

THOMAS JEFFERSON UNIVERSITY HOSPITAL

REHABILITATION

THE ROAD BACK



Jefferson Health®

HOME OF SIDNEY KIMMEL MEDICAL COLLEGE



Welcome to Jefferson Health's Department of Rehabilitation Medicine

Since I became Chair of Jefferson's Department of Rehabilitation Medicine and Enterprise Senior Vice President of Post-Acute and Rehabilitation Services two years ago, our faculty, staff and patients have achieved many notable accomplishments. In this report, you will read about some of the past year's highlights including:

- Jefferson becoming the first and only institution in the world to have a second member of its Rehabilitation Medicine staff invited to deliver the prestigious Sir Ludwig Guttman Lecture at the Annual Scientific Meeting of The International Spinal Cord Society. This lecture sparked discussions about worldwide collaboration in pediatric spinal cord injury research.
- Expanding our close collaboration with other services across the continuum of care to provide inspiring patients like Lourdes Cuello, who suffered third-degree burns from a household accident, with the surgical, physical, occupational and emotional therapy needed to regain her strength and return successfully to the life she loves.
- Assisting physicians in helping their patients through the process and regulations to obtain increasingly accepted and helpful medicinal cannabis.

I'm also proud to serve as Dean of Jefferson's new College of Rehabilitation Sciences, which launched on July 1, 2018. It includes the departments of Physical Therapy and Occupational Therapy, a Center of Excellence in Hand and Upper Extremity Functional Restoration, a Center of Excellence in Outcomes Research and Measurement, and the establishment of departments of Speech and Language Pathology and Rehabilitation Sciences and Technology. The latter includes divisions for the study of cognition, human engineering and design, assistive technology and athletic training. The College leverages Jefferson's recognized leadership in the fields of occupational therapy, physical therapy, rehabilitation medicine, orthopedics and the neurosciences to launch the careers of tomorrow's healthcare leaders, while advancing leading-edge academic and research programs.

We are confidently moving ahead into a bold, bright, new future.

With warm regards,

Steve Williams, MD

*Jessie B. Michie Professor and Chair
Department of Rehabilitation Medicine
Sidney Kimmel Medical College at Thomas Jefferson University*

*Enterprise Senior Vice President for Post-Acute and Rehabilitation Services
Jefferson Health*

*Dean, College of Rehabilitation Sciences
Thomas Jefferson University*



Inspiring Worldwide Collaboration in Pediatric Spinal Cord Injury

Mary Jane Mulcahey, PhD, OTR/L, Professor of Occupational Therapy at Jefferson College of Rehabilitation Sciences, had the distinct honor of delivering the 2018 Sir Ludwig Guttman Lecture last September at the 57th Annual Scientific Meeting of The International Spinal Cord Society (ISCoS) in Sydney, Australia. Since 1981, the Guttman Lecture has been the keynote and opening plenary of the ISCoS meeting, delivered by an individual who has had significant impact and global influence on the field of spinal cord injury (SCI). The Guttman Lecture honors Sir Ludwig Guttman, the neurosurgeon who, in 1948, organized the first competition for wheelchair athletes, rechristened in 1960 as the Paralympic Games, and was also the first to advocate for rehabilitation and a better life for people with SCIs.

Jefferson Professor of Physical Medicine and Rehabilitation, John F. Ditunno, MD, Dr. Mulcahey's one-time pathology instructor and longtime mentor, delivered the Guttman lecture in 2009. Dr. Mulcahey's subsequent invitation marks Jefferson as the first and only institution worldwide with two staff members upon whom this prestigious honor has been bestowed.

Dr. Mulcahey's lecture, titled "Pediatric Spinal Cord Injury: Evidence, Assumptions and Research Priorities," may prove to be a turning point in this subspecialty. It makes a compelling case for experts in this field to come together globally and to work collaboratively by pooling their expertise and data to build better evidence-based care.

Lack of Accurate Data

Dr. Mulcahey has more than 30 years of experience as a practitioner, educator and researcher. Most of her clinical and research work is in SCI. For example, Dr. Mulcahey conducted a seminal multi-center study which led to evidence-informed guidelines on evaluation of the neurological consequence of SCI in children. She developed and validated computerized adaptive tests of physical function, activity and participation for child and parent-reported outcomes following SCI. She established pediatric recommendations to standardize the collection of data in order to facilitate comparison of results across studies.

Dr. Mulcahey's projects have gradually shed light on the particular nature of pediatric SCI. But an apparently small patient population is hindering faster development; not enough information has been collated from patients to fully understand the neurological consequences of pediatric SCI.

"Children ages 15 and younger account for approximately 15 percent of all new SCIs annually in the United States," says Dr. Mulcahey. "As a result, research dollars are similarly limited. So, we're probably underestimating the incidence and prevalence because there isn't a network of Model Pediatric Spinal Cord Injury Centers similar to the ones that exist for adults with SCI. "No one hospital anywhere has enough pediatric patients with SCI to accumulate sufficient data to inform care, thus the importance of global standardization of data and collaboration."

Positive Feedback Is Inspiring Collaboration

Fortunately, Dr. Mulcahey's Guttman Lecture seems to have hit home. The great feedback from her audience in Sydney has led to several invitations for her to present her talk across the country and around the world.

Dr. Mulcahey has already taken steps to make this necessary collaboration a reality. Under her direction, Jefferson received a grant from the Rick Hansen Institute in Canada, enabling her to host meetings where international experts in pediatric SCI come together to establish workgroups to develop international basic data sets for highly relevant clinical care areas for pediatric SCI. These workgroups have been sustained for two years and have produced published data sets and presented them throughout the world.

Dr. Mulcahey also established the Steel Assembly for Pediatric SCI, an affiliate of the American Spinal Injury Association, which is dedicated to global collaboration and education on pediatric SCI (for more information, visit steelassembly.org).

CANNABIS:

THE OLDEST "NEW" DRUG

Humans have known the value of cannabis, or marijuana, for well over 10,000 years¹. Their use of and trade in it as a food, fiber and medicine² is evident long before the first written record of its medical use (around 2700 BC)³.

Some famous people used cannabis. The Emperor Nero (70 AD) and Queen Victoria (1890) both had access to it for help with their medical problems. English settlers in the Jamestown colony (1616) also cultivated cannabis. Western medicine started to investigate its potential uses in the 1800s. *Boston Medical and Surgical Journal* published papers showing the effects of cannabis extractions on animals, and one in *The Lancet* demonstrated its usefulness in relieving the effects of opium withdrawal. But marijuana's positive image changed in the 1930s due to the geo-political influence of the United States. From 1951 until just recently, it was illegal to possess, cultivate or trade cannabis anywhere in this country, or to use it or its components in any formulation.

Fueled by the discovery in 1989 of an endocannabinoid system in humans, which is evidence that the human body not only uses cannabinoids but also manufactures its own, American society is changing its view. As of October 2018, 31 states have legalized medicinal and/or recreational cannabis use in a patchwork of laws that differ from state to state.

First Center for Study of Medicinal Cannabis

The Sidney Kimmel Medical College at Thomas Jefferson University is the first in the nation to have a center for the exploration of the medicinal benefits of cannabis and hemp. Our Department of Rehabilitation Medicine is working closely with Jefferson's **Lambert Center for the Study of Medicinal Cannabis and Hemp** to help our patients capitalize on the beneficial and medicinal properties of this much-beleaguered

drug. The department has also made it possible for all Department of Rehabilitation Medicine physicians to become certified to recommend cannabis for patients with qualifying conditions.

Jefferson has taken several steps to aid physicians in helping the patient through the regulations for obtaining medicinal cannabis. The Lambert Center has developed a graduate certificate in Cannabis Medicine designed to equip clinicians with the understanding of current cannabinoid therapies and their health effects. The Department of Rehabilitation Medicine has undertaken several research projects to help overcome the lack of good clinical and user data. Because it's important for consumers' voices to be heard, our first and most significant of these projects is the creation of a Cannabis Consumer Advisory Group of volunteers who have undergone specialized training in both cannabis and research ethics. This group will design, conduct and interpret study results. The department is also currently running preliminary research studies to help better understand patients' experiences with and views and knowledge of cannabis. Its findings will be critical in the assessment of knowledge and attitudes so that patient and caregiver educational programs can be designed to dispel any incorrect information.

A further project is attempting to illuminate the similarities and differences in physical health, cognitive function, quality of life and functional abilities of persons who currently use cannabis, persons who have used it in the past but not currently, and persons who have never used it. This study will be very important for two reasons. First, very little is known about the long-term effects of using marijuana. The results of this study will allow researchers to know which variables are most influenced by its use and which are impervious. The study will also inform researchers which variables are likely to be responsive for measuring the outcome of clinical trials.

Perhaps the most exciting endeavor is establishing international relationships with medical centers in Israel, Canada and other countries to greatly advance the research into the medicinal effects of marijuana. These collaborative relationships look very promising for the future of cannabis research at Jefferson.

Know Your State's Cannabis Laws

Opioids are currently used to help control chronic pain. This has led to America's current crisis in opioid use. Cannabis is known to help ease the effects of withdrawal. However, it has traditionally been included in the educational curricula of healthcare professionals only as a drug of abuse. In recent years, much has been learned about the endocannabinoid system and the physiological impacts of both endogenous (produced within the body) and exogenous (taken in to the body from outside) cannabinoids.

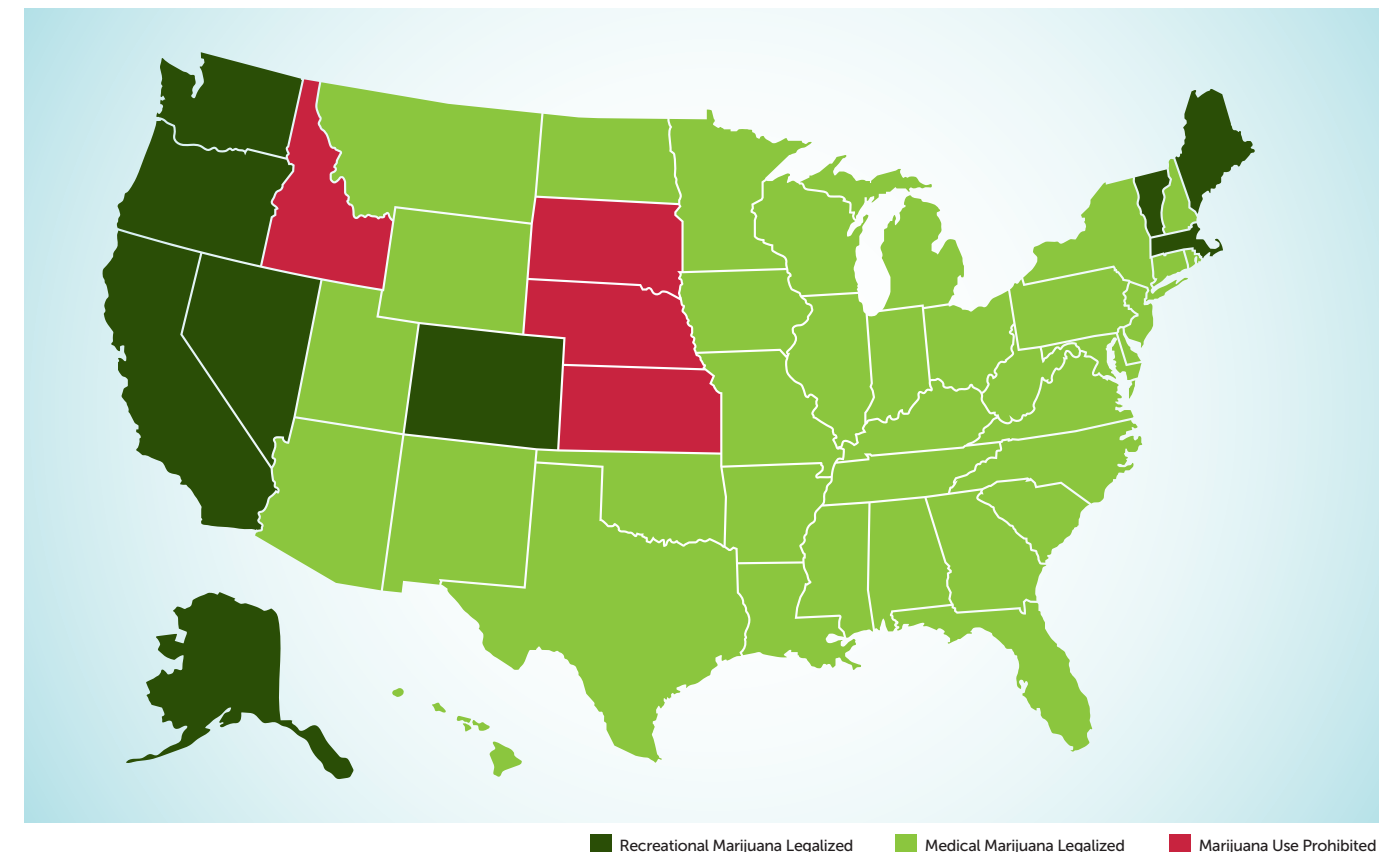
It is incumbent upon each person to know the laws, regulations and restrictions on the use of cannabis in their state since there are no uniform federal laws. Several websites keep up-to-date postings on the legal issues in different states. A good example is **ProCon.org**. This site also provides information regarding the costs of being registered to receive medicinal cannabis, eligible conditions for which cannabis can be utilized, and the type and amount

of product each person can legally possess. It reports how other laws affect patients' decisions to use cannabis for relief from pain or spasms. For instance, a patient who had used cannabis for several years and enjoyed great relief of his symptoms had to quit using it when he obtained a housing supplement. So, unintended consequences can still become a problem.

If you are interested in discussing the use of medicinal cannabis and the laws governing its use, we encourage you to connect with us. We are undertaking these research projects so we may better help our patients find relief from pain and spasticity.

You may also access additional information from Jefferson's Lambert Center for the Study of Medicinal Cannabis and Hemp online by visiting **Jefferson.edu**.

1. Long TW, M. Demske, D., Leipe, C., Tarasov, P. *Cannabis in Eurasia: origin of Human Use and Bronze age Trans-continental Connections. Vegetation History and Archaeobotany* 2017;26:245-58.
2. Brand E, Zhao, z. *Cannabis in Chinese Medicine:are Some Traditional Indications Referenced in Ancient Literature Related to Cannabinoids? Frontiers in Pharmacology* 2017;8:1-11.
3. Earleywine M. *Understanding Marijuana*. New York, New York: Oxford University Press; 2002.



Transitioning from Third-Degree Burns to the Glow of Health and Happiness

Some of the worst accidents can happen at home. Just ask Lourdes Cuello, 43, of Merchantville, NJ. Early last April, she got a little too close to her stove while cooking dinner. Suddenly, the string on the hoodie she was wearing caught fire, which immediately rose along her upper left shoulder, axilla, neck, ear and hair.

Fortunately, Lourdes' 18 year-old son, Justin, was nearby and immediately ran into the kitchen, got his mom's head under the sink and pulled the burning hoodie off of her. By then, half of Lourdes' long curly hair was gone. She was in shock but not yet in pain, because the fire had destroyed many nerves in her skin and left her with third-degree burns.

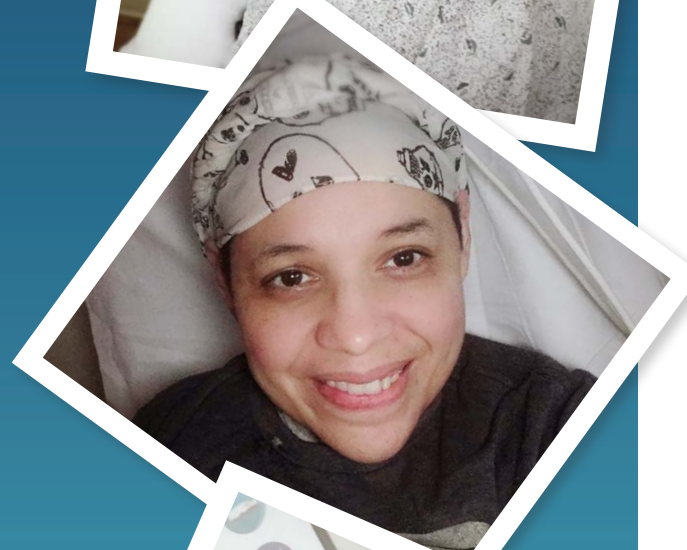
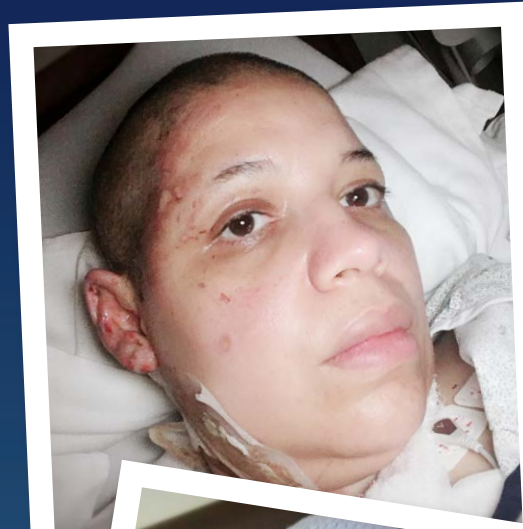
Justin took Lourdes to the ER at Jefferson Cherry Hill Hospital, where her burn wounds were dressed and bandaged. Then, because of the extent of her nerve damage, they transferred Lourdes that same evening to the Thomas Jefferson University Hospital Burn Unit in Philadelphia for acute inpatient care.

Still in shock, Lourdes, a Sr. Activate Analyst with The HCI Group in Epic and Cerner Support, kept insisting that she couldn't stay long because she had a business trip to prepare for. But it was to be nearly seven months before she was able to return to work. Today, she is happy and radiant, thanks to the excellent continuum of care she received from Jefferson's Burn Center and Acute Rehabilitation Unit, as well as its outpatient rehabilitation program.

Four Weeks in Acute Care

Arriving late at night to Jefferson's Burn Center, Lourdes didn't know what to expect. But the time proved irrelevant, as a team was waiting to welcome her, reassure her and assess her injuries, and make her comfortable in the acute burn treatment setting.

She spent the next four weeks in the Burn Center, under the care of William B. Hughes, MD, one of the area's most respected burn surgeons. He performed multiple procedures on Lourdes to transfer healthy nerve tissue and graft skin from her upper leg to the burnt areas of her body.



The Journey Back

Lourdes was transferred in early May to the Jefferson Acute Rehabilitation Unit, led by Medical Director Kristofer Feeko, DO, and his team, including rehab nurse Nikki Uduma, RN, occupational therapists Megan Drollinger, OTR/L, and Molly Benner, OTR/L, physical therapist Christine Fatale, PT, and rehab psychologist Tracy Ransom, PsyD. Here she underwent a challenging but vital part of her rehabilitation and recovery.

"They made me work hard – but in a very kind and positive way – so that I could regain my range of motion, perform everyday tasks such as bathing, dressing, walking up and down stairs, operating a washing machine, cooking and getting into and out of a model [replica] car by myself," she says. "They taught and led me through stretching exercises that I continue to do at home every day and will do on the road now that I can travel again. I had really great treatment."

She also praises Dr. Feeko and staff for creating incentives for her to:

- walk more each day, making it unnecessary for her to continue taking a blood clot-thinning medication she didn't like
- master strength-building exercises, so she would be allowed to resume travel
- recruit her friends and her son to learn how to apply fresh bandaging on her burns, so she could be discharged and cared for at home (they even shot a demonstration video for reference)

Lourdes also praises the integrated interdisciplinary nature of her care. Dr. Hughes and members of his team were kept in the loop by Dr. Feeko and often times visited with Lourdes to closely monitor her healing.

Perhaps the sweetest requirement for Lourdes' discharge was taking a long walk outside with her care team. They walked her over to see Dr. Hughes' office and to the Jefferson Rehabilitation Outpatient Clinic, to meet the staff and get acclimated.



Life on the Outside

Since her discharge in mid-May, Lourdes has been going to Jefferson Rehabilitation (outpatient therapy) two or three times a week and will continue to do so for a total of two years.

During each visit, Lourdes not only runs through her exercises, but also takes advantage of Jefferson's Outpatient Rehabilitation Work Fitness Program that helps injured workers like her safely return to productive employment. Physical and occupational therapists have developed a conditioning program designed to further improve her proper body movement and posture. This has helped her transition back to healthy employment.

Lourdes also periodically sees Dr. Hughes, who is monitoring the healing of her burns, and Dr. Feeko, via the convenience of telehealth. They and their teams keep abreast of her progress as an outpatient and are always available to her should she need them.

"I feel like I'm being looked after by family," concludes Lourdes. "The warm relationship that was established when I first arrived as an inpatient last April continues to this day as an outpatient. Jefferson is helping me rise from the ashes, stronger and more confident, to a brighter future."



Jefferson Rehabilitation Outpatient Therapy Offers a Wide Range of Specialized Treatments

The staff of Jefferson Rehabilitation Outpatient Therapy is dedicated to providing top-quality care through a comprehensive team approach that includes physical therapy, occupational therapy and speech language pathology.

Jefferson Rehabilitation's board-certified specialists in neurologic, orthopedic, hand therapy, women's health, lymphedema and vestibular therapy bring a depth of knowledge and experience to patients. Their diverse clinical expertise allows us to offer specialized treatment for a wide variety of programs including orthopedic injuries, stroke, burns, cancer fatigue, work hardening, concussions and low vision, as well as ALS, offered through the Weinberg ALS Clinic. Services are offered in four locations throughout the Philadelphia area.

Jefferson Rehabilitation treats patients of **all ages**, from infants to adults. Here is story about one of our recent patients who suffered a stroke.

JC's Story

JC was a retired lawyer living in Philadelphia with his partner. He loved exploring the city of Philadelphia along with regularly walking to the Avenue of the Arts to attend shows at the ballet and symphony. One day, his partner rushed JC to Jefferson's emergency room where he was diagnosed with a stroke. During his hospital stay, he was seen by both physical and occupational therapists. He was dependent, unable to walk or care for himself. After a brief hospital stay, he transitioned to an acute rehab unit where he worked to regain his independence. Initially, he relied on his partner and nursing staff for everything – dressing, bathing, and going to the bathroom. JC used a wheelchair as his primary mode of mobility. During physical therapy sessions, he was only able to walk 10 feet with significant assistance. JC progressed quickly during his time in rehab and returned home after three weeks.

JC transitioned from rehab to home care where he learned to negotiate his own environment safely with a walker. Once he was able to navigate into the community, he initiated outpatient services including physician and therapeutic services. Throughout his course of care, JC experienced significant issues with spasticity. He continued his spasticity management on an outpatient basis with Jefferson Rehabilitation Outpatient Clinic. The physicians worked closely with JC to decrease his spasticity and prescribe appropriate bracing to allow for more meaningful participation in therapy services. An orthotist joined JC's care team to ensure proper sizing and fit of his brace.

During physical and occupational therapy, JC was dedicated to restoring his functional independence. The focus turned from gross functional movements to promoting efficient ambulation with his new brace and management of his daily activities, such as dressing and bathing. JC found the high-level balance activities challenging, but necessary to improve walking with his new brace.

By utilizing this team approach, providing clear handoffs between transitions of care, Jefferson Rehabilitation assisted JC to surpass his initial long-term goal of walking around his home independently with a walker. He is now also able to ambulate in the community and attend the ballet and symphony as he did prior to his stroke. JC's case demonstrates the importance of handoffs between settings and how a team approach can result in maximal functional recovery as well as patient satisfaction.

Occupational Therapy Now Effective for Visual Rehabilitation



How OT Helped One Patient with Traumatic Brain Injury

After sustaining a traumatic brain injury in a motor vehicle accident, an evaluation was completed by a physiatrist and the patient was diagnosed with a concussion. Occupational therapy with a vision evaluation related to traumatic brain injury was prescribed.

The occupational therapy evaluation consisted of an extensive review of past medical history and mechanism of her injury providing education for insight into her deficits and complaints. These included headache, eye pain, anxiety, migraine with aura, cervical impairment, difficulties concentrating and keeping up with daily routines. Her vision was severely impaired with significant dizziness, nausea, and pain during visual scanning, quick eye movements between targets, accommodating near and far between targets, and measuring double vision at three feet. These results would explain her inability to work, drive, and manage her busy household due to cognitive difficulties and poor visual processing capabilities.

Our goal was to re-teach the patient how to communicate appropriate eye movements, to improve her ability to work together and enhance thinking. Intervention included complex cognitive activities with anti-suppression training using red and green glasses that helped her eyes work together while performing tasks. In addition, therapy included the use of devices that promote correct eye movements, computer software programs for vision training, visual alignment corrections and repetitive movements, and the incorporation of daily school or work-related tasks to improve correct use of vision and symptom management.

Although the patient had significant anxiety about returning to her daily routine, she was able to continue caring for her children, complete graduate school on time, and return to her work responsibilities as a social worker for veterans that are survivors of traumatic brain injury.

Vision rehabilitation has been an emerging specialty in occupational therapy and is growing nationwide. With advanced clinical training, occupational therapists are able to provide high-quality vision services.

Patients who suffer from stroke, traumatic brain injury, progressive neurological conditions, macular degeneration, glaucoma, cataracts, diabetic retinopathy and many other conditions, may benefit from vision services. In some clinical models, occupational therapists will work in conjunction with an optometrist who can fill specific prescription needs for optical devices.

At Jefferson Rehabilitation, we provide a comprehensive occupational therapy program of vision rehabilitation services for patients suffering from acquired brain injury, such as stroke, as well as traumatic and anoxic brain injury. Additionally, this program is available to patients who may require evaluation and treatment for progressive neurological conditions such as multiple sclerosis and Parkinson's disease. Evaluation consists of measuring limiting factors of a person's vision, such as double vision or vision loss, that impact safety, cognition and daily role performance. Treatment would then entail remediation of deficits or use of compensatory strategies and training to complete activities with maximal independence.



Meet Jefferson's Newest Acute Rehabilitation Unit Team Member... Who Happens to Have 4 Legs!

Newark – otherwise known as “Newie” – is Jefferson's facility dog, who helps patients in the Comprehensive Acute Rehabilitation Unit. The three year-old Labrador/Retriever mix was bred and trained by Canine Companions for Independence, a national non-profit organization that enhances the lives of those with disabilities by providing highly trained assistance dogs.

Newie completed two years of expert training specific to a healthcare setting. He learned to perform over 40 commands to help motivate and support patients with rehabilitation needs and was matched with Jefferson's Neuro-Clinical Specialist /Physical Therapist, Amanda Morina – who also attended intensive training to become a handler. Amanda and Newie were then certified through standardized testing to become a Facility Dog Team at Jefferson.

Since Newie started his career at Jefferson, he has become a familiar furry face (and wagging tail) to many patients, visitors and staff, both on and off campus. Newie provides motivation to patients by participating in goal-oriented, skilled therapy treatments, including challenging patients' balance, providing a meaningful target for facilitating movement patterns, and supporting the morale of both patients and staff. He has also made appearances at community events where he educates participants regarding the important role assistance animals play.

Newie's work in improving the lives of Jefferson patients caught the attention of Thomas Jefferson University Hospital's Women's Board, which supports numerous programs throughout the organization with their philanthropy efforts. They have granted Newie's Canine Assistant Therapy Program and Amanda with \$4,600 to assist with dog-related expenses, including training, vet visits, travel, and overall care. The response to Newie among Jefferson rehabilitation patients has been tail-wagging good!

Rehabilitation Staff and Physicians Presentations and Publications

Lisa T. Hoglund, PT, PhD

PUBLICATIONS

Hoglund LT, Pontiggia L, Kelly JD. A 6-week hip and core muscle strengthening and lumbopelvic-hip core stabilization program to improve pain, function, and quality of life in persons with patellofemoral osteoarthritis: a feasibility pilot study. *Pilot Feasibility Stud.* 2018;4:70. (peer-reviewed)

Hoglund LT, Burns RO, Stepney AL. Do males with patellofemoral pain have posterolateral hip muscle weakness? *Int J Sports Phys Ther.* 2018; 13(2):160-170. (peer-reviewed)

Johnston TE, Baskins TA, Koppel RV, Stieber DJ, **Hoglund LT**. The influence of extrinsic factors on knee biomechanics during cycling: a systematic review of the literature. *Int J Sports Phys Ther.* 2017; 12(7):1023-1033. (peer-reviewed)

Hoglund LT, McGinnis L, Pathak R, Pothan A, Santos F. Frontal plane muscle strength and range of motion of the hip and ankle in females with patellofemoral pain. *J Orthop Sports Phys Ther.* 2018; 48(1):A125. (abstract; peer-reviewed)

Johnston TE, Baskins TL, Koppel RV, Oliver SA, Stieber DJ, **Hoglund LT**. Biomechanical factors related to knee pain in cyclists: a systematic review of the literature. *J Orthop Sports Phys Ther.* 2018; 48(1):A131. (abstract; peer-reviewed)

PRESENTATIONS

Presenters: **Hoglund L**, Knapp M. **Hoglund L**, Folkins E, Pontiggia L, Knapp M. The 30-second fast-walk test: a reliable and valid measure of walking performance in persons with knee osteoarthritis. Platform presentation at the Pennsylvania Physical Therapy Association Annual Conference, Valley Forge, Pennsylvania, October 20, 2018.

Presenter: **Hoglund LT**. **Hoglund LT**, McGinnis L, Pathak R, Pothan A, Santos F. Frontal plane muscle strength and range of motion of the hip and ankle in females with patellofemoral pain. Poster presentation at the Combined Sections Meeting, American Physical Therapy Association, New Orleans, Louisiana, February 22, 2018.

Janet Jackson- Cody PT, DPT, PCS and Kim Nixon-Cave, PT, PhD, PCS

PUBLICATIONS

Mia Erickson, Marisa Birkmeier, Melissa Booth, Laurita M Hack, Julie Hartmann, Debbie A Ingram, **Janet M Jackson-Coty**, Vicki L LaFay, Emma Wheeler, Shawne Soper; Recommendations From the Common Terminology Panel of the American Council of Academic Physical Therapy, *Physical Therapy*, Volume 98, Issue 9, 1 September 2018, Pages 754–762, <https://doi.org/10.1093/ptj/pzy075>

Storey A, Wiebe D, D'Alonzo B, **Nixon-Cave K, Jackson-Coty J**, Goodman A, Grady M, Master C. "Vestibular Rehabilitation Is Associated With Visuo-vestibular Improvement in Pediatric Concussion." *JNPT* 2018; 42: 134–141.

PRESENTATIONS

Nixon-Cave K, Jackson-Coty J, Master C, Grady M, Goodman A, Wiebe D, Storey E, Baste L. (2018 February) Vestibular Rehabilitation in Children Following Concussions. Poster session presented at American Physical Therapy Association Combined Sections Conference, New Orleans, LA.

Nixon-Cave K, Jackson-Coty J, Master C, Grady M, Goodman A, Wiebe D, Storey E, Baste L. (2018 February) Tolerability of Aerobic Therapy in Post-Concussion Syndrome Patients Ages 5-18 Poster session presented at American Physical Therapy Association Combined Sections Conference, New Orleans, LA

John Kardine MS, OTR/L

Presented at the Mini Combined Sections Meeting (CSM) for Pennsylvania Physical Therapy Association (PPTA) on Vision held at Thomas Jefferson University – April 2018

Jennifer Rixon PT, DPT

Presented at Mini Combined Sections Meeting (CSM) for Pennsylvania Physical Therapy Association (PPTA) – April 2018 How to get your head back in the game of life: Physical therapy approach to assessment and treatment of concussion

Kelly Salmon SLPD, CCC-SLP, BCS-S, CTL-LANA and Kara Maharay, MS CCC-SLP, BCS-S

Maharay K, Salmon K. (2018). Dysphagia screening in neurologic populations: Selection, implementation, and multidisciplinary collaboration. *Perspectives of the ASHA Special Interest Groups*, 3(13), 58-66. doi:10.1044/persp3.SIG13.58

Topf MC, Magana LC, **Salmon K**, Hamilton J, Keane WM, Luginbuhl A, Spiegel JR. (2017). Safety and efficacy of functional laryngectomy for end-stage dysphagia. *Laryngoscope*. doi:10.1002/lary.26760

Salmon, KM. (2018). *Functional swallow-related outcomes following transoral robotic surgery for base of tongue carcinoma* (Unpublished doctoral dissertation). Nova Southeastern University, Fort Lauderdale, FL.

Presented on "Management of Head and Neck Lymphedema after Total Laryngectomy." at Salus University

Presented on Current Issues in Laryngectomy Care: A Conference for Health Care Providers and the Laryngectomy Community. Elkins Park, PA.

Bryan A. Spinelli, PT, PhD

Spinelli BA, Kallan MJ, Zhang X, et al. Intralra- and Interrater Reliability and Concurrent Validity of a New Tool for Assessment of Breast Cancer related Lymphedema of the Upper Extremity (CLUE). *Arch Phys Med Rehabil.* 2018 Oct 3. pii: S0003-9993(18)31368-6. doi: 10.1016/j.apmr.2018.08.185. [Epub ahead of print]

Flores AM, Brown EA, Galantino ML, **Spinelli BA**. Head and Neck Cancer Physical Therapy: Evidence Based Solutions. American College of Rehabilitation Medicine Annual Conference, Dallas, Texas, 2018.

Tracy Ransom, PsyD, BCB, MSCP

Presented at the College of Osteopathic Medicine 's Robinsky Lecture Series, Psychologist Prescriptive Authority The Latest on Legislation, Practice and Training, November, 2018

Amanda Morina, DPT, NCS, ATP

Presented at the SCI Model Systems Leadership Forum, October, 2018, Phila, PA, "The Use of High Fidelity Human Simulation for Interdisciplinary Team Training and Building for the Care of the SCI patients."

Presented at the SCI Model Systems Leadership Forum, October, 2018, Detroit, MI, "Aging and SCI."

Joseph McCoy, PT, MPT, NCS and Gabrielle Charles, OTR/L, CSRS

Presented a poster at the 2018 ALS Association Clinical Conference, Ft. Worth, TX, October, 2018, "Exercise Recommendations Based on Available Evidence for Patients Diagnosed with ALS."

Dan Kelly, MA, CCC-SLP

Poster accepted at the 2018 ALS Association Clinical Conference, Ft. Worth, TX, October, 2018, "Expedited PEG Placement: The Jefferson Weinberg ALS Clinical Model

Kelly Salmon, SLPD, CCC-SLP, BCS-S, CLT-LANA and Kara Maharay, MS CCC-SLP, BCS-S

Published article "Dysphagia Screening in Neurologic Populations: Selection, Implementation, and Multidisciplinary Collaboration" in SIG 13, Swallowing and Swallowing Disorders (Dysphagia) in Spring 2018

Rehabilitation Medicine Professionals Activities and Sponsorships

Lisa Hoglund, PT, PhD - Academy of Orthopaedic Physical Therapy, American Physical Therapy Association: Member, Patellofemoral Pain Clinical Practice Guideline work group; July 2015 – present (appointed position) – member of a group that is reviewing the literature and writing a clinical practice guideline for patellofemoral pain that will be published in the *Journal of Orthopaedic and Sports Physical Therapy* – anticipated to be published in 2019.

Amanda Morina, DPT, NCS, ATP, and Dr. Kristen Gustafson, are members of the American Spinal Cord Injury Association's Rehab Standards Committee

Rehabilitation Staff and Physicians Awards & Recognitions

Tiffany Prince- Kandrakota PT, DPT was re-certified as a Certified Orthopedic Specialist from APTA

Lisa T. Hoglund, PT, PhD

ABPTS Board-Certified Orthopaedic Clinical Specialist

Certified in Mechanical Diagnosis and Therapy Recipient, received the Best Research Presentation Award, Pennsylvania Physical Therapy Association Annual Conference; 2018 for: **Hoglund L**, Folkins E, Pontiggia L, Knapp M. "The 30-second fast-walk test: a reliable and valid measure of walking performance in persons with knee osteoarthritis."

The Jefferson Rehabilitation staff who assisted with this data collection were Christine Evans PTA, Edward Haughey PT, MS, and Megan Liu PT, DPT.

Tracy Ransom, PsyD, BCB, MSCP completed her board certification in General Biofeedback, December, 2017

Tracy Ransom, PsyD, BCB, MSCP completed her post-doctoral degree in Clinical Psychopharmacology, Oct, 2018

Donna Curtain, CRRN, SCRN became a Stroke Certified RN, in September, 2018 through the Accreditation Board for Specialty Nursing Certification (ABSNC)

Adam Herbert, CARN became an Addiction Certified RN through the Addictions Nursing Certification Board

Katie Bartholomew, OTR/L, Megan Drollinger, OTR/L, and Gabby Charles, OTR/L became Certified Stroke Rehabilitation Specialists, in March, 2018 through the National Stroke Association

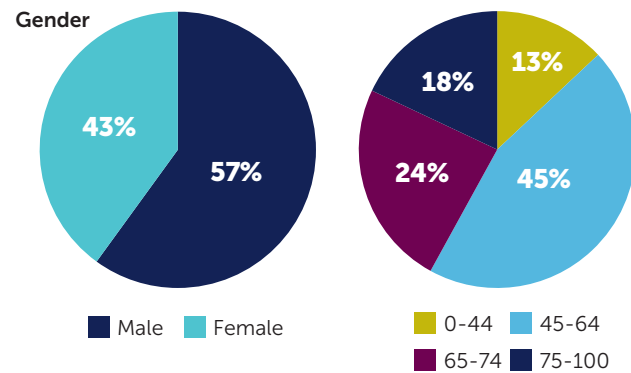
Alex Moriconi, PT, DPT, NCS obtained his Neurology Clinical Specialist from the American Board of Physical Therapy Specialties

JEFFERSON ACUTE REHABILITATION UNIT

Patient Outcomes FY18

Patient Characteristics – All Impairment Groups

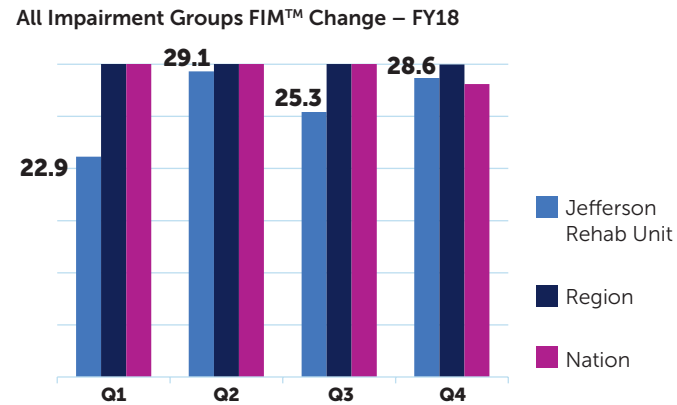
- 448 persons served in FY18
 - Average age of 61 years old
 - Average length of stay 13.8 days
- *Source: UDS Rehab Metrics Report



Functional Independence Measure (FIM™) Change

FIM™ quantifies a person's level of independence. A higher score indicates a greater level of independence. FIM™ change represents how much functional gain a patient achieves between admission and discharge.

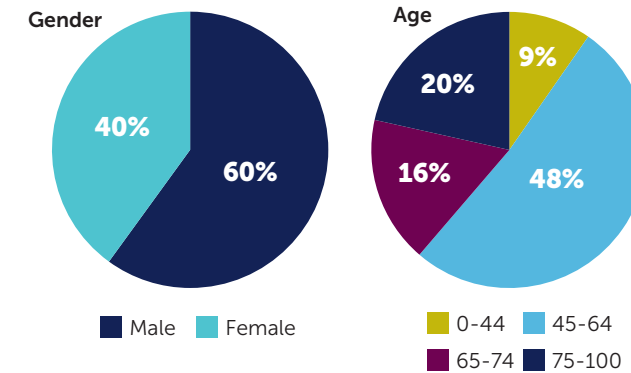
*Source: Uniform Data System



Patient Outcomes FY18-STROKE Population

Patient Characteristics – STROKE

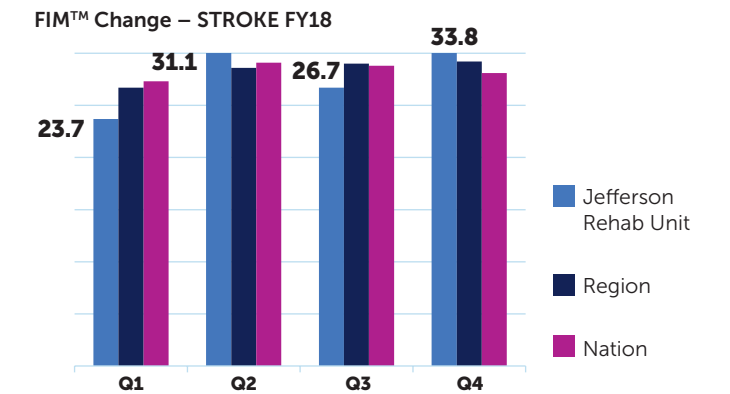
- 124 persons served in FY18
 - Average age of 62 years old
 - Average length of stay 16 days
- *Source: UDS Rehab Metrics Report



Functional Independence Measure (FIM™) Change

FIM™ quantifies a person's level of independence. A higher score indicates a greater level of independence. FIM™ change represents how much functional gain a patient achieves between admission and discharge.

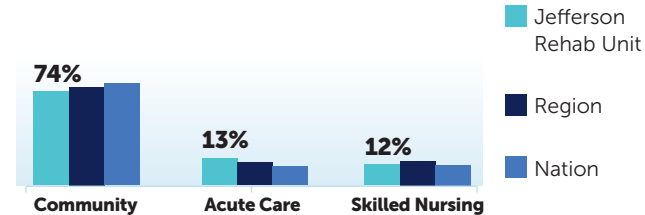
*Source: Uniform Data System



A major goal of our rehab program is to enable our patients to return home following rehabilitation.

*Source: UDS Rehab Metrics Report & Medtel Outcomes

Discharge Location



Patients Living in Community 80-180 Days after discharge



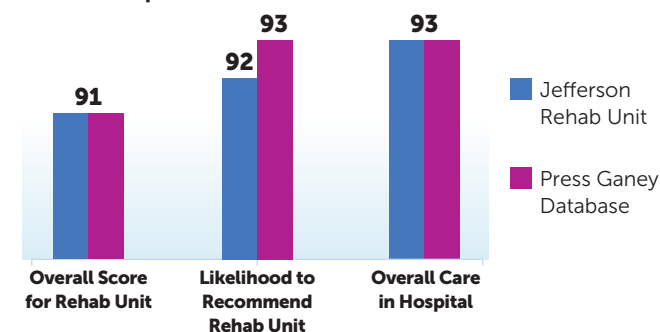
Patient Experience

- 94% of stroke patients rated their overall satisfaction with the rehab program as "very satisfied" or "satisfied."

- 92% agreed their rehab program prepared them for going home.

*Source: Medtel Outcomes

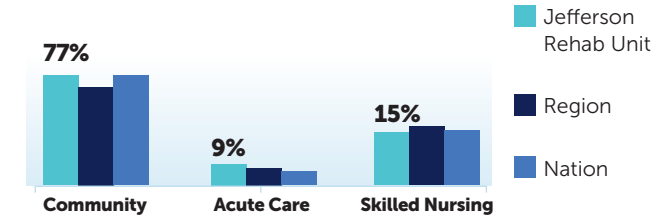
Patient Experience Results



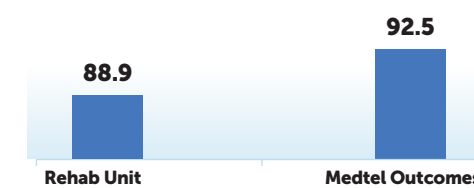
A major goal of our rehab program is to enable our patients to return home following rehabilitation.

*Source: UDS Rehab Metrics Report & Medtel Outcomes

Discharge Location



Patients Living in Community 80-180 Days after discharge



Patient Experience

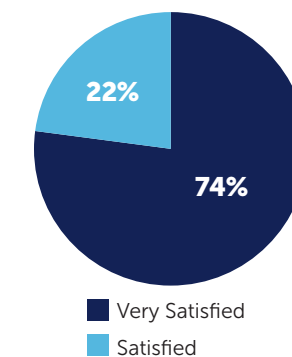
- 96% of stroke patients rated their overall satisfaction with the rehab program as "very satisfied" or "satisfied."

- 97% agreed their rehab program prepared them for going home.

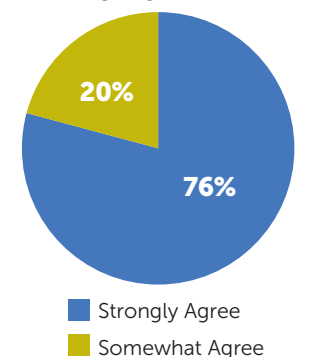
*Source: Medtel Outcomes

Patient Experience Results

Overall Satisfaction



My rehab program prepared me for going home



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