaluate and improve our performance to keep meeting those expectations.”

The Magnet Recognition Program®, developed in 1994, actually has its roots at NYU Langone. The research team that conducted the study that evolved into the program was led by Margaret McClure, EdD, RN, a former chief operating officer and chief nursing executive at NYU Langone and former president of the American Academy of Nursing.

As Dr. Elisabeth Cohen (far left) looks on, Jack Gross, who suffered through shingles 19 years ago, receives a vaccine to help prevent a recurrence at Tisch Hospital’s Outpatient Pharmacy.
Why do we dream?
Dr. Llinás: Dreaming is essential for our well-being. If you were to be woken up every time you start to dream, after a while you will begin to hallucinate during your wake state. Indeed, just as one has to clean one’s desk to avoid clutter, one has to dream to avoid “mind clutter.” Dreaming is a cleansing act.

Dr. Llinás, you’ve written that dreaming is not all that different from wakefulness. How so?
Dr. Llinás: Dreaming is what the brain is all about—it’s a dreaming machine. Wakefulness, or conscious-ness, is simply a dream state modulated by input from the senses. Consciousness is actually the description our brain makes of the external world. The brain has evolved to make the best possible description of the external world, and to formulate precise movements and know the consequences of each movement. Prediction is the brain’s ultimate function.

Dr. Rosenthal, as a psychoanalyst, how do you see dreaming?
Dr. Rosenthal: When psychiatrists talk about dreaming, we talk about what happens in our minds at night when we’re sleeping. It’s a movie of sorts that’s choreographed by the sleeper and has a storyline, which we call the manifest content, which is often a disguise for more complex thoughts and feelings. In psychoanalysis, dreams become a window onto thoughts and feelings that the dreamer is not fully conscious of.

Do you use dreams to help patients address their problems?
Dr. Rosenthal: One of my teachers called dreams “mean-ing makers.” It’s really a question of what meaning people make of their dreams. Everyone dreams, although not everyone remembers their dreams. I can teach people how to remember dreams so that they can learn more about what their dreams are saying, and ostensibly learn more about themselves.

Dr. Llinás: I once had a dream that one of my children had died in an accident. I woke up very upset. Then I followed a patient on the neurosurgery service who became very anxious after having spinal surgery. He told me he had a dream about a construction site, with all this scaffolding, that was like the World Trade Center after 9/11. It was very disturbing to him, and he didn’t know what to make of it. I suggested that maybe it had to do with the “scaffolding” surgeons applied to his spine. “Of course,” he said. “I’m terrified that my scaffolding won’t hold, and I’ll collapse like the Twin Towers.” Comforted by this insight, his anxiety began to improve.

Can patients control or change their dreams?
Dr. Rosenthal: Some therapists who work with lucid dreaming teach patients to “rewire” their dreams. This is most often done with patients who have suffered enormous trauma, and their nightmares are reiterations of the trauma. Outside of dreams linked with post-traumatic stress phenomena, I think it’s more productive to understand disturbing dreams rather than get rid of them.

Do any examples come to mind?
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Are dreams a source of creativity?
Dr. Rosenthal: Dreams are a place where unconscious thoughts can be expressed, thoughts that you don’t have access to during waking hours. Great inventions are said to have emerged from dreams. The German chemist Friedrich August Kekulé von Stradonitz supposedly discovered the shape of the molecule benzene in a dream. Paul McCartney has said that he awoke from a dream with the song “Yesterday” fully written.

Can anyone access their dreams, or their imagina-tion, in this manner?
Dr. Rosenthal: Only some people can achieve this the way creative artists or scientists can, but I think practically everybody has the capacity to be highly creative. The question is whether or not you allow yourself to be. People can certainly learn to access their dreams, their creativity. Many artists and writers engage in psychoanalysis when they have trouble accessing their imagination. A psychoana-lyst can help you become more aware of all the goings-on in your mind, and to tap the uncon-scious, which can get trapped in common-day problems and conflicts.

Dr. Llinás: Yes, I agree. The problem with being awake is that the senses don’t allow you to think. When you have a big problem, go into a dark room, with a sign outside that says, “Please don’t disturb.”

Dr. Rosenthal: I do some of my best thinking on the treadmill. No music, no video, nothing. Just thinking.

Dr. Llinás: I’m the same way. I dream in the shower. Many of my research ideas come up in the shower.

Will it ever be possible to access other people’s dreams?
Dr. Llinás: We are all condemned to live within the limit of our own cranium, but wouldn’t it be wonderful to feel what somebody else feels, to see what other people are dreaming? It won’t happen in our lifetime, but it may be possible in the future if the brain can be “wired,” perhaps with nanowires, via the vascular system.

Dr. Rosenthal: That sounds scary to me. That’s private property. People shouldn’t put probes up there.

Dr. Llinás: It is indeed private property. Nevertheless, it is possible to get there, and sadly, given the kind of beings we are, we will at some point. It may be, unfortunately, inevitable.
**Do Antibiotics Potentially Cause Childhood Obesity? It Depends on When They’re Given, Says Study.**

The American farming industry has long relied on antibiotics to fatten up its livestock. Now, researchers at NYU School of Medicine report that these drugs may have a similar effect on children. In a study published in the International Journal of Obesity and supported by the NYU Global Public Health Research Challenge Fund, investigators examined data from landmark research in the United Kingdom that had tracked 11,532 children. After analyzing the height, weight, and antibiotic use of these children at the ages of 7 weeks, 10 months, 20 months, and 38 months, they found that babies given antibiotics during the first 6 months of life were 22% more likely to be overweight at 38 months. This risk persisted even when other factors, such as diet, exercise, socioeconomic status of their parents, and other medications given in the first six months of life were taken into account.

The average American child now takes at least one course of antibiotics each year, and an estimated 12.5 million American children and adolescents are obese. How antibiotics promote weight gain remains a mystery, but the NYU study has found that the stage of development at which antibiotics are administered matters. Infants who received antibiotics between 6 and 14 months of life were at no greater risk of being overweight than infants never exposed to antibiotics. One theory to explain this is that disrupting the bacterial colonization of the gut prior to that point may predispose infants to weight gain later in life. “The earliest exposure is likely to be the greatest concern,” adds lead author Leonardo Trasande, MD, associate professor of pediatrics and environmental medicine.

This idea is borne out on the farm, where low doses of antibiotics are commonly used to promote growth in livestock. In fact, the earlier animals receive antibiotics, the more weight they tend to gain. (See “A New Theory about Obesity—Straight from the Gut.”)

“Microbes in our intestines may play a critical role in how we absorb calories, and exposure to antibiotics, especially early in life, may kill off healthy bacteria that influence how we absorb nutrients, and would otherwise keep us lean,” explains Dr. Trasande. “We typically think of obesity as being grounded in unhealthy diet and exercise, yet increasingly, studies suggest that the epidemic is more complicated than that.”

Moreover, studies have found that children exposed to antibiotics are more likely to suffer from asthma, skin disorders, and inflammatory bowel disease. “We’re still learning how far the impact of the microbe extends,” says co-author Martin Blaser, MD, the Frederick H. King Professor of Medicine, chair of the Department of Medicine, and professor of microbiology.

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**Can Some Grapes or Berries a Day Keep the Oncologist Away?**

To Bhagavathi Narayanan, PhD, associate professor of environmental medicine, food isn’t just a source of nourishment and pleasure, it’s a daily medicine. “Dr. Narayanan says that in her native India, many foods are chock-full of phytochemicals, compounds that are produced by plants, such as beta carotene, ascorbic acid (vitamin C), folate, and vitamin E. Some phytochemicals have either antioxidant or hormone-like actions. There is some evidence that a diet rich in fruits, vegetables, and whole grains reduces the risk of certain types of cancer and other diseases. Certain phytochemicals are believed to prevent the formation of potential carcinogens, block the action of carcinogens on their target organs or tissue, or act on cells to suppress cancer development. Two particular phytochemicals—resveratrol, found in red wine, grapes, and berries, and curcumin, the bright yellow compound found in the popular Indian spice turmeric—have strong anti-inflammatory effects, among other cancer-fighting benefits. A diet rich in these substances, says Dr. Narayanan, is “like eating a little bit of aspirin every day—but without the side effects.”

“India has very low levels of cancer,” notes Dr. Narayanan. “In the town where I grew up, we did not even know the word. In my family, which has a lot of doctors, we never even spoke about cancer.” Dr. Narayanan studies prostate cancer, which occurs in 2 to 3% of men in India, whose population is more than 1 billion. This is one of the lowest rates of prostate cancer in the world. By contrast, approximately 16% of American men will be diagnosed with prostate cancer at some point in their lifetime.

But singing the praises of resveratrol and curcumin is one thing. Understanding how they inhibit cancer and then using them to combat the disease, either as prevention or treatment, is another. Dr. Narayanan is working on both fronts. Her lab and mice studies have demonstrated that curcumin plus resveratrol inhibits the androgen receptor that drives prostate cancer, and activates a transcription factor that switches on the powerful tumor-suppressor gene p53, destroys cancer cells.

She also has worked on a method to increase the “bioavailability” of these natural compounds to keep them in the blood and body as long as possible to fight cancer. To that end, Dr. Narayanan and her colleagues tested a novel delivery system for curcumin and resveratrol. In a groundbreaking study published in 2009 in the International Journal of Cancer, she demonstrated that encapsulating the compounds within a liposome bubble can enhance their chemopreventive effect in mice. The group is now testing the lipid agents against aggressive prostate cancer in mice. They are also collaborating with Japanese researchers to test resveratrol-related compounds against pancreatic cancer.

While research on phytochemicals is promising, Dr. Narayanan is concerned that it will not move forward until a large, long-running clinical trial is conducted. “I believe that accumulating from childhood the protective benefits these foods offer us is the best way to protect against cancer later in life,” she says.

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**A New Theory about Obesity—Straight from the Gut**

In the late 1940s, animal husbandry took an odd twist. American farmers started noticing that animals given antibiotics grew heavier than animals that did not receive antibiotics. The discovery turned out to be an unexpected boon for the postwar farming industry, which faced growing demand for its livestock. In 1950, a front-page headline in The New York Times even declared: “Wonder Drug Aureomycin Found to Spur Growth 50%.” Actual gains on the farm were more modest, ranging from 1 to 15%. Nonetheless, the practice of administering subtherapeutic doses of antibiotics to animals quickly became the industry standard in the U.S., and it remains so today.

But why would antibiotics make animals heavier? That question has perplexed scientists for over a century. Now, researchers at NYU School of Medicine have discovered evidence to support an intriguing theory: antibiotics may trigger bacteria in the gut that step up fat production. Their study, funded in part by Diane Belfer, a Thelma and Henry Z. Wagner, Jr., investigator on the study. “Through our modern practices, we are disrupting this ancestral microbiome early in life, just when developmental decisions need to be made in our tissues. We believe that we have been selecting for alternative developmental pathways that are forming the seeds for obesity and other disorders.”

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Illustrations by Vibe Kristensen
They seem like two friends working out together in a crowded Midtown gym. Their laughter is natural, easy, and the banter is softly sarcastic. They both favor unorthodox workout outfits. “Ready?” asks Stephen Fischer, DPT, 34, a compact, well-toned fellow in a form-fitting polo shirt, khakis, and rubber-soled shoes. “Always,” says Florida Jay, 29, a tall, slender guy in cargo shorts and a baggy, short-sleeved shirt. Jay has transverse myelitis, a neurological disorder caused by an inflammation of the spinal cord, which has left him largely paralyzed.

“My on count,” says Fischer, flexing his knees for stabilization as he positions himself to rock back and forth enough times to enable him to lift Jay’s dead weight. On “three,” he hoists the inertia, six-foot-tall, 150-pound Jay from his motorized wheelchair, cradling him firmly before gently placing him on an elevated mat. Thus begins a strenuous one-hour workout that will test the physical and emotional limits of both men.

“Our physical therapists [PTs] are trained to treat the whole person,” explains Kate Parkin, PT, DPT, clinical assistant professor of rehabilitation medicine and senior director of rehabilitation therapy services at NYU Langone Medical Center’s Rock Institute of Rehabilitation Medicine. “Dr. Howard Rush founded this institute on the philosophy that rehabilitation medicine should provide all patients with care for their psychological and social needs, not just their illness or disability.”

For screening mammograms, results can be provided while the patient waits. And then you get the mammogram and you wait. And then you get the mammogram and you wait. And then you get the mammogram and you wait. This is the way healthcare should be. "Great," responds Jay. "A little pressure, but no pain." Jay meets with Fischer twice a week in the airy 16th-floor gym at NYU Langone’s new Ambulatory Care Center at 240 East 36th Street to help improve his breathing, increase his range of motion, and ease his spasticity.

Jay, who lives with his father, has been confined to a wheelchair for two years. “Florian’s deficits are profound,” says Fischer. "His left side is essentially paralyzed, and any movement is slow and painstaking." However, as long as his right hand is kept loose and open, he can still sketch quite proficiently. "I’d originally wanted to be a sculptor working with steel and iron," says Jay, whose energy level is significantly diminished by baclofen, a drug administered to lessen his muscles. Jay’s intensive workouts will enable him to have a pump implanted in his abdomen to deliver the baclofen in microtargeted doses into the spinal fluid. The process, called intrathecal baclofen therapy, will not only allow more normal muscle movement, but should also eliminate his drovenness. Jay is psyche. “My brain works fine,” he says, “and I want to be able to use it fully. This procedure could give me my life back. I’d like to return to school. Who knows? Maybe I’ll become a PT, like my buddy here.”

When Elizabeth Talerman’s primary care physician told her that she’d be going to a different center for her annual screening mammogram this year, she didn’t expect much. “I figured it would be the same as it had always been,” says the 48-year-old brand manager for a large retail chain. “I didn’t expect much. I figured it would be the same as it had always been,” says the 48-year-old brand manager for a large retail chain. “I didn’t expect much. I figured it would be the same as it had always been.”

During weekdays, the new Center for Women’s Imaging can provide results for screening mammograms while the patient waits. putting it off as an unpleasant chore. In this case, discouraging procrastination could save lives. “The new center provides seamless care,” notes Dr. Schnabel. “You get through the system promptly, and you get the answers you need as soon as possible.”

Fischer is pushing down on with the weight of his entire body, making him sweat profusely in the air-conditioned gym. “How does that feel?” asks Fischer in a gentle tone that belies his force. “Great,” responds Jay. “A little pressure, but no pain.” Jay meets with Fischer twice a week in the airy 16th-floor gym at NYU Langone’s new Ambulatory Care Center at 240 East 36th Street to help improve his breathing, increase his range of motion, and ease his spasticity.

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Inside This Issue

Believing in Your Own Brain
More than 1.7 million Americans suffer traumatic brain injuries (TBIs) each year, and that number is rising because our aging population is more prone to falls—the leading cause of TBI. One patient, Stephanie Quito, is rebuilding her life with help of therapists at NYU Langone’s Rusk Institute. page 1

A Prescription for Enhancing Patient Care
As director of the Division of Pharmacotherapy, John Papadopoulos, clinical assistant professor of medicine, heads up a 15-member team of clinical pharmacists that’s changing the notion—and expanding the role—of the pharmacist beyond that of the behind-the-counter dispenser of drugs. page 3

Life Is But a Dream
Why do we dream? Why do some dreams recur again and again? Are some dreams so common that they’re almost universal? Are dreams a source of creativity? Dr. Rodolfo Llinás, a neuroscientist, and Dr. Jane Rosenthal, a psychiatrist, tackle these and other questions about the most mysterious of our mental activities. page 5

The Enablers
Each day in America, more than 120,000 licensed PTs carry on a tradition of helping people to help themselves by treating some 1 million patients in both inpatient and outpatient settings. In honor of National Physical Therapy Month, one of Rusk’s finest describes the unique bond between him and his patient. page 7

Row, Row, Row Your Boat
For people with major physical disabilities, some of life’s simple pleasures may seem painfully out of reach. Take, for example, the timeless summer ritual of rowing on a breezy lake. Impossible? Not for participants in the Young Women’s Program rowing camp, held each July by the Initiative for Women with Disabilities (IWD) at the Elly and Steve Hammerman Health and Wellness Center at NYU Langone Medical Center’s Hospital for Joint Diseases.

Sixteen campers, ages 15 to 26, traveled to Meadow Lake in Queens for this year’s five-day event. Volunteers helped to ensure that the program—sponsored by Row New York, a nonprofit that empowers young women through competitive rowing—was a buoyant success.

Each morning, the campers, whose conditions range from spina bifida to cerebral palsy, practiced their technique on land, using specially fitted ergometers. Members of Row New York’s high school rowing team provided coaching and encouragement. Then, it was time to hit the water in a pair of barges adapted for cruising, racing, and aerobically enhanced fun.

Besides providing exercise and camaraderie, the camp’s most important benefit may be to strengthen its participants’ sense of personal potential. “Rowing is a sport in which people with disabilities can be equal with their able-bodied peers,” says Judith Goldberg, IWD’s director. “All their lives, these girls have been told, ‘You can’t do this. You can’t do that.’ We’re showing them they can do anything.”

Goldberg should know. Born with brittle-bone disease, she became a competitive swimmer as a young woman and rowed as part of her training.

“When we started on Monday,” she adds, “they all looked a little sleepy and pale. By Friday, they had a glow and they were all buffed up. They looked radiant!”