Focus on Education

Virtual Ground Rounds Season 2

Launching the second season of the education series experts from Spaulding come to the desktop both live or on demand.

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Resident Feature

Beyond Borders

PM&R Resident Dr. Mary Alexis Iaccorino travels to Sierra Leone to investigate ways rehab care can help the victims of war crimes.

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In the news

A New Center for Paralysis Research

The creation of The Ellen R. and Melvin J. Gordon Center for the Cure and Treatment of Paralysis promises new pathways to collaboration and discovery.

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Feature

Traumatic Brain Injury Research Advances

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Traumatic Brain Injury
Research Advances

with an $18.8 million dollar NIH Award Administered by UCSF with Spaulding, Mass General and Harvard Medical School Partnering as Participating Sites.

WORLDWIDE RESEARCH on concussion and traumatic brain injury (TBI) is expected to advance as a result of an award of $18.8 million over five years from the National Institutes of Health (NIH) to support research projects at more than 20 institutions throughout the country. The NIH award, part of one of the largest international research collaborations ever coordinated by funding agencies, will be administered through UC San Francisco.

Many who are affected by TBI are never diagnosed, according to UCSF neurosurgeon Geoffrey Manley, MD, PhD, a principal investigator for the grant, who will serve as the U.S. research team’s primary liaison to the NIH. “Each year in the United States at least 1.7 million people seek medical attention for TBI,” Manley said. “It is a contributing factor in a third of all injury-related deaths.” Manley is chief of neurosurgery at the UCSF-affiliated San Francisco General Hospital, a Level-1 trauma center.

The award supports a team of U.S. researchers who are participating in the International Traumatic Brain Injury (InTBI) Initiative, a collaborative effort of the European Commission (EC), the Canadian Institutes of Health Research (CIHR), the National Institutes of Health (NIH) and the U.S. Department of Defense (DoD).

The researchers also aim to evaluate measures to assess outcome biomarkers from subjects across the age and injury spectrum and the treatment interventions that are most likely to be effective. I have every expectation that this international effort will favorably impact one of the most devastating public health problems of our time,” said Giacino. “The Mass General-Spaulding-Harvard team is honored to be part of this dynamic collaborative project and we look forward to our collective mission of improving the lives of people who experience TBI.”

The U.S. Centers for Disease Control and Prevention estimates that 2 percent of the U.S. population now lives with TBI-related disabilities, at an annual cost of about $77 billion. In Europe, an additional 2.5 million people suffer from TBI each year.

In the work funded by the NIH grant — also which is supported by contributions from the private sector, and from the nonprofit One Mind for Research — the researchers aim to refine and improve diagnosis and treatment of TBI, which often has insidious health effects, and therefore is frequently undiagnosed, misdiagnosed, inadequately understood, and undertreated, according to Manley.

“After three decades of failed clinical trials, a new approach is needed,” Manley said. “We expect that our approach will permit researchers to better characterize and stratify patients, will allow meaningful comparisons of treatments and outcomes, and will improve the next generation of clinical trials. The work will advance our understanding of TBI and lead to more effective, patient-specific treatments.”

Since 2009 Manley and Pratik Mukherjee, MD, PhD, a professor of radiology and biomedical imaging at UCSF, have helped lay the groundwork for the continuing TBI research by leading the NIH-funded TRACK-TBI project, through which they and their research collaborators have demonstrated the value of gathering common data across research sites, including a standardized approach to imaging, clinical data, bio-specimens, and tracking outcomes.

Already, TRACK-TBI researchers have made progress toward more useful classification and prognosis of TBI. Earlier this year they reported that cases of concussion, or TBI that are classified as “mild” by standard criteria but that show abnormalities on early magnetic resonance imaging (MRI) scans, are much more likely to have worse outcomes three months after the scan in comparison to cases in which scans reveal no abnormalities. Furthermore, the researchers found that elevated blood levels of a protein released during brain injury was associated with the likelihood of an abnormal CT scan.

The new NIH award funds a continuation and expansion of TRACK-TBI. Among the goals is the creation of a widely accessible, comprehensive “TBI information commons” to integrate clinical, imaging, proteomic, genomic, and outcome biomarkers from subjects across the age and injury spectrum. Another goal is to establish the value of biomarkers that will improve classification of TBI and better optimize selection and assignment of patients for clinical trials.

The researchers also aim to evaluate measures to assess patient outcomes across all phases of recovery and at all levels of TBI severity; to determine which tests, treatments, and services are effective and appropriate — depending on the nature of TBI in particular patients.

In addition to Manley and Mukherjee, principal investigators for the newly funded project include Claudia Robertson, MD, Baylor College of Medicine; Joseph Giacino, PhD, Harvard University; Ramon Diaz-Arrastia, MD, PhD, Uniformed Services University of the Health Sciences; David Okenkows, MD, PhD, University of Pittsburgh, and Nancy Temkin, PhD, University of Washington.
Focus on Education

Grant L. Iverson, Ph.D.
joins Department of PM&R at Harvard

AFTER 18 YEARS in the Department of Psychiatry at the University of British Columbia, Dr. Grant Iverson recently joined the Department of Physical Medicine and Rehabilitation at Harvard. Dr. Iverson is one of the most respected experts in the area of outcomes from mild traumatic brain injury in athletes, civilians, service members, and veterans. The interest in connecting with these populations in a unique setting is what drew Dr. Iverson to Boston to become the Associate Director of Traumatic Brain Injury Research for the Red Sox Foundation and Massachusetts General Hospital Home Base Program. He is a leading proponent of a broad based biopsychosocial theory of good and poor outcomes following mild neurotrauma.

While it has only been recently that sports and the connections to brain injuries have gotten attention in the media, Dr. Iverson has been pushing the research and study of these issues for a number of years. He serves in an advisory capacity to organizations and governments on matters relating to mild injuries to the brain in sports, civilian life, and military service. He served on the consensus panels for the International Conferences on Concussion in Sport in Zurich, Switzerland in the Traumatic Brain Injury Subcommittee of the Concussion in Sport in Zurich, Switzerland in 2008 and 2012. He was a founding member of the Traumatic Brain Injury Sub committee of the Defense Health Board, a civilian advisory board to the United States Secretary of Defense. He also served as an Advisor to the Neurocognitive Disorders Workgroup (Traumatic Brain Injury) for the Diagnostic & Statistical Manual of Mental Disorders, 5th Edition (DSM-V).

Dr. Iverson is an active clinical researcher in the areas of traumatic brain injury, depression, and the clinical and psychometric aspects of neuropsychological assessment. He is engaged in a multi-year research program designed to develop and evaluate evidence-based psychometric guidelines for identifying mild cognitive impairment in psychiatry and neurology. Over the course of his career, he has published more than 260 empirical articles, reviews, and book chapters.

RECENTLY, the William B. Rubin Family Fund, Inc. (The Rubin Fund), in an effort to create a more collaborative and comprehensive approach, established the Ellen R. and Melvin J. Gordon Center for Cure and Treatment of Paralysis at Spaulding Rehabilitation Hospital and Harvard Medical School.

The Rubin Fund committed $5 million dollars to establish the center, whose charge is to make major and lasting changes in the understanding, development of treatment interventions, and possible cure for paralysis, including that caused by brain stem injury. Ross D. Zafonte, DO, Senior Vice President of Medical Affairs, Research and Education and Chair of the Department of Physical Medicine and Rehabilitation at Harvard Medical School, will serve as the center’s director. Michael E. Greenberg, PhD, Department Chair and Nathan Marsh Pusey Professor of Neurobiology at Harvard Medical School, will oversee the associated fellowship program at HMS.

“When we look at paralysis in total as a disease model we see that its impact is incredibly broad, severely inhibiting the quality of life for millions of individuals, many of them suffering silently with little hope for improvement,” says Zafonte. “With the generous support from the Rubin Fund, our goal is to establish the Ellen R. and Melvin J. Gordon Center for Cure and Treatment of Paralysis as a beacon of discovery and hope on par with the top centers in the world.”

The center will enable researchers and clinicians from Spaulding and Harvard to collaborate with scientists from across the country and the world to expedite novel therapies and potential cures. In addition to contributing to the current knowledge base through research studies, the center will convene an annual meeting of investigators to share results and review accomplishments. The center will also seek new ways to deliver care at Spaulding and provide information to the broader community of people with disabilities.

In the News

Five Million Dollar Grant to Spaulding and Harvard Medical School

IN KEEPING WITH A FAMILY TRADITION of serving others, recently I traveled to Sierra Leone in West Africa. This medical outreach trip was part of a greater mission put forth by the Healey International Relief Foundation (HIRF), to improve the quality of life of individuals and families in war-torn, Sierra Leone. Founded by my father and brother, the HIRF is a not-for-profit organization that partners with local and international groups to bring medical assistance, food, education, clean water, and work programs to Sierra Leone.

For many Americans, Sierra Leone is not a household name. Located on the West African coast, Sierra Leone is about the size of North Carolina and is the poorest nation in the world. Having suffered a brutal 10-year civil war in the 1990s, this once flourishing nation was devastated by loss. Thousands of young people suffered brutal limb amputations at the hands of rebel forces and have since been ostracized from their families and communities. Today, Sierra Leone has the highest infant mortality rate and one of the lowest life expectancies in the world.

Over 9 days, our team visited 7 community hospitals and outpatient clinics to conduct rehabilitation needs assessments. These needs assessments tried to identify any existing rehabilitation efforts, detail the types of injuries and disabilities of the patients, conduct community outings, and interview disabled individuals regarding needs and current accommodations for disability. Most notably, we spent time at a newly constructed clinic at the St. Stephen’s Center, a Sierra Leone native and SCI nurse at Spaulding, Gina Walton MD, a former SRH/HMS resident, and my husband Jon Iaccarino MD, a pulmonary and critical care fellow. Our main goal is that by collaborating with local medical professionals, we have created a better understanding of the healthcare needs that can bring hope and meaningful change to the people with disabilities of Sierra Leone.

Mary Alexis Iaccarino, MD-PGY3, is a resident at Spaulding Rehabilitation Hospital and Harvard Medical School. Learn more about the project at HIRF.net/national-health-organization.
Spaulding is once again ranked by US News and World Reports Best Hospitals at #6 in 2013.

In Pictures

WITH THE RED SOX once again in the Fall Classic, Major League Baseball officials participated in a number of Boston area events. Commissioner Bud Selig’s itinerary included a stop at Spaulding Rehabilitation Hospital to learn more about its programs and honor the Mass General Hospital/Red Sox Foundation Home Base Program. The Home Base Program created in 2009, provides services and support for returning veterans who suffered from TBI and PTSD. Dr. Ross Zafonte, Senior Vice President of Medical Affairs at Spaulding, serves as the Home Base Program’s clinical lead on Traumatic Brain Injury. Joining Commissioner Selig on his visit was Red Sox Owner Tom Werner and Red Sox Legends Mike Timlin, Keith Foulke and Hall of Famer Jim Rice.

Discover more: http://pmr.hms.harvard.edu