



Hackensack
Meridian Health

ADVANCING WHAT'S POSSIBLE | 2019

JFK Johnson Rehabilitation Institute

ELEVATING STANDARDS

FOR PEOPLE
WITH AMPUTATIONS

INSIDE:
Update on
Stroke-HEART™
Trials

FROM OUR MEDICAL DIRECTOR



I'm pleased to share this edition of the 2019 JFK Johnson Rehabilitation Institute magazine, which focuses on elevating care for people living with amputation and limb loss.

At JFK Johnson, we recognize that true comprehensive care requires everything from gait management to fall prevention to pain management and psychological support.

Heikki Uustal, MD, who directs our Prosthetic and Orthotic Program, has traveled regionally and nationally to share his insight and decades of experience treating patients with amputation. In these pages, you'll read about our Continuum of Care that spans acute care, acute-inpatient rehabilitation and outpatient care.

On the cover is Margaret Anderson, a mother of two who benefitted greatly from our Continuum. I was honored to lead Margaret's rehabilitation with our dedicated acute care therapy team as she recovered from septic shock that required the amputation of both of her legs below the knee. Margaret had a toddler and newborn at the time and faced extraordinary physical and emotional challenges. To see her thriving today, and to view the photos of her walking on the beach with her husband and two beautiful children, brings the entire team enormous satisfaction — and reminds me why I chose rehabilitation medicine as my medical specialty of choice. I hope you, too, will be moved by Margaret's inspiring story.

Each issue focuses on one aspect of our work here at JFK Johnson. Past issues have focused on traumatic brain injury, and, most recently, on our research on stroke rehabilitation. In this issue you can read updates on of our groundbreaking stroke rehabilitation research.

Our stroke research — and all we do at JFK Johnson — aims to Advance What's Possible for our patients. Please enjoy!

Yours in Good Health,

Sara Cuccurullo M.D.

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



EDITORS

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

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	Pain Management	732.321.7070
Cardiopulmonary Rehabilitation	732.321.7722	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
Outpatient PT/OT at Monroe	609.409.1170		
Outpatient Center at Piscataway	848.230.6655		

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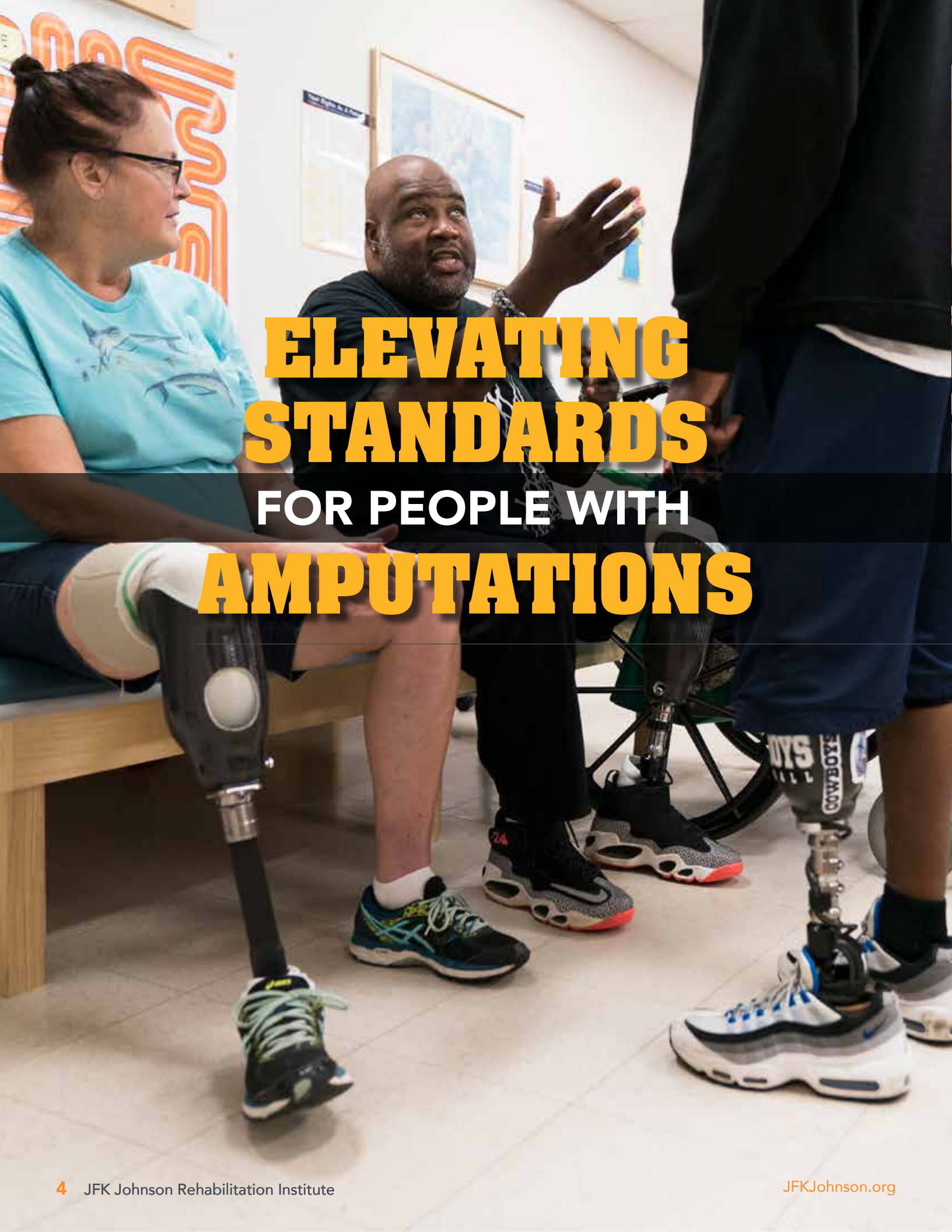
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ELEVATING STANDARDS FOR PEOPLE WITH AMPUTATIONS



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“We’re setting standards not just for the artificial limbs, but for everything else that’s involved in treating patients with amputations.”

— Dr. Uustal

COMPREHENSIVE CONTINUUM OF CARE REACHES BEYOND ARTIFICIAL LIMBS

For the patient with an amputation, true comprehensive care goes beyond creating and fitting artificial limbs. Lifelong care requires a range of support across multiple medical specialties.

Dr. Heikki Uustal, Medical Director of the Prosthetic/Orthotic Team at JFK Johnson Rehabilitation Institute, said the prosthesis is just one element of the Continuum of Care. There also must be a focus on:

- Physical therapy
- Pain management
- Gait evaluation
- Psychological support
- Stability and balance
- Pre-surgery physical therapy
- Wound care
- Medical intervention, if necessary, for circulatory disease
- Fall prevention

Dr. Uustal, a nationally recognized expert in the field, has contributed to medical textbooks

and lectured around the nation to raise the standard of care for people everywhere living with limb loss.

He said fewer than 25 percent of people with amputation have access to the level of comprehensive care available at JFK Johnson and a handful of other comprehensive centers.

Too many patients, he said, navigate a disjointed system and travel to different locations for different components of their care — one for the artificial limb, another for pain management and another for physical therapy or psychological support. Some fall through the cracks and do not get the care they need. They may live with ill-fitted artificial limbs, have poor gait that contributes to hip and back issues, or untreated chronic or phantom pain. They are not living their fullest lives.

“The average patient with amputation in this country is not well served,” Dr. Uustal said.

The JFK Johnson team provides a different model of care — one where all of the highly

specialized elements come together, including the Prosthetics and Orthotics laboratory where the artificial limbs are designed and created for each individual, and a community of peer support. Dr. Uustal's advocacy aims to spread the JFK Johnson Continuum of Care model nationwide.

"We're setting standards not just for the artificial limbs, but for everything else that's involved in treating patients with amputations," Dr. Uustal said.

For people with limb loss, moving forward requires rethinking every aspect of daily life — from getting out of bed, to driving, to taking a shower. Making the best use of artificial limbs requires expertly created and fitted prostheses as well as highly specialized physical and occupational therapy, and patient and family education.

The Rehabilitation Continuum should begin as early as possible, even before patients undergo amputation surgery. Physical Medicine and Rehabilitation Consultants Kirshna Urs, M.D., Jaclyn Joki, M.D., and Ofure Luke, M.D. assess patients' rehabilitation needs before an amputation or immediately after. The physicians and the JFK Johnson team then create a plan forward for each patient.

Around the same time, Dr. Uustal, a specialist in prosthetic and orthotic care, begins to discuss prosthetics and the lifetime care plan. He asks every patient about his or her life. The right artificial limb for an elderly patient with diabetes may not be the right limb for a teenager who lost a limb from trauma and wants to continue skiing or cycling.

Specialized physical therapists work to strengthen the patient's existing muscles, and, whenever possible, work with patients even before an amputation takes place to prepare them physically for the challenges of walking with an artificial limb.

Sue Callaghan, PT, Clinical Specialist, Prosthetics and Orthotics, is one of the certified therapists who motivates and guides patients. To her, the moment one of her patients can walk again remains an emotional one.

"And for us it happens on a weekly basis. That's why I'm so passionate about my work. To help patients regain their lives again never gets old," she said.

Patients continue with physical therapy while the prosthetic laboratory fabricates and fits the custom-designed prostheses. Dr. Uustal communicates with the lab often and works directly with the lab director, Robert Silvestri,

CPO, LPO, and the technicians creating the limbs.

"We're part of JFK Johnson so there's continual back and forth. We know a great deal about our patients even before we start taking measurements and creating the molds," Silvestri said.

There are six different ways to design a socket, 75 prosthetic knees and over 200 prosthetic feet. Some knee joints are electronic, or computerized, while others use hydraulics. Most prosthetic feet have a carbon fiber structure. There are endless ways to create a full artificial limb from the different components available. For some patients, a low-tech and lightweight limb works best. Others benefit from high-tech components. New computerized knees, for instance, can recalibrate 60 times every second, allowing the person to walk, run and move up and down stairs without the knee buckling.

For patients, knowing they can trust the expertise of professionals who have years of experience and have dedicated their lives to supporting people with amputation creates a high level of comfort and confidence.

JFK Johnson also helps many patients learn to drive cars with modifications such as left-side gas pedal or hand controls as they regain their sense of independence.

According to the Amputee Coalition, a national advocacy organization, nearly two million people live with limb loss in the United States. The main causes are vascular disease (54 percent) — including diabetes and peripheral arterial disease — trauma (45 percent) and cancer (less than two percent).

Other centers often send their most challenging cases to JFK Johnson. "The entire team assesses every patient," said Dr. Sara Cuccurullo, Vice President and Medical Director of JFK Johnson. Many team members are trained in prosthetics and orthotics. In addition, the program has a five-star Doximity-

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"This is a great place to come and share ideas and information. You get absolutely the best care at JFK Johnson. And we are a community. You've never seen such a happy group of people facing disability."

— *Chris Sickels, a patient*

rated Residency program and takes pride in training future physicians in the amputation care continuum.

Dr. Cuccurullo said the team works to prevent falls, which are common among those with artificial limbs because they do not feel the ground reaction force under their prosthetic foot as their artificial limb hits the ground. People with amputations must fine-tune their balance as they learn to listen to different signals from their bodies. The team also works to prevent skin breakdowns and infection on the residual limb.

It's critically important for the Physical Medicine and Rehabilitation Physician and team to get involved early in the process, even before the amputation, if possible.

"We work to educate trauma and vascular surgeons about our role. Many providers think, 'My patient lost a leg. I will just send him to a prosthetist,'" Dr. Cuccurullo said. "But after an amputation, you need an entire medical team, including the physical medicine and rehabilitation physicians and therapists, behind you to obtain the best possible outcomes." **JFK**



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"... I'm so passionate about my work. To help patients regain their lives again never gets old."

— *Sue Callaghan*

PART TECHNOLOGY, PART *Art* Prosthetic Limbs Created at JFK Johnson Lab



Robert Silvestri

At the JFK Johnson Prosthetic and Orthotic Laboratories, skilled technicians create artificial limbs for people living with an amputation. The process involves a mix of technology and artistry — as well as compassion and understanding for the individual needs of each person living with limb loss.

The laboratory resembles a sculptor's studio, with plaster molds and tools that help the certified prosthetic technicians design, create and customize each artificial limb.

The multi-step process begins with dimensions taken of the residual limb of each patient by using an optical scanner. Then a plaster mold of the residual limb is created. A foam version of the mold is then used to help the technicians develop the socket, a critical element that connects the limb to the patient.

"We might create one or two test sockets to see what works best for the patient," said Robert Silvestri,

CPO, LPO, Director of the Lab. The different components are then attached, such as the knee, or ankle and foot.

"The socket is the foundation of the artificial limb," Silvestri said.

No two prosthetic limbs — and no two patients — are alike.

"Someone may want to ride a bike or ski. Someone else may just want to be able to get around," Silvestri said. Amputation requires lifelong care and patients' needs may change as they grow older. Silvestri has worked with some patients for years, even decades. He recalls one

woman he fitted with a prosthetic limb as a teen and throughout her life. She's now in her 50s.

The ABC certified/ NJ licensed prosthetists shape and modify the elements of artificial limbs — and often think about how their work helps people with amputation regain their independence.

Patients come to the laboratory to try on the new limb, and often there are tears when they take their first steps.

"Not just from the patient. We get emotional, too," Silvestri said.

"You can't even assume that two people who are the same age with the same amputation will require similar prosthetics. A patient's physical and medical status, as well as his or her activity level — even outlook on life — come into play."

— Robert Silvestri, CPO, LPO, Director of the Lab



Many patients with amputation today forgo what was once a standard last element: applying a skin-like sheath around the metal hardware to create a more lifelike limb. Today most patients happily let their hardware show, part of the move toward greater acceptance of artificial limbs.

Having the prosthetic lab as part of the JFK Johnson Rehabilitation Institute provides tremendous benefits to patients who do not have to go to an outside prosthetic facility. The lab works closely with the physicians and physical therapists at JFK Johnson.

"This is our comprehensive approach," said Sara Cuccurullo, M.D., Vice President and Medical Director of JFK Johnson. "We help patients achieve the correct gait, mechanically and physiologically, to protect their

For **Bill Koster, Prosthetic and Orthotic Technician Supervisor**, the work is especially personal. He lost a leg as a teenager and has a deep understanding of how the elements of a prosthetic leg work together. On occasion, he will show his artificial limb to a patient.

"They usually are surprised. But when I say I know what it's like to live with an artificial limb they really believe me," he said.

back, hips and maintain the health of their joints. We have people walking around and you would never know they have an artificial limb if you didn't see it."

Heikki Uustal, M.D., Medical Director of Prosthetics/ Orthotics at JFK Johnson, knows the talents and skills of the laboratory team.

"We provide a premium level of comprehensive care for every patient at every level," Dr. Uustal said. "That's because we know that every step of the process is connected — the medical management, the physical therapy, the creation of the artificial limb. At JFK Johnson, everybody works together to enable people with amputation to regain their lives and obtain the best possible outcomes." **JFK**



CELEBRATING *Life* WITH AMPUTATION

JFK Johnson Continuum of Care Supports Mother On Journey to Health and Independence

Margaret Anderson dismissed her sudden and unexpected exhaustion. She was, after all, keeping up with her four-year-old son while caring for her infant daughter. So she asked her husband, Eric, to put the children to bed and she dragged herself to the living room couch.

The next morning, she awoke to find alarming black splotches spreading across her lower body. Her husband rushed her to her local physician, who sent the couple racing to JFK Medical Center as Anderson's blood pressure dropped and her pulse became dangerously low.

Anderson, a high school English teacher, faced life-threatening septic

shock. A highly specialized medical team began fighting to save her life in the emergency department and during her early days in intensive care. The team inserted a breathing tube and put Anderson in a medically induced coma — and introduced intravenous fluids and other medications as she battled multi-organ failure, and, later, bleeding in her brain.

"Her face was unrecognizable," recalled Eric. "She looked like she was beaten up."

Family members came to say good-bye. A priest gave Last Rites.

After more than two weeks,

Anderson began to improve, though she was still weak and unable to use her hands. "My father was feeding me with a spoon," she recalled.

"My toes looked like blueberries from gangrene," she added. "It was spreading. The doctors tried everything, but I knew where things were headed." Her survival, she realized, required amputation of both her legs below the knees — and a journey toward a fulfilling, though different, new life.

//THE CONTINUUM OF CARE IMPROVES OUTCOMES

The Metuchen mother's struggle

tells the story of one woman's determination — as well as the Continuum of Care that enveloped her at JFK Medical Center and JFK Johnson Rehabilitation Institute. Anderson received acute care, intensive care, highly specialized brain rehabilitation, as well as physical, occupational and cognitive therapy. She moved from intensive care to the Brain Trauma Unit to acute inpatient rehabilitation and then outpatient rehabilitation. As she improved, the JFK Johnson Prosthetic/Orthotic Team prepared her for her artificial limbs, created at the JFK Johnson Prosthetic/Orthotic Lab.

"To this day, I am grateful for everything," Anderson said.

Because JFK Johnson is connected to an acute care hospital, she was able to begin rehabilitation therapy with a specialized team even while she remained hospitalized for serious medical conditions.

"Margaret was assessed by a comprehensive rehabilitation team very early on," said Sara Cuccurullo, M.D., who oversaw Anderson's rehabilitation during her entire time in JFK Medical Center and is Vice President and Medical Director of JFK Johnson. "We worked each day to advance Margaret through the Continuum of Care."

Anderson remembers waking up after the amputation. "The realization came in episodes. I remember at first that I couldn't swing my legs over the side of the bed to brush my teeth," she recalled. "I felt helpless."

After Anderson's amputation, specialized physical and occupational therapy focused on pre-prosthetic training, which includes strengthening, balance, and endurance. The



team performed often-painful stretching exercises to protect Anderson from flexion contractures, which can reduce the range of motion in the knees and hips and make it impossible for her to ever walk with prostheses. The team also worked to strengthen her cardio and pulmonary function.

"It was all-encompassing," Anderson recalled. "I couldn't even sit up! I'm thinking, 'How will I ever hold my baby?' But everyday they worked with me. Every day it was something new. ... Building my arm muscles, strengthening my core. They kept challenging me to do more every day."

Once Anderson was medically

stable, she was transferred to JFK Johnson Rehabilitation Institute under the care of Richard Malone, D.O., FAAPM&R. The JFK Johnson team of nurses and therapists continued to work on her medical care and pre-prosthetic goals. She also was assessed by Heikki Uustal, M.D., Medical Director of the Prosthetic/Orthotic Team. As Anderson continued to improve, she was discharged to the outpatient part of the JFK Johnson continuum, where Dr. Uustal took over her care.

//WALKING AGAIN — WITH ARTIFICIAL LIMBS

Dr. Uustal remembers the earliest days of Anderson's care.

"Here you have an active mom and suddenly this horrible thing happens and her legs are amputated. It's overwhelming," Dr. Uustal said. "You can't just say, 'Here are your artificial legs.' You have to start preparing the



whole body. You have to strengthen the leg muscles that are still there. You have to strengthen the core and the arms. You need to work on balance and endurance. The goal for us is: How can we get you back to as close as possible to the life you had before?"

Anderson also worked closely with Sue Callaghan, PT, Clinical Specialist, Prosthetics and Orthotics. At the beginning, Anderson was in a wheelchair.

"Sue was pushing me to burst through milestones," Anderson recalled. "I was lifting weights. Lifting a laundry basket. You can't say 'no' to Sue. She said, 'You will walk to your car and drive again. You will walk down a slope. Down the stairs.' She pushed me in a way that I needed to be pushed."

After the wheelchair, Anderson started with the artificial limbs and arm crutches, then a rolling walker, and then she stood — without

support — on the prosthetic limbs. She recalls a sense of triumph, but also recalls the moment as bittersweet: "I was standing again. But it wasn't the 'me' I used to be."

Yet there was time for humor. At the Anderson household, the joke was: Who will walk first? Baby Emilia or her mother?

"I won," Anderson said, laughing.

// MILESTONES ON THE JOURNEY

During the process of creating the right prostheses for each patient, Dr. Uustal asks patients about their lives. What's most important? What activities do they care about?

Anderson's prostheses were created at the JFK Johnson Prosthetics and Orthotics Laboratory, also in Edison. First, the technicians created a mold, and then created the preliminary limbs, and finally, permanent limbs.

"I remember Dr. Uustal said, 'Tell me what you love to do. I said I used to love the beach. He said, 'Then we will make you legs that let you walk on the sand.'" Anderson recalled.

"Everyone was doing everything to get me back to my life."

She was on a first-name basis with technicians at the prosthetics lab.

For Anderson, the milestones were learning to drive with hand controls and passing her driver's test on the second go-around ("I was never good with parallel parking!" she said) and then taking both her children on a shopping trip to Target. Today she suspects her stem cell treatments for cancer more than a decade ago compromised her immune system and made her susceptible to the pneumococcal infection that caused her septic shock.

Anderson continues to rely on JFK Johnson when she needs new prostheses and support as her life changes, including after a bad fall last year that left her with broken bones.

Recently, she and Eric and their children Emilia, now 5, and E.J., now 9, traveled to Sandy Hook on a late summer day. The children ran in and out of the surf while their parents watched from the shoreline. After a picnic, and after urging the children to say good-bye to the sun and ocean, the family packed up and headed back to the parking lot with Anderson, and her family, all walking through the sand. **JFK**



FOOTBALL COACH AGILE AS EVER AFTER AMPUTATION

Joe Bellinger, a 50-year-old football coach, stepped quickly through the ladder-shaped slats and ropes on the floor. He stepped forward. Then quickly left, right, and left again.

The metal and hardware limb that replaces the lower half of his left leg did not hinder the agility of Bellinger, a former police sergeant who now volunteers as a coach for a football team in Harlem.

"After an infection on my foot, the doctors said they would have to amputate. I said, 'Let's get at it so I can get back to my life.' I have four grandchildren, and kids on the team who look up to me," Bellinger said.



The transition was not without challenges. Bellinger said he felt unbalanced when he could no longer feel the ground under his foot. He felt like a child as he learned to walk again with his artificial limb. He received his new limb from the JFK Johnson Prosthetic and Orthotic Laboratory and worked closely with Sue Callaghan, PT, Clinical Specialist, Prosthetics and Orthotics.

After the amputation, Callaghan started Bellinger on multiple exercises as he began to walk in parallel bars, then crutches, and then with a cane. He kept moving forward. Callaghan provided advanced prosthetic training through strengthening and balancing exercises.

"Sue has the same enthusiasm I use coaching the kids. She pushes me and motivates me," Bellinger said.

Throughout the process, the Prosthetics and Orthotics Laboratory updated his prosthesis as the shape of his residual limb changed as swelling subsided.

Bellinger, who also manages his diabetes, volunteers to talk with others facing life with limb loss. "You think your life is over. Maybe you did X, Y and Z. That part of your life may be over. But there's a new life ahead," he said. "It's up to you." **JFK**

Amputee Support Group Provides Help — HUMOR

Jodie Francis has a saying she tells others who join the JFK Johnson Amputee Support Group: "It's OK to mourn your former life. You just have to find the courage to embrace your new reality."

Francis calls her life as an amputee just as joyous and fulfilling as her life before her amputation. She is among those being treated for limb loss at JFK Johnson who have created a unique and supportive community.

She joined those assembled for a recent monthly JFK Johnson Amputee Support Group gathering. The members have had trauma, cancer, vascular disease, genetic abnormalities and other reasons for their limb loss. Those who have joined support group gatherings through the years range from age 11 to 80-plus.

To the group, the differences are not important.

"We're about understanding what we've all gone through," said Joan Myers-Norton. "We can be just as productive as ever, but you just have to learn to do things in a different way. I have a true feeling of accomplishment being part of this group."

The JFK Johnson Prosthetic and Orthotic Team schedules 3,000 to 4,000 patient visits each year, including hundreds of new referrals. Heikki Uustal, MD, Medical Director of the team, said people with limb loss learn from each other and provide insight that even professionals cannot offer.

Sue Callaghan, PT, Clinical Specialist in Prosthetics and Orthotics, started the group more than four years ago. Callaghan saw the value of bringing people with amputation together for practical information and peer support — and she approached Sara Cuccurullo, Medical Director and Vice President of JFK Johnson, who agreed.

Today the group is thriving, with monthly meetings and an annual "Ampuversary" celebration.

At a recent meeting, Joanny Ferreiras, 22, explained that she knew ahead of time that her lower leg would need to be



"We are not about sobbing, 'Oh, I lost my limb,'" Jodie Francis said. "We're about practical advice. What's the best shoe? Hotel? How do you get through airport security? We inspire and support each other."



amputated despite multiple unsuccessful surgeries to save her ankle and foot.

"I had a lot of sadness," she recalled. "I didn't know anyone else with an amputation. Now I am doing physical therapy. I'm learning to run again and I signed up for the gym. When you meet other people who are doing well you know you can do well, too."

The group has included dancers, body builders, DJs, corporate executives, farmers and athletes. Some have other physical ailments that contributed to their limb loss and continue to need medical treatment beyond the care related to the amputation. Speakers sometimes address the group, and topics can include insurance coverage, transportation, and advancements in prosthetic technology.

There's also plenty of humor. At a recent meeting, a new type of prosthetic leg and foot was passed around the group. One member put the artificial limb next to his own and the man next to him

"When my patients see me they see someone with two arms and two legs," Dr. Uustal said. "They may ask, '**Can he really relate to what it's like to put a prosthesis on every morning? To tell a spouse about phantom pain? To learn to walk with an artificial limb?**' That's why we created this community of support."



then stepped forcefully on the prosthetic foot.

"Ouch!" the member said to laughter in the group.

Another often jokes about half-price pedicures.

"It's good to be around people who have had similar trauma," said Jason Kofi. "We get some much-needed information and get our questions answered, and, really, we have a lot of fun." **JFK**

// Prestigious TRAUMATIC BRAIN INJURY MODEL SYSTEM FEDERAL GRANT Supports Innovative Brain Injury Research

As one of just 16 federally designated Traumatic Brain Injury Model Systems sites, JFK Johnson Rehabilitation Institute is leading research that measures how people with brain injury recover and become more functional in the first year after their injuries.

The study is evaluating changes in activity limitations related to mobility, daily activities, and applied cognition, and uses the precise AM-PAC assessment tool to measure each patient's progress, a novel use of the tool.

Measuring progress after traumatic brain injuries (TBIs) remains challenging because TBIs vary greatly, and limitations and recovery differ significantly among patients. Unlike most other injuries, no CT scan, X-ray, or medical test exists to measure progress.

"That's why it's essential to develop tools capable of tracking functional recovery trajectories over time and across different treatment systems," said Keith Cicerone, Ph.D., ABPP-Cn., a Principal Investigator of the JFK Johnson TBI Model System and Director of Neuropsychology and Rehabilitation Psychology at JFK Johnson and JFK Neuroscience Institute. Yelena Goldin, Ph.D, is project director.

Current measurements, such as whether a person is able to return to work, cannot provide consistent assessment across a population of TBI patients. A person's age may determine whether he or she returns to work as well as other factors. AM-PAC assesses the ability of patients to communicate, groom and dress themselves, and other skills necessary for the return to daily life.

"We will also try to learn if there are differences in recovery dependent on severity of the initial injury," he said.

"We're proud to be part of the Model Systems research program to advance what's possible not just for our patients, but for all patients with traumatic brain injury."

- Sara Cuccurullo, MD, Vice President and Medical Director of JFK Johnson

The National Institute on Disability, Independent Living, and Rehabilitation Research sponsors the Traumatic Brain Injury Model Systems program. The TBI Model Systems grants are awarded to national leaders in medical research and patient care. JFK Johnson received the more than \$2.1 million grant in 2017 to support brain injury research for five years. **JFK**

Medical Students Explore Physical Medicine and Rehabilitation Medicine at Student Fair

Close to 70 medical students from New Jersey and surrounding states came to JFK Johnson Rehabilitation Institute to learn about Physical Medicine and Rehabilitation — and perhaps make rehabilitation medicine the focus of their careers.

"We also wanted medical students to understand the value of Physical Medicine and Rehabilitation as a specialty, no matter what field of medicine they decide to pursue," said Dr. Sara Cuccurullo, Vice President and Medical Director of JFK Johnson.

Dr. Jaclyn Joki was the Director/ Organizer of the event. She was also awarded an Association of Academic Physiatry Grant to help fund the event.

Many of the students said the opportunity to meet with and learn from nationally recognized leaders in Physical Medicine and rehabilitation, who are working directly with patients — as well as conducting research — gave them valuable perspective. The topics included:



- Brain Injury Medicine with Dr. Brian Greenwald
- Prosthetics and Orthotics with Dr. Heikki Uustal
- Stroke Recovery with Dr. Talya Fleming
- Pain and Sports Medicine with Dr. Sagar Parikh
- Electromyography (EMG) with Dr. David Brown
- Wheelchair Mobility with Dr. Leslie Bagay and Dr. Beverly Hon
- Dr. Craig Van Dien on Ultrasound
- Dr. Laurent Delavaux on Joint Injections
- Spasticity with Dr. Steven Escaldi
- Platelet Rich Plasma with Dr. Iqbal Jafri
- Concussion medicine with Dr. Christine Greiss

>> JFK JOHNSON Exciting Stroke-HEART™ Trials CONTINUE



JFK Johnson Stroke-HEART™ Trials

Leaders of the JFK Johnson Stroke Recovery Program Stroke-HEART™ Trials are sharing

preliminary data in presentations and conferences around the nation, generating significant interest in research with the potential to change the future of stroke rehabilitation in the United States.

"The ongoing data continue to reinforce our preliminary findings and the importance of comprehensive rehabilitation after stroke. The results have been very impressive," said Talya K. Fleming, MD, Medical Director of the Aftercare and Stroke Recovery Program (SRP) at JFK Johnson and Co-Principal Investigator of the trial. "People are asking us, 'How can we have a program like this instituted at our organization?'"

The research began in 2015 and provides stroke patients in the study group with 36 sessions of medically monitored interval cardiovascular training — as well as follow-up visits with a Physical Medicine and Rehabilitation physician, psychological, nutritional, educational support and risk factor management. This is in addition to traditional physical, occupational and speech therapy.

In contrast, patients in the control group receive the traditional standard of care, which includes physical, occupational and speech therapy, and follow-up with their community physician.

Preliminary data has stirred excitement: One-year post-stroke follow-up has revealed a significantly lower unadjusted mortality rate in the patients who have gone through the Stroke Recovery Program than the average unadjusted mortality rate for the typical stroke patient from hospital admission to one-year post-stroke, according to the Get With The

Guidelines®-Stroke hospitals. So far the study has enrolled over 250 patients into the Stroke Recovery Program. Sara J. Cuccurullo, MD, Vice President and Medical Director of JFK Johnson and a Co-Principal Investigator of the study, stressed that the research continues and preliminary data has been presented at multiple national meetings, including the American Heart Association (AHA) Scientific Sessions National Conference, the AHA Northeastern Cerebrovascular Consortium, the Association of Academic Physiatrists, the American Congress of Rehabilitation Medicine and the American Academy of Physical Medicine and Rehabilitation National Annual Assembly, in addition to other venues.

Dr. Cuccurullo said the study also is exploring rates of hospital readmission and secondary incidence of recurrent stroke. "We are trying to prove, in a data-driven way, that stroke patients would benefit from a comprehensive program similar to what cardiac patients receive by participating in the CMS-funded Cardiac rehabilitation program," says Dr. Cuccurullo. "If you have a stroke your chance of a second one in the first year is between 12 percent and 25 percent. We want people with stroke to experience the benefits of comprehensive follow-up rehabilitation to reduce their chance of another stroke and to improve their strength, function and overall health."

Cardiac patients generally have more rehabilitation coverage under Medicare even though stroke and cardiac patients have almost identical cardiovascular risk factors, including high blood pressure, diabetes, high cholesterol, and a history of smoking. The JFK Johnson Stroke Recovery Program encourages patients who have had a stroke to adopt behavioral and lifestyle changes to lead healthier lives.

A fundraiser is planned for May 4, 2019, to help support the Stroke Recovery Research at the JFK Johnson Rehabilitation Institute.

"Each day, we hear how this program is changing the lives of stroke survivors and their families," Dr. Fleming stated.

"We want to support our patients who have experienced a stroke and we hope to raise the standard of care and advance the research to help stroke patients everywhere," Dr. Cuccurullo said. **JFK**

If you or someone that you know needs support recovering from a stroke please contact us at 732-321-7000 ext. 62134.

HIGHLIGHTS OF OUR SCHOLARLY ACTIVITIES

A. CURRENT RESEARCH IN PROGRESS

1. **JFK Johnson Rehabilitation Institute Awarded Traumatic Brain Injury Model System (TBIMS)** TBIMS Program sponsored by the National Institute on Disability, Independent Living, and Rehabilitation Research, Administration for Community Living, US Department of Health and Human Services, supports innovative projects and research in the delivery, demonstration, and evaluation of medical, rehabilitation, vocational, and other services designed to meet the needs of individuals with traumatic brain injury. September 2017-2022 (5 year grant).

2. **JFK Johnson Rehabilitation Institute Awarded Traumatic Brain Injury Model System (TBIMS)**, Approved project for the TBI Models System: The Traumatic Brain Injury Models System National Data Base.

3. **JFK Johnson Rehabilitation Institute Awarded Brain Injury Model System (TBIMS)**, IRB Approved Project for the TBI Model System; Accurate and Efficient Outcomes Assessment of Activity Limitations in All Persons with Traumatic Brain Injury Across All Post-Acute Settings.

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

5. **Bartone, Dana, Dibling, Janice ,SLP, Cuccurullo, Sara, MD, Fleming, Talya, MD, Eckert, Anne, AuD, MBA, CCC/A**, JFK Medical Center IRB Approval obtained, Ongoing Research Project –“ Functional Outcomes of Speech Language Pathology Intervention Post-Stroke” 2018

6. **Bagay, Leslie, MD, Cuccurullo, Sara, MD** IRB Approved “Physical Medicine and Rehabilitation Evaluation Project: Development of standardized rotation specific resident evaluation forms that incorporate the PM&R Milestones, 2018

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

8. **Joki, Jaclyn, MD, Cuccurullo, Sara, MD, Fleming, Talya, MD**, Rutgers IRB Approval pending, Ongoing Research Project. Transcatheter Aortic Valve Replacement (TAVR) versus Minimally Invasive Aortic Valve Replacement (miniAVR) and their effects on cognition and function, 2018

9. **Joki, Jaclyn, MD, Cuccurullo, Sara, MD, Fleming, Talya, MD**, Rutgers IRB Approval pending, Ongoing Research Project. Transitions of Care for Stroke Patients, 2018

10. **Cuccurullo, Sara, MD, Fleming, Talya, MD, Greiss, Christine, DO, Eckert Anne, Ph.D., Scarpati, Rosann, RN**, JFK IRB Approval Obtained – Ongoing Research Project – Stroke Recovery Program – Outcomes Trial. Multi-Center Collaborative Initiative, JFK Johnson Rehabilitation Institute, Rutgers, Robert Wood Johnson Medical School, 2018

11. **Cuccurullo, Sara, MD, Fleming, Talya, MD, Greiss, Christine, DO, Eckert, Anne, Ph.D., Scarpati, Rosann, RN**, JFK IRB Approval

Obtained- Ongoing Research Project- Stroke Recovery Program – Functional Outcomes Trial. Multi-Center Collaborative Initiative- JFK Johnson Rehabilitation Institute, Rutgers, Robert Wood Johnson Medical School, 2018

12. **Escaldi, Steven, DO**, Continues Research Project with Rutgers Bioengineering Department in conjunction with JFK Johnson Spasticity Clinic, 2018

13. **Brown, David, DO**, Continues Ongoing Pediatric Guillain Barre EMG Series Study, 2018

14. **Brown, David, DO**, Continues Ongoing Phrenic Nerve EMG Study Pre and Post EMG findings after Pacer Implant, 2018

15. **Cuccurullo, Sara, MD, Joki, Jaclyn, MD, Bachman, Gloria, MD, Khanuja, Kavisha, BA**, Gait Balance in the Aging Population: Fall Prevention Using Innovation and Technology, 2018

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, First Edition , Textbook 938 pages, Demos Publishing, N.Y., N.Y.

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

C. PEER REVIEWED PUBLICATIONS

1. **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

2. **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 Physiariests Woman's Task Force Report, American Journal of Physical Medicine and Rehabilitation, 2018, April 20, PMID: 29734233

3. **Escaldi, Steven, DO**, Neurolysis: A Brief Review for a Fading Art, -In Physical Medicine and Rehabilitation Clinics: Muscle over-activity in upper motor neuron syndrome: assessment and problem solving for complex cases. Published online May 2018, Print August 2018

4. **Esterov, Dmitry, DO, Greenwald, Brian, MD**, Autonomic Dysfunction after Mild Traumatic Brain Injury, Brain Sci. 2017, August 7(8), 100; doi:10.3390/brainsci7080100

D. ABSTRACTS

1. **Wong, Joseph, MD, Markos Stephen, MD, Urs, Krishna, MD, Cuccurullo, Sara, MD**, “Mobility and Rehabilitation Considerations in a Family with Newly Diagnosed Multiple Myeloma and Multiple Fracture Complications: A Case Report” American Academy of Physical Medicine and Rehabilitation Annual Meeting, Orlando FL, October 2018

2. **Chan, Stephanie, MD, Patel, Shrut, MD**, “The

Importance of Patient Education on Opioid Medication Related Pain Management in an Acute Rehabilitation Setting” American Academy of Physical Medicine and Rehabilitation Annual Meeting, Orlando, FL, October 2018

3. **Hon, Beverly, MD**, Linsenmeyer, T. “Autonomic Dysreflexia in an Individual with Spina Bifida During Urodynamic Evaluation: A Case Report” Academy of Spinal Cord Injury Professionals Educational Conference and Expo, New Orleans, LA, September 3, 2018

4. **Han, Jane, MD, Greenwald, Brian, MD**, Association of Academic Physiatrists National Meeting Poster Presentation: “Improved Neurologic Function Following Baclofen for Patient with Disorder of Consciousness: A Case Report”, Atlanta, GA, February 2018

5. **Chan, Stephanie, MD, Greiss, Christine, DO, Cuccurullo, Sara, MD**, Association of Academic Physiatrists National Meeting Poster Presentation: “Recurrent Stroke in Patient with Underlying Vertebrobasilar Insufficiency” Atlanta, GA, February 2018

6. **Esterov, Dmitry, DO, ShaEssa Wright, MD, Quevedo, Jonathan, MD**, Association of Academic Physiatrists National Meeting Poster Presentation: “The Effect of Five Minute Meditation on Pain Reduction in Patients with Musculoskeletal Pain During Acute Rehabilitation ” Atlanta, GA, February 2018

7. **Wong, Joseph, MD, Han, Jane, MD, Lin, Lei, MD. Ph.D.**, Association of Academic Physiatrists National Meeting Poster Presentation: “A Brief Investigation on the Utility Significance of Post-Stroke Education on Patients, Families and Healthcare Professionals in Acute Rehabilitation Setting”, Atlanta, GA, February 2018

8. **Takyi, Selorm, MD, Doss, Anthony, MD, Wong, Joseph, MD, Jafri, Iqbal, MD**, Association of Academic Physiatrists National Meeting Poster Presentation: “Diagnosis Pulmonary Cement Embolisms in a Rehabilitation Patient Presenting after Vertebral Augmentation Surgery”, Atlanta, GA, February 2018

9. **Kohar, Audrey, DO, Duc, Tran, MS, Ph.D., Perret-Karimi, Danielle, MD, Bradley, Chi, BS, Kim, Mary, MD, Bagay, Leslie, MD, Hata, Justin, MD, Cuccurullo, Sara, MD**, Association of Academic Physiatrists National Meeting Poster Presentation: “Physical Medicine and Rehabilitation Milestone Evaluation Project: Development of Standardized Rotation Specific Milestones Incorporated Faculty of Resident Evaluation Tools”, Atlanta GA., February 2018

E. BOOK CHAPTERS

1. **Greenwald, Brian, MD, Hampton, S, Glazer, David, MD** Neurologic Complications After Traumatic Brain Injury, In: Eapen BC and Cifu DX, editors. Rehabilitation After Traumatic Brain Injury, Elsevier 2018, P 37-48

2. **Greenwald, Brian, MD, Parikh, Sagar, MD, Ferris, Julie, MD, Ra, Michael, MD**, Comprehensive Pain Management in the Rehabilitation Patient, Chapter Authors, “Cervicogenic Headache” Carayannopolous A., editor, Springer Publishing, 2017, Pgs. 267-286

3. **Parikh, Sagar, MD, Delavaux, Laurent, MD, Cuccurullo, Sara, MD**, Comprehensive Pain Management in the Rehabilitation Patient, First

Edition, Chapter Author, Alternative Medicine, Abdominal Wall Pain, Springer Publishing, N.Y., N. Y., 2018

4. **Rossi, Roger, DO, Fleming, Talya, MD, Urs, Krishna, MD, Cuccurullo, Sara, MD** Geriatric Rehabilitation from Bedside to Curbside: Osteoporosis in the Elderly Adult, CRC Press, 2017

F. NATIONAL PRESENTATIONS

1. **Cuccurullo, Sara, MD**, “Women in PM&R: Creating an Action Plan to Address the Challenges and Barriers” American Academy of Physical Medicine and Rehabilitation, Annual Meeting, Orlando, Fl, October 27, 2018

2. **Cuccurullo, Sara, MD, Fleming, Talya, MD**, “Investigating a Comprehensive Outpatient Stroke Recovery Program Utilizing Interval Cardiac Rehabilitation” American Congress of Rehabilitation Medicine Annual Meeting, Dallas, TX, October 2, 2018

3. **Cuccurullo, Sara, MD**, Association of Academic Physiatrists, Board of Directors Meeting, Washington, DC, September 27-28, 2018

4. **Cuccurullo, Sara, MD**, Meeting with Members of Congress Regarding Rehabilitation and Healthcare Policy and GME Funding, Washington, DC, September 27-28, 2018

5. **Cuccurullo, Sara, MD, Fleming, Talya, MD**, “Comprehensive Stroke Recovery Program” 3rd Annual NJ Conference on Collaborative Stroke Management, JFK Johnson Medical Center, JFK Stroke & Neurovascular Center, Edison, NJ, September 14, 2018

6. **Cuccurullo, Sara, MD, Fleming, Talya, MD** - Oral Presentation for NuStep, LLC Corporate representatives, Edison, New Jersey, Developing a Comprehensive Stroke Recovery Program Utilizing Modified Cardiac Rehabilitation, JFK Johnson Rehabilitation Institute, Edison, NJ, July 30, 2018

7. **Greenwald, Brian, MD**, Lecture for The Brain Trauma Unit, - “Agitation after TBI: Current Concepts of Pathophysiology, Assessment and Treatment”, Edison, NJ, June 22, 2018

8. **Greenwald, Brian, MD**, Lecture on “Traumatic Brain Injury and the JFK/JRI Center for Brain Injuries Continuum of Care” Tata Consulting Service, Edison, NJ, June 21, 2018

9. **Greenwald, Brian, MD**, Lecture for Neuroscience/ICU/Trauma “Controversies and Changes in Our Understanding of Disorders of Consciousness”, Jersey Shore Medical Center, Neptune, NJ, June 7, 2018

10. **Greiss, Christine, DO**, Post- Concussion Syndrome Lecture- New Jersey Manufacturer's Insurance Company, May 4, 2018

11. **Cuccurullo, Sara, MD, Fleming, Talya, MD**, NJ Department Of Health,” Comprehensive Outpatient Stroke Recovery Program Utilizing Cardiovascular Conditioning; Outcome Results”, Trenton, NJ, May 15, 2018

12. **Greiss, Christine, DO**, NJ Spine and Wellness Lecture on Visual Dysfunction in Concussion, Edison, NJ, April 16, 2018

13. **Uustal, Heikki, MD**, University of Missouri, Department of PM&R, Annual Prosthetics and Orthotics Course, “Normal Gait”, “Lower Limb Pathology and Orthotic Prescription”, “Upper Limb Pathology and Orthotic Prescription”, “Foot Pain and Pedorthotics”, Columbia, MO, April 20-21, 2018

14. **Greenwald, Brian, MD**, Lecture on “Agitation”,

Hartwyck at Oak Tree for Cognitive Rehabilitation Program, Edison, NJ, April 24, 2018

15. **Uustal, Heikki, MD**, Kessler Institute of Rehabilitation 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”, Livingston, NJ March 11, 2018

16. **Uustal, Heikki, MD**, Baylor College of Medicine-Annual Review Course in PM&R, “Upper Limb Orthotics”, “Lower Limb Orthotics”, “Upper Limb Prosthetics”, “Lower Limb Prosthetics”, “Pediatric Limb Deficiency and Prosthetics”, “Normal Gait and Prosthetic Gait Deviations”, Houston, Texas, March 26, 2018

17. **Uustal, Heikki, MD**, NYU PM&R Review Course- “Normal Gait”, “Lower Limb Prosthetics”, “Pathological Gait” “Upper Limb Prosthetics”, “Orthotics”, New York, NY March 19, 2018

18. **Greiss, Christine, DO**, Lecture on Neuro-Rehabilitation , In-service at Princeton Neurology-The Concussion Program, February 2018

19. **Cuccurullo, Sara, MD**, Association of Academic Physiatrists National Meeting- Resident Workshop, Negotiating Contracts for Residents/Fellows, Atlanta, GA, February 2018

20. **Cuccurullo, Sara, MD**, Association of Academic Physiatrists National Meeting- Chair Workshop Organization and Moderator, Burnout for Chairs, Faculty and Residents and other Concerns of Chairs, Atlanta, GA, February 2018

21. **Cuccurullo, Sara, MD**, Association of Academic Physiatrists National Meeting- Women in Academic Physiatry Task Force Committee Meeting - Presentation of Women’s Task Force Report and Paper, Atlanta, GA, February 2018

22. **Cuccurullo, Sara, MD**, Association of Academic Physiatrists National Meeting- Board Meeting, Presentation of Women’s Task Force Report and Paper, Atlanta, GA, February 2018

23. **Cuccurullo, Sara, MD**, Association of Academic Physiatrists National Meeting- Kottke Society-Think Tank Invitation Leadership Meeting, Atlanta, GA, February 2018

24. **Cuccurullo, Sara, MD**, Association of Academic Physiatrists National Meeting- Academic Physiatrists Education Council (APEC), Atlanta, GA, February 2018

25. **Cuccurullo, Sara, MD, Fleming, Talya, MD**, Association of Academic Physiatrists National Meeting-Developing a Comprehensive Stroke Recovery Program Utilizing Modified Cardiac Rehabilitation, Atlanta, GA, February 15, 2018

26. **Greenwald, Brian, MD**, Association of Academic Physiatrists National Meeting, Chaired Brain Injury Medicine Program Director's Meeting, Atlanta, GA, February 14, 2018

27. **Levine, Jaime, DO**, Association of Academic Physiatrists National Meeting- “Getting Ahead of TBI Pain Syndromes: Medication and Interventional Treatment Options for Headache and Jaw Pain”, Atlanta, GA, February 2018

28. **Quevedo, Jonathan, MD**, Clinical Decisions on Appropriate Treatment/Rehabilitation Settings for Stroke Patients, Jersey Shore Medical Center, Neptune, NJ, January 11, 2018

G. INTERNATIONAL

1. **Jafri, Iqbal, MD**, Invited Physician Delegate - Conference “Reclaiming Intellectual Primacy and

Promoting a Just, Peaceful and Inclusive Society” United Nations Head Quarters, New York, NY, October 8, 2108

2. **Escaldi, Steven, DO**, Tox-Net International Spasticity Group Meeting, Frankfurt, Germany, November 2018

3. **Cuccurullo, Sara, MD, Greenwald, Brian, MD, Malone, Richard, DO, Greiss, Christine, DO**, Hosted Israeli Delegation of Medical Aspects of a Rehabilitation Institute; part of a National Rehabilitation Tour – Brain Injury Medicine and Cardiac Rehabilitation and Stroke, JFK Johnson Rehabilitation Institute, Edison NJ, July 2017

4. **Jafri, Iqbal, MD**, Rehabilitation Medical Conference/Medical Mission – Topics Covered: Pain Management/Stroke/Regenerative Medicine; Conducted Workshop on Joint Injection, Karbala and Najaf al Ashraf, Iraq-Sponsored by Alkafeel Hospital Iraq and Montefiore Hospital/ Albert Einstein Medical College/Imamia Medics International in a consultative status with the UN. August 11-17, 2017

H. AWARDS

1.**Hon, Beverly, MD**, Received the Academy of Spinal Cord Injury Professionals, “Outstanding Trainee Research Award”, New Orleans, LA, September 2018

2. **Bagay, Leslie, MD**, Received the Rutgers-Robert Wood Johnson Volunteer Faculty Award, New Brunswick, NJ, June, 25, 2018

3. **Fleming, Talya, MD**, Received the Rutgers-Robert Wood Johnson Volunteer Faculty Award, New Brunswick, NJ, June, 25, 2018

4. **Joki, Jaclyn, MD**, Received the Rutgers-Robert Wood Johnson Volunteer Faculty Award, New Brunswick, NJ, June, 25, 2018

5. **Escaldi, Steven, DO**, Received “Teacher of the Year Award”, voted on by the JFK Johnson Rehabilitation Residents, - PGY IV Graduation Ceremony, Edison, NJ, June 16, 2018

6. **Greiss, Christine, DO**, Received the” Kathy Wong Award” voted on by the JFK Johnson Rehabilitation Residents to the physician who exhibits extreme compassion and care to patients and their families - PGY IV Graduation Ceremony, Edison, NJ, June 16, 2018

7. **Rossi, Roger, DO**, Parkinson's Voice Project-Speak Out and Loud Crowd, Grant

8. **Cicerone, Keith, PhD**, Received the “Williamsburg TBI Rehabilitation Conference Rosenthal Memorial Lecturer in Recognition of Outstanding Contributions to the Field of Traumatic Brain Injury Rehabilitation” from the Virginia Commonwealth University and Brain Injury Services, May 4, 2017

9. **Greenwald, Brian, MD**, Received the Rutgers-Robert Wood Johnson Volunteer Faculty Award, New Brunswick, NJ, June 26, 2017

10. **Greiss, Christine, DO**, Received the Rutgers-Robert Wood Johnson Volunteer Faculty Award, New Brunswick, NJ, June 26, 2017

11. **Parikh, Sagar, MD**, Received the Rutgers-Robert Wood Johnson Volunteer Faculty Award, New Brunswick, NJ, June 26, 2017

12. **Quevedo, Jonathan, MD**, Received “Teacher of Year Award”, June 11, 2017

13. **Greiss, Christine, DO**, Received the “Kathy Wong Award” to the physician who exhibits extreme compassion and care to patients and their families, June 11, 2017



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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.