Focus on Education

Guiding the Next Generation

With a 5-year Midcareer Investigator Award from the National Institutes of Health, Dr. Jonathan Bean is mentoring a new generation of physiatrists.
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Libyan War Wounded at Spaulding

Spaulding clinicians helped deliver on a promise by Secretary of State Hillary Clinton to help the people of Libya scarred by war.
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Fellow Profile

Going Global at the 2012 Olympics

As a member of the 2012 London Olympic Medical Team, Erik Brand, MD will share an insider’s view of treating the world’s top athletes.
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ReDefining Treatment of Disorders of Consciousness

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From the Chair

Dr. Paolo Bonato
Fostering International Collaborations

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The SPIRIT OF DISCOVERY

A Message from Ross Zafonte, DO

Colleagues,

As we approach another season of graduations, it’s a wonderful chance to take a moment and reflect on past accomplishments while considering the promise ahead. Our department is extremely proud to graduate our seventeenth class, all of whom bring dynamic talents and a spectrum of interests that will enrich both our care and research knowledge base. I salute all of the graduates across the country who are ready to embark on new paths of discovery for our profession.

In this celebration, we decide the spirit of discovery. We feature the tremendous work of our colleagues, Dr. Joseph Giacino, here at Spaulding and Dr. John Whyte that was recently published in the New England Journal of Medicine on the novel use of Amantadine. The study is a stunning demonstration of the power to change our understanding that collaboration and novel approaches can provide. The impact of the study will be told in the years to come as it creates a foundation for improved treatment and research for a complex patient population.

As we look ahead to the summer months the world gathers to celebrate the thirtieth Olympiad in London. Dr. Erik Brand, a Sports Medicine Fellow in our department, recently joined a team of US and productive groups who met with Dr. Bonato and his fellow observers. As I informed you in our last issue, Spaulding was chosen by the Libyan National Transitional Government in concert with the State Department to be the first US Hospital to deliver on a promise by Secretary Clinton to support and treat the war wounded of Libya. The group of twenty-two patients who came recently completed their treatment and have gone home with marked functional gains. The lasting bonds forged between our clinicians and their patients only reinforce that care transcends language and cultural barriers.

Finally, I’m proud to share that in less than one year the new state-of-the-art Spaulding Rehabilitation Hospital will open its doors. I invite you to visit www.NewspauldingHospital.org for the newest photos and updates. The new facility has already been hailed as a model for inclusive and green design. I’m certain that it will serve as an important touchstone to further the spirit of discovery that drives all we do in research, teaching and patient care.

Ross Zafonte, DO
Chairman of Physical Medicine and Rehabilitation Vice-President, Medical Affairs, Research, and Education

DiSCoVeRY

Pictured, from left to right: Mary Rodger, PhD, John Kruger, PhD, and John C. Jarvik, MD, MPH, James Rainville, MD; Ling Li, MPH; John Yi, MD; Mali Jain, MD, MPH. The multi-country, multidisciplinary teams funded by the National Science Foundation are openly using their mandates to require multi-country collaboration, and to actively foster commercialization by integrating corporate partners into many research projects. The multi-country, multidisciplinary teams that emerged from these mandates were among the most highly innovative and productive groups with whom Dr. Bonato and his fellows worked.

Dr. Paolo Bonato
Fostering International Collaborations

AT THE INVITATION OF THE NATIONAL SCIENCE FOUNDATION (NSF) and the World Technology Evaluation Center (WTEC), Paolo Bonato, PhD, Director of Spaulding’s Motion Analysis Lab, recently joined a team of US based rehabilitation experts who were tasked with gathering information on European innovations in mobility technology for people with disabilities. The group’s goals were to evaluate the latest advances, guide US research, investments and seek opportunities for international partnerships. Dr. Bonato and his colleagues met with counterparts from 15 cutting-edge research sites in Belgium, Denmark, France and the United Kingdom.

The team identified eight major trends in mobility technology research, and published their findings in the April 20, 2012 edition of the Journal of NeuroEngineering and Rehabilitation, for which Dr. Bonato currently serves as editor-in-chief.

Major European trends observed by Dr. Bonato and his colleagues include:

1. Assistive technologies are being designed to integrate more closely with the user. Seamless integration is often facilitated by smaller, better movement sensors and embedded computation that takes advantage of sensor data.
2. While research into technologies for rehabilitation therapy is beginning to transform the care process, significant unmet needs continue to exist in the area of therapy technologies that can be used at home.
3. Within mobility technology research, there is a fundamental need for better neuromusculoskeletal models that can be tailored to predict optimal treatments on an individual basis.
4. Wearable sensors and pervasive systems will improve health, wellness and safety monitoring, as well as home rehabilitation, assessment of treatment efficacy and the early detection of mobility impairment disorders.

The group did observe an important structural distinction between American and European work environments. In comparison to their US counterparts, European funding agencies are openly using their mandates to require multi-country collaboration, and to actively foster commercialization by integrating corporate partners into many research projects. The multi-country, multidisciplinary teams that emerged from these mandates were among the most highly innovative and productive groups with whom Dr. Bonato and his fellows worked.

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FOR MOST OF MEDICAL HISTORY, clinicians treating persons in minimally conscious or vegetative states have faced difficult obstacles. Often these populations were thought of as lost causes and given few options for improvement or recovery.

For Joseph Giacino, PhD, Director of Rehabilitation Neuropsychology at Spaulding Rehabilitation Hospital, his career has been devoted to uncovering the secrets of the brain to create novel treatments for this patient population. Recently, Dr. Giacino co-led a study that he and his collaborators hope can unlock entirely new avenues of care.

The multi-national study published in the New England Journal of Medicine in March revealed a significant breakthrough in the treatment of patients in vegetative and minimally conscious states. The study showed that the drug amantadine hydrochloride accelerated the pace of functional recovery during active treatment in patients with post-traumatic disorders of consciousness.

The study, funded by a 5-year, $3 million grant from the National Institute on Disability and Rehabilitation Research, involved 184 patients at 11 clinical trial sites in three countries. JFK Johnson Rehabilitation Institute in Edison, NJ and MossRehab in Philadelphia served as the lead centers for the international study.

The patients involved were receiving inpatient rehabilitation and were in a vegetative or minimally conscious state between four and 16 weeks after traumatic brain injury. During the four week treatment period, recovery was significantly faster among patients who were administered amantadine than those in the placebo group.

“The results of this study provide convincing evidence that it is possible to increase the speed of recovery from severe traumatic brain injury when treatment is initiated within four months of onset. These findings engender optimism for a medical condition that is often viewed as untreatable,” said Giacino.

The study results pave the way for additional studies of a drug whose therapeutic value was previously undetermined. “Now that we know that amantadine can accelerate neurologic recovery, we need to explore the dose and treatment schedule that provides the greatest and most durable treatment impact,” said study co-leader, John Whyte, M.D., PhD, Director of Moss Rehabilitation Research Institute. “Importantly, this study adds to the growing evidence that patients with disorders of consciousness have rehabilitation potential that we are just beginning to tap.”

In addition to JFK Johnson Rehabilitation Institute and MossRehab, nine other rehabilitation institutions participated in the study including Braintree Rehabilitation Hospital in Braintree, MA.; Bryn Mawr Rehabilitation Hospital in Malvern, PA; Carolinas Rehabilitation in Charlotte, NC; Fachkrankenhaus Neresheim Hospital in Neresheim, Germany; Copenhagen University Hospital in Glostrup, Denmark; Methodist Rehab Center in Jackson, MS; Schoen Klinik Bad Aibling in Bad Aibling, Germany; Sunnyview Rehabilitation Hospital in Schenectady, NY; and Texas Neurorehab Center in Austin, TX. In addition, the Department of Biostatistics in the Mailman School of Public Health at Columbia University in New York City served as the Data Coordinating Center under the direction of Emilia Bagiella, PhD.

Going forward, Dr. Giacino plans to maintain his leadership role in the “Consciousness Consortium,” a group of thought leaders and researchers who share ideas, research and collaborate on projects designed to push our understanding of consciousness and create new avenues of care. While there is much work ahead, each addition to the knowledge base improves the prospects for patients and families who now have a new hope for recovery.

The study’s publication generated over 400 media hits internationally with features by the New York Times, Boston Globe, Associated Press, ABC News and Bloomberg News, among others.

REDEFINING TREATMENT OF

DISORDERS OF CONSCIOUSNESS
**Libyan War Wounded at Spaulding**

**THE WAR** and subsequent overthrow of long-time dictator Moammar Gadhafi resulted in an urgent humanitarian need in Libya, with thousands wounded and severely injured. The Libyan National Transition Council (LNTC) with support from Secretary of State Hillary Clinton and the US State Department reached out to care facilities in the United States for experts in rehabilitative care and selected the Spaulding Rehabilitation Network to begin to treat some of the wounded Libyan fighters.

The first group of 22 Libyan war wounded was sent to the Spaulding Hospital North Shore in Salem, Massachusetts in late October 2011. Many of these patients sustained various injuries in the conflict from complex orthopedic injuries, multi-level trauma and nerve damage. The group had various complex medical conditions and nerve damage requiring intense rehabilitation as well as some surgical interventions.

The immense multi-disciplinary effort also involved transforming an entire unit to accommodate cultural, dietary and social needs unique to the group. The group returned home in phases, some requiring long term interventions collaborated by Spaulding clinicians with Libyan based counterparts. The US State Department with a letter from the Secretary of State, returned in May this year to recognize and celebrate the Spaulding efforts featured in Al Jazeera, AL Hurra TV, CNN, THE WAR and subsequent overthrow of long-time dictator Moammar Gadhafi in the United States for experts in rehabilitative care and selected the Spaulding Rehabilitation Network to begin to treat some of the wounded Libyan fighters.

A letter excerpt to the Spaulding staff from

> "The men arrived a mere week after my visit to Tripoli. I was deeply moved by the sacrifices these brave men made to bring freedom to their country and fellow citizens, and remain grateful for your speedy and compassionate response to the Government of Libya's request for assistance. From counseling your staff on Islamic tradition before patients arrived, to providing them with opportunities to observe their religious obligations, and opening your doors to the Libyan-American community, your efforts in caring for and healing these brave warriors showed the compassion, understanding and dedication that are hallmarks of American values.”

Jonathan Bean is only the second physiatrist to receive this type of award, mentees working with Dr. Bean will have the opportunity to participate in one of two ongoing research projects: the Boston Rehabilitation Impairment Study of the Elderly (Boston RISE) or The Boston Rehabilitation Outcomes Center (BROCC) Network.

Dr. Jonathan Bean

**Guiding the Next Generation**

**AS THE MULTIDISCIPLINARY** science of rehabilitation continues to evolve, seasoned mentors—medical leaders who are experts in a myriad of work processes, scientific methodologies, research protocols and regulatory requirements—are playing an increasingly critical role in developing the next generation of patient-oriented investigators to navigate the new healthcare terrain.

Over the last 12 years, Jonathan F. Bean, MD, MS, MPH, Medical Director of Spaulding Cambridge Outpatient Center and Director of Research Training and Education of PM&R, Harvard Medical School, has become a well respected mentor. Following in the tradition of his own mentor, Walter Frontera, MD, PhD, and driven by a passion to advance the role of rehabilitation science, Dr. Bean has mentored 16 young physician-scientists in Patient Oriented Research (POR). Now, with the support of a 3-year Midcareer Investigator Award from the National Institutes of Health (NIH), he will mentor 1–2 young investigators per year on the responsible conduct of research, as well as best practices in project management, including data analysis and biostatistical reporting.

"Jonathan Bean is only the second physiatrist to receive this type of NIH funding within the last decade," commented Ross Zafonte, DO, Professor and Chairman of Physical Medicine and Rehabilitation.

"The K24 award speaks volumes about his commitment to producing a better evidence base around rehabilitative care.”

That deep sense of commitment, combined with Dr. Bean’s reputation as one of the country’s leading physiatrists, were the driving forces behind Stacy Paul’s decision to pursue a 4-month research fellowship at Spaulding. Paul, a second-year medical student at Case Western Reserve University School of Medicine, is currently being mentored by Dr. Bean as she writes her thesis on the relationship between lower back pain and trunk endurance in geriatric patients. “He’s both a great teacher and a great doctor,” she said, “If I have a problem or need some help, he always finds a way to give me as much time as I need.”

According to the terms of the K24 award, mentees working with Dr. Bean will have the opportunity to participate in one of two ongoing research projects: the Boston Rehabilitation Impairment Study of the Elderly (Boston RISE) or The Boston Rehabilitation Outcomes Center (BROCC) Network.

Dr. Erik Brand

**at the 2012 Olympic Games**

Follow Spaulding Sports Fellow

Dr. Erik Brand, M.D., M.Sc., Sports Medicine Fellow for Harvard Medical School Department of Physical Medicine and Rehabilitation at Spaulding, the upcoming Olympic Summer Games in London represent the culmination of a life long dream as well.

Dr. Brand was chosen to serve as a Sports Medicine Physician at the London 2012 Olympic Games. Dr. Brand was selected from among 250,000 volunteer applicants by the London Organizing Committee, host of the Olympic Games.

Brand has a diverse background in sports medicine, both as an elite athlete himself as a rower at the University of Washington and the University of Oxford, as well as a physician. He also has significant international competition experience as observing team physician for the United States Rowing Team at the 2011 Junior World Championships. This will be his second Olympic experience, serving as a Transportation Services volunteer at the 2010 Winter Olympic Games in Vancouver.

“As a rower at the University of Washington and Oxford, I was fortunate enough to spend six years training alongside athletes and coaches of the highest caliber. As a Sports Medicine physician, this experience helps me relate to my patients because I speak their language and understand the demands of training and competition. Through Sports Medicine, I have an opportunity to express my belief in the value of sport and exercise and serve the Olympic ideal.”

During his residency at Johns Hopkins Hospital, Dr. Brand served as Chief Resident of Physical Medicine & Rehabilitation and trained under team physicians for the Baltimore Orioles. In 2011, he was selected for a Resident Scholarship Award from the American Medical Society for Sports Medicine, one of three resident awards chosen annually.

Currently based at Spaulding Rehabilitation Hospital and Mass General Hospital as a Sports Medicine Fellow, Dr. Brand plans to pursue a career in Sports Medicine helping athletes of all descriptions use exercise as a form of medicine.

You can follow Erik as he prepares for the London Games as well as during with blog updates and photos at

pnr.hms.harvard.edu or on twitter @spauldingehab

EVERY TWO YEARS, the “youth of the world” assemble in the spirit of sportsmanship and competition giving the world unforgettable stories of perseverance and achievement. Athletes devote their whole lives training for a fleeting moment of glory. For those in the sports medicine world the games also serve as the pinnacle of the profession. For Erik Brand, M.D., M.Sc., Sports Medicine Fellow for Harvard Medical School Department of Physical Medicine and Rehabilitation at Spaulding, the upcoming Olympic Summer Games in London represent the culmination of a life long dream as well.

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HAVING ARRIVED in Haiti during the immediate aftermath of the devastating 2010 earthquake, Dr. Andree LeRoy continues to spearhead Spaulding’s response. Recently, Dr. Cheri Blauwet, former Chief Resident, joined Oz Mondejar, VP of Human Resources, Communications & Community Relations joined them, documenting their efforts and conducting educational seminars on disability advocacy in support of the Haitian Secretary of State’s movement to integrate the over 800,000 Haitians living with disabilities.

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