Greetings UW Rehabilitation Medicine friends and colleagues,

Welcome to this special supplemental edition of our newsletter. Since research is a major focus for our department, we’d like to take this opportunity to highlight two significant research studies recently published by three of our faculty members.

Drs. Jodie Haselkorn and Janet Powell were involved in a multi-center clinical trial to assess the safety and efficacy of robot-assisted therapy for neurorehabilitation in chronic stroke patients with moderate to severe arm impairments. The results were published in The New England Journal of Medicine on April 16, 2010.

Dr. Charles Bombardier and a multi-disciplinary group of UW researchers studied TBI patients to determine the frequency of depression post injury. The paper was published in The Journal of the American Medical Association’s Special Mental Health Issue on May 18, 2010.

The two papers each yielded significant results and provide evidence in the advancement of stroke rehabilitation and the identification, treatment and prevention of depression after TBI.

Thank you for reading. Contact us at rehab@uw.edu with questions or comments.

Peter Esselman, MD
Professor and Chairman

STUDY ON ROBOTIC ASSISTED UPPER-LIMB NEUROREHABILITATION IN STROKE PATIENTS PUBLISHED IN NEJM

April 2010—Jodie K. Haselkorn, MD, MPH, Professor, Rehabilitation Medicine and Janet Powell, PhD, OTR/L, Associate Professor, Division of Occupational Therapy, Rehabilitation Medicine, served as Principal Site Investigators for a study recently published in The New England Journal of Medicine (NEJM) on Robotic Assisted Upper-Limb Neurorehabilitation in Stroke Patients.

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The study involved patients at the Veteran’s Administration Puget Sound Healthcare System, which was one of four sites in the United States selected to participate.

Stroke is the leading cause of disability among adults in the United States with approximately 795,000 cases reported annually, with an overall estimate of 6.4 million stroke survivors.

In the majority of strokes, the hands and arms are affected, and are a significant source of disability.

The robotic assisted neurorehabilitation upper-limb study provided one of the first opportunities to test a robot-assisted device for rehabilitation in a controlled study for chronic stroke patients.

Results for chronic stroke survivors with moderate to severe upper-extremity impairment indicated that after 36 one-hour sessions of intensive task-oriented rehabilitation, patients had modest improvements in motor function and quality of life 6 months after active therapy was completed.

At the end of the 12 week robot-assisted active therapy, modest improvements were found for quality of life. Quality of life is related to the performance of normal daily activities such as bathing, grooming, dressing, food preparation, eating, cleaning and participating in social activities.

Over the course of the entire 36 weeks of the study, there were also modest improvements for motor capacity and motor performance for robot assisted therapy.

Findings suggest that high-intensity movement training may be the critical element necessary for motor recovery in moderate to severely impaired chronic stroke survivors.

This study provides evidence for the potential benefits of intensive rehabilitation in the moderate to severely impaired after stroke population, even years after their stroke.

Arm and hand impairments are viewed by people with stroke as especially disabling. Establishing an effective treatment for chronic upper-extremity impairment can potentially transform the field of rehabilitation, leading to considerable benefits for chronic stroke survivors.

For more information about this study, including a link to the article in NEJM, the NEJM video demonstrating the use of the robotic equipment, please visit the “In the News” section of our website:

http://rehab.washington.edu/

The authors, Charles Bombardier, Jesse Fann, Nancy Temkin, Peter Esselman, Jason Barber and Sureyya Dikmen from the Departments of Rehabilitation Medicine, Psychiatry and Behavioral Sciences and Neurological Surgery, followed 559 people hospitalized at Harborview Medical Center (HMC) with complicated mild to severe traumatic brain injury (TBI).

During the first year after injury, 53% of the sample met criteria for major depression at least once. Those older than 60 were less likely to become depressed compared to people aged 18-29.

Factors associated with higher rates of depression were being depressed at the time of injury, having a preexisting history of depression and having a history of alcohol dependence.

After controlling for predictors of depression, having an episode of major depression during the first year was associated with lower health-related quality of life at one year. However, only 44% of depressed participants received any treatment for depression during the 12 month follow-up period.

The results highlight the need for more aggressive identification and treatment of depression following TBI as well as research on the efficacy of prevention and treatment approaches.

The JAMA Media Department filmed Drs. Bombardier and Fann for the JAMA Report, a weekly news briefing. A TBI survivor and an Occupational Therapist at HMC, Greg Sposato, were also included in the film.

Dr. Bombardier was invited to represent the authors at a media briefing in New York city to present the findings of this study.

The project was supported by grants from the National Center for Medical Rehabilitation Research of the National Institutes of Health.

Results of Dr. Bombardier’s study has been covered by several media, including: KPLU, U.S. News & World Report (HealthDay wire story), KING-TV NBC 5, Los Angeles Times, and CNN.

For more information about this study, including a link to the article in JAMA, the JAMA Report video, and related media coverage, please visit the “In the News” section of our website:

http://rehab.washington.edu/
Future Events:

Continuing Education:
The following continuing education events have just been announced:

**UW Physical Medicine & Rehabilitation Board Review Course**
March 27—April 2, 2011
Hotel Deca, Seattle

**The 26th Annual Justus F. Lehmann Symposium**
May 20, 2011
Center for Urban Horticulture

Please check out website for updates:
[http://rehab.washington.edu/education](http://rehab.washington.edu/education)

New **MS From A to Z Episode airs 7/6 at 8PM**
The MSRRTC, in partnership with the National MS Society (NMSS), is presenting a monthly nine part series called *Multiple Sclerosis from A-Z*. UW researchers, as well as nationally and internationally renowned experts in the field, explore MS from its history, to pain management, to employment. Each hour-long program will air on UWTV and the Research Channel the first Tuesday of the month, starting February 2, at 8pm PST. The newest episode will air July 6 at 8PM.

For more information and to view a complete list of the upcoming series, please visit the MSRRTC website.

**July 6—11, 2010: 2nd Annual Traumatic Brain Injury Artist Showcase**
The UW Traumatic Brain Injury Model System (UW TBIMS) and the Brain Injury Association of Washington are hosting the 2nd Annual Traumatic Brain Injury Artist Showcase, *Recreating Me: Exploring & Healing through Creative Expression*, July 6th through July 11th, 2010 at the Burke Museum of Natural History and Culture Seattle, Washington. The art show will include visual, musical, written and spoken creations from brain injury survivors.

For more information, please visit the UW TBIMS Website:
[http://depts.washington.edu/uwthi/Education/artshow.htm](http://depts.washington.edu/uwthi/Education/artshow.htm)