Focus on Medicine

Integrative Medicine in India

Dr. Ariana Vora was hosted by the Indian Ministry of Health to formalize a collaboration for a new academic medical center in India.

Focus on Education

Gender Inequality in Medical Education

Resident Julia Reilly, MD is helping to shine a light on gender challenges in medicine in order to bring attention and change.

Focus on Faculty

Dr. Trumbower Joins Spaulding

Prolific researcher Randy Trumbower, PhD comes to Boston with a unique knowledge of biomedical engineering and a background in physical therapy.
**From the Chair’s Desk**

**A message from Dr. Ross Zafonte**

Dear Colleagues,

As 2018 begins, it is a good moment to take stock of the progress we have made and the challenges still before us. Our Department was thrilled to join so many of our colleagues this past Fall at both the AAPM&R Annual Assembly and ACRM conference. Many of our faculty presented fascinating new approaches as well as were honored for their exemplary work and advocacy.

In the past several months, we have seen a dramatic examination across all fields in our society regarding gender equality and fairness. Through leaders such as Dr. Julie Silver, our Department has pushed to illuminate needed changes in medicine as well as productively advance the dialogue. We share with you two important efforts aimed at energizing the next generation of physician leaders to better achieve a level playing field for all. Dr. Silver’s tremendous work across many media is spotlighting, as well as the work of one of our talented residents, Dr. Julia Reilly, who brought an important voice to the discussion around gender barriers in medical education.

Advancing the science of recovery is always at the forefront of our efforts, and we are pleased to share the work of Dr. Irene Davis and her team as they begin a major study with the NIH and General Electric to examine “bone stress injuries.” By combining technology with a novel approach, we can hopefully enable athletes at all levels to recover faster and reach their full potential.

Advocacy is another major tenet of what we do. This past September, we were honored to bring world-wide attention to rehab medicine by hosting the U.S. Premiere of the Jake Gylenhaal film Stronger. The powerful film highlights the difficult obstacles faced by the patients and their families we serve as well as demonstrates the power that an indomitable spirit can have on reddefining recovery. The screening was a truly meaningful experience for all of us as many of the people portrayed in the film—patients, caregivers and beyond—were able to attend the screening.

As we turn the page to 2018, no doubt many challenges await us but so does the limitless opportunity we are afforded to make a positive impact through the work we do. By continuing to push our understanding of the biology of recovery through innovative science, excellence in care and passionate advocacy, we can advance our field to be even better for those who depend on us.

**Ross Zafonte, DO**
Earle P. and Ida S. Charlton Professor and Chairman of Physical Medicine and Rehabilitation at Harvard Medical School; Senior Vice President of Medical Affairs, Research and Education at Spaulding Rehabilitation Network; Chief of Physical Medicine and Rehabilitation, Massachusetts General Hospital and Brigham and Women’s Hospital

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**Focus on Education**

**Shining a light on gender inequality in medical education**

Julia Reilly, MD is a PGY-3 Chief Resident in the Spaulding/Harvard Medical School residency program who has become a national leader in the gender equality dialogue. With her interest in medical education (she completed the Medical Education Research Scholars Track at her alma mater, Georgetown) and a strong social conscious, Dr. Reilly joined her mentor, Dr. Julie Silver, and a team of researchers to publish a study on the underrepresentation of women physicians receiving awards from the Association of Academic Physiatrists. Following this publication, she wrote an article titled “I Wish Someone Had Told Me About the Challenges of Being a Woman in Medicine” that was published in STAT News in August and widely discussed online by physicians and many others.

The STAT News article led to an outpouring of responses from colleagues and strangers. Dr. Reilly received supportive emails from across the gender spectrum and support came from physicians practicing locally in Boston to as far as Nigeria.

Quickly establishing herself as an early career physician thought leader on gender equity in the medical workforce, Dr. Reilly is becoming a sought after speaker. In October 2017, she was an invited panelist for “Women and the Global Health Workforce”, hosted by Harvard Global Health Institute and Harvard Chan’s Women and Health Initiative. Following this, Doximity approached Dr. Reilly about writing for their Op-(m)ed column and participating as a thought leader at the 2018 Doximity Leadership Summit taking place in March of 2018 in San Francisco, California.

2017 was a year of tremendous career growth and opportunities for Dr. Reilly, and she is looking forward to new challenges in 2018. Dr. Reilly says, “I am excited to continue with my research with Dr. Silver and our colleagues at Spaulding on gender disparities and am fortunate to train in a residency program that has been paving the way in this area. I am encouraged by recent initiatives, such as the creation of Diversity Task Forces amongst various Harvard-affiliated institutions as well as Harvard Medical School Dean George Daley’s commitment to display inclusive and representative art on the walls at Harvard Medical School. Though there is still much work to be done in improving gender equity and attaining full inclusion for all, I remain optimistic that we will make progress.”

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**Focus on Faculty**

**Dr. Randy Trumbower joins Spaulding**

Randy Trumbower, PhD joined the Harvard Medical School Department of PM&R at Spaulding as the Director of Spinal Cord Injury Research. Dr. Trumbower previously was an Assistant Professor at Georgia Tech in Biomedical Engineering.

Dr. Trumbower combines a unique knowledge of biomedical engineering and a background in physical therapy. He established the INSPIRE Lab at Spaulding’s Cambridge location. The INSPIRE Lab team at Spaulding is committed to the study of integrative rehabilitation engineering technologies that promote functional independence in persons with catastrophic injury to their nervous system.

“Dr. Trumbower is one of the most respected and prolific researchers in our field and brings with him a significant portfolio of publications, lectureships, grants and presentations. His combination of expertise in engineering and clinical applications will greatly enhance our research into spinal cord injury,” said Ross Zafonte, DO Senior Vice President of Research, Education and Medical Affairs, Spaulding Rehabilitation Network.

Dr. Trumbower has an extensive publication and research portfolio with papers published in several high impact journals including the Journal of Neuro Engineering, Journal of Neuro Phytotherapy, Journal of Neurotrauma, and Neurology, as well as served as an Academic Editor for PLOS One. He was also recognized in 2015 with the Eugene Michel’s New Investigator Award from the American Physical Therapy Association.
Focus on Advocacy

US premiere of

**Stronger**

at Spaulding Rehab

The US Premiere of the film *Stronger* was held at Spaulding Rehabilitation Hospital on September 12, 2017. *Stronger* stars Jake Gyllenhaal and is the inspiring true story of Jeff Bauman, an ordinary man who captured the hearts of his city and the world to become a symbol of hope following the infamous 2013 Boston Marathon bombing. The film also stars Tatiana Maslany, Academy Award® nominee Miranda Richardson and was directed by David Gordon Green.

The filmmakers of *Stronger* approached Spaulding with a commitment to honor the courage of everyone involved in the moving events following the tragedy and to share Jeff’s story in an honest and respectful way. Allowing the filming to take place in the same places where Jeff’s long road to recovery took place presented a unique opportunity to share his story as well as to further Spaulding’s mission of empowerment for the patients and families served by the network. Over seventy members of the Spaulding community participated as extras in the film. Many of the caregivers and patients Jeff has known through his care and peer mentorship at Spaulding were directly involved in the scenes filmed at the hospital. The premiere served as a culmination and celebration for all those who nurture the community spirit known as “Boston Strong.”

*Stronger* is now available on DVD/Blu-Ray and Digital Download as well as select theatres nationwide.

Growing up in Brookline, I am well-acquainted with Spaulding’s significance as one of the foremost rehabilitation institutions in the world. We were proud to bring the US Premiere of *Stronger* home to Boston and present it in the exact same space where Jeff Bauman and other survivors worked so hard on their recovery.

Eric d’Arbeloff
Co-President, Roadside Attractions

Spaulding has been such a large part of my life for the past four years that having the US Premiere of *Stronger* there felt so right to me. Although watching the film on that big screen is such an emotional rollercoaster, it comforts me to know that I will be surrounded by the people who have been such a big part of my recovery – the doctors, nurses, friends and family. I gotta say it will be a wild trip watching the film in the exact same spot where I learned to walk again!

Jeff Bauman
2013 Boston Marathon Bombing Survivor

Jeff’s story of courage and determination has inspired and educated the public about the obstacles and challenges that people with disabilities face each day. Spaulding is proud to host the US premiere of *Stronger* in the same location Jeff received his rehabilitation care as a way of giving the event the deepest meaning and significance. Many of the clinicians, people and fellow patients Jeff encountered during his time at Spaulding participated in the filming. We feel this is an extraordinary opportunity to honor this special time of healing in our city’s history and to raise awareness of the critical role of rehabilitation medicine to help people of all abilities find their strength.

David Storto
President, Spaulding Rehabilitation Network

Dr. David Crandell speaking to media.
On October 17, 2017, Spaulding’s Ariana Vora MD was invited and hosted by the Government of India to deliver a keynote address before an international delegation in New Delhi. She also participated in a series of discussions about building research, education and clinical collaborations with the Indian Ministry of Health Dr. Vora participated in a signing ceremony formalizing collaboration between the Harvard Department of PM&R at Spaulding and the Indian Ministry of Health’s All-India Institute, a new academic medical center devoted to research, post-graduate education and clinical practice in the Indian system of medicine.

Indian Prime Minister Narendra Modi praised this collaboration during his televised address to the nation as he inaugurated the All-India Institute on October 17, 2017. “Just a short time ago, Shripad Naik [Indian Minister of State] shared with me a new partnership with Spaulding Rehabilitation Hospital and Harvard Medical School. I am very happy to hear this, and I congratulate both sides. I hope that this collaboration will help in exploring the possibility of Ayurvedic treatment in the fields of sports medicine, rehabilitation medicine, and pain relief.”

The goals of this collaboration are to develop an integrative practice model for the diagnosis, treatment, and outcome measurement for common conditions such as lower back pain, osteoarthritis, and stroke using traditional and modern approaches; to develop improved integrative medicine research methodology combining traditional and modern diagnostic and treatment measures; to facilitate cross-paradigm communication among clinicians and scholars; and to enhance efficacy, safety, and quality control in integrative medicine.

In addition to having American Board of PM&R certification in sports medicine and PM&R, Dr. Vora is Integrative Medicine certified by the American Board of Integrative and Holistic Medicine and has additional certification in Ayurveda and acupuncture. Her clinical care, teaching and research at Spaulding since 2005 has incorporated integrative medicine, combining modern rehabilitation and regenerative techniques with ancient health practices. Dr. Vora is Co-Chair of the national Complementary and Integrative Rehabilitation Medicine group at the American Congress of Rehabilitation Medicine and is also currently leads an Spaulding’s Integrative Medicine Task Force with Dr. Rick Leskoowitz.

“The ultimate goal of this collaboration is to improve the health of all by developing a best-practice model of care that is informed by global knowledge about health, rehabilitation, and healing,” said Dr. Vora. “It’s an honor to help guide this work, and I am grateful for the strong support of our PM&R Department at Spaulding, the Indian Ministry, and Prime Minister Modi.”

The team led by Dr. Davis will focus on foot bone stress injuries as these are the most common in basketball players. They plan to first collect baseline measures of foot bone anatomy and bone health using various types of imagining techniques. They will also gather dietary measures such as the amount of vitamin D in the blood and daily caloric intake. The study team will then monitor how hard the players are landing with each step across practices and games throughout the season and also monitor sleep over the course of the season. Finally, the team will image the foot again to determine if any injuries are developing.

“Ultimately, we want to understand the factors that affect the foot bone loading a basketball player sustains over the course of a season. This is important as this loading has been shown to be related to bone stress injuries. Bone stress injuries can progress to small cracks in the bone, and ultimately complete fractures. These injuries can be season ending and sometimes career ending. Therefore, preventing them from happening is the best approach. We believe this study will provide important information for sports medicine professionals who oversee these athletes’ care,” said Dr. Davis.

The scientific and clinical communities recognize the importance of mechanical loading in the context of repetitive stress injury. However, they still have a poor understanding of the impact of mechanical loading on elite basketball athletes. This is primarily due to the difficulty in quantifying load exposure during practice and game situations. However, the advent of wearable sensors that can accurately measure and monitor impact loads provides an opportunity to characterize the physical demands of the game with respect to repetitive impact loading. This new study data has the potential to influence the understanding of lower limb injury, how to alter training and periodization of training to mitigate injury risk, and ways to improve return-to-play decisions.

Understanding the role of mechanical loading in maintaining bone health is particularly relevant to young NBA athletes whose skeletons are still undergoing a modeling process, or freshman NCAA athletes who might receive a dramatic increase in impact load exposure during pre-season training that their skeleton has not yet adapted to. By including both college and NBA athletes in this cohort, Dr. Davis’s research will address several interesting research questions: How does lower limb load exposure due to training differ between college and NBA athletes? What is the impact load exposure during a game and how does this compare to training? How do lower limb impact loads change during a game and throughout the season (i.e., is there a fatigue-related change in impact load)? And ultimately, does impact load exposure predict bone health and possibly, bone stress injury?

Musculoskeletal tissues, such as bone, muscle, tendon and cartilage, all respond and adapt to their local mechanical environment in such a manner as to maintain tissue health. However, mechanical loads can also lead to injury if they exceed the strength of the tissue. These loads might be traumatic, such as a direct impact or single loading event causing failure, or repetitive, where cumulative loads result in damage (such as a bone stress injury). These biological processes occur, regardless of the age and ability of an athlete. Therefore, understanding the mechanical and physiological regulation of bone health at a fundamental level will have implications across the general population. The magnitude of the impact load exposure of an elite basketball player might be considerably greater than a “weekend warrior,” however, the biological adaptation mechanisms of these two athletes remains the same. “Ultimately, measuring and monitoring the mechanical load experienced by musculoskeletal tissue is critical to improve our understanding of musculoskeletal injury and health,” concluded Dr. Davis.
Focus on Education

Upcoming CME Courses

Writing, Publishing and Social Media for Healthcare Professionals
April 26-28, 2018
This unique 3-day course empowers physicians, healthcare executives, and other professionals to expand their visibility and influence in healthcare through traditional and new media. As an attendee, you will learn how to make the most of print, live, and online communication channels, and sharpen your ability to market yourself and your body of work. Learn about best practices for connecting the public with your ideas and insights, getting your book published, improving your writing and your oral pitches, introductory and advanced topics in social media, blogs and websites— and more!

Course Director
Julie K. Silver, MD
Visit wps.hmscme.com for more information and to register

Sports Medicine
May 9-11, 2018
This program provides a special and timely opportunity to hear directly from world-renowned physician specialists (physiatrists, orthopedists, radiologists), athletic trainers for the New England Patriots and the Boston Red Sox, and physical therapists on the cutting edge of rehabilitation about state-of-the-art approaches to diagnose, treat, rehabilitate and prevent sports injuries.

Course Directors
Joanne Borg-Stein, MD
Kelly McNinis, DO
Adam Tenforde, MD
Visit sportsmedicine.hmscme.com for more information and to register

Neurorehabilitation
June 14-16, 2018
Patients with stroke, TBI, SCI, and degenerative neurological diseases face so much disruption of so many facets of their lives, and clinicians are left with so many treatment dimensions to consider, that rehabilitation is never simple. In this new program, the country’s most experienced and committed neurorehabilitation experts present cutting-edge strategies, improved approaches, the latest findings, practical education, and hands-on methods to further your expertise in guiding your patients to their maximum level of function.

Course Directors
Mel Glenn, MD
Ross Zafonte, DO
Assistant Directors
Yelena Guffer Bodien, PhD
Chloe Sloum, MD
Visit neurorehab.hmscme.com for more information and to register

Lifestyle Medicine: Tools for Promoting Healthy Change
June 22-23, 2018, Boston, MA
This immersive two-day course offers state-of-the-art strategies to guide patients to healthier lives. Education includes evidence-based tools and techniques for effecting healthy changes in diet, physical activity, sleep, weight loss, and stress management.

Course Director
Edward M. Phillips, MD, FACSM
Assistant Director
Rani Polak, MD, Chef, MBA
Visit lifestylemedicine.hmscme.com for more information and to register

Musculoskeletal Ultrasound at the Point-of-Care: Diagnostic and Procedural Applications
September 16-17, 2018
Musculoskeletal ultrasound is a highly valuable skill that has been shown to expedite the diagnosis and management of a variety of musculoskeletal conditions, improve procedural accuracy and safety, improve patient outcomes, and is of significantly less cost than other advanced imaging modalities. This course, co-sponsored with Massachusetts General Hospital, is geared towards physicians and allied health professionals looking to gain expertise in musculoskeletal ultrasound as part of their practice.

Course Directors
Minna J. Kohler, MD, RhMSUS,
Joanne Borg-Stein, MD, RMSK
Visit sportsmedicine.hmscme.com for more information and to register

Career Advancement and Leadership Skills for Women in Healthcare
Women Leadership Course
November 15-17, 2018
This program delivers evidence-based strategies, skills development and education that help women at various stages of their healthcare careers step into and succeed in leadership positions. It also helps women—and men—effectively cultivate female managerial talent in healthcare settings by developing leadership competencies.

Course Directors
Julie K. Silver, MD
Assistant Directors
Saurabh Bhatnagar, MD
Visit womensleadership.hmscme.com for more information and to register

Clinicians Health Coaching
Starts September 9, 2018
The Clinicians Culinary Health Education Fundamentals (CHEF) Coaching courses are designed for health care professionals and health and wellness coaches to deliver patient education emphasizing skills such as shopping, food storage, and meal preparation. The goal is to empower patients and clients to make more home-cooked food in less time and enjoy healthy changes in their lives. The course is offered in two ways, as a remote 10-week program consisting of five tele-classes and five remote small group practice sessions or a full day of onsite lectures and five remote small group practice sessions.

Course Directors
Rani Polak, MD, Chef, MBA
Director of the Culinary Healthcare Education Fundamentals (CHEF) Coaching program
Visit clinicianchefcoaching@hms.hmscme.com for more information and to register

Focus on Advocacy

“Walls Do Talk Challenge”
to Combat Gender Stereotypes in Medical Schools

Medical students invited to create their own “Honor Walls” to reflect the new face of medical education

ALTHOUGH 48 PERCENT of current medical school students are women, the images they see in their classrooms, labs and halls reinforce a stereotype of medicine as a male profession. Very often those images are on the so-called “honor walls” in which primarily male doctors are honored.

To help change that Julie K. Silver, MD, an Associate Professor at Harvard Medical School, has launched the “Walls Do Talk Challenge” in coordination with the organizers of the 2017 Career Advancement and Leadership Skills for Women in Healthcare Conference that took place in Boston, MA this past fall.

“Honor or portrait walls are commonplace in many higher learning institutions,” says Dr. Silver. “Unfortunately, they often do not support an anti-bias learning environment. This, at a time when there is a tremendous need to dispel gender stereotypes and women make up a significant proportion of doctors in America.”

The “Walls Do Talk Challenge” invited medical students to take a “blank canvas and share their vision for the ideal learning environment” by designing an alternative wall. Eligible designs were not limited to any format—drawing, painting, using computer-generated images or photographs were all accepted for formal review as part of the challenge at www.SheLeadsHealthcare.com.

Nine finalists were selected—each with a different style and message, and together they demonstrate that there are many wonderful ways to create an anti-bias learning environment. Progress on the “Walls Do Talk Challenge” will be updated on social media, including Twitter using the #WALLSDOTALK hashtag. Two winners were selected, Navya Talluri of Michigan State University College of Osteopathic Medicine by panel vote at the conference and Laura Flores of University of Nebraska Medical Center won the public vote.
Other Conference Platform Presentations:


Publications


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