



Hackensack  
Meridian Health

ADVANCING WHAT'S POSSIBLE | 2021

# JFK Johnson Rehabilitation Institute



**INSIDE:**  
Update on  
Stroke-HEART™  
Trials

# MANAGING SPASTICITY

IMPROVING FUNCTION, CHANGING LIVES

FROM OUR MEDICAL DIRECTOR



We have ended one of our most challenging years ever. In 2020, our strengths were tested every day as we continued to provide essential services in the midst of the global pandemic — while also swiftly pivoting to help patients recover from a disease we are still learning about: COVID-19.

I am so grateful to our physicians, nurses, therapists and support staff who continue to work with dedication and courage. We will need all our talents and commitment as we move forward with our program to help post-COVID patients recover as fully as possible. We are also participating in post-COVID research, as part of the NY/NJ Covid-19 Rehabilitation Consortium, so we can learn how to best support our patients and all those suffering from this virus. You can read about how we responded in the early days of the pandemic and our work today in this magazine. I'm proud that our specialty, Physical Medicine and Rehabilitation, is leading the way in post-COVID rehabilitation.

Despite the unforeseen challenges, we kept our focus on our core services to provide the highest level of rehabilitation to patients with brain injury, stroke, cardiac issues, amputation, and other illnesses and conditions.

I'm excited to share the 2021 JFK Johnson Rehabilitation Institute magazine, which highlights our Amazing Spasticity Program. The director, Steven V. Escaldi, D.O., works with patients and also trains the next generation of physicians to become clinically competent and proficient in the treatment of spasticity. Dr. Escaldi is a national leader in the field. I am inspired by the patient stories here and truly believe that high quality spasticity management is part science, part art.

You can also read the update of our exciting Stroke-HEART™ Trials. Data continue to show the far-reaching benefits of a comprehensive cardiac rehabilitation program for stroke patients. We previously showed that this program has the ability to reduce deaths and improve cardiovascular performance and overall function. More recently, we've shown that the stroke recovery program also reduces all cause hospital readmissions post stroke.

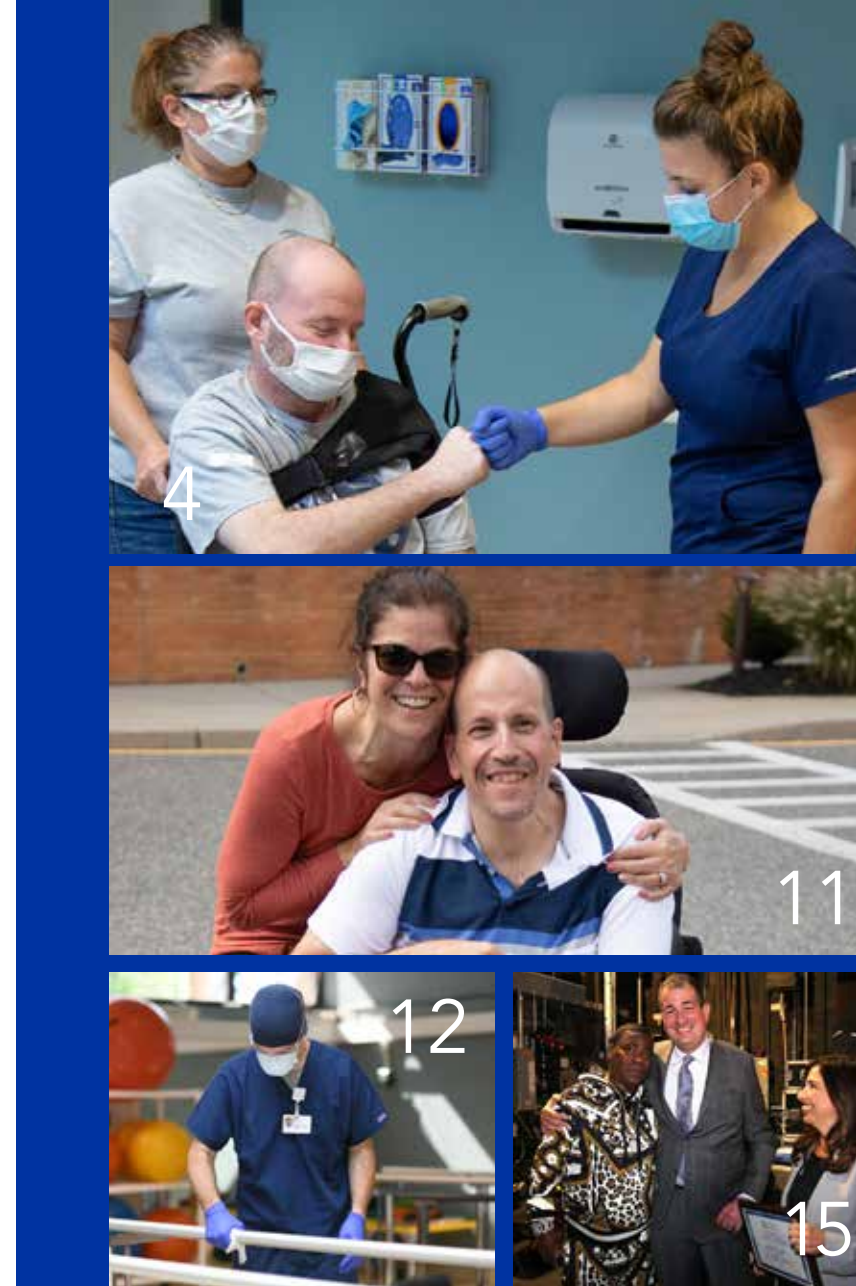
Each issue of our annual magazine focuses on one aspect of our work here at JFK Johnson. Past issues have focused on our traumatic brain injury program, our prosthetic and orthotic program, our innovative research on stroke rehabilitation and our center for sports and spine medicine. These programs and all we do at the JFK Johnson Rehabilitation Institute help us Advance What's Possible for all our patients.

I hope you enjoy the magazine!

Yours in Good Health,

*Sara Cuccurullo M.D.*

Sara Cuccurullo, M.D.  
 Professor and Chairman  
 Residency Program Director  
 Department of Physical Medicine and Rehabilitation  
 Hackensack Meridian School of Medicine  
 Rutgers-Robert Wood Johnson Medical School  
 Vice President and Medical Director  
 Physician in Chief  
 Rehabilitation Care Transformation Services  
 JFK Johnson Rehabilitation Institute



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

**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

# CONTENTS

- 4 Advancing What's Possible for Patients with Spasticity**
- 9** Robotics Added to Protocols For Brick Man
- 10** Physical Therapy is Essential to Spasticity Treatment
- 11 For MS Patient, Spasticity Treatment is Life Changing**
- 12 From the Frontlines of the Pandemic to Post-COVID Rehabilitation**
- 14** Prestigious Research Award Goes to JFK Johnson Physician Improving Lives of People with Spinal Cord Injury
- JFK Johnson Residency Program Receives Five Star Rating
- 15 Comedian Tracy Morgan Presents Award to JFK Johnson Nurse**
- 16 New Data from Stroke-HEART Trials Show Reduced Hospital Re-Admissions for Stroke Survivors**
- 18** Highlights of Scholarly Activities



JRI Department Phone Numbers

Admissions .....	732.321.7733	Outpatient PT at Woodbridge .....	732.636.5151
Cardiopulmonary Rehabilitation	732.321.7722	Pain Management .....	732.321.7757
Cognitive Rehabilitation .....	732.906.2640	Parkinson's Disease Clinic/ Rehabilitation Medicine .....	732.321.7070
Driver's Training .....	732.321.7056	Pelvic Floor Rehabilitation .....	732.321.7056
JFK for Life Fitness Center.....	732.632.1610	Pediatric Rehabilitation .....	732.548.7610
Outpatient PT at Edison .....	848.205.2514	Prosthetic & Orthotic Lab .....	732.248.0774
Outpatient PT/OT Services at JFK.....	732.321.7056	Rehabilitation Physicians.....	732.321.7070
Outpatient PT at Metuchen .....	732.548.9800	Speech Pathology & Audiology/ Hearing Aids .....	732.321.7063
Outpatient PT/OT at Monroe ....	609.409.1170	Vocational Rehabilitation .....	732.321.7069
Outpatient PT at Piscataway.....	848.230.6655		
Outpatient PT at Progress Street ..	908.834.8685		

## IMPROVING FUNCTION CHANGING LIVES



**M**ichael Tomaro of South Bound Brook says he's making great progress since he suffered a stroke in March. But the 43-year-old knows he's just beginning his journey toward recovery. He's working with physical therapists to manage the spasticity that "locks up my whole leg," he says. His physical therapist, Jessica Tallini, PT, DPT, exercises and stretches his affected left hand and leg. "You need to work with patients like Michael or they will get progressively worse. We also address issues of safety as Michael tries to work and get in and out of bed. There are so many elements. All of us here work together to keep our patients moving forward."

**F**or patients living with spasticity, day-to-day life can be a challenge. Perhaps they have a foot that's perpetually planter flexed, or pointed down, making walking nearly impossible. Or maybe there's a flexed elbow or permanently clenched fist. They may not be able to extend their arm to open a door.

*No two patients with this frustrating condition are alike.*

Spasticity may occur when there is damage or disease to the brain or spinal cord. It disrupts the complex system that coordinates movement, making some muscles contract while others are made to relax. The result can be muscle stiffness, painful spasms or decreased ability to control movements of the affected limbs. Spasticity can significantly limit a person's ability to perform basic activities of daily living (ADLs), such as dressing, bathing or walking.

Steven V. Escaldi, D.O., Medical Director of the JFK Johnson Rehabilitation Institute Spasticity Management Program, dedicates his life's work to helping spasticity patients live better lives. Dr. Escaldi leads a multidisciplinary team. Treatment options include home stretching and exercise programs, physical and occupational therapy, splints or braces, oral medication, botulinum toxin injections and nerve blocks. Other options are orthopedic procedures, such as tendon lengthening, and neurosurgical procedures, such as the implantation of intrathecal baclofen pumps. Some patients are also benefitting from the use of rehabilitation technology, such as virtual reality, robotics, and electrical stimulation to help improve their movement.

"Having the ability to provide all these services in one place — and the expertise to use them correctly

**“Dr. Escaldi's level of experience and expertise greatly benefits our patients. Dr. Escaldi also educates medical students, residents and fellows who are now treating patients locally and around the nation.”**

— Sara Cuccurullo, M.D., Medical Director of JFK Johnson Rehabilitation Institute

— is the key to improving outcomes,” Dr. Escaldi said.

Spasticity has multiple causes. In adults, the most common causes are stroke, traumatic brain injury, spinal cord injury, multiple sclerosis and cerebral palsy. About 30-40 percent of stroke survivors will experience some form of spasticity —some immediately after a stroke and others weeks or months later. The Stroke Foundation estimates that 500,000 Americans live with spasticity, and the condition affects more than 12 million people around the world.

“Understanding the cause of the increased tone for each patient helps to identify what approach will work best for them,” Dr. Escaldi said. “Treatment approaches are tailored to each patient's goals, functional status, symptom severity and duration.”

### Primary Causes of Spasticity

- Traumatic Brain Injury
- Spinal Cord Injury
- Stroke
- Cerebral Palsy
- Multiple Sclerosis

### JFK Johnson Continuum of Care for Patients with Spasticity

- Acute Care Hospital
- Acute In-Patient Rehabilitation Institute (Brain Trauma Unit, Stroke Unit, Spinal Cord Unit)
- Sub-Acute Recovery (Extended Recovery Unit)
- Outpatient Spasticity Program (Center for Brain Injuries, Stroke Recovery Program, Spinal Cord Injury Program)



Dr. Escaldi and the multidisciplinary team

## //TAILORING TREATMENT for EACH PATIENT

Seeking treatment at an elite program such as the one at JFK Johnson can help patients reach their highest level of function.

“Our clinic brings tremendous improvement to people’s quality of life,” says Sara Cuccurullo, M.D., medical director of the JFK Johnson Rehabilitation Institute. “For instance, it’s not enough to just give patients an injection. You need to know exactly where to place the injection and how much medicine to inject. It’s science, but also an art form.”

Dr. Escaldi’s leadership has helped build a comprehensive program that treats patients in New Jersey and throughout the region. The physicians Dr. Escaldi trains each year in spasticity are now working around the country. He has published research and also lectures nationally and in Europe, and is part of an international consortium creating best practices to share around the world, especially in nations with limited health care resources.

Dr. Escaldi is devoted to improving patient access to effective spasticity treatments, and he cites statistics that as many as half of the Americans suffering from spasticity do not receive optimal treatment. Too many receive no treatment.

“In the grand scheme, spasticity is neglected,” he says. “We need patients to know they can get better if they seek out the right treatment.”

// The Continuum of Care at the JFK Johnson Center for Brain Injuries can treat patients through every step of their journey toward maximum function. Patients throughout the state and region are often transferred to the JFK Johnson Center for Brain Injuries, which includes specialized in-patient and outpatient services. Patients may go from the Brain Trauma Unit to the Extended Recovery Unit and then to Outpatient Cognitive Rehabilitation.

The aim is to treat patients as early as possible after their illness or injury. If a muscle is tight and painful, patients may stop using the muscle, potentially creating contracture, a tightening or shortening of the muscle. Identifying problems early can minimize or prevent spasticity.

Each new patient receives a full evaluation at JFK Johnson. Then a multidisciplinary plan is created. Dr. Escaldi likens each element as a piece of the puzzle.

“It’s not just getting a shot of botulinum toxin and everything is fixed. It’s getting a shot, going to therapy, doing the exercises that the therapists teach you every day, wearing your splints, doing your strengthening program,” he says. “The patients who commit to the program typically experience the greatest improvement.”

The JFK Johnson physicians and therapists begin by setting simple goals, such as improving limb position

## //CONTINUUM of CARE



so the patient can get dressed and bath without pain. Then they enable patients to continue to make gains that lead to new goals and higher-level functional tasks.

Botulinum injections are a critical and established treatment that works by blocking the chemical signal between the nerves and muscles. A skilled physician must understand the patient’s life to understand where and how much medicine to inject in the patient’s muscles.



**It’s not just getting a shot of Botulinum toxin and everything is fixed. It’s getting a shot, going to therapy, doing the exercises that the therapists teach you every day, wearing your splints, doing your strengthening program. The patients who commit to the program typically experience the greatest improvement.”**

— Steven Escaldi, D.O,  
Medical Director of the  
Spasticity Management Program

“As you treat patients, you need to keep some measure of tone in their muscles. You might automatically want to straighten out a person’s bent arm,” says Alphonsa Thomas, D.O. “But maybe your patient uses that bent elbow to carry her purse. You have to understand your patient’s day-to-day activities.” Dr. Thomas is a physiatrist with subspecialty training in brain injury medicine who trained under Dr. Escaldi. She now works at Hackensack Meridian Shore Rehabilitation

Institute in Brick.

“Every patient responds differently,” Dr. Thomas says. “Creating the right injection really is an art form. There is no specific amount to always give a patient. If you give too much, the limb may be too loose, or not enough, it remains rigid.”

Adds Jaime Levine, D.O., Medical Director of Brain Injury Rehabilitation at the JFK Johnson Extended Recovery Unit: “Some tone in the muscle is helpful. If someone has a lot of tightness in their fingers, maybe they can use that to hold a can or open a bottle. Some tone in someone’s legs may help them stand up.”

Some patients may be advised to consider an intrathecal Baclofen pump. Baclofen is a muscle relaxant, and an intrathecal pump can deliver the medicine through the spinal canal directly to the target receptors to reduce the spasticity in the muscles. JFK Johnson’s Physical Medicine and Rehabilitation physicians work closely with the neurosurgeons at JFK Medical Center who surgically implant the pump. The rehabilitation physicians adjust and monitor the pump.

Another option for some patients is serial casting, where a series of casts is used to stretch soft tissue and improve range of motion. Bracing, too, can help stabilize muscles and keep limbs positioned.

The range of treatments requires a team approach, says Dr. Levine. In the extended recovery unit, the patients have suffered serious brain injuries, such as strokes, car accidents, violence and anoxic brain injuries from lack of oxygen. Many have some form of spasticity.

Treating and managing spasticity is necessary to keep patients healthy and comfortable. Dr. Levine credits the multidisciplinary team approach with nurses, therapists, physician assistants and physicians working together. “That’s our most important feature — how we all work together to help each patient,” she says.

# //MULTIDISCIPLINARY, TEAM APPROACH



Laurie Dabaghian, M.D., a physical medicine and rehabilitation physician with brain injury specialty training, approaches treatment step-by-step. “You have to see what works for each patient,” she says.

Dr. Dabaghian, who works with and is mentored by Dr. Escaldi, recalled a patient whose ankles and feet were affected, with one foot fully plantar flexed, or pointed, despite injections, medication, and physical therapy. The woman could not stand with her feet flat. Dr. Dabaghian, who is Director of Physical Medicine and Rehabilitation Consult Services at Hackensack University Medical Center, arranged for the patient to undergo surgery to release the tendon on one foot, and used nerve blocks and botulinum injections on the other, enabling the woman to walk.

“You need trust as you work with each patient to maximize function,” she said.

Essential to recovery is physical and occupational therapy by therapists trained in cognitive rehabilitation. Physical therapists work to reduce muscle tone and improve range of motion and help patients learn to walk again. Occupational therapists help patients with activities of daily living. Some patients learn to drive again and go back to work.

Physicians work closely with specially trained therapists.

“Someone might have their hand closed and their elbow close to their body,” says Christina Cognetti, MS OTR/L, an occupational therapist. “We work to get their limbs moving through stretching and weight bearing. Spasticity can be

“

**At Hartwyck, we’re family. It’s a rare place — and we tell patients and their families this is the place you want to be.”**

— Jeanne O’Connor, P.A.

very frustrating for patients.”

The goal might be to get patients to brush their teeth, get around their home, and live with less rigidity and pain. Therapists may work to stretch a clenched hand or stretch a patient’s leg, or work on balance and function.

Therapy is difficult and physical work for both patient and therapist. Therapy can be more effective when other interventions relax the muscles and provide more flexibility. All elements of treatment work together.

“Everyday we see the value of having all the services in the same place and using them together in a team-based approach,” says Dr. Escaldi. **JFK**



Dr. Steven Escaldi



Christina Cognetti, MS OTR/L, an occupational therapist, with Michael Segarra



Michael Segarra and his father, Luis

## Robotics Advances Spasticity Care

At 25, Michael Segarra landed in the hospital with a blood infection, expecting a short stay. But his heightened blood pressure caused a rupture in an arteriovenous malformation (AVM) — basically, a neurologic ticking time bomb in his brain. He was quickly transferred to Hackensack Meridian Health Jersey Shore University Medical Center, where emergency surgery saved his life.

Soon after, he was transferred to the Brain Trauma Unit at Hackensack Meridian Health JFK Johnson Rehabilitation Institute. Segarra could not talk, walk, eat or even breathe on his own. His parents, Luis and Barbara, feared for their son’s future.

Under the care of Richard J. Malone, D.O., a brain injury specialist, and with the help of therapists trained in brain injury rehabilitation, Segarra slowly began to move an arm, then a leg. Soon he could eat. He took slow,

incremental steps through the JFK Johnson Continuum of Care.

Today, more than three years after his 2017 brain injury, Segarra is home with his parents and preparing to take some college classes. He gets around and is learning to drive again, this time with a modified car.

His greatest obstacle now is something he did not understand before: spasticity.

“To me, it was a word you might use as a kid to make fun of somebody. God, I hope I never did that. I really understand now,” Segarra says as he walks across a field. His right arm curls in and his right foot points awkwardly. But he moves forcefully with a brace. Since his brain injury, Segarra has been working with Steven V. Escaldi, D.O., medical director of the JFK Johnson Rehabilitation Institute Spasticity Management Program.

Segarra said Botulinum toxin injections enable him to gain more control of his curled and affected left arm, which he calls his “T-rex arm.”

“Before the injections, if I wanted to grab a snack off the top cupboard I just couldn’t reach. The injections loosen everything up and I have more use of my hand,” Segarra says. “Dr. Escaldi knows how to find the muscles that are firing and put the Botox in the right place. You don’t want too much tone and rigidity, or my arm would be too loose. Dr. Escaldi is the best doctor.”

Occupational therapist Christina Cognetti, MS, OTR/L, is now working with Segarra as he uses a MyoPro powered arm and hand brace. The device amplifies weak muscle signals and has been called “power steering for your arm.” The aim of the robotic technology also is to drive muscle reeducation and increase range of motion.

Segarra has come very far since his ruptured AVM. “We all feel great when we see Michael today. We remember when he first came to us,” says Jeanne O’Connor, P.A., physician assistant in brain injury at the Extended Recovery Unit at JFK Hartwyck in Edison. “He was completely nonreactive. He couldn’t talk to you at all. At Hartwyck, we work as a team. We’re family. It’s a rare place — and we try to tell patients and their families this is the place you want to be.”

Dr. Escaldi says Segarra’s improvement also shows the value of his dedication to the program and the support of his family. As a physician, Dr. Escaldi says he is inspired by patients such as Segarra.

“When I first met Michael, the goal was simply to improve the flexed position of his elbow and allow his leg to fit comfortably in his KAFO (knee-ankle-foot-orthotic) so he could walk with assistance,” Dr. Escaldi says. “He and his Dad were willing to perform any exercise or investigate any treatment device that could help his recovery. We really see that the people who work hard do well, regardless of where they started.” **JFK**



RHAV works with physical therapist Alison Rothman, PT, DPT; (r) RHAV and her occupational therapist, Kim Conti



## Physical Therapy Is Essential to Spasticity Treatment

To RHAV, the curled fingers on her right hand often feel “locked in place.” At JFK Johnson, she works with physical therapists who stretch and lengthen those fingers — an intervention that works in conjunction with injections, a brace, and serial casts.

“I feel so much better after the therapy,” RHAV said. “It really helps.”

RHAV and her occupational therapist, Kim Conti, OTR, CHT, who is certified in hand therapy, have worked together for several years to improve the spasticity that lingers from the young woman’s double stroke and brain bleed six years ago.

“I was in bed for six months,” she recalls. “I could do nothing for myself.”

RHAV endured a long road to regain her independence. Now her main obstacle is the spasticity that affects her right arm and leg. Conti works to

stretch and strengthen her fingers — and also considers the patient’s entire body.

“When an arm is tight to the chest in resting position, it can affect a person’s gait,” Conti says.

RHAV also works with physical therapist Alison Rothman, PT, DPT. The focus is strengthening her affected side. All therapy is conducted under COVID-19 guidelines.

“We’re working on getting RHAV to shift her weight and become more active on her right side,” said Rothman. “We are focused on improving her strength, and on tone management to reduce the spasticity so she can move better.”

There is always a balance between encouraging patients to strengthen and use their affected side while also recognizing the value of “work-arounds” to enable them to be

more independent. So even as RHAV works to strengthen her affected right side, she also is learning to gain better use of her left, non-dominant hand.

She also wears a brace: “The brace keeps my foot flexed. Otherwise, I couldn’t walk.”

RHAV lives with her father and was working for a vending company until the pandemic. Her physician, Steven Escaldi D.O, medical director of the JFK Johnson Spasticity Management Program, works closely with all the therapists involved in her care.

RHAV knows she has to remain committed to her program of treatment. “Everything I need is right here. The care is excellent,” she says. “Everyone here is supporting me. That makes all the difference.” **JFK**

## For MS Patient, Spasticity Treatment Is Life-Changing

One of Bob Serenelli’s legs used to stiffen like a board, often in the middle of the night. Think of a painful charley horse up and down an entire leg. His wife, Marcia, says her husband’s leg would become as rigid as a frozen slab of meat.

“My husband would say, ‘My leg is killing me. Please bend my knee.’ But it was impossible to bend,” Marcia recalls.

Her husband has lived with multiple sclerosis for nearly two decades, and the physicians who cared for him could not control his painful spasticity. Even his initial baclofen pump and injections of Botulinum-A failed to control reduce his pain and rigidity.

During a hospitalization, he was referred to Alphonsa

Thomas, D.O., a physical medicine and rehabilitation specialist with subspecialty training in brain injury. She works at Hackensack Meridian Shore Rehabilitation Institute in Brick, New Jersey.

“Dr. Thomas wanted us to do the injections and the pump, and we were like, ‘They didn’t work.’ But she said, ‘Let’s just see what we can do.’ She looked at everything with fresh eyes,” Marcia Serenelli says.

Dr. Thomas expertly adjusted both treatments, creating a better outcome. “We said, ‘You are an answer to our prayers.’ She really listens to Bob and understands him as a whole person,” Marcia Serenelli says.

Serenelli is now able to walk 75 feet with his walker. He



(top) Alphonsa Thomas, D.O.  
(l) Rob and Marcia Serenelli

can get himself in and out of bed, and no longer has the painful nighttime episodes. For someone with MS for many years, each victory is cherished. Serenelli, in less pain, is able to continue his work in cybersecurity.

Dr. Thomas trained under Dr. Steven V. Escaldi, D.O., medical director of the Hackensack Meridian JFK Johnson Rehabilitation Institute Spasticity Management Program. She learned, she said, that a skilled practitioner must work to understand the patient’s day-to-day life and overall goals. The medications, pumps, physical therapy and injections need to be applied individually.

“There is no generic amount of medication that is right for everyone,” Dr. Thomas says. “I typically start low and we titrate from there. It takes time to see how the patient responds. Is the arm too loose? Or too tight? It’s really patient-driven.”

Dr. Thomas wanted to further her training in brain injury medicine under Brian Greenwald, M.D., medical director of the JFK Johnson Center for Brain Injuries, as well as Dr. Escaldi.

Dr. Thomas also worked with Serenelli to bring in home equipment that gives him more independence.

“Bob has had some ups and downs,” Dr. Thomas said. “But we have been able to improve his quality of life.” **JFK**

# From the Frontlines of the Pandemic to Post-COVID Rehabilitaton



In the early days of the COVID-19 pandemic, JFK Johnson Rehabilitation Institute stood in the firing line. Just a 30-minute drive from New York City, close to a commuter hub — and attached to an acute care hospital — JFK Johnson was one of several rehabilitation institutes in the New York-New Jersey region to face the nation's initial surge in COVID-19 cases.

In April and May, as COVID cases surged at JFK Medical Center, the hospital expanded ICU and critical care units to other floors of the hospital. At one point, surge capacity in those units hit more than 200 percent. More ICU and critical care capacity was still needed. So the rehabilitation institute converted forty of 94 rehabilitation beds to critical

care beds for COVID-19 patients.

“We worked with home care, patients, and families to discharge all patients who could safely return home, and we quickly integrated virtual family training sessions into our care model,” said Sara Cuccurullo, Vice President of JFK Johnson, and Physician-in-Chief of Rehabilitative Care Transformation Services at Hackensack Meridian Health. “Our complex brain and spinal cord injury patients, as well as complex cardiac/pulmonary patients, stayed at our facility.”

Rehabilitation clinical staff used their skills to provide care for these seriously ill patients. Meanwhile, outpatient rehabilitation therapists joined “proning” teams throughout

the hospital to turn patients to improve their pulmonary status.

Dr. Cuccurullo outlined how JFK Johnson responded to the pandemic in an essay — titled *Stories From The Field: COVID-19 and Physiatry* — published by the Foundation for Physical Medicine and Rehabilitation.

In the essay, she explained that JFK Johnson created a COVID Committee that met regularly to examine procedures and protocols. A consult team examined hospitalized patients to accelerate screening and admission to inpatient rehabilitation, opening up needed acute care beds.

As the pandemic wore on, a new need emerged: seriously ill COVID patients who recovered from the virus needed

rehabilitation. JFK Johnson established COVID positive and COVID negative rehabilitation units with separate staff dedicated to each unit. A gym for COVID-positive patients was established.

In July, JFK Johnson created the Post-COVID Rehabilitation Program, one of the region's first, to enable patients to recover as fully as possible.

“Some of our post-COVID patients are severely debilitated, with significant pulmonary and cardiac involvement,” said Talya Fleming, M.D.,

Medical Director of the Aftercare Program and Stroke Recovery Program at JFK Johnson.



“We are joining with other rehabilitation institutes to share information so we can continue learning as much as we can about this new virus and how we can help our rehabilitation patients.”

— Sara Cuccurullo, Vice President of JFK Johnson, and Physician-in-Chief of Rehabilitative Care Transformation Services at Hackensack Meridian Health.

Dr. Cuccurullo shared JFK Johnson's experiences through Grand Rounds with other rehabilitation institutes, such as the rehabilitation institutes of Mayo Clinic and Michigan Medicine.

Rehabilitation at JFK Johnson continues under strict new guidelines that include social distancing, temperature checks, screening questions, masks for all patients and appropriate PPE for all staff.

JFK Johnson is now part of the NY/NJ Covid-19 Rehabilitation Consortium, which pulls data together to better understand how COVID impacts patients, and how rehabilitation can improve the lives of these patients. The members are JFK Johnson Rehabilitation Institute; Columbia/Cornell;

NYU Rusk Rehabilitation Institute; Mount Sinai; Montefiore; Burke Rehabilitation Institute; Kessler Rehabilitation Institute, and Northwell Health.

“The virus can also affect multiple organs and some patients need cardiac and respiratory therapy,” Dr. Cuccurullo said. “We are also finding that the COVID virus can cause pathologies linked with increased clotting of the blood and can result in increased risk of stroke and deep vein thrombosis.”

Dr. Cuccurullo said JFK Johnson is joining other rehabilitation institutes to share information so rehabilitation specialists can learn as much as possible about the virus and how to best help patients. **JFK**

## Prestigious Research Award Goes to JFK Johnson Physician

### IMPROVING LIVES of PEOPLE with SPINAL CORD INJURY



A JFK Johnson Rehabilitation Institute physician has received a prestigious award that recognizes excellence in spinal cord injury research by professionals dedicated to improving the lives of people with these life-changing injuries.

Beverly Hon, M.D., an attending physician at JFK Johnson, has been honored with the Bors Award for Scientific Development for her research into ultrasound surveillance for deep vein thrombosis (DVT), or blood clots, among people with spinal cord injury.

The study of 189 patients concluded that being older and having more severe neurologic impairment are independent risk factors for DVTs. Those with certain types of DVTs have a high likelihood of future blood clots and the study concluded that routine ultrasound surveillance for these patients may be warranted.

"This is important research that has the potential to change how patients with spinal cord injury are treated. Identifying DVTs in these patients is critical," said Dr. Sara Cuccurullo, M.D., Medical Director of JFK Johnson. "We are all proud of Dr. Hon and believe her research will improve outcomes for people with spinal cord injuries."

For 25 years, the Journal of Spinal Cord Medicine (JSCM) has honored the legacy of Ernest Bors, M.D., with an annual publishing award—The Ernest Bors, M.D., Award for Scientific Development. Dr. Bors (1900–1990) was a pioneer in the care of veterans disabled by spinal cord injury.

Dr. Hon's research is "Duplex ultrasound surveillance for deep vein thrombosis after acute traumatic spinal cord injury at rehabilitation admission," and was published online on April 2, 2019.

Dr. Hon is board certified in Physical Medicine and Rehabilitation (PM&R) and Spinal Cord Injury Medicine.

At JFK Johnson, Dr. Hon works with an interdisciplinary team highly skilled in treating all aspects of spinal cord injury and enabling patients to maximize their recovery and meet their individual goals. **JFK**



### JFK Johnson Residency Program Receives FIVE STAR RATING

The JFK Johnson Rehabilitation Institute has once again received Five Stars — the highest rating — for its Physical Medicine & Rehabilitation Residency Program.

The rating comes from Doximity's Residency Navigator, which provides information about residency programs to medical school graduates. Doximity is the leading professional network for American physicians.

JFK Johnson offers a Residency Program in Physical Medicine and Rehabilitation. In addition, there are two ACGME (Accreditation Council for Graduate Medical Education) fellowships in both pain medicine and brain injury medicine.

The JFK Johnson Physical Medicine and Rehabilitation Residency Program is a joint program with JFK Johnson and Rutgers Robert Wood Johnson Medical School and Hackensack Meridian School of Medicine. More than 200 residents have completed the program since it began more than 30 years ago.

The residency and fellowship program has vibrant and engaged alumni, including many who now work as medical directors, chairs, and residency directors in hospitals and rehabilitation institutes across the nation. The residency and fellowship program is fully accredited by ACGME.

The Physical Medicine and Rehabilitation Board Review Textbook (Demos Publishing), widely used by doctors taking their boards in the specialty, was created at JFK Johnson Rehabilitation Institute, and Sara Cuccurullo, MD, Medical Director of JFK Johnson, is editor-in-chief, and many of the faculty at JFK Johnson are authors. **JFK**

## Comedian Tracy Morgan Presents Award to JFK Johnson Nurse

### Comedian Continues to Shine a Light on Specialty of Rehabilitation Nursing

Actor and comedian Tracy Morgan has once again presented the "Tracy Morgan Award for Excellence in Rehabilitation Nursing" to a JFK Johnson nurse to show his appreciation for the care he received after his 2014 accident.

Morgan presented the recurring "Tracy Morgan Award for Excellence in Rehabilitation Nursing" to Gina Domingo, RN, CRRN. Domingo has worked on the Brain Trauma Unit at JFK Johnson Rehabilitation Institute since 1990.

Domingo was among the nurses who cared for Morgan after the comedian was seriously injured and in a coma following an accident on the New Jersey Turnpike. Since Morgan's inspiring recovery, he has returned to comedy as well as to producing and acting. He has generously shared his story of recovery on the national stage, highlighting the work of professionals dedicated to patients with brain injuries.

"I'm honored to receive this award," Domingo said. "When you work with people with brain injuries, often they cannot communicate verbally. Sometimes they can't move. The work is challenging. But when you can contribute to their recovery, it's just so rewarding."

*"When you work with people with brain injuries, often they cannot communicate verbally. Sometimes they can't move. The work is challenging. But when you can contribute to their recovery, it's just so rewarding."*

— Gina Domingo, RN, CRRN



Tracy Morgan hugs Gina Domingo, RN, CRRN

Morgan presented the award after his performance at the Count Basie Center for Performing Arts early in 2020.

After Morgan's recovery, the comedian generously and publicly thanked JFK Johnson nurses, physical therapists and other members of his team as well as his physician, Brian Greenwald, M.D., who is medical director of the JFK Johnson Center for Brain Injuries.

"Tracy's amazing recovery continues to provide hope to my other patients," Dr. Greenwald said. "And to see him clearly in command of his talent is just great."

Morgan starred for seven seasons on NBC's Emmy and Golden Globe Award-winning "30 Rock." He also was a cast member for seven seasons on Saturday Night Live.

"We are thankful to Tracy Morgan for the light he continues to shine on the skill, compassion, and specialized training of rehabilitation nurses," said Sara Cuccurullo, M.D., medical director of the JFK Johnson Rehabilitation Institute. **JFK**







## New Data from Stroke-HEART Trials Show Reduced Hospital Re-Admissions for Stroke Survivors



New data from the on-going Stroke-HEART™ Trials at JFK Johnson Rehabilitation Institute continue to show far-reaching benefits for stroke survivors who complete a cardiac rehabilitation program similar to the one offered to people who have suffered heart attacks.

The Stroke-HEART™ Trials previously found that stroke survivors who completed

the JFK Johnson Stroke Rehabilitation Program — a comprehensive cardiac rehabilitation program modified for stroke patients — were significantly less likely to die than those who did not complete the program.

Now the latest data show that the program also meaningfully reduces hospital readmissions.

The re-hospitalization data of Stroke-HEART™ Trials has been submitted for publication.

“As we move forward with the study and continue to enroll more patients, we are finding the benefits of our stroke

rehabilitation program are truly wide-ranging and measurable,” said Sara J. Cuccurullo, MD, Chairman and Medical Director of JFK Johnson and a Co Principal Investigator of the study.

The Trials continue to progress and enroll people who have experienced stroke. Earlier data from the Trials, previously published in the American Journal of Physical Medicine and Rehabilitation, found that patients in the control group who did not complete the JFK Johnson Stroke Recovery Program were nine times more likely to die than those who did



Dr. Cuccurullo, left, and Dr. Fleming

“For patients, the experience is very positive. We really help people change their lives.”

— Talya Fleming, MD, Director of the Aftercare and Stroke Recovery Program

complete the program.

Data also found that patients in the program improved their cardiac capacity by 103 percent and also significantly improved their function in measures of daily activities, such as their mobility, cognition and speech. Dr. Cuccurullo said patients who function at a higher level are potentially more likely to return home instead of to long-term care.

Patients in the Stroke Recovery Program receive 36 sessions of medically monitored interval cardiovascular training, as well as follow-up visits with a Physical Medicine and Rehabilitation physician. Also part of the program is psychological, nutritional, educational support and risk factor management — as well as traditional physical, occupational and speech therapy.

Patients who do not participate in the program receive the traditional standard of care, which includes physical, occupational, and speech therapy, and follow up with their community physician.

Medicare currently pays for comprehensive cardiac rehabilitation for people with cardiac events, such as heart attack, but does not routinely pay for those same services if the patients suffered a stroke.

“Patients with cardiac events are guaranteed 36 sessions of a comprehensive cardio rehabilitation program. But stroke survivors are not — even though it’s the same vascular system whether the attack strikes the brain or the heart,” Dr. Cuccurullo said.

Dr. Cuccurullo and Talya Fleming, MD, Director of the Aftercare and Stroke Recovery Program and Co- Principal Investigator of the study, met last year with officials from the Center for Medicare and Medicaid Innovation to outline the benefits of providing a comprehensive cardiac rehabilitation program for stroke patients. The JFK Johnson researchers said their aim is to encourage Medicare to provide rehabilitation coverage to stroke survivors that is what

cardiac patients receive. They also believe better coverage for stroke survivors also has the potential to save Medicare funds in the long run by reducing re-hospitalizations and long-term care placements.

More than 300 patients have so far entered the Stroke-HEART™ Trials. The trial is ongoing.

In the JFK Johnson Stroke Rehabilitation Program, patients are trained like athletes to get stronger and healthier. Fleming said stroke survivors often have high blood pressure, diabetes, high cholesterol, a history of smoking and/or an irregular heartbeat. She said many who complete the program want to continue exercising even after their time in the study ends.

“The Stroke Recovery Program provides the structure to help our stroke patients adopt behavioral and lifestyle changes to lead healthier lives,” Dr. Fleming said. “For patients, the experience is very positive. We really help people change their lives.” **JFK**





Hackensack  
Meridian *Health*  
JFK Johnson  
Rehabilitation Institute



65 James Street  
Edison, New Jersey 08818

FOLLOW US ON



[www.JFKJohnson.org](http://www.JFKJohnson.org)



## **JFK Johnson Rehabilitation Institute The Leader in Providing Quality Rehabilitation Care**

Offering New Jersey's most comprehensive rehabilitation services, the JFK Johnson Rehabilitation Institute is a 94-bed facility located in Edison, N.J., serving residents of the tristate area for nearly 50 years. Its mission is simple: provide quality rehabilitation for adults and children living with disabilities to obtain optimal function and independence within an accepting community. JFK Johnson Rehabilitation has developed programs in specialties that include brain injury, stroke rehabilitation, orthopedics/musculoskeletal and sports injuries, fitness, cardiac rehabilitation, women's health, pediatrics and a prosthetics and orthotics lab. It is the Physical Medicine and Rehabilitation Department of the Hackensack Meridian Medical School and Rutgers Robert Wood Johnson Medical School. To learn more, visit [JFKJohnson.org](http://JFKJohnson.org)