

RUSK

Capturing the Momentum of Rehabilitation Medicine
at NYU Langone Medical Center

WINTER 2012-2013



From The Chairman

Lightning *does* strike twice in the same place. While natural disasters aren't common in the Northeast, Mother Nature took New York City by surprise in an unusual "one, two" punch. It left us all reeling—and then prompted a remarkable comeback.

Back in September 2011, the eye of Hurricane Irene traveled directly over New York City, prompting the planned evacuation of Rusk and NYU Langone Medical Center, located right alongside the East River, with little more than 24 hours' notice. Rusk staff safely evacuated all our patients and, once Irene had passed, made repairs to our 34th Street facility and resumed the business of providing rehabilitation care to our patients shortly thereafter. Having weathered that storm, we were in the clear for another 100 years—or so we thought.

Superstorm Sandy arrived on Monday, October 29, 2012, and was the second "100-year storm" to strike New York City in two years—an unprecedented event that exceeded the most dire meteorological predictions. That night, faculty, staff, students and volunteers—frankly, everyone present in the hospital, including many Rusk individuals—achieved an incredible feat: the safe evacuation of over 300 patients, without elevators, down darkened stairwells, from as high as 17 stories, during the worst hurricane to hit New York City in more than a century. Our own Kate Parkin, senior director of therapy services, offers her accounting of the evacuation in this issue of *RUSK*.

While the hurricane damage was significant, Medical Center-wide recovery efforts are resulting in our strong institution growing even stronger. As part of the long-standing Medical Center campus transformation, Rusk had already relocated its adult outpatient, research, and administrative offices to NYU Langone's Ambulatory Care Center and Center for Musculoskeletal Care—newly renovated, state-of-the-art facilities that were largely unaffected by the storm and continued providing treatment with almost no interruption. However, the hurricane-related damages to the building at 400 East 34th Street were extensive. Given that we were on the cusp of the final stage of Rusk's transformation—relocating our inpatient programs to renovated facilities on 17th Street, in NYU Langone's Hospital for Joint Diseases—the decision was made to close that building slightly ahead of schedule. We can now celebrate the new chapter in Rusk Rehabilitation—a strong future of delivering the best rehab care in conveniently situated, state-of-the-art facilities that our patients and staff deserve.

I trust you will enjoy this issue of *RUSK*, which provides insights into several of our specialty programs, including vestibular rehabilitation and our unique, new pediatric integrative care initiative. Brain injury rehabilitation is also front-and-center with an interview with Dr. Brian Im, one of our neurophysiatrists. And, in spite of natural disasters, Rusk remains committed to rehabilitation research, including being awarded one of only 16 Traumatic Brain Injury (TBI) Model Systems of Care by the National Institute on Disability and Rehabilitation Research (NIDRR), in addition to several other important grants, ensuring that we continue to improve the lives of people with disabilities by adding to the body of clinical rehabilitation knowledge and share it with our peers and the public.

As always, I look forward to imparting our news and progress as we continue on our bright path into the future.

Steven R. Flanagan, MD

The Howard A. Rusk Professor of Rehabilitation Medicine
Chair, Department of Rehabilitation Medicine
Medical Director, Rusk Rehabilitation

Top Five at Rusk

01



Hurricane Sandy: Heroes in the Night

One of the most memorable scenes from Hurricane Sandy was the mass evacuation of NYU Langone Medical Center's Tisch Hospital—a 13-hour marathon during which 1,000 Medical Center employees and emergency responders used devices called Med Sleds to lower patients down the hospital's stairways to waiting ambulances. Less well-known is the role that Rusk Rehabilitation played in the effort.

"I was in the NYU Langone command center when it became clear that our emergency power could be compromised," recalls Kate Parkin, PT, DPT, senior director of therapy services at Rusk. "It was immediately evident that we'd be using the

Med Sleds to get the patients out—and that the Rusk staff would play an important role in preparing people to deploy them."

At Rusk, Parkin explains, emergency preparedness, including frequent drills with the sleds, is required for certification by the Commission on Accreditation of Rehabilitation Facilities (CARF). In addition, she notes, rehab staff members have special expertise in moving disabled individuals efficiently and safely—both for the patient and for the staff. "As a result, our therapists were able to help other personnel quickly brush up on the techniques that would be used in transporting patients down the Tisch Hospital stairwells."

Once the evacuation was under way, Rusk's therapists also helped monitor the well-being of the Med Sled teams as they maneuvered hundreds of patients—many of them critically ill—to safety.

Meanwhile, Rusk's own adult patient population, which had been relocated to Tisch the day before, was tended to by Rusk nurses inside the darkened hospital as they waited for more urgent cases to be evacuated first.

"Our nurses were phenomenal, the way they kept everyone calm," says Parkin. "Throughout the storm, they maintained a feeling of peacefulness and hope."

When the Rusk patients' turn came to evacuate, the nurses were joined by the therapy staff, who had already spent hours traversing the Tisch stairwells. "One young therapist had been going all night," Parkin recalls. "She'd finally paused for a break when word came that the rehab patients were being moved. Without a second's hesitation, she jumped back up and returned to work."

Despite the trying circumstances, not a single patient was injured during the evacuation. The storm's floodwaters did speed Rusk Rehabilitation's move out of

its original East 34th Street building, however. The historic structure was already slated for demolition, and Rusk has spent the past year moving its services to modern new facilities at multiple locations across the NYU Langone campus. Following Sandy, all remaining operations are being transferred from the building slightly ahead of schedule.

"As planned, the new Rusk Rehabilitation will exist at various sites," Parkin says. "But our spirit remains the same as ever. Our caregivers are just a can-do group of people—they inspire me every day."

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02



Life's Balancing Act: Rusk's Vestibular Therapy Program

Daily life can literally be like walking a tightrope for someone with a malfunctioning vestibular system. The symptoms, including dizziness, vertigo and impaired balance, can make socializing difficult and activities like driving or holding down a job next to impossible—in fact, many have had to stop working altogether.

Rusk's outpatient vestibular rehabilitation program was the first in the New York area when it debuted in 1990.

Today, as one of the largest vestibular clinics in the nation, Rusk remains a leader in treating these disabling disorders.

Following a comprehensive evaluation, patients undergo individualized therapy that may include balance training (in which visual and proprioceptive balance cues are removed, forcing the vestibular system to work harder), gaze stabilization drills that train the eyes to maintain focus while the head moves, and habituation exercises. Another commonly used therapy, canalith repositioning treatment, is done to relocate the displaced crystals in the inner ear that cause benign paroxysmal positional vertigo (BPPV).

Generally, three months of weekly or twice-weekly sessions, supplemented by home exercises, lead to significant improvement for most patients. This success rate owes much to the analytic skills of Rusk's nine full-time vestibular therapists. "Every patient is different, so our therapists do a lot of thinking on their feet," notes Tara Denham, PT, manager of the vestibular program, who trains Rusk's vestibular staff and is one of 15 instructors in the national vestibular therapy certification course.

The Rusk program offers monthly classes for new patients, in which Denham and a vestibular psychologist explain the physical and mental aspects of vestibular disorders. In recognition of the emotional and intellectual havoc these disorders can cause, the program's psychologist is also available to meet separately with patients to address issues such as stress, anxiety and cognitive difficulties—an example of Rusk's multidisciplinary team approach to this challenging group of conditions.

The vestibular therapy program's new location in NYU Langone's Ambula-

tory Care Center provides the space and modern facilities needed to treat its burgeoning patient population. "As understanding of vestibular disorders increases, we keep growing," Denham says. "We have a special program—and with treatments continuing to be refined, it's evolving all the time."

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03



Retraining Injured Brains: Q&A with Dr. Brian Im

While the damage from a brain injury usually occurs suddenly, the road to recovery is steady and gradual. For many patients, the first step is acute inpatient rehabilitation care, where they work intensively with rehabilitation physicians, therapists and nurses to regain lost brain function and prepare for life outside a hospital setting. Neurophysiatrist Brian Im, MD, co-manages Rusk Rehabilitation's CARF-accredited inpatient acute brain injury rehabilitation program, which is located on 17th Street and Second Avenue, in NYU Langone's Hospital for Joint Diseases (HJD). Dr. Im is also director of Rusk's Neurophysiatry Acquired Brain Injury Rehabilitation Fellowship Program.

Rusk is known as a leader in brain injury rehabilitation. What's unique about the program that has led to this renown?

I would say the experience and skill of our staff, and the continuity of care we provide. Our inpatient unit has two fellowship-trained brain injury rehabilitation physicians, Dr. Jaime Levine and myself, plus a full-time behavioral neurologist. Our departmental chair, Dr. Steven Flanagan, is an internationally recognized brain injury expert, and our therapy staff is the cream of the crop. We also have a very robust outpatient program, including our Brain Injury Day Treatment Program, which lets us continue treating many patients after they've been discharged. A lot of programs don't have that dual capability.

As a neurophysiatrist, what do you focus on during inpatient rehabilitation?

One of my roles is to stabilize patients medically to prepare them for long-term care or their return home. Often patients appear stable when they arrive, but medical issues arise once we get them up and moving. I also coordinate the treatment plan and make sure there's seamless communication among members of the rehab team. Patients get at least three hours of daily therapy, and it's essential that each therapist's goals are consistent with the team's overall game plan. The team meets briefly every morning to make sure we're on the same page, and we hold a weekly evaluation conference to review the patient's treatment and plan for the future. We're all in constant communication every day on the hospital floor, as well.

How will the program benefit from its new location?

Rusk's brain injury care previously took place at both 34th Street (in the old Rusk Institute building) and at 17th Street, in HJD. Now, the whole program is located in a great new space in HJD—

completely renovated for the safety, rehab needs and comfort of patients with brain injuries.

Having the whole brain injury team in one facility is only going to amplify our communication, collaboration, and overall ability to provide the best care for our patients.

What does the future hold in terms of brain injury rehab at Rusk?

One development is that we'll be expanding our clinical research program. We recently received a five-year traumatic brain injury (TBI) "model systems" grant from the National Institute on Disability and Rehabilitation Research (NIDRR), meaning we'll be one of 16 centers in the U.S. contributing research outcomes to their national TBI database. The award is an honor and an affirmation of the work we've been doing, and will serve as a launching pad for Rusk's growth in the years ahead.

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Holistic Care: Integrative Health for Rusk's Pediatric Patients

Rusk Rehabilitation is known for providing world-class inpatient rehab

services to children with developmental disorders, traumatic brain injuries, brain tumors, oncologic diagnoses and other conditions. But the challenging demands of the condition itself and the rehab process can also have ripple effects on these young patients and their families, including pain, psychological stress, anxiety and sleep difficulties. Now, Rusk is taking another leap forward in its multidisciplinary approach to pediatric disorders, launching an initiative that provides holistic therapies to children hospitalized for acute rehabilitation care, as well as their families.

The Dehnert Pediatric Rehabilitation Integrative Health Program, made possible by the generous support of Mark and Mindy Dehnert, will offer an array of mind-body modalities designed to reduce pain, anxiety and nausea, promote relaxation and self-healing, improve sleep, teach coping and stress-relief skills, and enhance general well-being for Rusk's pediatric patients and their families. Its offerings include:

- *Adaptive Yoga*, a specially designed program of gentle stretching that takes into account the physical limitations of these young patients.
- *Therapeutic massage* will be available to patients and their caregivers.
- *Relaxation techniques* such as meditation, guided imagery, and self-hypnosis.
- *Reiki*, a type of subtle energy work.
- *Music, dance, and art therapies*, including both individual and group activities, will also be offered through NYU Langone's existing Child Life Program.

The new program, which will operate under the leadership of Diane

Rosenstein, MSW, LCSW, director of the Department of Integrative Health Programs, takes a family-centered approach. "Rehabilitation can be just as anxiety-provoking to parents and siblings as it is to the children," Rosenstein explains. "For this reason, families will be fully involved in learning these techniques themselves, as well as serving as coaches for their children."

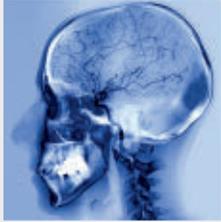
In addition to enhancing the overall care and experience of patients and their families, the program will also offer an opportunity for innovative clinical and academic research.

"We anticipate outcomes such as enhanced patient satisfaction, decreases in the perception of pain, and shortened recovery times," she says. "Our hope is that by tracking these outcomes, we can create further awareness of integrative health and bring scientific evidence of its benefits into the mainstream."

The Medical Center's Integrative Health Program has provided a range of services to many NYU Langone patients and their caregivers, but the pediatric rehab population has had limited access to these services. Now, thanks to the Dehnerts' generosity, these healing mind-body therapies are being offered to pediatric patients and their families.

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05



Zephyr / Science Source

Rusk Researchers Garner Four New Federal Grants

As NYU Langone's research community rebuilds following the damage to its research facilities by Hurricane Sandy, investigators at Rusk Rehabilitation will have some important added support: an unprecedented wave of federal funding in the form of four new, federally funded research grants—three from the National Institute on Disability and Rehabilitation Research (NIDRR) and one from the National Institute on Aging (NIA).

The NIA grant, which began on July 1, 2012, went to Dr. John-Ross Rizzo, a recent graduate of Rusk's residency program. The two-year award will support Dr. Rizzo's research on the use of training eye movements to improve hand function after stroke.

The three NIDRR grants, which commenced on October 1, 2012, include a five-year grant to Teresa Ashman, PhD, training director of postdoctoral fellowships at Rusk. The grant, designed to help train the next generation of rehabilitation researchers, will fund six postdoctoral fellows with degrees in rehabilitation-appropriate psychology fields, allowing them to increase their knowledge of participatory action research, conduct independent research projects, and participate in collaborative research projects.

The second NIDRR grant will have Tamara Bushnik, PhD, Rusk's director of research, in the principal investigator role. In this three-year grant, Rusk will collaborate with the VA New York Harbor Healthcare System to compare physical and psychosocial outcomes between a civilian and veteran population following lower limb amputation, with the goal of establishing a longitudinal outcomes database.

The final NIDRR grant, "Rusk Rehabilitation Traumatic Brain Injury (TBI) Model Systems of Care at NYU Langone," is a five-year award with Dr. Bushnik and Dr. Ashman as co-principal investigators. Only 16 such grants are awarded every five years—an indication of the award's importance. Successful applicants must demonstrate a comprehensive long-term system of care for individuals with TBI. In addition, they must be able to contribute data on at least 35 individuals with TBI to the TBI National Database annually, conduct investigations in line with NIDRR's priorities, and effectively disseminate their findings.

Rusk's TBI Model System already has two research projects under way. One, led by Dr. Ashman, will study cultural disparities in rehabilitation healthcare among individuals with TBI at Bellevue Hospital and Rusk. The other, led by David Tulskey, PhD, will assess a quality-of-life measurement system for individuals with TBI.

"Securing these multiple awards is a major accomplishment," notes Dr. Bushnik, "and it reflects the hard work of Rusk's Research Department and our tireless researchers over the past three years."

She also credits the philanthropic and departmental support, spearheaded by Department Chair Dr. Steven Flanagan, that has enabled Rusk to establish research infrastructure and develop its pool of researchers, as well as increased collaboration across NYU Langone's departments and within the Rusk research community itself.

"With Rusk's recent relocation to multiple sites across the NYU Langone campus, most of our researchers are now on the 17th floor of the Ambulatory Care Center," explains Dr. Bushnik. "Working in such close proximity has greatly facilitated communication and the brainstorming of research ideas. Between the momentum from these grant awards and our new facilities, I see the potential for even greater progress in the future."

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