



Hackensack
Meridian Health

ADVANCING WHAT'S POSSIBLE | 2020

JFK Johnson Rehabilitation Institute



INSIDE:
Update on
Stroke-HEART™
Trials

TRANSFORMING **PAIN** TREATMENT

*Center for Sports and
Spine Medicine*

FROM OUR MEDICAL DIRECTOR



I'm proud to share the 2020 JFK Johnson Rehabilitation Institute magazine, which highlights our Center for Sports and Spine Medicine (CSSM) and focuses on our comprehensive approach to pain management and sports injuries.

The specialty of pain medicine is undergoing significant change — not just with novel interventions, but also through new approaches that provide greater emphasis on comprehensive care and functional improvement. Our highly trained physicians are at the forefront of this transformation of the specialty of pain medicine.

The CSSM physicians believe in educating patients — and the wider community — about the appropriate role of opioids in the management of pain. They lecture nationally, but they also share their expertise through educational presentations in the community. And the JFK Johnson Department of Physical Medicine and Rehabilitation sponsors an Accreditation Council of Graduate Medicine Education (ACGME) Pain Medicine Fellowship, one of just seven in the nation.

I'm also pleased to keep you up-to-date on the JFK Johnson Stroke-HEART™ Trials, which have the potential to substantially improve rehabilitation for people recovering from stroke. We're excited by the national response we've been getting to our research as we talk about the Stroke-HEART™ Trials at conferences around the country. The data are impressive.

And finally, you can read about the recent publication of the fourth edition of *Physical Medicine and Rehabilitation Board Review*. I am grateful that the notes I developed through my 25-plus years of teaching have become a helpful guide for residents and physicians to use to prepare for their boards in the Physical Medicine and Rehabilitation. Today many subject matter expert physicians, many in our department, join me in keeping the book up-to-date. In the past, our magazine has focused on different programs — such as brain injury, prosthetic and orthotics, and stroke rehabilitation. These programs and all we do at the JFK Johnson aim to Advance What's Possible for all of our patients. Please enjoy the magazine!

Yours in Good Health,

Sara Cuccurullo M.D.

Sara Cuccurullo, M.D.
 Clinical Professor and Chairman
 Residency Program Director
 Department of Physical Medicine and Rehabilitation
 Hackensack Meridian School of Medicine at Seton Hall University
 Rutgers-Robert Wood Johnson Medical School
 Vice President and Medical Director
 JFK Johnson Rehabilitation Institute



4



9



12



16



11

EDITORS

Sara Cuccurullo, MD
 Clinical Professor and Chairman
 Residency Program Director
 Department of Physical Medicine
 and Rehabilitation
 Hackensack Meridian School of
 Medicine at Seton Hall University
 Rutgers-Robert Wood Johnson
 Medical School
 Vice President and Medical Director
 JFK Johnson Rehabilitation Institute

Anthony Cuzzola
 Vice President/Administrator
 JFK Johnson Rehabilitation Institute

Anne M. Eckert, AuD, MBA, CCC/A
 Administrative Director of Rehabilitation

Carol Ann Campbell
 Campbell Health Media

JRI Department Phone Numbers

Admissions	732.321.7733	Outpatient PT/OT at Monroe	609.409.1170
Cardiopulmonary Rehabilitation	732.321.7722	Outpatient Center at Piscataway	848.230.6655
Center for Sports and Spine Medicine	732.321.7757	Parkinson's Disease Clinic/ Rehabilitation Medicine	732.321.7070
Cognitive Rehabilitation	732.906.2640	Pelvic Floor Rehabilitation	732.321.7056
Driver's Training	732.321.7056	Pediatric Rehabilitation	732.548.7610
JFK for Life Fitness Center	732.632.1610	Prosthetic & Orthotic Lab	732.248.0774
Outpatient Center at Edison	908.834.8685	Rehabilitation Physicians	732.321.7070
Outpatient PT/OT Services at JFK	732.321.7056	Speech Pathology & Audiology/ Hearing Aids	732.321.7063
Outpatient PT at Metuchen	732.548.9800	Vocational Rehabilitation	732.321.7069

CONTENTS

4 Transforming the Treatment of Pain at the Center for Sports and Spine Medicine

7 ACGME-Pain Medicine Fellowship Trains Tomorrow's Experts

8 Emerging Field of Regenerative Medicine Promotes Healing

9 Profiles of Recovery

11 Dr. Cuccurullo Signs Physical Medicine Board Review Textbook

12 Meet Our Pain and Sports Medicine Experts

16 JFK Johnson Groundbreaking Stroke Recovery Program Significantly Reduces Post-Stroke Deaths

18 Highlights of Our Scholarly Activities



< Sagar Parikh, M.D., left, is Medical Director of the Center for Sports and Spine Medicine. David Brown, D.O., right, is an expert in sports medicine and electrodiagnostics, a subspecialty that requires a high level of knowledge of the physics and biology of the electrical signals generated by muscles and nerves.

Transforming the Treatment of Pain

at the Center for Sports and Spine Medicine

When Sagar Parikh, M.D., sits across from a patient, his questions go beyond just asking for a number on a pain scale. He also asks about the patient's personal goals, home and work environment, activities and fitness level.

Dr. Parikh and his colleagues work to discover the cause of pain and how pain and dysfunction have impacted the lives of his patients.

"We don't just ask, 'What's the level of your pain, zero to 10?' And then offer a generic treatment plan," says Dr. Parikh.

"We work to learn what's actually causing the pain and dysfunction, and then create a treatment strategy tailored to the patient."

Dr. Parikh is an Interventional Pain Medicine Specialist and Medical Director of the Center for Sports and Spine Medicine (CSSM) at JFK Johnson Rehabilitation Institute. He and his CSSM colleagues are targeting pain with a range of advanced treatment strategies, such as neuro-modulation, regenerative medicine and specialized X-ray

and ultrasound-guided injections.

But the CSSM physicians also are pioneering new approaches to pain and musculoskeletal injuries that provide greater emphasis on comprehensive care and functional improvement — transforming the way the center treats pain. CSSM uniquely brings together specialized pain medicine physicians and a range of other health care providers and services to create customized treatment strategies for each patient.

These treatments may incorporate mind-body medicine, exercise therapy, acupuncture, pain education, nutrition, body mechanics and physical therapy into the treatment plan. The doctors at CSSM fine-tune this comprehensive approach to create individualized plans of recovery that also use tailored physical training sessions designed to get patients back into fitness activities.

"We let our patients know that a treatment strategy is never just one approach. A proper

treatment course focuses on tissue healing, muscle strengthening and stretching, pain relief and overall functional improvement," says Craig Van Dien, M.D., a CSSM physician who is trained in Sports Medicine. "This will set our patients up for success in the long run."

As a pain center within JFK Johnson, CSSM physicians draw on the resources of the rehabilitation institute.

"It's common for us to

collaborate on patient care with JFK Johnson's team of providers," says Dr. Parikh. "If a patient suffered a traumatic injury, for example, we could collaborate with one of our concussion specialists, our team of physical therapists, and our pain psychologist to provide well-rounded care that complements our treatment goals."

Located together at JFK Johnson, CSSM physicians can simply walk down the hall to check on a patient's progress

"The center takes a conservative approach to relieve pain and to identify the cause of pain. We look at each person individually. And we're part of a rehabilitation institute, so our physicians and physical therapists continually interact to support each patient. Every day we see patients benefit from our expertise and comprehensive care."

Sara Cuccurullo, M.D.,
Medical Director and VP
JFK Johnson Rehabilitation Institute



< Eric Fandrick, PT, DPT, a physical therapist at the JFK Johnson Rehabilitation Institute Outpatient Center at Woodbridge, left, works with Jonathan Munoz. David Brown, D.O., top right, points to the ultrasound image of Arati Routh's knee. Elissa M. Kaplan, Ph.D., a Rehabilitation Psychologist, counsels Myriam Breton Jones on mind-body techniques to relieve pain.

JFK Johnson has always had a strong foundation in emphasizing functional goals and we are well equipped to offer that to our patients.

David Brown, D.O.,
Sports Medicine and Electrodiagnostic
physician at CSSM

in physical therapy, or consult with other CSSM physicians. CSSM also is connected to the JFK Medical Center, an acute care hospital, allowing the team of doctors to collaborate directly with physicians of other disciplines, including neurosurgery.

At CSSM, treatment begins with comprehensive questioning, a thorough physical exam, and, if necessary, diagnostic testing. From there, the physician may determine that a patient would benefit from a custom physical therapy program, or an ultrasound-guided nerve block or joint injection.

"Our interventional treatment options are quite vast, ranging from intramuscular or epidural injections, to image-guided joint injections, to radiofrequency ablation of nerves, which decreases pain signals," says Laurent Delavaux, M.D., a Pain Medicine specialist at CSSM. "The skill comes in

knowing which intervention to offer and at what moment."

CSSM also is pushing the boundaries of conventional pain treatments and using forms of neuromodulation, such as spinal cord stimulation and DRG stimulation, which target different aspects of the spinal cord or central nervous system to drive down pain. CSSM also is advancing regenerative medicine therapies, such as platelet-rich plasma injections, which use the patient's own platelets to accelerate the healing of injured tendons, ligaments, muscles and joints.

These cutting-edge procedures are all a part of CSSM's holistic approach. CSSM physicians often refer to themselves as coaches and their patients as athletes — whether the patient's goal is to run a marathon or to simply walk around the block free of pain.

At CSSM, the in-depth conversations between the physicians and patients often include education about the CSSM approach — and that means educating patients whose previous care may have centered on regular prescriptions of opioids. Sometimes, the conversations can be challenging.

"For a long time, the thinking was that people could be prescribed opioids forever without consequence or unwanted side effects," says Dr. Delavaux. "There is a role for pain medications within the continuum of pain care. However, opioids should not be the only treatment strategy. We don't see the efficacy of it long term."

The center does not support solely masking pain with long-term high doses of opioids — a strategy that can cause adverse effects, such as addiction, and often is simply not effective at improving a patient's functional ability, or even reducing their pain long term.

>> ACGME-Pain Medicine Fellowship Trains Tomorrow's Experts

JFK Johnson Rehabilitation Institute is helping to train the next generation of pain medicine specialists through its accredited multidisciplinary fellowship in Pain Medicine.

The yearlong fellowship program enables physicians to become board certified in the subspecialty of Pain Medicine — becoming experts in the pharmacological, interventional, psychological and functional aspects of pain assessment, management and treatment.

The fellowship is accredited by the Accreditation Council for Graduate Medical Education (ACGME) and emphasizes a comprehensive approach to pain. The trainee is exposed to interventional pain procedures, acute and chronic pain management, cancer pain and palliative care, neurology, psychiatry and pain psychology.

The field of pain medicine is evolving and requires extensive and continually updated training and education. In addition to learning advanced image-guided procedures ranging from pain-relieving injections to neuromodulation, trainees are also exposed to cutting-edge treatment strategies in the field of regenerative medicine.

"JFK Johnson is privileged to have this elite fellowship program at our institution," says Sara Cuccurullo, M.D., medical director and vice president of JFK Johnson. "Our pain specialists have the dedication and the resources to keep our program up-to-date on the latest treatments and interventions, enabling us to train a new generation of physicians in Pain Medicine and ensure that our patients are treated with the latest interventions and approaches."

Physicians who complete the program become board eligible for the American Board of Medical Specialty (ABMS) certification in Pain Medicine.

Drawing from a wide range of practitioners including pain medicine specialists, sports medicine specialists, pain psychologists, anesthesiologists, psychiatrists and neurologists, trainees of the JFK Johnson Rehabilitation Institute Pain Medicine Fellowship Program are provided a well-rounded educational experience.

>> Emerging Field of Regenerative Medicine Promotes Healing

Regenerative medicine, an emerging specialty within the application of regenerative medicine to promote healing in diseased or injured tissues has emerged into the forefront of musculoskeletal care. In the past decade, efforts in the study and validation of regenerative therapies have moved forward — and the team at CSSM has joined the effort.

“Regenerative medicine will eventually become a mainstay in our treatment protocols,” says Sagar Parikh, M.D.

A frontier in regenerative medicine is platelet-rich plasma injections, or PRP — a therapy that has shown great promise in augmenting healing and in reducing pain in diseased muscle, tendons, ligaments, and bone. In the outpatient procedure, a physician draws the patient’s blood, isolates and concentrates platelets, and injects the platelets into the injured area.

“The research into platelet-rich plasma has been growing steadily, and when the procedure is implemented in an appropriate manner — supported by the existing evidence — then patients experience positive clinical responses,” says Craig Van Dien, M.D.

Dr. Van Dien recalled a patient with a rotator cuff disease resulting in shoulder pain and functional deficits despite years of conservative care such as physical therapy, medications, and steroid injections.

“The patient experienced 85 percent to 90 percent improvement in their chronic shoulder pain after a targeted injection of the diseased tissue with PRP and subsequent physical therapy,” Dr. Van Dien said.

Dr. Iqbal Jafri was the first to institute PRP at JFK Johnson Rehabilitation Institute and has seen similar positive results in his patients that did not respond to traditional conservative management.

PRP, and other regenerative techniques, provide a new and innovative option for the management of musculoskeletal conditions. “I’m sure we will see PRP being used in even more areas in the coming years,” Dr. Jafri said. “It’s something I’m very excited about.”

“For some people, their pain renders them physically inactive and compromises their independence. Our goal is not just to relieve pain but to help patients get back to their lives and function well.”

*Iqbal Jafri, M.D.,
CSSM Pain Medicine specialist*

Adds Dr. Van Dien: “It’s deeply ingrained in our culture that pain medication is the appropriate route. So we’re battling uphill in educating not just our patients but the wider community.”

A downward spiral can occur when patients in pain limit their activities. Their more sedentary lifestyle can lead to reduced function, and perhaps weight gain or depression — all of which can in turn increase pain.

Pain is complex. Is there muscle dysfunction? Arthritis? An injury? Pain can emerge from a collection of ailments. And CSSM physicians look beyond pain to also address the range of effects of illness or injury.

“When you enable someone to move better and be more physically fit — to build up their strength and functional ability — you actually improve their mood and confidence,” says Dr. Parikh. “This along with our advanced interventions work together to decrease pain and get our patients back to their lives again.” JFK

Profiles of Recovery

Getting Healthy By Building Strength

Jonathan Munoz had a job lifting crates and heavy boxes. Even though he was just 21 years old, the physical work took a toll. Suddenly Munoz could not bend over. Even standing hurt.

Munoz made an appointment with Craig Van Dien, M.D., a pain medicine specialist at the Center for Sports and Spine Medicine (CSSM) who educated him about body mechanics. Dr. Van Dien also suggested that Munoz begin working with Eric Fandrick, PT, DPT, a physical therapist at the JFK Johnson Rehabilitation Institute Outpatient Center at Woodbridge.



Fandrick is now helping Munoz build his core strength through physical therapy sessions that also focus on strengthening his hips and knees.

“The exercises are pretty challenging,” Munoz says. “But I am getting better all the time. Before, I could not bend down. Now I can. I really do feel like I’m getting stronger.”

Dr. Van Dien says appropriate management of patients requires an open dialogue between the patient, the physician and the supporting staff. “At CSSM, we have the advantage of working very closely with our therapy staff, and we modify treatments accordingly to achieve the best outcomes for our patients,” he says.

Fandrick says the doctors at CSSM are not quick to medicate their patients and work to find other ways to help them recover. He’s educating Munoz about body mechanics, such as how to best sit, stand, bend and lift. The two work one-on-one for the entire session, with Fandrick encouraging and pushing Munoz every step of the way.

“Eric is always there to make sure I am doing the

movements correctly,” says Munoz, who is also a musician.

Fandrick says he appreciates that JFK Johnson gives him the opportunity to work with just one patient at a time. “We want to get Jon strong. The goal is to give him the tools — the exercises, the body mechanics — so that he can prevent future injuries.” JFK

Regenerative Medicine Helps Her Start Running Again

To Jamie Christensen, running was a part of life. She ran in college as a sprinter and hurdler, and after college to relieve stress and to stay healthy.

Last year, she developed throbbing knee pain that limited her sporting activities and affected her work as an occupational therapist. For this, she saw Craig Van Dien, M.D., at the Center for Sports and Spine Medicine (CSSM).

After an office visit that included an examination with ultrasound, Dr. Van Dien determined Christensen had a partial patellar tendon tear. “And that was very shocking to me. Dr. Van Dien saw it on the ultrasound. I could see it clearly, too,” Christensen recalls.

Dr. Van Dien recommended plasma-rich platelet therapy, a novel, in-office treatment that uses concentrated platelets from the patient’s own blood to augment the healing process and reduce pain associated with diseased or injured tissue. Dr. Van Dien guided Christensen through the one-hour procedure — from the blood draw to injection.

The procedure is part of a holistic approach emphasized at CSSM.

Dr. Van Dien educated Christensen on body mechanics and injury prevention. He recommended targeted physical therapy. In follow-up, Dr. Van Dien used ultrasound to show Christensen how the tendon was healing.

Christensen has since started lifting and is running again. “There is not one magic bullet,” she said. “It’s a comprehensive solution.” JFK



Complex Pain Requires Comprehensive Approach

Myriam Breton Jones recalls that her nerve endings felt on fire. Her pain made walking difficult, and she could barely get through the days. "I was crumbling," she says.

A cervical operation, MRIs, medications and other treatments didn't help. As a last resort, her neurosurgeon

recommended she visit the Center for Sports and Spine Medicine (CSSM), where she met with Sagar Parikh, M.D.

"The approach was holistic," she says. Breton Jones had been living in England and returning from a vacation in France with her British husband and their two children when two trucks collided with the family's car. Breton Jones, the only one in the car seriously injured, began a long recovery from a brain injury, a broken

clavicle, a punctured lung, seven fractured ribs and a fractured humerus, as well as myriad spine injuries.

The accident was more than a decade ago. Breton Jones was never completely pain free but was functioning fairly well.

More recently, she and her family returned to the United States to support her elderly parents. That's when her pain re-emerged — as if her accident had just occurred.

"Why was I back in a position where I could not even walk the dog?" she asks.

Dr. Parikh recommended radiofrequency ablation, a procedure that uses an electrical current produced by a radio wave to stop damaged nerves in her lower from sending pain signals to the brain. Breton Jones felt significant relief.

But Dr. Parikh believed his patient would benefit further from CSSM's comprehensive approach.

"I could see that Myriam was suffering and I thought there was much more we could do to help her," Dr. Parikh says. He recommended she visit Christine Greiss, D.O., director of the JFK Johnson Concussion Program, for her lingering neurologic injuries.

Dr. Parikh also advised her to continue with physical therapy, and he recommended that she meet with Elissa M. Kaplan, Ph.D., a Rehabilitation Psychologist at JFK Johnson. Dr. Kaplan helps patients reduce anxiety and pain through evidence-based, mind-body techniques.

"People give pain control over their lives," Dr. Kaplan explains. "You think, 'I better lie down. I better sit down.' Now, pain is in charge of your day. What I try to do is empower people so they are in charge of their bodies again."

In a recent session, in a slow and meditative voice, Dr. Kaplan asks Breton Jones to focus on her breathing: "... think of ocean waves that roll in and out ... focus on how your chest rises and falls ... trace the physical sensations of your breathing ..."

During several sessions, Dr. Kaplan also helped Breton Jones understand how the stress of her transatlantic move and caring for her elderly parents could have increased her anxiety and subsequent pain.

Today, Breton Jones says she feels "amazing." She has greater understanding of how her emotions connect with her pain — and how all elements of her care at CSSM work together.

"I came from a desperate place," she says. "And now I'm getting my life back." **JFK**

After Spinal Implant, He Cherishes Small Victories

After his car was rear-ended by a tractor-trailer years ago, Mark Magnani experienced shooting nerve pain down his legs. The injured discs in his spine caused continual agony. Despite multiple surgeries and injections, he lived with severe chronic pain. He could not sit through a half-hour television program, and standing hurt, too.

"Sometimes I just laid in bed on my back all day," the 60-year-old from Edison recalls. Opioid medications only blunted the pain slightly — and he was deeply concerned about their long-term use.

After living with unrelenting pain, Magnani reached out to Sagar Parikh, M.D., at the Center for Sports and Spine Medicine (CSSM). Dr. Parikh analyzed Magnani's medical history and proposed a possible solution: spinal cord stimulation.

In spinal cord stimulation, a small device, similar to a pacemaker, is implanted into the patient's back and delivers electrical pulses to the spinal cord. The system blocks pain sensations and can provide relief to people with chronic back and leg pain that does not respond to conventional treatment.

Magnani underwent image-guided implantation of a temporary sensor, a required first step. "I could tell right away that it worked. My leg pain was dramatically reduced," he says. "I'm able to walk longer, to sleep better. My back pain is way down, too. Before, I couldn't do anything. Now I am making plans."

Magnani credits Dr. Parikh's thoughtful and personalized approach. "Other doctors just wrote me a prescription every month," he says. "Dr. Parikh has the best interests of his patients at heart."

Dr. Parikh and the other highly specialized physicians at CSSM create a personalized course of treatment for each patient — one that can include novel treatments such as spinal cord stimulation, coupled with an exercise program.

"Just having the innovations available is not enough," says Dr. Parikh. "You also have to know the right intervention for each person. And we use a comprehensive approach that incorporates mind-body medicine, exercise, education, and physical therapy into the plan for each person's recovery."

For Magnani, Dr. Parikh's intervention has improved his life significantly. He is now working to reduce his reliance on pain medicine and to increase his activity.

Several weeks after the temporary sensor, Magnani had the permanent device implanted. The next step is for Magnani, who owned an auto mechanic business before his accident, to move forward with the physical and aquatic therapy that he found to be too difficult to participate in before the spinal cord stimulation.

He cherishes small victories: "The other day I took out the garbage and did not have to stop halfway due to pain." **JFK**



Dr. Cuccurullo Signs Physical Medicine Board Review Textbook

Sara Cuccurullo, M.D., medical director and vice president of JFK Johnson Rehabilitation Institute, signs her top-selling medical textbook that has been called a "review bible" for physicians studying to become specialists in Physical Medicine and Rehabilitation.

The book signing took place at the American Academy of Physical Medicine and Rehabilitation (AAPM&R) Annual Assembly. This fourth edition of *Physical Medicine and Rehabilitation Board Review*, recently released, has been updated to reflect current practice and the core knowledge tested on the medical board examination for specialists in Physical Medicine and Rehabilitation.

The medical textbook draws on Dr. Cuccurullo's 25-plus years of teaching and medical practice at JFK Johnson. The book emerged from her teaching notes created through the years — notes sought after by physicians studying for their board certification in Physical Medicine and Rehabilitation. After repeated requests for her notes, Dr. Cuccurullo decided to create the textbook. Proceeds from the book are donated to JFK Johnson's residency education fund. **JFK**



Meet OUR PAIN and SPORTS MEDICINE Specialists

// DAVID P. BROWN, D.O.

David P. Brown, D.O., is board certified in Physical Medicine and Rehabilitation, Sports Medicine, and Electrodiagnostic Medicine.

Dr. Brown brings long-time experience and expertise in the treatment of peripheral nerve injuries and neuromuscular conditions to his work at CSSM. He treats patients with sports injuries — from high school and college athletes to older “weekend warriors” — and anyone with injuries to knees, shoulders, backs and necks.

“First we get a really good history and physical examination,” he says. “We try to begin conservatively and get the body to heal itself as much as possible. We get appropriate testing, when needed, and we tailor a detailed rehabilitation program to a particular injury.”

Other steps could include pain interventions, such as ultrasound-guided injections, which can be done right in Dr. Brown’s office. Dr. Brown is trained in ultrasound and uses the imaging technology to more precisely guide injections. These may be for older people whose joints are injured from decades of daily activities, and many of them want to postpone or avoid joint replacement.

Dr. Brown has 30 years of experience in electrodiagnostics, a subspecialty that uses electrophysiological techniques, such as nerve conduction studies, to diagnose, evaluate, and treat people with neurologic or neuromuscular problems. The studies require a high level of skill and knowledge of the electrical signals

generated by muscles and nerves.

“You have to understand the interplay between injuries to joints and tendons, and injuries to the nerves,” Dr. Brown says.

The electrodiagnostic testing by Dr. Brown is critical for patients undergoing surgery for injuries to the phrenic nerves, which pass sensory information from the brain to the diaphragm. Some patients are dependent on ventilators and others struggle to breathe. Dr. Brown’s testing is necessary before these patients can proceed with surgery.

Dr. Brown’s electrodiagnostic testing also is valuable for patients with neuromuscular conditions resulting from accidents, and muscle diseases that cause weakness and numbness.

“What differentiates us at CSSM is that we have specialists and subspecialists who cover a broad spectrum of care. Our patients can really benefit from our range of skills and talents.”

Dr. Brown gained valuable medical experience working for a decade at Walter Reed Army Medical Center in Bethesda, Md., and is published in medical textbooks and journals. **JFK**

// LAURENT DELAVAU, M.D.

Laurent Delavaux, M.D., is board certified in both Pain Medicine and in Physical Medicine and Rehabilitation. He provides advanced interventions to his patients along with a comprehensive approach to pain management.

To Dr. Delavaux, educating the patient is key — and he considers his patients equal partners in their recovery.



Treating A Range of Sports, Musculoskeletal and Pain Conditions

- Neck and back pain
- Arthritic conditions
- Joint pain or limited range of motion
- Tendonitis or ligament sprain
- Shoulder rotator cuff/labral injuries, tendonitis, bursitis
- Elbow swelling, pain, tennis elbow, golfer’s elbow
- Carpal tunnel syndrome
- Sciatica or radicular pain
- Difficulty walking or balancing
- Hip or groin pain, arthritis, bursitis
- Knee pain, arthritis, buckling
- Ankle and foot problems
- Complex regional pain syndrome (CRPS or RSD)
- Neuropathic pain or diabetic nerve pain
- Fibromyalgia and myofascial pain
- Pain issues from stroke and spinal cord injury
- Pain issues after back surgery
- Pelvic pain
- Chronic pain

Call 732.321.7757 for an appointment.

“I spend the time to explain to the patient what’s going on ... why they are doing physical therapy ... what specific moves help their condition ... I believe they are far more likely to commit to a treatment if they understand how it will help them,” Dr. Delavaux says.

As an interventional pain specialist with CSSM, Dr. Delavaux offers his patients novel interventions to provide pain relief, from epidural injections to radiofrequency ablation to nerve blocks and spinal cord stimulation and other procedures. His aim is to improve function and quality of life.

His patients may have neck or back pain, sports injuries or pain related to diabetic neuropathy or overuse injuries. Some patients in their 40s, 50s or 60s have arthritis and still want to be active. For them, a nerve block can provide relief.

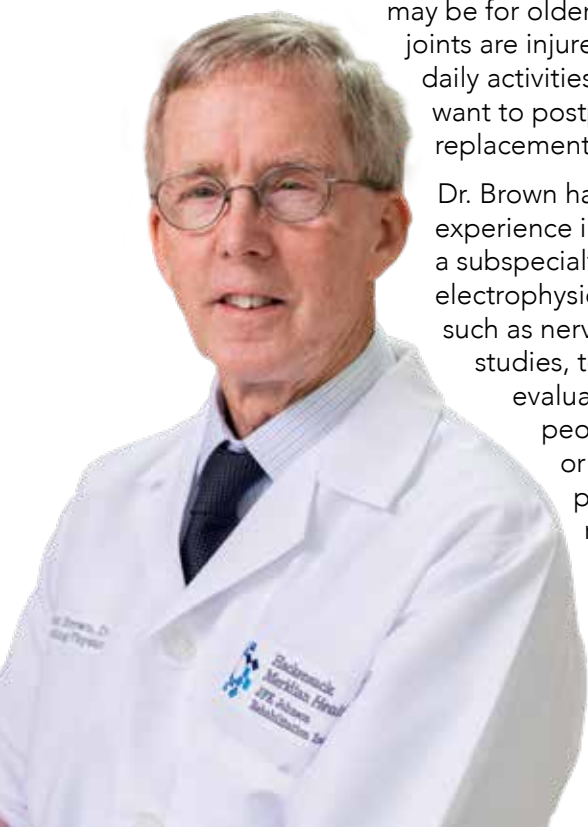
Finding the correct novel intervention for the right patient requires an old-fashioned approach.

“We are very practical in how we use these interventions. We work to make sure we use the right procedure for the right patient.”

“We can spend the time to really examine the patient through a thorough history and physical exam,” he explains. “To get the correct diagnosis you need time to really listen to the patient.”

He says just examining an MRI or other diagnostic image could mislead a physician into thinking that a bulging spinal disc, for instance, or normal spinal deterioration, is what’s causing the patient’s problem. A thorough consultation and perhaps other tests examining how the muscles and nerves are functioning can enable the physician to determine what’s really causing the patient’s distress.

CSSM physicians draw on each other’s expertise. “If I am trying to figure out what’s going on, I may ask Dr. (Craig) Van Dien, our ultrasound and sports medicine expert, ‘Can you take a look at this shoulder?’ That happens a lot. Our patients have the benefit of all our opinions.” **JFK**



// IQBAL JAFRI, M.D.

Iqbal Jafri, M.D., is medical director of the Pain Management Program and of the Center for Cardiopulmonary Rehabilitation. He is board certified in Physical Medicine and Rehabilitation and Pain Medicine. He also was the first director of the Pain Medicine Fellowship at JFK Johnson Rehabilitation Institute, which started in 2011.

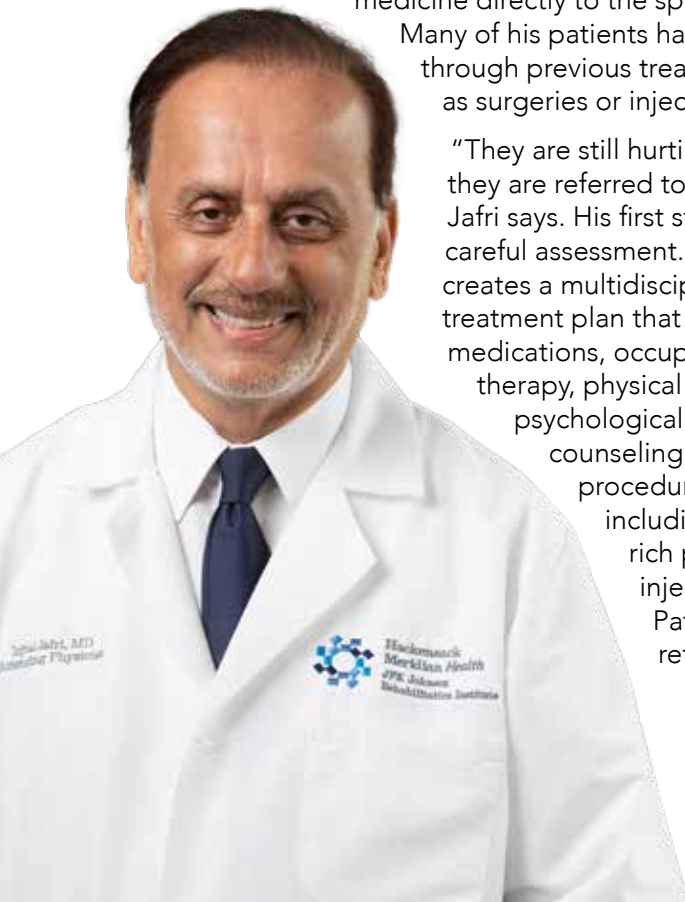
Dr. Jafri is published in peer-reviewed journals. He has coauthored a chapter on cardiac rehabilitation in the book *Physical Medicine and Rehabilitation Medicine Board Review* and also wrote a chapter on pain management in the book *Women with Disabilities: A Comprehensive Guide to Care*.

“My goal is to really get my patients back into the activities they care about — to ease their pain and improve their function and independence.”

Dr. Jafri treats patients suffering from often difficult-to-treat pain, such as complex regional pain syndrome, phantom limb pain, myofascial pain syndrome, arthritis, fibromyalgia, and other chronic pain conditions. Dr. Jafri also manages patients who require intrathecal pain pumps, which deliver medicine directly to the spinal cord.

Many of his patients have gone through previous treatments, such as surgeries or injections.

“They are still hurting when they are referred to me,” Dr. Jafri says. His first step is a careful assessment. He then creates a multidisciplinary treatment plan that may include medications, occupational therapy, physical therapy, psychological support, counseling and procedures including platelet-rich plasma injections. Patients are referred for



interventional procedures if indicated.

“Every patient is different, not only how they sense pain but how they respond to pain. For some, their pain renders them physically inactive and compromises their independence,” he says. “Our goal is not just to relieve pain but to find the cause of their pain and help patients function well in their lives.”

His goal is to reduce a patient’s reliance on opioid medications, and he often turns to other types of pain medications, therapies, and modalities to improve overall function and independence. **JFK**

// SAGAR S. PARIKH, M.D.

Sagar Parikh, M.D., is board certified in both Pain Medicine and Physical Medicine and Rehabilitation.

He is Medical Director of the Center for Sports and Spine Medicine (CSSM) and also directs the Pain Fellowship Training Program at JFK Johnson Rehabilitation Institute. Dr. Parikh provides a holistic and comprehensive approach to pain medicine, utilizing his knowledge of advanced image-guided interventions, exercise therapy, mind-body techniques and lifestyle modifications.

As an interventional pain specialist, Dr. Parikh offers his patients a range of image-guided interventions to provide pain relief — from epidural injections and nerve blocks to radiofrequency ablation and spinal cord stimulation. He is also greatly interested in practicing regenerative medicine, an area of therapeutics that promotes tissue healing and is a new frontier of musculoskeletal medicine. The treatment protocols do not end at interventions, however, as Dr. Parikh also stresses the importance of exercise and movement.

Dr. Parikh has spoken at regional and national conferences on various aspects of pain medicine — from advanced treatments for conditions such as chronic back pain, arthritis and complex regional pain syndrome to possible solutions to curb the opioid crisis. He has also written numerous chapters and educational materials on pain medicine.



“Focusing on not only pain relief, but strength, function, and healthy behaviors allows us to approach the patient from the mindset of wellness.”

To Dr. Parikh, encouraging patients to be active participants in their recovery is of utmost importance, and he finds that education is a perfect way to achieve this.

“I find that educating the patient on the causes of his or her pain and fully explaining all aspects of the recovery process is key to their engagement and overall recovery,” says Dr. Parikh. “I like to think of my patients as athletes, and we, the physicians, are their coaches.”

Having CSSM as part of an academic center is beneficial to the team of physicians and, most important, to patients, says Dr. Parikh. At CSSM, Dr. Parikh and his colleagues pride themselves on being able to spend a healthy amount of time getting to know their patients and collaborating with colleagues on patient care.

“We really are quite fortunate to have so many well-trained specialized health care providers under one roof,” says Dr. Parikh. “We are able to provide the type of coordinated care that is necessary to effectively treat pain.” **JFK**

// CRAIG VAN DIEN, M.D.

Craig Van Dien, M.D., is board certified in Physical Medicine and Rehabilitation and in Sports Medicine. He treats sports injuries — or any acute or chronic condition involving muscles, ligaments, tendons and bones. He believes in well-rounded and personalized plans of care.

Dr. Van Dien places emphasis on education and research and has presented his work at regional and national levels. He has a particular interest and expertise in ultrasound, an imaging technology that he uses as part of his clinical evaluations.

“The traditional musculoskeletal office may have an X-ray, which mostly limits an assessment to bone. Ultrasound, however, gives me the advantage of examining soft tissues at rest and in motion. I can visualize the tissue in an injured area and compare those findings with the patient’s healthy side,” Dr. Van Dien explains.

“The best way to truly understand a patient and what they are experiencing is to provide them with time to tell us. That’s an art of medicine that’s being lost.”

Dr. Van Dien has in-office access to ultrasound technology and the training to interpret the images, giving meaningful real-time insight into injuries without sending patients to an imaging center. He also uses ultrasound in interventions, improving procedural accuracy, outcomes and patient comfort.

Dr. Van Dien works with each patient to set functional goals. “This is complex, and requires well-devised plans of care, coordination with supporting staff and appropriate patient education,” he says.

The CSSM approach allows Dr. Van Dien to spend adequate time with his patients. **JFK**



JFK Johnson Groundbreaking Stroke Recovery Program SIGNIFICANTLY REDUCES Post-Stroke Deaths

Survivors recovering from a stroke can significantly reduce their chances of dying within a year if they complete a comprehensive stroke recovery program with modified cardiac rehabilitation — similar to the rehabilitation offered to people recovering from cardiac disease, according to a recent study published in the *American Journal of Physical Medicine and Rehabilitation*.



▲ Dr. Cuccurullo, left, and Dr. Fleming

The Stroke-HEART™ Trials at JFK Johnson Rehabilitation Institute were designed to assess the benefits of a comprehensive outpatient Stroke Recovery Program (SRP) and measure specific clinical and functional outcomes for stroke survivors.

Patients in the SRP received 36 sessions of medically monitored interval cardiovascular training on recumbent cross-training bicycles — as well as follow-up visits with a Physical Medicine and Rehabilitation physician, psychological, nutritional, educational support and risk factor

management. This was in addition to traditional physical, occupational and speech therapy.

Patients who did not participate in the program received the traditional standard of care, which may have included physical, occupational and speech therapy, and follow up with their community physician.

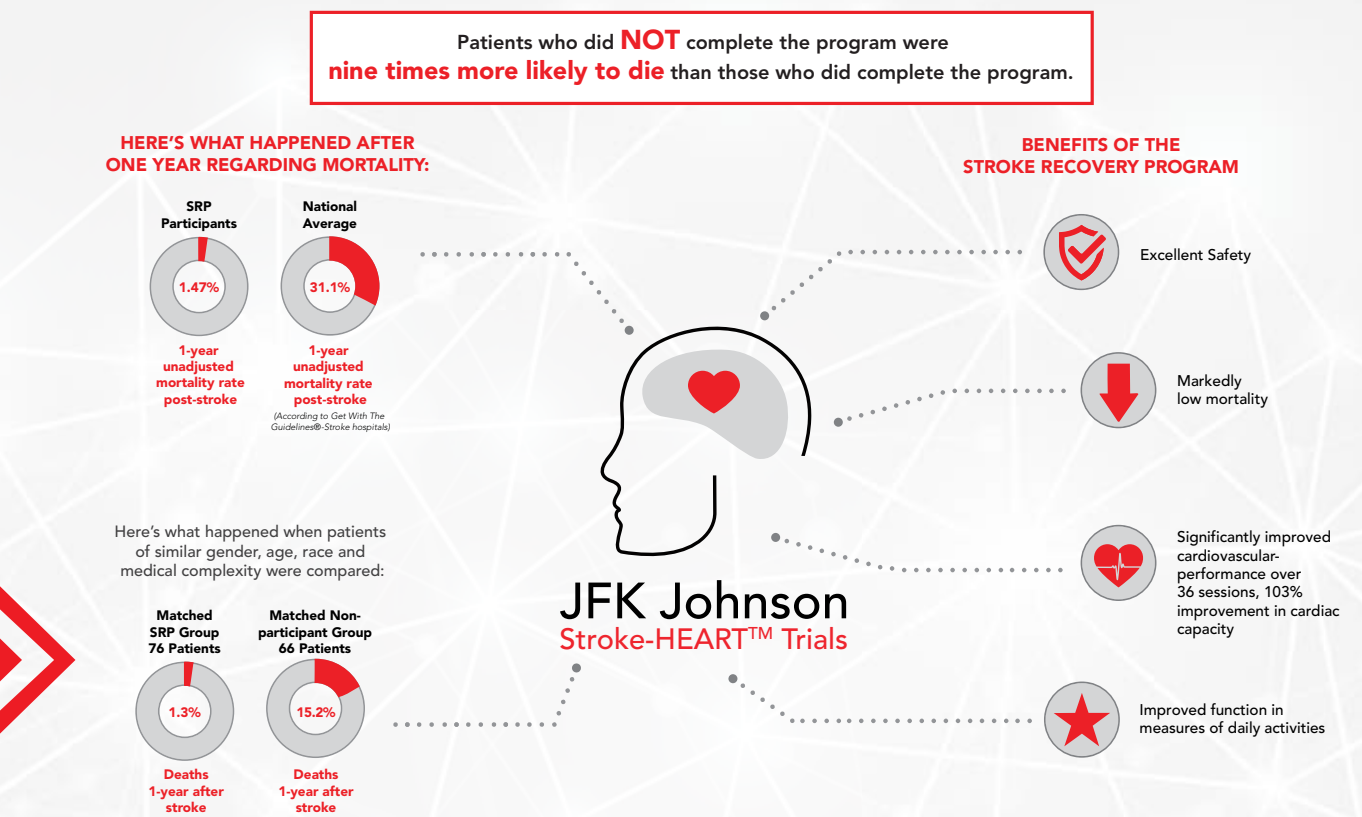
The Stroke-HEART™ Trials at JFK Johnson Rehabilitation Institute found those who did not complete the JFK Johnson Stroke Recovery Program were nine times more likely to die than those who did complete the program.

“The results are impressive and reinforce the value of giving stroke patients a comprehensive cardiac rehabilitation program modified for people who have experienced a stroke.” - Dr. Cuccurullo

Nationally, the overall chances that a person admitted to the hospital after a stroke will die within a year is 31.1 percent across Get With The Guidelines®–Stroke hospitals, denoted by the American Heart Association/American Stroke Association. In contrast, the death rate for people hospitalized for stroke who completed the JFK Johnson Stroke Recovery Program was 1.47 percent.

The trials also matched hospitalized stroke patients of similar age, gender, race, type of stroke, hospital discharge functional scores, and medical complexity. Of the 66 nonparticipants in the matched group, 15.2 percent died within one year. In contrast, of the 76 patients who completed the Stroke Recovery Program, only 1.3 percent died. The results showed that nonparticipants had a 9.09 times higher hazard of mortality.

The Stroke-HEART™ Trials researchers said they



found that stroke survivors with wide-ranging neurologic complications could safely participate in cardiovascular conditioning that was modified for stroke patients.

“A patient with a stroke has a 12 percent to 25 percent chance of having another stroke in the first year. Yet we still are sending people home without the comprehensive follow-up rehabilitation they need to reduce their chance of a second stroke and to improve their strength, function and overall health,” Sara J. Cuccurullo, M.D., Chairman and Medical Director of JFK Johnson and a Co-Principal Investigator of the study, said.

Talya Fleming, M.D., Director of the Aftercare and Stroke Recovery Programs and Co-Principal Investigator of the study, said stroke survivors often have high blood pressure, diabetes, high cholesterol, a history of smoking and/or an irregular heartbeat.

“Many have a sedentary lifestyle and a poor diet. The Stroke Recovery Program provides the structure to help our stroke survivors adopt behavioral and lifestyle changes to lead healthier lives,” she said.

A landmark Mayo Clinic study in 2011 found that a comprehensive cardiac rehabilitation program reduces five-year mortality by 45 percent in patients who have undergone cardiovascular procedures to open blocked arteries. The JFK Johnson researchers are hoping that Medicare will change its policies to cover similar rehabilitation for patients who have experienced stroke.

“A motivation behind our research was to show patients, physicians and insurers the enormous value of a comprehensive program similar to the comprehensive program that cardiac patients benefit from,” said Dr. Cuccurullo. **JFK**

HIGHLIGHTS OF OUR SCHOLARLY ACTIVITIES

A. CURRENT RESEARCH IN PROGRESS

1. **JFK Johnson Rehabilitation Institute Awarded Traumatic Brain Injury Model System (TBIMS)** Sponsored by the National Institute on Disability, Independent Living, and Rehabilitation Research, Administration for Community Living, US Department of Health and Human Services, research to meet the needs of individuals with traumatic brain injury. September 2017-2022 (5 year grant).

2. **Greenwald, Brian, MD**, Primary Investigator for Avanir AVP 786 Pharmaceutical Clinical Trial Grant, - Trial Ongoing, 2017-Present

3. **Bartone, Dana, Dibling, Janice ,SLP, Cuccurullo, Sara, MD, Fleming, Talya, MD, Eckert, Anne, AuD, MBA, CCC/A**, JFK Medical Center IRB , " Functional Outcomes of Speech Language Pathology Intervention Post-Stroke" 2018 - Present

4. **Bagay, Leslie, MD, Cuccurullo, Sara, MD** IRB Approved "PM&R Evaluation Project: Development of standardized rotation specific resident evaluation forms that incorporate the PM&R Milestones, 2018 - Present

5. **Rossi, Roger, DO**, Exercise and rTMS (repetitive transcranial magnetic stimulation) in Parkinson's Disease-p20 study in collaboration with NYU Langone Medical Center and the Parkinson's Disease and Movement Disorders Center, 2018 - Present

6. **Greiss, Christine, DO, Cuccurullo, Sara, MD, Fleming, Talya, MD**, JFK Medical Center IRB ,Stroke Recovery Program – Changes in AMPAC Following SSRI Administration, 2018 - Present

7. **Joki, Jaclyn, MD, Cuccurullo, Sara, MD, Fleming, Talya, MD**, Rutgers IRB, Transcatheter Aortic Valve Replacement (TAVR) versus Minimally Invasive Aortic Valve Replacement (miniAVR) and their effects on cognition and function, 2018 - Present

8. **Joki, Jaclyn, MD, Cuccurullo, Sara, MD, Fleming, Talya, MD**, Rutgers IRB , Transitions of Care for Stroke Patients, 2018 - Present

9. **Cuccurullo, Sara, MD, Fleming, Talya, MD, Greiss, Christine, DO, Eckert, Anne, Ph.D., Scarpati, Rosann, RN**, JFK IRB, Stroke Recovery Program Clinical Outcomes Trial, Mortality, Incidence of New Strokes and Readmissions and Functional Outcomes trial. Multi-Center Collaborative Initiative, JFK Johnson Rehabilitation Institute, Rutgers, Robert Wood Johnson Medical School, 2015 - Present

10. **Escaldi, Steven, DO**, Research Project with Rutgers Bioengineering Department in conjunction with JFK Johnson Spasticity Clinic, 2018 - Present

11. **Brown, David, DO**, Pediatric Guillain Barre EMG Series Study and Phrenic Nerve EMG Study Pre and Post EMG findings after Pacer Implant, 2015 - Present

12. **Bagay, Leslie, MD, Luke, Ofure, MD, Landolfi, Joseph, DO, Cuccurullo, Sara, MD, Fleming, Talya, MD, Porbeni, Charles, MD**, JFK IRB– Brain Tumor Rehabilitation Program utilizing Cardiovascular training, Malignant Glioma Outcomes Trial 2019

B. TEXTBOOKS

1. **Cuccurullo, Sara, MD**, Editor-in Chief, (2004) Physical Medicine and Rehabilitation Board Review, First Edition , Textbook 848 pages,

Demos Publishing, N.Y., N.Y.

2. **Cuccurullo, Sara, MD**, Editor-in Chief, (2010) Physical Medicine and Rehabilitation Board Review, Second Edition , Textbook 938 pages, Demos Publishing, N.Y., N.Y.

3. **Cuccurullo, Sara, MD**, Editor-in Chief, (2014) Physical Medicine and Rehabilitation Board Review, Third Edition , Textbook 953 pages, Demos Publishing, N.Y., N.Y.

4. **Cuccurullo, Sara, MD**, Editor-in Chief, (2019) Physical Medicine and Rehabilitation Board Review, Fourth Edition , Textbook 1001 pages, Demos Publishing, N.Y., N.Y.

C. PEER REVIEWED PUBLICATIONS

1. **Thomas, Alphonsa, MD, Greenwald, Brian, MD, Paroxysmal Sympathetic Hyperactivity and Clinical Considerations for Patients with Acquired Brain Injuries: A Narrative Review**, American Journal of Physical Medicine and Rehabilitation, 98(1):65-72, January 2019

2. **Cicerone, KD. Goldin Y., Ganci K, Rosenbaum, A, Wethe J, Langenbahn, D, Malec JF, Bergquist TF, Kingsley, K, Nagele, D, Trexler, L, Fraas, M, Bogdanova, Y, Harley JP, "Evidence-Based Cognitive Rehabilitation: Systematic Review of the Literature From 2009 Through 2014; Archives of Physical Medicine and Rehabilitation, in press 2019**

3. **Cuccurullo, Sara, MD, Fleming, Talya, MD, Kostis, William, MD, Greiss, Christine, DO, Gizzi Martin, MD, Ph.D., Eckert, Anne, AuD, MBA, CCC/A, Ray, Arlen, PT, Scarpati, Rosann, RN, Cosgrove, Nora, RN, CCRC, Beavers, Traymon, BS, Cabrera, Javier, Ph.D., Sargsyan, Davit, MD, Kostis, John B., MD, D.Phil, "Impact of a Stroke Recovery Program Integrating Modified Cardiac Rehabilitation on All-Cause Mortality, Cardiovascular Performance and Functional Performance, American Journal of Physical Medicine and Rehabilitation, November 2019, Volume 98, Issue 11**

4. **Silver, Julie, MD, Cuccurullo, Sara, MD, Weiss, Lyn, MD, Visco, Christopher, MD, Oh-Park, Mooyeon, MD, Perret-Karimi, Danielle, MD, Frontera, Walter, MD, Ph.D, Fleming, Talya, MD, Bosques, Glendaliz, MD, Bhatnagar, Saurabha, MD, Ambrose, Anne Felicia, MD, Nguyen, Vu. MD, "The Vital Role of Professionalism in Physical Medicine and Rehabilitation" American Journal Of Physical Medicine and Rehabilitation, In Press 2019**

5. **Khanuja, Kavisha, BA, Joki, Jaclyn, MD, Bachmann, Gloria, MD, MMS, Cuccurullo, Sara, MD**, Gait and Balance in the Aging Population: Fall Prevention Using Innovation and Technology Maturitas, 2018, PMID:29563035

6. **Silver, JK, MD, Cuccurullo, Sara, MD, Ambrose AF, MD, Bhatnagar, S, MD, Bosques, G, MD, Fleming, Talya, MD, Frontera, WR, MD, Karimi, DP, MD, Sowa, G, MD, Visco, C, MD, Weiss, L, MD, Knowlton, T, Association of Academic Physiatrists Woman's Task Force Report, American Journal of Physical Medicine and Rehabilitation, 2018, April 20, PMID: 29734233**

D. ABSTRACTS/POSTER PRESENTATIONS

Association of Academic Physiatrist National Meeting, San Juan, Puerto Rico, February 2019

1. **Patel, Shrut, MD, Markos, Steven, MD, Thakral, Aakash, MD, Cuccurullo, Sara, MD, Fleming, Talya, MD, Greiss, Christine, MD**, "Cardiovascular Interval Training Significantly

Improves MET-minutes in Stroke Survivors"

2. **Chan, Stephanie, MD, Greenwald, Brian, MD**, "Testosterone Supplementation in a Male Patient with Disorder of Consciousness After Severe Traumatic Brain Injury (TBI): To Replace or not to Replace"

3. **Chan, Stephanie, MD, Jafri, Iqbal, MD, Cuccurullo, Sara, MD**, "Effects of Comprehensive Cardiac Rehabilitation for a Young Patient with Peri-partum Cardiomyopathy Requiring a Left Ventricular Assist Device (LVAD)"

4. **Patel, Shrut, MD, Malone, Richard, DO, Cuccurullo, Sara, MD**, "Cerebellar Cognitive Affective Syndrome presenting as Adjustment Disorder and Acute Stress Disorder in a Patient with Cerebellar Mass"

5. **Thakral, Aakash, MD, Greenwald, Brian, MD, Thomas, Alphonsa, DO**, "Weathering the Storm After Severe Traumatic Brain Injury: A Case Report"

6. **Wong, Joseph, MD, Thakral, Aakash, MD, Luke Ofure, MD, Brown, David, DO, Cuccurullo, Sara, MD**, "Rare Occurrence of Phrenic Neuropathy Diagnosed in a Pair of Siblings: A Case Report"

7. **Gilbert, Eku, MD**, "The Effects of Neurological Assessment Competency Evaluation System on Resident Neurological Examination Skills"

Association of American Medical Colleges National Meeting, Phoenix, Arizona, November 9, 2019

8. **Silver, Julie, MD, Cuccurullo, Sara, MD, Ambrose, Anne Felicia, MD, Bhatnagar, Saurabha, MD, Boques, Glendaliz, MD, Fleming, Talya, MD, Frontera, Walter, MD, Ph.D, Perret Karmi, Danielle, MD, Oh-Park, Mooyeon, MD, Sowa, Gwendolyn, MD, Ph.D., Visco, Christopher, MD, Weiss, Lyn, Knowlton, Tiffany, JD, MBA. "Association of Academic Physiatrists Women's Task Force Report"**

American Academy of PM&R, San Antonio, Texas, November 2019

9. **Markos, Steven, MD, Thakral, Aakash, MD, Cuccurullo, Sara, MD, Lin, Lei, MD**, "Reducing Post-Operative Pain and Opioid Consumption through Evidence-based Medicine: An Educational Quality Improvement Project"

10. **Salazar, Thomas, MD, Chan, Stephanie, MD, Greiss, Christine, DO, Cuccurullo, Sara, MD**, "Meningitis after Transsphenoidal Resection of a Pituitary Macroadenoma: A Case Report"

11. **Liu, Eric, MD, Patel, Shrut, MD, Malone, Richard, DO, Cuccurullo, Sara, MD**, "The Use of IVG and Plasmapheresis in a Patient with Central Pontine Myelinolysis: A Case Report"

12. **Gayed, Mina, MD, Greenwald, Brian, MD**, "Specially Tailored Treatment in a Disorder of Consciousness Post Fourth Ventricle Tumor Resection: A Case Report"

13. **Salazar, Tomas, MD, Ella D'Amico, MD, Beverly Hon, MD**, "An Idiopathic Syringomyelia in a 59 Year Old Man Presenting with Lower Extremity Symptoms; A Case Report"

14. **Salazar, Tomas, MD, Liu, Eric, MD, Lin, Lei, MD**, "The Positive Impact of Residency Program Sponsored Social Events on Resident Wellness"

E. BOOK CHAPTERS

1. **Zorowitz, Richard, MD, Baerga, Edgardo, MD**,

Cuccurullo, Sara, MD, Fleming, Talya, MD, Chan, Stephanie, MD Stroke, PM&R Board Review, Fourth Edition, Demos Medical Publishing, NY, NY, 2019, pp. 1 -49

2. **Elovic, Elie, MD, Baerga, Edgardo, MD, Cuccurullo, Sara, MD, Greiss, Christine, DO, Thomas, Alphonsa, MD, Levine, Jaime, DO, Malone, Richard, DO**, *Traumatic Brain Injury*, PM&R Board Review, Fourth Edition Demos Medical Publishing, NY, NY, 2019 pp. 55 – 96

3. **Nucatola, Thomas, MD, Freeman, Eric, MD, Bagay, Leslie, MD, Doss, Anthony, MD, Brown, David, DO**, *Rheumatology*, PM&R Board Review, Fourth Edition Demos Medical Publishing, NY, NY, 2019, pp. 101 – 145

4. **Brown, David, DO, Freeman, Eric, DO, Cuccurullo, Sara, MD, Parikh, Sagar, MD, Delavaux, Laurent, MD, Maitin, Ian, MD, MBA**, *Musculoskeletal Medicine, Upper Extremities*, PM&R Board Review, Fourth Edition Demos Medical Publishing, NY, NY 2019, pp. 149 - 206

5. **Brown, David, DO, Freeman, Eric, DO, Cuccurullo, Sara, MD, Parikh, Sagar, MD, Maitin, Ian, MD, MBA**, *Musculoskeletal Medicine, Lower Extremities*, PM&R Board Review, Fourth Edition Demos Medical Publishing, NY, NY, 2019, pp. 206 – 275

6. **Freeman, Ted, DO, Freeman, Eric, DO**, *Spine Rehabilitation*, PM&R Board Review, Medical Publishing, NY, NY, 2019, pp. 275 – 330

7. **Freeman, Ted, DO, Johnson, Ernest, MD, Freeman, DO, Brown, David, DO, Lin, Lei, MD, Ph.D.**, *Electrodiagnostic Medicine and Clinical Neuromuscular Physiology*, PM&R Board Review, Fourth Edition, Demos Medical Publishing, NY, NY, 2019, pp. 331 – 456

8. **Uustal, Heikki, MD, Baerga, Edgardo, MD, Joki, Jaclyn, MD, Bagay, Leslie, MD, Markos, Steven, MD**, *Prosthetics and Orthotics*, PM&R Board Review, Fourth Edition, Demos Medical Publishing, NY, NY, 2019, pp. 457 – 534

9. **Kirshblum, Steven ,MD, Donovan, Jayne, MD, Nieves, Jeremiah, MD, Gonzalez, Priscila, MD, Cuccurullo, Sara, MD, Luciano, Lisa, DO**, *Spinal Cord Injuries*, PM&R Board Review, Fourth Edition, Demos Medical Publishing, NY, NY, 2019, pp. 535 – 611

10. **Strax, Thomas, MD, Grabois, Martin, MD, Gonzalez, Priscila, MD, Escaldi, Steven, DO, Takyi, Selorm, MD, Cuccurullo, Sara, MD**, *Physical Modalities, Therapeutic Exercise, Extended Bedrest, and Aging Effects*, PM&R Board Review, Fourth Edition, Demos Medical Publishing, NY, NY, 2019, pp. 613 – 648

11. **Gonzalez, Priscila, MD, Melillo, Nicholas, MD, MacBruce, Daphne Karen, MD, Cuccurullo, Sara, MD**, *Pulmonary Rehabilitation*, PM&R Board Review, Fourth Edition, Demos Medical Publishing, NY, NY, 2019, pp. 649 – 674

12. **Jafri, Iqbal, MD, Cuccurullo, Sara, MD, Fleming, Talya, MD, Wong, Joseph, MD**, *Cardiac Rehabilitation*, PM&R Board Review, Fourth Edition, Demos Medical Publishing, NY, NY, 2019 pp. 674 -701

13. **Gonzalez, Priscila, MD, Bagay, Leslie, MD, Luke, Ofure, MD, Dunn, Anna Maria, MD, Schuman, Richard, MD**, *Cancer Rehabilitation*, PM&R Review, Fourth Edition, Demos Publishing, NY, NY, pp. 701 - 727

14. **Rossi, Roger, DO, Alexander, Michael, MD, Eckert, Kathryn, DO, Cuccurullo, Sara, MD**, *Pediatric Rehabilitation*, PM&R Board Review, Fourth Edition, Demos Medical Publishing, NY, NY, 2019, pp. 729 – 820

15. **Liang, Jing, MD, Lee, Joseph, MD, Parikh, Sagar, MD, Delavaux, Laurent, MD, Weiss, Kyle, DO, Demesmin, Didier, MD**, *Pain Medicine*, PM&R Board

Review, Fourth Edition, Demos Medical Publishing, NY, NY, 2019, pp. 821 – 851

16. **Elovic, Elie, MD, Baerga, Edgardo, MD, Escaldi, Steven, DO, Lin, Matthew, MD**, *Associated Topics in Physical Medicine and Rehabilitation, Spasticity*, PM&R Board Review, Fourth Edition, Demos Medical Publishing, NY, NY, 2019, pp. 853 - 866,

17. **Elovic, Elie, MD, Baerga, Edgardo, MD, Rossi, Roger, DO, Esterov, Dmitry, MD**, *Movement Disorders*, PM&R Board Review, Fourth Edition, Demos Medical Publishing, NY, NY, 2019, pp. 866 – 876

18. **Kirshblum, Steven, MD, Luciano, Lisa, DO, Shea, Mary, T., MA, OTR, ATP, Hon, Beverly, MD**, *Wheelchairs*, PM&R Board Review, Fourth Edition, Demos Medical Publishing, NY, NY, 2019, pp. 877-895

19. **Hoffer Barbara, DO, Cuccurullo, Sara, MD, Urs, Krishna, MD, Schoenlank, Casey, MD, Thakral, Aakash, MD, Osteoporosis**, PM&R Board Review, Fourth Edition, Demos Medical Publishing, NY, NY, 2019, pp. 895 – 909

20. **Young, Alan, DO, Patel, Shrut, MD, Quevedo, Jonathan, MD**, *Rehabilitation of Burn Injuries*, PM&R Board Review, Fourth Edition, Demos Medical Publishing, NY, NY, 2019 pp. 909 – 921

21. **Lee, Joseph, MD, Kalmar, Kathy, Ph.D., Holland, Bart, Ph.D., Platt, Heather, MD**, *Biostatistics*, PM&R Board Review, Fourth Edition, Demos Medical Publishing, NY, NY, 2019, pp. 921 – 925

22. **Tennison, Jegy, MD, Patel, Tejal, MD**, *Basic Principles of Clinical Ethics*, PM&R Board Review, Fourth Edition, Demos Medical Publishing, NY, NY 2019, pp. 925 – 928

23. **Rosenblum, David, MD**, *Associated Topics in Physical Medicine and Rehabilitation, Multiple Sclerosis*, PM&R Board Review, Fourth Edition, Demos Publishing, NY, NY, 2019, pp. 928 – 938

24. **Van, Dien, Craig, MD, Parikh, Sagar, MD**, *Musculoskeletal Ultrasound*, PM&R Board Review, Fourth Edition, Demos Medical Publishing, NY, NY, 2019 pp. 938 - 948

F. NATIONAL PRESENTATIONS

1. **Cuccurullo, Sara, MD**, Association of Academic Physiatrists National Meeting, Women in Academic Medicine, *Task Force Data Update Presentation, Resident Contract Negotiation, Women in Academic Physiatry Workshop Lecture, Women in Academic Physiatry- Salary Negotiation Lecture* San Juan, Puerto Rico, February 20 and 21, 2019

2. **Cuccurullo, Sara, MD**, Association of Academic Physiatrists National Meeting, Board of Trustees Meeting, Part I and II *Women in Academic Physiatry Update, GME Now and in the Future Steering Committee Update* San Juan, Puerto Rico, February 22, 2019

3. **Greenwald, Brian, MD**, Grand Rounds Lecture, "Chronic Traumatic Encephalopathy" *Autonomic Dysfunction after TBI*, "Agitation after Traumatic Brain Injury", Burke Rehabilitation Hospital, White Plains, NY, March 6, 2019

4. **Uustal, Heikki, MD**, Annual Review Course in PM&R- "Normal and Abnormal Gait", "Prosthetic Gait Deviations", "Lower Limb and Spinal Orthotics", "Lower Limb Amputation and Prosthetics", "Upper Limb Prosthetics, and Orthotics", Kessler Institute of Rehabilitation, Livingston, NJ, March 28, 2019

5. **Uustal Heikki, MD**, NYU PM&R Review Course, "Normal Gait", *Lower Limb Prosthetics*, "Pathological Gait", "Upper Limb Prosthetics", *Orthotics*, NYU Medical Center, New York, NY, March 18, 2019

6. **Uustal, Heikki, MD** Biomedical Engineering Program, Rutgers University, "Overview of Prosthetics and Orthotics", Edison, NJ, March 4, 2019

7. **Cuccurullo, Sara, MD**, Mt. Sinai Medical Center, Grand Rounds Lecture "Investigating a Comprehensive Outpatient Stroke Recovery Program Utilizing Cardiovascular Conditioning", New York, NY, April 2019

8. **Cuccurullo, Sara, MD**, Association of Academic Physiatrists, Board of Directors Meeting, Women in Academic Physiatry Update Washington, DC, September 25-27, 2019

9. **Cuccurullo, Sara, MD**, Association of Academic Physiatrists, Board of Directors Meeting, GME Now and in the Future Steering Committee Update Washington, DC, September 25-27, 2019

10. **Silver, Julie, MD, Cuccurullo, Sara, MD, Ambrose, Anne Felicia, MD, Bhatnagar, Saurabha, MD, Boques, Glendaliz, MD, Fleming, Talya, MD, Frontera, Walter, MD, Ph.D, Perret Karmi, Danielle, MD, Oh-Park, Mooyeon, MD, Sowa, Gwendolyn, MD, Ph.D., Visco, Christopher, MD, Weiss, Lyn, Knowlton, Tiffany, JD, MBA. "Association of Academic Physiatrists Women's Task Force Report" Association of American Medical Colleges National Meeting, Phoenix, Arizona, November 9, 2019**

11. **Cuccurullo, Sara, MD, Fleming, Talya, MD**, Stroke Recovery – An Innovative Model for Health Care Delivery; The JFK Johnson Stroke Heart Trials, Center of Medicare and Medicaid Innovation Center, Baltimore, MD, December 17, 2019

G. INTERNATIONAL PRESENTATIONS

1. **Cuccurullo, Sara, MD, Fleming, Talya, MD** presented at the International Society of PM&R Medicine (ISPRM) 2019 World Congress, in Kobe, Japan *Innovations of Care in Rehabilitation of Medically Complex Patients –Impact of a Stroke Recovery Program*

H. AWARDS

1. **Cuccurullo, Sara, MD**, the Association of Academic Physiatrist, 2018 Outstanding Service Award, San Juan, Puerto Rico, February 2019

2. **Cuccurullo, Sara, MD**, Association of Physicians of Pakistani Descent of North America (APPNA), Leader in Healthcare Award, April 2019, Fords, NJ

3. **Cicerone, Keith, Ph.D**, Silvio O. Conte Award for Public Awareness and Education, Brain Injury Alliance of New Jersey, Edison, NJ, May 14, 2019

4. **Cuccurullo, Sara, MD**, ROI – NJ Influencers in Healthcare-Leading a State of the Art Program in Stroke Rehabilitation at Johnson Rehabilitation Institute

5. **Cuccurullo, Sara, MD**, Elected Key Note Speaker Award, Medical College of Wisconsin, May 2019

6. **Cuccurullo, Sara, MD**, American Association of PM&R Distinguished Member Award, for providing invaluable service in the specialty of PM&R through participation in PM&R related organizations other than the academy, November 2019

7. **Uustal, Heikki, MD**, Rossi, Roger, DO, Jafri, Iqbal, MD Received the Rutgers-Robert Wood Johnson Volunteer Faculty Award, New Brunswick, NJ, June, 2019

8. **Brown, David, DO**, "Teacher of Year Award", June 2019

9. **Greiss, Christine, DO**, "Kathy Wong Award" for the physician who exhibits extreme compassion and care to patients and their families, June, 2019



Hackensack
Meridian *Health*
JFK Johnson
Rehabilitation Institute



65 James Street
Edison, New Jersey 08818

FOLLOW US ON



www.JFKJohnson.org



JFK Johnson Rehabilitation Institute The Leader in Providing Quality Rehabilitation Care

Since 1974, the JFK Johnson Rehabilitation Institute has been helping people rebuild their lives after a serious illness or injury. We do this by delivering comprehensive rehabilitation services based on cutting-edge treatment techniques, innovative research and excellent, personalized medical care.

Headquartered at JFK Medical Center in Edison, JFK Johnson is a comprehensive rehabilitative service provider focused on educating the community on rehabilitative health and helping adults and children with disabilities reach optimal function and independence. The Institute offers a complete array of inpatient and outpatient programs and services in rehabilitative health, including stroke, orthopedics, prosthetics and orthotics, electrodiagnosis, fitness, cardiac, women's health, pain management, pediatrics, speech pathology and audiology, industrial health and vocational rehab, and brain injury rehabilitation programs and services. JFK Johnson includes a 94-bed inpatient center in Edison. Outpatient centers are located in Edison, Metuchen, Monroe and Piscataway. NIDRR has named JFK Johnson as a Model System for brain injury research. The JFK Johnson Rehabilitation Institute is accredited by both the Joint Commission and the Commission on Accreditation of Rehabilitation Facilities (CARF) in the Inpatient Rehabilitation Adult Program, Inpatient Rehabilitation Adult Brain Injury Specialty Program, Stroke Specialty Program, Interdisciplinary Outpatient Medical Rehabilitation Adult Brain Injury Specialty Program, and Comprehensive Vocational Evaluation Services. Affiliated with the JFK Johnson Rehabilitation Institute is the Shore Rehabilitation Institute, a 40-bed inpatient and outpatient comprehensive rehabilitation hospital located in Brick, NJ. For more information about the JFK Johnson Rehabilitation Institute, visit us at www.JFKJohnson.org.