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From The Chairman

**Medicine**: an ever-changing practice; a blend of art and science in a continuous state of evolution. But the practice of medicine goes beyond clinical care: it extends to an equally ever-changing environment of policy, regulation, fiscal cognizance, and—in this high-touch world—patient satisfaction.

It is this context that drives us to adapt, re-examining and reinventing the manner in which physical medicine and rehabilitation is delivered; and it is the same context that has ushered in Rusk’s own reinvention and reinvigoration.

In this issue of RUSK, you will read the next installation of how quality patient-centered care is being enhanced by our multiple pristine, state-of-the-art facilities. The spring 2012 relocation of outpatient musculoskeletal rehab to the new, multidisciplinary Center for Musculoskeletal Care (CMC) was a significant success; our latest achievement has seen our adult outpatient services newly housed in NYU Langone’s Ambulatory Care Center (ACC). Rusk’s space in ACC was tailor-made, with cutting-edge equipment and comfortable patient care areas as well as a modern environment in which to house our administration, education and research divisions. The final stage of the transformation will be in 2013, when Rusk’s 34th Street inpatient beds will move into renovated spaces located on 17th Street, in NYU Langone’s Hospital for Joint Diseases. As you will read here, Rusk’s presence is already strong at 17th Street, with our orthopedic rehab unit taking the lead in discharging patients before noon, an important accomplishment that has improved patient flow and increased therapy services.

At the same time, we continue to nurture the spirit of innovation that drives improvement in outcomes and our understanding of processes underlying recovery from disabling injuries and diseases. This issue explores Rusk’s ongoing pursuit of novel treatment approaches and programs to address the health of the whole person, including our innovative yoga program for lower limb amputees as well as how the power of art and play improves function and quality of life.

Last, research and education remain a significant priority at Rusk, as evidenced by the recent grant funding awarded by the National Institute of Aging for research in functional visuomotor rehab, described herein. Our research efforts will be further detailed in our next issue of RUSK, where you will learn about our very recent influx of grant awards from the National Institute of Disability and Rehabilitation Research (NIDRR) for training psychology rehab interns; examining links between prosthetic treatments, devices and support to patient outcomes; and for our TBI Model System of Care—one of only 16 rehabilitation centers in the country to receive such NIDRR funding.

It is a time of change, transition, growth and expansion, and I look forward to sharing more of our progress and news in future issues of RUSK.

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Steven R. Flanagan, MD

The Howard A. Rusk Professor of Rehabilitation Medicine
Chair, Department of Rehabilitation Medicine
Medical Director, Rusk Institute of Rehabilitation Medicine
Top Five at Rusk

01

Visionary Science: A New Perspective on Visual Rehabilitation

The World Health Organization estimated in 2010 that there were 285 million people globally with visual impairment, 39 million of whom were blind and 246 million with “low vision.” Millions more suffer from under-recognized and undertreated visuomotor deficits after a stroke or traumatic brain injury (TBI). Yet, limited progress has been made to date in the field of evidence-based visual rehabilitation.

Enter the pioneering efforts of the Visuomotor Integration Laboratory (VMIL) at Rusk. Created via a research fellowship from the Clinical and Translational Science Institute of NYU Langone Medical Center, the VMIL is studying the interaction between the neural codes that plan eye and arm movements so that functional visual rehabilitation programs can be designed.

The program’s initial research focuses on eye movement planning strategies and upper-extremity reaching movement planning strategies, which together may play a critical role in visuomotor integration or, simply stated, eye-hand coordination.

A studied understanding of how eye and arm movements are processed may also aid in motor learning and in the recovery of upper-extremity function in stroke patients. These efforts will be significantly aided by a recent grant award from the National Institute of Aging for continued research in the area of eye-hand coordination in elderly stroke victims.

The VMIL was launched by associate research scientist John-Ross Rizzo, MD, who first became passionate about functional visual rehabilitation when he was diagnosed with a recessive disease of the retina and choroid fifteen years ago. Rizzo, in league with Michael Landy, PhD, professor of psychology and neural science and postdoctoral fellow Todd Hudson, both at NYU’s Center for Neural Science, has already been encouraged by the team’s initial findings. Motor planning systems revealed by their early research may help elucidate deficits in stroke patients with more specificity and accuracy.

As the VMIL’s studies of motor planning in eye movements and reaching movements continue, the team hopes further discoveries will enable them to design new, highly individualized rehabilitation regimens for patients. Ultimately, a clear understanding of the interrelationship between eye and arm movements could lead to developments such as video games designed to train eye-hand coordination. With the aid of telerehabilitation applications, visually and/or motorically impaired patients may be able to utilize their residual resources to optimize function and recovery.

At VMIL, understanding how the eye is integrated with the arm represents an unprecedented step forward in the vastly underserved field of physiatric visual rehabilitation—and promise for the functional independence of the visually, motorically, or visuomotorically impaired.

02

Ahead of the Curve and Beating the Clock: Discharge Before Noon

Rehabilitation medicine, perhaps more than any other area of care, is profoundly dependent on the integration of multidisciplinary teams. Could the interdisciplinary coordination evident in treatment be harnessed and taken one step further, to improve discharge time? NYU Langone’s medical center-wide initiative focusing on discharge before noon (DBN) was taken very much to heart at Rusk and best evidenced by the efforts of Arthur Jimenez, MD, in Rusk’s orthopaedic rehab unit at 17th Street, in the Hospital for Joint Diseases.
DBN is widely accepted to reduce time and resource expenditures, easing gridlock by allowing efficient patient flow between units and opening up beds for additional admissions. Though hospitals aim, on average, for a DBN rate between 30% and 40%, Dr. Jimenez set a goal of 75% for his unit, back in early 2012. From there, he systematically investigated, uncovered, and addressed the origins of discharge delays in order to meet—and, as it turns out, outdo—his ambitious goal.

Meeting with members from every discipline revealed opportunities for saving time. Though physicians made early-morning rounds, many wrote discharge orders between 11am and 12pm. In some cases this delay was caused by the wait time for morning blood test results; discussions with lab technicians and specimen transporters explaining the need for quicker results improved turnaround times significantly. Physicians also began to initiate medication reconciliation on the evening prior to discharge.

Nurses, driven by their responsibility for patient comfort, were primarily delayed by matters relating to the transition back into a home environment. Concerned that patients leaving mid-morning might not be able to prepare a meal at home, nurses would hold patients slightly longer so they would be served lunch. This discovery led to the rollout of a simple solution: brown-bag lunches for patients to take home.

More complex was the need to supply certain patients with durable medical equipment (DME) to aid at-home recovery. Delivery, tracking, and payment for DME constituted a time-consuming challenge. In response, nurses shifted delivery from 11am on the day of discharge to the night before or early in the morning. This led to a second benefit: validating patient insurance ahead of discharge, enabling the team to address any payment obstacles relating to DME or hospital charges.

Patient transportation proved to be another important factor. Social workers responsible for coordinating transfers to a second facility made arrangements well ahead of time, and the care team communicated clear and firm plans with family members responsible for transporting patients home. The team conveyed that an on-time pickup is needed for on-time care of the next incoming patient—affirming for the family Rusk’s loyalty to its patient population and giving them an opportunity to pay the goodwill forward.

One of the most critical components spanned all the disciplines: motivation. To maintain momentum, Dr. Jimenez would access his unit’s quality and performance dashboard to print the prior day’s DBN rate and post it in staff areas and nursing stations. Just a simple, visual reminder kept the team focused and enthusiastic.

In the end, Dr. Jimenez’s stated goal was far surpassed: logistical changes, effective communication and the cooperation of a dedicated team led to a DBN rate of 82.2% by the time summer 2012 arrived.

While a number of causes for delayed discharge were identified, there were none that couldn’t be addressed with the significant support and commitment of the Rusk physicians, staff, and patients. Thus proving the theory that a Rusk multidisciplinary team adds up to much more than the sum of its parts—in clinical care and beyond.

Rusk Helps Amputees Find Balance with Yoga

Yoga is valued among its practitioners for uncovering a connection between body and mind. Could the practice of yoga also uncover an amputee’s potential to overcome the challenges of chronic pain and psychological distress?

Experts at NYU Langone Medical Center’s Amputee Support Program, who had the foresight and imagination to ask such a question, launched a collaborative pilot project last fall with the Iyengar Yoga Association of Greater New York. Iyengar, a unique form of yoga incorporating belts, ropes, and other props, is noted for its precise approach to body alignment and for being accessible to injured or otherwise incapacitated yoga students.

Recognizing the capability of iyengar Yoga to improve both physical and mental stability, the unorthodox program began exploring the positive impact this singular form of holistic care might have on individuals living with amputation.

Funded in part by a generous donor, himself an amputee and yoga practitioner, the pilot phase of the
program ran for six consecutive weeks in October and November 2011. Six active, lower-extremity amputees received weekly yoga instruction at the Iyengar Yoga Institute in Manhattan’s Chelsea neighborhood. During each semiprivate session, students practiced postures or “asanas” focused on developing strength, endurance, optimal body alignment, and mental clarity.

Participants reported significant improvement in mind, body and spirit; a substantial decrease in length and frequency of painful sensations; improved flexibility; and increased comfort using a prosthesis in their daily lives.

Acting on the enthusiastic response, team leaders have since completed two additional six-week sessions and are poised to expand the program. To be included are yoga classes for amputees at Rusk and at community organizations including the Iyengar Yoga Association; the training of multidisciplinary team members in yoga principles; and further research into the effects of yoga on amputee rehabilitation.

Since the first meeting of Rusk’s amputee support program four years ago, the team has been committed to exploring new avenues for amputees to achieve optimal physical, mental, and social well-being. Low-cost and no-cost opportunities have included monthly meetings featuring motivational speakers and the introduction of a soccer clinic for amputees. With the novel integration of Iyengar Yoga, Rusk again asserts it is unbound by convention and dedicated above all to serving the unique needs of each patient.

Recreation and Reintegration: The Power of Art and Play

A young boy with a physical disability is befriended by a local fifth-grader, creating a normalizing experience and a lasting bond. A talented artist learns how to re-enter her creative community while coping with fine motor skill limitations. An individual recovering from stroke relearns physical balance through music and dance.

Inspirational accounts of reintegration and recovery, such as these and many more like them, are credited in no small part to Rusk’s Therapeutic Recreation, Child Life & Creative Arts Therapies Department. The scientific community had little hard evidence at the time, but Dr. Howard Rusk had a prescient understanding of the value of therapeutic recreation and first introduced the department to Rusk in the 1950s. Today, a multidisciplinary, multitalented team serves pediatric and adult patients throughout NYU Langone Medical Center.

Working in four distinct disciplines—therapeutic recreation, child life, art therapy and music therapy—therapists and support staff complement the work of the team with patient treatments focused on socialization, leisure and expressive arts. The rewards for patients are innumerable, thanks to some distinguishing characteristics of the program, including its integration of professional artists as collaborators with therapists, ultimately enhancing and expanding a varied scope of offerings for patients of every age.

Easing the transitions for patients between hospital, home and community is core to the program.

Art and music therapists, for example, often co-treat with physical therapists: creating art or playing a musical instrument creates a fulfilling experience but also uses fine motor skills, cognition and speech.

This combination of psychosocial, physical and mental progress supports a patient’s ability to reintegrate into the community with confidence and capability.

“Creating Connections,” a pediatric program established by the department in partnership with the Children’s Museum of the Arts (CMA) in New York, is illustrative of how the team pools resources and talent to remove barriers and empower patients. Rusk staff, CMA teaching artists, and representatives from a nearby public school all partner in the planning of a 12-week creative arts workshop for kids. In sessions led by the CMA teachers, pediatric patients and able-bodied local children work together in lessons on color, emotionality and community. The program culminates in an evening art exhibition and celebration at the museum with food, a slide show, and an unveiling of the children’s artwork for friends and family.

“Creating Connections is a perfect example of what recreational rehab is all about,” affirms Marianne Hardart, MA, CCLS, Director of the Therapeutic Recreation, Child Life & Creative Arts Therapies Department. “When children from the hospital interact creatively and have a normalizing experience in the community, what’s different about them disappears.”
Rusk’s Ever-Expanding Footprint: Rehab at the Ambulatory Care Center

A new era at Rusk has been ushered in by the continuing transition to all-new facilities at multiple locations across NYU Langone Medical Center. At the state-of-the-art Ambulatory Care Center, the timeless values of interdisciplinary care and a patient-centered experience are in full view in Rusk’s leading-edge outpatient rehabilitation facility.

In March, the Center for Musculoskeletal Care (CMC) opened at 333 East 38th Street and became the new home for all outpatient adult therapy for musculoskeletal conditions. Now, the second major milestone of the relocation of Rusk Rehabilitation’s services has been reached: as of June 2012, Rusk occupies 40,000 square feet over three expansive floors of NYU Langone’s Ambulatory Care Center (ACC) at 240 East 38th Street.

The location consolidates access to all adult outpatient rehabilitation services relating to non-musculoskeletal conditions, and allows patients to be treated in a comfortable, modern, non-hospital setting. The quality of care offered by Rusk at ACC is matched only by the facility’s aesthetics; patients are welcomed into a soothing atmosphere of bright, newly furnished waiting rooms and treated in spacious, naturally lit clinical areas. Window-filled gyms and treatment spaces feature unobstructed views of Manhattan’s skyline and surrounding waterways.

The opportunity to renovate all three floors from wall to wall enabled a design that optimizes the healing experience for patients and maximizes the workflow for Rusk staff. Clinical spaces were designed and arranged according to best practice, with services grouped together in proximity, as convenience for the patient would dictate. At the ACC, a patient can visit her doctor, be treated by her physical therapist, and meet with her psychologist without ever having to leave the building. Advanced technology and equipment, such as the tables in each exam room that can be raised or lowered to accommodate individuals with disabilities and the pristine new machines that outfit the therapeutic gyms, further enhance patient comfort and care.

“The Medical Center’s commitment to Rusk Rehab’s ambulatory patients shines through with the opening of the Ambulatory Care Center. It is a facility that our patients deserve and our staff will thrive in,” said Kate Parkin, PT, senior director of therapy services.

One hundred eighty Rusk employees representing seven formerly separate patient locations were merged at the ACC, creating an environment conducive to Rusk’s integrated, multidisciplinary approach to care. And the facility has already garnered enthusiastic feedback from patients and staff alike. For Artmis Youssefnia, PT, the move to the new location has been exactly what she hoped for. “The space is beautiful. It’s bright, open, and very inviting for both patients and staff. Not only that, we have all new equipment for our therapy sessions.”

By offering comprehensive outpatient services in an aesthetically pleasing environment, Rusk continues to fulfill Dr. Howard Rusk’s vision for world-class care while forging a brilliant new future, all its own.