Dear Colleague,

I would like to take this opportunity to update you on some of the exciting clinical and research endeavors of the past year within the Department of Rehabilitation and Regenerative Medicine at NewYork-Presbyterian Hospital. The Hospital’s affiliations with Columbia University College of Physicians and Surgeons and Weill Cornell Medical College continue to provide our physicians and researchers with important opportunities for the development of new and innovative therapies for adult and pediatric patients.

Department of Rehabilitation Medicine in Tarrytown, New York

We are pleased to announce the opening of our newest practice location – offering both physical medicine and rehabilitation physician and physical therapy services – at 155 White Plains Road, Suite 102, Tarrytown, NY 10591. Call (914) 333-2403 or (212) 305-3535.

Faculty News

In March, Jaclyn H. Bonder, MD, joined the Department of Rehabilitation Medicine at NewYork-Presbyterian/Weill Cornell as Director of Women’s Health Rehabilitation. Dr. Bonder most recently served in a similar capacity in the Department of Rehabilitation Medicine at NYU Langone Medical Center. She specializes in the nonsurgical treatment of musculoskeletal disorders, pain relief, and rehabilitation services for women.

The Columbia Stem Cell Initiative (CSCI) recently recruited two talented laboratory scientists – Masayuki Yazawa, PhD, and Lei Ding, PhD – further strengthening the CSCI’S core stem cell efforts. Dr. Yazawa brings expertise and experience in mechanistic stem cell biology with a focus on therapeutic consequences. Joining us from the Dolmetsch Laboratory at Stanford University, Dr. Yazawa uses stem cell technology to understand cardiac development and disease. Dr. Ding joined the CSCI following a fellowship in the Morrison Lab, UT Southwestern. Dr. Ding is an emerging leader in the field of hematopoietic stem cells, which are central to the success of bone marrow transplantation.

Glen Gillen, EdD, OTR, FAOTA, Associate Director, Programs in Occupational Therapy, NewYork-Presbyterian/Columbia, has received the Eleanor Clarke Slagle Lectureship for 2013 by the American Occupational Therapy Association, recognizing his leadership and scholarship in the field of neurologic rehabilitation following stroke.

Patricia Tan, MD, joins NewYork-Presbyterian/Columbia this spring, bringing with her expertise in Pediatric Rehabilitation Medicine with a particular focus on the care of children with cerebral palsy. In addition to her duties at the Columbia campus, she will devote 40 percent of her time to providing care at Blythedale Children’s Hospital, as well as contribute to resident and fellow teaching at both sites.

Program Highlights

Michael Sein, MD, and Alfred Gellhorn, MD, will spearhead the expansion of the Department’s spine and musculoskeletal services to the Hospital’s newest campus, NewYork-Presbyterian/Lower Manhattan Hospital. Dr. Sein has particular expertise in spine and pain-related issues, and Dr. Gellhorn in musculoskeletal disorders and sports medicine, providing a broad array of expertise at this location.

NewYork-Presbyterian/Columbia is expanding its educational opportunities with the establishment of two new fellowships: a one-year fellowship in Sports Medicine under the direction of Christopher J. Visco, MD, and a two-year fellowship in Pediatric Rehabilitation under the direction of Heakyung Kim, MD. The Sports Medicine fellows will rotate at both the Columbia and Weill Cornell campuses for training in the management of the full range of sports-related injuries. The Pediatric Rehabilitation Fellowship will incorporate rotations at Blythedale Children’s Hospital to complement the clinical rotations at the Columbia campus.

In 2012, the Departments of Medicine, Nursing, and Rehabilitation Medicine launched the Early Mobilization Project of Critically Ill Patients in selected Intensive Care Units at both NewYork-Presbyterian/Columbia and NewYork-Presbyterian/Weill Cornell to provide critically ill patients with physical and occupational therapy early in their ICU stay. The multidisciplinary effort resulted in a decrease in the ICU length of stay by three days within just eight months of starting the project. Today, the Early Mobilization Project has been expanded to 13 ICUs across both campuses, with 95 to 100 percent of patients who are medically cleared receiving active treatment. Speech therapy, respiratory
therapy, and therapeutic recreation are now a part of the team. Patients are treated once medically cleared and average between 1.0 and 1.25 treatments per day from Rehabilitation Medicine.

At NewYork-Presbyterian/Columbia, the Department’s sports medicine and musculoskeletal practice now includes the care of pediatric and adolescent patients through the new Sports Medicine Center for the Developing Athlete – a program of Columbia Orthopedics. The Center focuses on maximizing performance while minimizing the risk of injuries. Farah Hameed, MD, who recently joined our faculty, is playing a leading role in the development of this program.

A $200,000 grant from the New York State Office of Science, Technology and Academic Research has been awarded to Sunil Agrawal, PhD, Director of the Robotics and Rehabilitation Laboratory, who holds a dual appointment in the Department of Rehabilitation and Regenerative Medicine and in the School of Engineering at Columbia University, and Christopher E. Henderson, PhD, Director of the Columbia Stem Cell Initiative, and Vice Chair of the Department of Rehabilitation and Regenerative Medicine. The equipment grant will support development of a gait assessment laboratory, including a Vicon motion capture system, a dual-belt treadmill with force plates, EMG measurement system, and metabolic measurement system.

Research Initiatives

**Brain Machine Interfaces May Help the Severely Disabled.** Peter K. Allen, PhD, Professor of Computer Science at Columbia, was awarded a five-year National Science Foundation grant to develop an assistive robot with brain-muscle interfaces. This project will develop a field-deployable assistive robotic system that will allow severely disabled patients to control a robot arm/ hand system to perform complex grasping and manipulation tasks. Collaborators include Joel Stein, MD, and Lyssa Y. Sorkin, MD, in the Department of Rehabilitation and Regenerative Medicine.

**Study to Begin on rTMS.** The Department will be participating in a multicenter randomized clinical trial of repetitive transcranial magnetic stimulation (rTMS) starting this summer. Joel Stein, MD, and Heidi Schambra, MD, serve as the site investigators for this study.

Michael W. O’Dell, MD, Chief of Clinical Services, Department of Rehabilitation Medicine at NewYork-Presbyterian/Weill Cornell, and colleagues have several ongoing and recently completed clinical studies related to stroke care, including:

**Gait Speed in Persons with Poststroke Drop Foot.** In this study, researchers looked at changes in and predictors of comfortable gait speed in persons with poststroke drop foot after using a foot-drop stimulator for 42 weeks in 99 subjects. When a foot-drop stimulator was used, comfortable gait speed improved progressively, with ≥50 percent of patients achieving a clinically meaningful 42-week total effect and 50 percent achieving a maximum comfortable gait speed by 12 weeks. [Physical Medicine and Rehabilitation. 2014 Jan 9. Epub ahead of print.]

**Adapting the Arm Motor Ability Test.** In an examination of the psychometric properties of a nine-item version of the Arm Motor Ability Test (AMAT-9) in persons with stroke, researchers determined the test to be valid and responsive among subjects scoring in the lower range of the scale. By eliminating the standing item from the previous iteration, the test may be more easily used with severely impaired patients. [Journal of Rehabilitation Medicine. 2013 Jun;45(6):519-27.]

**Predicting Discharge Performance.** Researchers completed a retrospective comparison of the admission Berg Balance Scale (BBS) and Postural Assessment Scale for Stroke (PASS) in predicting outcomes at discharge from an inpatient rehabilitation unit. Findings showed that the BBS and PASS performed equally well and were best at predicting patients discharged in the slowest gait velocity category. Further research should compare how well admission BBS and PASS predict gait velocity, falls, and other functional parameters in the community. [Physical Medicine and Rehabilitation. 2013 May;5(5):392-99.]