

reConnections



JOURNAL FOR WAKEMED REHAB

Unveiling Excellence

Inside WakeMed Rehab
Hospital's Nationally
Recognized Programs

GETTING BACK
TO LIFE

NAVIGATING
LIMB LOSS

NICK BITTING'S STROKE
RECOVERY STORY



LETTER FROM THE DIRECTOR

For the past several years, WakeMed Rehab has been recognized at both the state and national levels for excellence in physical rehabilitation. We are deeply honored by this recognition and proud of the decades of dedication, intentional planning and investment that made it possible. In this issue of *reConnections*, we pull back the curtain to share what it truly takes to build – and sustain – a nationally recognized inpatient rehabilitation program.

WakeMed's mission is to improve the health and well-being of our community through outstanding and compassionate care. Fulfilling that mission requires more than good intentions; it demands strategic vision, disciplined execution and an ongoing commitment to improvement.

Since 1990, WakeMed Rehab leadership has engaged in annual strategic planning to evaluate strengths, identify opportunities and guide both short- and long-term priorities. These plans continue to serve as a roadmap toward clearly defined goals.

In 1993, WakeMed earned its first Commission on Accreditation of Rehabilitation Facilities (CARF) accreditation for general rehabilitation. Considered the gold standard in rehabilitation care, CARF accreditation requires organizations to meet rigorous standards focused on safety, quality outcomes, performance improvement and program development. This commitment led to the creation of a comprehensive Quality Assurance and Performance Improvement Program that continues to guide our work today.

Through this process, we routinely review patient and stakeholder feedback, monitor outcomes and trends, track key clinical and operational metrics, and implement improvement initiatives when needed. Monthly, quarterly and annual reporting helps us identify opportunities early and continuously refine the care we provide.



WakeMed's corporate Strategic Plan places patients and families at the center of everything we do. Guided by this principle, WakeMed Rehab evolved from a strong general rehabilitation program into one focused on highly specialized care for the unique populations we serve. Over time, we earned CARF accreditation for specialty programs in Brain Injury (1996), Spinal Cord Injury (1999), Stroke (2008) and Amputee Rehabilitation (2017).

Each specialty program is supported by dedicated leadership teams, strategic goals, performance measures and ongoing quality improvement efforts designed to advance outcomes and elevate care.

Looking ahead, WakeMed Rehab remains committed to assessing the evolving needs of our community while exploring future opportunities in Cancer Rehabilitation and Pediatric Specialty programs.

The stories featured in this issue each highlight one aspect of our specialty programs, but all reflect the same commitment to continuous improvement, community reintegration, evidence-informed care, and patient, family and community education that defines WakeMed Rehab.

We hope you enjoy this issue of *reConnections*.

A handwritten signature in black ink that reads "Beth Villena".

Beth Villena, MHA, LCSW, CCM
Director, Rehab Hospital

reConnections

reConnections is published annually for referring physicians and case managers as well as patients associated with WakeMed Rehabilitation. Reproduction or use without permission of editorial or graphic content in any manner is prohibited. Information in this publication is not a substitute for medical advice or treatment. Please see your doctor if you have questions about your medical care.

EDITOR

Amanda Clardy, Senior Specialist,
Marketing & Communications

CONTRIBUTOR

Coleen Smith

DESIGN

Aaron Dewey

PHOTOGRAPHY

Dan Sanford
Brian Strickland

PRESIDENT & CEO

Donald Gintzig

EXECUTIVE DIRECTOR, WAKEMED REHAB SERVICES

Cathy Smith, PT, MHA

A publication of WakeMed Health & Hospitals.

Comments or request for removal from the mailing list may be emailed to info@wakemed.org or mailed to: WakeMed Marketing & Communications, 3000 New Bern Avenue, Raleigh, NC 27610

©2026 WakeMed Marketing & Communications

Supporting WakeMed Rehab

The WakeMed Foundation welcomes contributions to benefit the programs and services of WakeMed Rehab. To learn how you can support WakeMed Rehab, please visit the WakeMed Foundation at www.wakemedfoundation.org or call 919-350-7656.

WakeMed 
Rehabilitation

WAKEMED REHABILITATION LOCATIONS

We offer a variety of rehab services and programs with convenient locations throughout Wake County and in Clayton.

INPATIENT

WakeMed Rehabilitation Hospital – Raleigh Campus
3000 New Bern Avenue
Raleigh, NC 27610
919-350-7876

OUTPATIENT

Please call 919-350-7422 for WakeMed Outpatient Rehab scheduling

WakeMed Outpatient Rehab – Raleigh Campus
3000 New Bern Avenue
Raleigh, NC 27610

WakeMed Outpatient Rehab – Raleigh Medical Park
23 Sunnybrook Road, Ste. 300
Raleigh, NC 27610

WakeMed Physical Therapy – Oberlin
505 Oberlin Road, Ste. 140
Raleigh, NC 27605

WakeMed Physical Therapy – Cambridge Village – Brier Creek
7901 TW Alexander Drive, Ste. 500
Raleigh, NC 27617

WakeMed Outpatient Rehab – Durant Road
10880 Durant Road, Ste. 302
Raleigh, NC 27614

WakeMed Outpatient Rehab – Cary
110 Kildaire Park Drive, Ste. 201
Cary, NC 27518

WakeMed Physical Therapy – Cary
110 Kildaire Park Drive, Ste. 208
Cary, NC 27518

WakeMed Outpatient Neuro Rehab – Cary
110 Kildaire Park Drive, Ste. 401
Cary, NC 27518

WakeMed Outpatient Specialty Rehab – Cary
200 Ashville Avenue, Ste. 10
Cary, NC 27518

WakeMed Physical Therapy – Pelvic Health – Cary
210 Ashville Avenue, Ste. 310
Cary, NC 27518

WakeMed Outpatient Rehab – Clayton
104 Medspring Drive, Ste. 210
Clayton, NC 27520

CARDIAC REHAB

WakeMed Raleigh Campus and Cary (Kildaire Park Drive) outpatient rehab locations

PULMONARY REHAB & CARDIOPULMONARY THERAPY

WakeMed Raleigh Campus and Cary (Kildaire Park Drive) outpatient rehab locations

HEALTHWORKS FITNESS & WELLNESS

WakeMed Raleigh Campus and Cary (Kildaire Park Drive) outpatient rehab locations

OUTPATIENT WOUND CARE

WakeMed Raleigh Campus and Cary (210 Ashville Ave, Ste 420) outpatient rehab locations

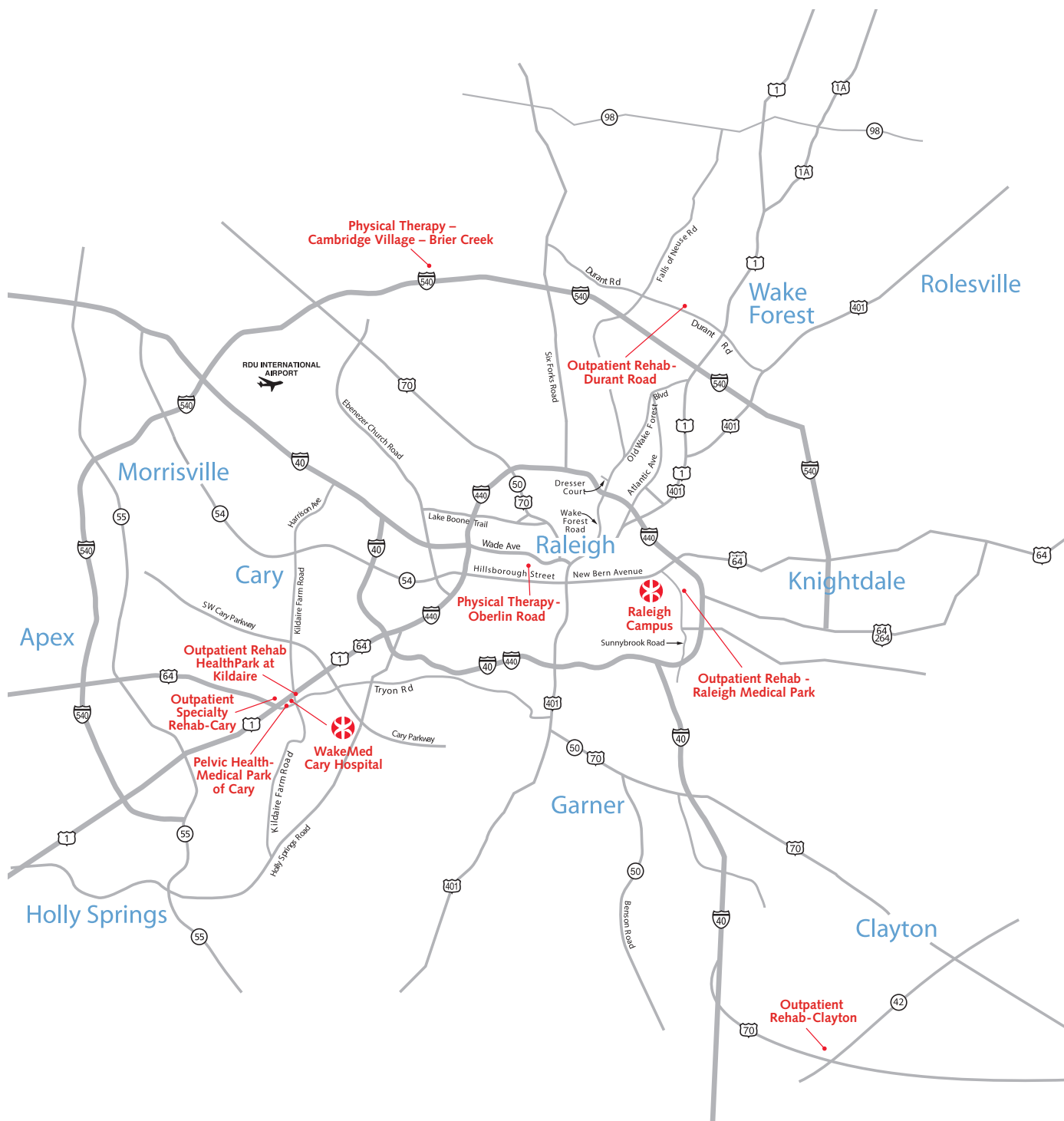
Please call 919-350-4515 for WakeMed Wound Care scheduling

OUTPATIENT NUTRITION

Raleigh (Raleigh Medical Park, Durant Road), Cary (Kildaire Park Drive) and Clayton outpatient rehab locations

HOME HEALTH

WakeMed Home Health
Serving Wake, Franklin, Johnston and parts of Harnett Counties
919-350-7990



Clayton, Durant Road, Raleigh Campus and Raleigh Medical Park locations operate as a hospital-based service under the license of WakeMed Raleigh Campus. WakeMed Outpatient Specialty Rehab, WakeMed Outpatient Rehab – Cary and WakeMed Outpatient Neuro Rehab – Cary operate as a hospital-based service under the license of WakeMed Cary Hospital. The WakeMed Physical Therapy practices operate as private practices.



Raising the **BAR** FOR BRAIN INJURY REHABILITATION

For well-established rehabilitation programs, maintaining the status quo is not an option. The science behind rehabilitation is constantly evolving, and patient needs are always changing. That's why WakeMed Rehab has built a culture focused on continuous performance improvement by consistently identifying ways to help patients achieve better outcomes, recover faster and more fully.

In all areas of WakeMed's Brain Injury Program, clinicians and leaders closely track patient outcomes, gather feedback from patients and families, and analyze data across the program. Those insights often spark performance improvement (PI) projects designed to solve specific challenges. Sometimes, those projects lead to discoveries that improve care far beyond the original goal.

Performance Improvement *in Action*

PROJECT #1 Helps Patients Reconnect with Life After Rehab

One improvement project began after WakeMed's annual Brain Injury Survivor's Panel, where patients and families shared a common concern: caregivers needed more support after discharge. At the same time, program data showed many patients were struggling to return to activities that mattered most to them – spending time with family, hobbies, community involvement and everyday routines.

In response, Rehab leaders partnered with WakeMed Spiritual Care to launch a monthly Family Support Group. The idea was simple but important: when families feel informed, supported and connected, they are better equipped to help their loved one continue progressing after leaving the hospital.

The results were significant. Over time, the percentage of patients who successfully returned to meaningful activities increased from 57.1% to 100%. While many factors contribute to recovery, the project highlighted the powerful role family support can play in long-term rehabilitation success.

PROJECT #2 Uncovers a Hidden Clinical Need

Another PI project started when routine data reviews revealed that patients with brain injury were not making the expected gains in self-care and mobility during their inpatient rehab stay. The Brain Injury team dug deeper into possible causes and reviewed current evidence-based research. One area that emerged was vestibular dysfunction, which is common after traumatic brain injury and can significantly impact balance, walking, dizziness and daily activities. In response, the team quickly implemented an early vestibular screening protocol for patients with traumatic brain injury (TBI), allowing therapists to identify symptoms much sooner during rehabilitation.

Over the following year, the findings were surprising. A significant number of patients screened positive for

vestibular dysfunction, and many were diagnosed with Benign Paroxysmal Positional Vertigo (BPPV), a treatable inner-ear condition that can cause severe dizziness and instability. Many had reported no symptoms.

Interestingly, while the project did not significantly improve the original self-care and mobility metrics, it revealed something even more important: vestibular dysfunction was being dramatically underdiagnosed. And, if BPPV was this common among TBI patients, could it be more prevalent among other Rehab Hospital

populations? These findings led to the expansion of early vestibular screening across the Rehab Hospital.

Since launching the initiative in 2023, WakeMed Rehab has evaluated more than 1,000 patients, and nearly 60 percent screened positive for vestibular dysfunction.

Every patient who screened positive received a full assessment from a specialty-trained vestibular physical therapist. Patients diagnosed with BPPV were treated promptly using targeted vestibular rehabilitation techniques and repositioning maneuvers designed to reduce dizziness and improve balance. Surprisingly, only 20 percent of patients diagnosed with BPPV had sustained a brain injury.

That discovery reinforced the value of vestibular screening across many rehabilitation populations – including stroke, orthopedic injury, spinal cord injury and multi-trauma patients – expanding the impact of the program well beyond brain injury rehabilitation alone.

“Performance improvement projects are often developed to address a very specific need, but the important thing about creating a culture of improvement is being open to where each project takes you,” says Laurie Leach, Ph.D, ABN, director of neuropsychology and program director of WakeMed Rehab Hospital's Brain Injury Specialty Program. “This project may not have moved the needle on its original goal, but it uncovered a true unmet clinical need. Because of that, hundreds of patients have now received the diagnosis and treatment they needed for BPPV. That’s what success looks like in an organization committed to constantly improving patient outcomes.”

“Performance improvement projects are often developed to address a very specific need, but the important thing about creating a culture of improvement is being open to where each project takes you.”

— Laurie Leach

Getting Back to Life

Regaining independence
after spinal cord injury



 Inspiration
Golf



Experiencing a spinal cord injury is a life-altering event that often affects individuals who are accustomed to living active lives. Many fear that their injury or life in a wheelchair may prevent them from getting back to activities they enjoy. As experts in physical rehabilitation, the team at WakeMed Rehab is committed to showing patients that this simply isn't true. Through therapy, adaptive sports and partnerships with community organizations, WakeMed's Spinal Cord Injury (SCI) program helps patients transition from hospital recovery to an active life.

Practicing Real-World Skills with Supervision & Support

On any given day in Raleigh, you might spot a small white branded bus with the WakeMed logo traveling around town. More often than not, it's a WakeMed recreation therapist accompanying a patient beyond the hospital walls and into the community. These outings provide opportunities to practice real world life skills with guidance, support and supervision – helping patients build confidence as they transition back into everyday life.

While the destinations vary widely, each outing is planned in alignment with the patients' therapy goals and is often chosen by the patients themselves. Examples include a trip to a grocery store to practice using a wheelchair in public, a restaurant outing to dine or a trip to a park. The more personalized the outing is, the more effective it will be at helping the patient build the skills and confidence needed to return home and to life.

"Our recreation therapy program is highly collaborative. We ask patients what activities they want to return to and what concerns they have about re-entering everyday life, then tailor therapy around those goals," explains Elizabeth Penny, recreation therapist at WakeMed Rehab Hospital. "One patient, an NC State student, was nervous about returning to campus after his injury. To help build confidence, we arranged a campus visit where he practiced navigating routes, transferring into classroom desks and managing dorm room spaces. These experiences help bridge the gap between clinical recovery and real-world independence while empowering patients physically, socially and emotionally."

Inside the hospital, the program further reinforces independence through simulation. Transitional living suites, which are fully furnished apartment-style spaces within the Rehab Hospital, allow patients to practice cooking, bathing and other daily routines in a controlled environment. There are also adaptive tools and clothing boxes that introduce patients to modified clothing, kitchen equipment and assistive devices designed to accommodate physical limitations. The philosophy is consistent: shift the focus from what patients can no longer do to what they can do, with the right tools and techniques.

Connecting the Dots to Keep SCI Patients Active & Engaged

According to a 2022 research study published in PLoS One (a journal of *The Public Library of Science*), physical activity following a spinal cord injury is critical for functional independence, mental wellness and social participation, yet nearly 50 percent of individuals with spinal cord injury do not engage in regular exercise. By partnering with and introducing our patients to local community organizations, we help them find meaningful activities to engage in after leaving the Rehab Hospital.



Photos provided by North Carolina Spinal Cord Injury Association (NCSCIA).

Organizations such as the North Carolina Spinal Cord Injury Association (NCSCIA), NC Adaptive Sports and Bridge II Sports provide WakeMed patients with opportunities to stay active, connected and engaged after a spinal cord injury. Their adaptive sports and recreation programs across the Triangle – including bocce ball, archery, cycling, basketball and golf – help support both the physical recovery and emotional well-being.

In partnership with WakeMed, the NCSCIA hosts a monthly support group to help patients and families adjust to life after spinal cord injury. The organization also connects patients with valuable community resources and adaptive recreation opportunities throughout the year, including hand cycle clinics, wheelchair rugby, adaptive basketball and its annual conference, A Day to Connect.

“When patients are in our Rehab Hospital, they receive the physical and emotional support they need, but transitioning back into the community can still feel overwhelming,” explains Diane Gilewicz, RN, director of rehab nursing services and program director of WakeMed Rehab Hospital's Spinal Cord Injury Specialty Program. “Connecting patients with community partners and adaptive recreation opportunities helps them regain confidence, stay engaged and continue building on the progress they made during rehab.”

WakeMed Peer Supporter Steven McRae suffered a spinal cord injury in 2016. As a lifelong athlete who ran track and played football growing up, Steven knew that getting back to being active would play a key role in his recovery.

“I’ve always felt that sports are a great preparer for life. You learn values such as discipline, conflict resolution, teamwork and how to deal with wins and losses. Perhaps all of these lessons are even more important after experiencing a life-altering injury – they certainly helped me throughout my recovery,” says Steven.

Today, Steven continues his active lifestyle by playing golf and wheelchair basketball. Steven says many of the skills he learned in WakeMed Outpatient Rehab also played a role in his recovery.

“WakeMed not only gave me hope, they also taught me skills I had no idea I would need later in my journey – from getting in and out of a car to training my new body in new ways and even learning how to safely get onto the floor again. I’m so grateful for the staff and my experience.”

— Steven McRae



Have You Considered Participating in a Research Study or Clinical Trial?

By participating in clinical research, you can help scientists and medical experts test the safety and effectiveness of new medical treatments, devices or therapies. While the treatment that you receive may offer you the best outcome, it is important to evaluate all your options before you decide that a clinical trial is right for you.

Why should I participate in a clinical trial?

- Access to new treatments that are not available to the public
- Expert medical care at a leading health care facility
- Playing an active role in your own health
- Helping others by contributing to medical research

What are the risks and drawbacks?

- Unpleasant, serious or even life-threatening side effects
- Ineffective treatment
- Time commitment. You may need to travel a long way to the study site or stay in the hospital

How can I enroll in a clinical trial?

The WakeMed Clinical Research Institute (CRI) conducts clinical trials of promising new treatments and advances in many medical conditions, including many rehab-related conditions.

For more information about clinical trials and to help you make an informed decision, scan the QR code.

Talk with your doctor if you are interested in participating in a research study or clinical trial.



How Collaboration is Shaping Stroke Recovery

Stroke rehabilitation is a complex and deeply collaborative field.

While recovery may begin in the hospital, long-term progress depends on a coordinated effort among clinicians, community partners, patients and their families.

Each brings a unique perspective, and a shared goal to achieve the best possible outcome for every patient.

Through close collaboration and listening carefully to all stakeholders, WakeMed continues to strengthen and evolve its Stroke Rehab program.



On-site Program Offers Streamlined Orthotic Support

After a stroke, many patients experience mobility challenges, such as foot drop and gait instability, which often require an orthotic device. For many years, WakeMed's Stroke Rehab therapy team observed inefficiencies in the process required for patients to obtain, get fitted and trained on using these devices. This often led to delays or setbacks in rehabilitation, which can affect a patient's long-term recovery trajectory.

"Patients recovering from stroke already face so many challenges, and navigating orthotics often added another layer of stress. Between coordinating consultations, scheduling fittings and understanding the process, patients frequently felt overwhelmed," explains Sara Lingle, PT, DPT, physical therapist at WakeMed Rehab Hospital. "Our therapy team and vendors shared that frustration, and we knew there had to be a better way."

Fortunately, WakeMed's long-term prosthetics and orthotics vendor and partner, Del Bianco Prosthetics & Orthotics, stepped up to address the challenge by offering to host an on-site program. Working together, WakeMed and Del Bianco have established a twice-weekly program that gives patients with stroke the opportunity to meet with an orthotist alongside their therapy team while still in the hospital.

Through this collaboration, patients are now receiving their devices sooner and being fitted in real time. This is important because early use of orthotic devices following stroke has been shown to have positive effects on mobility, functional independence and long-term outcomes. Now, patients can practice using their supportive devices in a supervised setting before discharge.



Listening and Collaboration Lead to Better Support for Aphasia

WakeMed has been a long-time supporter of The Aphasia Project (TAP), a local non-profit organization dedicated to helping community members living with aphasia. With no on-site group available since the pandemic, the team aimed to bring back an in-person option to better serve community members living with aphasia.

"We heard loud and clear from our staff about the need to reestablish an on-site TAP group to provide opportunities for patients and our community to support individuals living with aphasia who often face social isolation, depression and trouble communicating," says Kristin Simeon, MS, SLP-CCC, speech therapy supervisor, Stroke Specialty Program committee chair. "Our team desperately wanted to offer an in-person option that would allow our stroke patients and their

families to experience the invaluable support and camaraderie that TAP conversation groups provide while still in the hospital. And, when our staff are determined to find a solution for our patients, they generally find a way to make it happen."

WakeMed and TAP collaborated to establish an on-site TAP group at WakeMed Rehab, improving access for both community members and patients in inpatient rehab. Now, every Thursday, WakeMed and TAP host an in-person group that's open to the community as well as Rehab Hospital inpatients. "We know how valuable getting aphasia support can be for survivors of stroke," explains Simeon. "Having the group here allows inpatients to attend a meeting before they leave the hospital, removing the barrier of the unknown that could hinder future participation."

The group has been very well received by patients, staff and the community.

Amplifying the Survivor Perspective: WakeMed Hosts Stroke Lived Experience Panel

WakeMed's Stroke Rehab program is constantly looking for ways to enhance and optimize the patient experience, so who better to ask for input than the patients and families we've served? This sentiment is the driving force behind WakeMed's first-ever Stroke Lived Experience Panel, held earlier this year at the Rehab Hospital. Featuring three former patients who received care across the WakeMed Stroke Program continuum, this panel discussion drew more than 60 WakeMed physicians and interdisciplinary staff members from across all settings of care. Patients and their families shared their unique firsthand experiences and the impact their Stroke Rehab journey had on their long-term recovery.

"Listening to our patients in this meaningful setting allowed our team to step outside of their busy daily routines and truly hear what our patients and their families are experiencing while navigating our Stroke Rehab program," explains Alisa Dunn, PT, MHA, manager of therapy services and program director of WakeMed Rehab Hospital's Stroke Specialty Program. "It was a powerful and very motivating discussion that offered insight to help us continue to shape and evolve our program."

One common thread shared by all stroke survivor participants was the immense value of personalization and treatment customization that they felt throughout their Rehab Hospital stay. For example, one patient's therapy was tailored to help her return to a rigorous exercise program that was an important part of her life prior to stroke. Another patient who had trained as a police officer had his treatment plan modified to incorporate drills like what he'd experienced in the police academy. Practicing these specific skills helped each patient return to the activities they enjoyed prior to their stroke, which offers both physical and psychosocial benefits.

"We're so grateful to the patients who took the time to participate in this important discussion," says Dunn. "We have so many staff members who have dedicated their careers and lives to helping patients recover from stroke. This rare opportunity for us to hear these personal experiences will only motivate us to work harder to improve the experience and outcomes for every patient we serve."

Together, these efforts reflect WakeMed Rehab's commitment to collaboration and innovation. By listening, evolving and working closely with partners and patients alike, the WakeMed Stroke Rehab program is helping improve outcomes and better serve our stroke patients and their families.



Enhancing limb loss recovery through an EMPHASIS — ON — EDUCATION

Rehabilitation for Life After Amputation

There's no question that losing a limb is a life-changing experience. It's more than just undergoing major surgery and transitioning into physical rehabilitation – patients and their loved ones also face a significant learning curve throughout their rehabilitation journey. Everything – from understanding what to expect during recovery and managing wound care to learning how to use a wheelchair, preparing for a prosthetic, and adjusting socially and emotionally – can feel like a lot to handle, especially during an already overwhelming time.

“Patients recovering from an amputation have countless challenges to overcome and numerous new skills to master before they can safely return home and resume daily life,” explains June Propes, PT, supervisor of physical therapy for WakeMed Rehab Hospital and chair of the Amputee Specialty Committee. “We know it can be very overwhelming, so

our Amputee Specialty Program is always looking for new ways to educate and engage our patients. It's part of our commitment to continuous improvement and to supporting our patients through this major time of transition.”

Patients Enriched by New Limb Loss Education Class

One recent example of the program's evolution is the introduction of a new weekly Limb Loss Education class, which started this spring. Every Wednesday afternoon in WakeMed's Rehab Dining Room, you'll find an engaged group of patients who've undergone an amputation gathered to learn what to expect next during their limb loss journey. The two-session series guides patients in caring for their skin, preventing falls and managing the psychosocial factors that affect both patients with limb loss and their families. Learning in a small-class environment

gives patients a more dynamic, energetic setting while also helping them connect with others who are navigating similar challenges.

Later that day, each patient receives a personal visit from a subset of their rehab team during Limb Loss Rounds, which allows their interdisciplinary care team to reinforce and individualize information covered in class. They also use this important time to review their care plan, discuss progress, and address individual questions and concerns that are unique to each patient.

Michaela Morris, PT, DPT, who helped develop the Limb Loss Education Class and serves as one of its instructors, shares, “Knowledge is power! Educating patients and teaching them to advocate for themselves while here and after discharge is vital to recovery. Providing education that is relatable and impactful for each individual patient sets them up for long term physical and emotional success.”

Staff Expertise Elevated Through Training from World-Class Expert

Not only is education essential for every patient, but WakeMed invests in the development of expertise for our staff. As WakeMed's Amputee Specialty Program has grown, we've made significant investments in training and continuing education for our staff, including calling in experts when needed.

In 2023, WakeMed Rehab hosted a two-day course taught by Robert (Bob) Gailey, PhD, PT, a world-renowned physical therapist, professor and expert in prosthetics and amputee rehabilitation. Dr. Gailey trained nearly 50 physical and occupational across the WakeMed continuum, equipping our team with advanced expertise in prosthetic gait training for patients with limb loss. Funded by the WakeMed Foundation, this specialty training has led to significant improvements in our patients' recovery and satisfaction with their rehabilitation program.

Provider Community Enlightened Through the Sharing of Our Expertise

In an effort to support and build skills across the state, final plans are being made for WakeMed Rehab to host an educational course in October of 2026. Making this available to providers of limb loss care from all disciplines across North Carolina will allow others to benefit from our expertise and will raise the bar on the level of amputee care across the state.

By combining education, expert training and personalized support, WakeMed is helping patients learn to navigate limb loss with greater confidence – so they can get back to leading healthy, fulfilling lives.



StepForward for Prosthesis Support

Another unique way WakeMed's Amputee Specialty Program supports patients with limb loss is through StepForward, a comprehensive prosthetic training program for individuals who have had an amputation and have received their prosthesis. Offered through WakeMed's Inpatient Rehab Hospital, Outpatient Rehab and Home Health services, the program helps patients build the skills and confidence needed to successfully adapt to life with a prosthesis.

The program requires a physician referral and begins with an individualized evaluation with a WakeMed physical therapist and occupational therapist.

"With the StepForward program, we're able to support individuals experiencing limb loss throughout every stage of rehabilitation, giving each patient the greatest opportunity for the best possible outcomes and quality of life," explains Beth Villena, director of WakeMed Rehab Hospital and program director of the WakeMed Amputee Specialty Program.



Scan the QR code to learn more about our StepForward Prosthesis Training Program.

Meet Sierra Ruggiero

Clinical Specialist Occupational Therapist with WakeMed Rehabilitation Hospital

Sierra Ruggiero, OTD, OTR/L, is a clinical specialist occupational therapist dedicated to supporting patients who are navigating rehabilitation for stroke and limb loss.

Let's get to know Sierra!

Q: Tell us a little bit about yourself and your role at WakeMed Rehab.

A: I moved to Raleigh from Charlottesville, Virginia, four years ago to join WakeMed Rehab as an occupational therapist, and it's been incredibly rewarding to grow my career here. Over the years, I've transitioned from a rehab float therapist into a role specializing in stroke and limb loss rehabilitation, and now serve as a clinical specialist focused on both patient care and program development.

When I'm not working, I enjoy playing and watching tennis, exploring new coffee shops and restaurants, playing games, going to local farmers' markets, traveling to the beach and spending time with friends.

Q: Much of your work is focused on caring for patients undergoing and recovering from limb loss surgery and undergoing prosthetic rehabilitation. Tell us why this work is particularly meaningful for you.

A: Through our Amputee Specialty Program, WakeMed Rehab offers an incredible continuum of care for patients experienc-



ing this life-altering event – and we are continuously growing and evolving our program based on the latest practices and patient feedback. Playing a role in helping our limb loss patients recover from surgery, adapt to a new prosthetic device and work toward achieving the highest level of mobility, strength and independence makes working with this population very rewarding. Between our traditional inpatient program, our StepForward prosthetic training program, and our community support group, we're able to support patients navigating limb loss in a truly unique way that really has the potential to change and shape many lives. Our team is so energized about the work we're doing!

Q: Tell us about a project you've been involved with that you're particularly proud of or passionate about.

A: Earlier this spring, we introduced a new weekly educational class for our limb loss patients and their families. The program reinforces wound and skin care best practices, falls prevention strategies, and addresses the social and emotional aspects of navigating limb loss. And, while it's an educational class, the idea really came about as an opportunity to encourage peer support. By bringing our limb loss patients into a shared space, we can help them learn together, make connections and ultimately feel more empowered and prepared for discharge. We hope it will help prevent future falls, skin breakdown or wounds, and hospitalization – while also helping patients navigate the psychosocial aspect of their recovery. It's been a huge team effort, and our patients seem to really enjoy it.

Q: What do you love most about your job?

A: While the patients are what make my work so fulfilling, the people I work with and the culture of WakeMed make this job the best! There is something new to learn from everyone, and every person is willing to help share ideas, collaborate and solve problems together. Lastly, because our work spans the continuum of rehab care, we get to form relationships that extend even beyond our patients' time here (when they come back to visit or participate in other programs). Witnessing the progress our patients with limb loss and stroke make both here and after discharge is one of the greatest parts of the job.

RUNNING TOWARD RECOVERY

Nick Bitting's Story

Nick Bitting has spent much of his life overcoming the odds. Born a premature twin, he spent months in the hospital as an infant, relying on ventilators and undergoing heart surgery before he was even old enough to walk. Decades later, Nick never imagined he would face another life-threatening medical emergency – this time at age 40.

But on a Wednesday evening in September 2024, everything changed. Nick had stopped at a pizza restaurant in Morrisville when he was suddenly hit with what he describes as “a splitting headache – unlike anything I’d ever felt before.” The pain intensified quickly. After ordering food, he went to sit in his car, hoping the feeling would pass.

While in his car, he received a call from his sister-in-law, Jacqueline, and his daughter, Abigail. They noticed his speech beginning to slur. Recognizing something was terribly wrong, they called 9-1-1. Before losing consciousness, Nick was able to share the vehicle he was driving and where he was parked – details that helped first responders locate him quickly.

Nick was transported to WakeMed Cary Hospital, where physicians quickly identified he was experiencing a stroke and rushed him into surgery. Meanwhile, his wife, Sarah, was in Florida for work when she received the call no spouse ever wants to hear.

“We had just gotten to our destination when I found out it was a stroke,” Sarah says. “We turned around immediately and drove home.”



Following weeks in the ICU and step-down care, Nick was admitted to WakeMed Rehabilitation Hospital on October 10, beginning his next phase of recovery. There, therapy became his full-time job, and Nick was up for the challenge.

“When we first got to the Rehab Hospital, there was a lot to work on,” Sarah says. “Nick’s balance was off, his gait was different, swallowing was still an issue, he couldn’t get up independently and he had serious vision problems. We were prepared for a long road ahead, and frankly, we weren’t sure what life would look like when we went home.”

But according to both Nick and Sarah, the coordinated, high-intensity rehabilitation he received at WakeMed Rehab Hospital played a critical role in helping him regain independence faster than either expected.

From the start, Nick's Rehab team established clear, incremental goals while involving both Nick and Sarah in the recovery process. Sarah says his therapists not only focused on Nick's physical recovery, but also on preparing the family for a safe transition home.

"They taught me how to help him safely get up and move around," she says. "That made a huge difference because it gave us confidence and helped us feel involved in the process."

Nick participated in hours of physical, occupational, speech and recreation therapy per day. One major focus was restoring normal gait mechanics and mobility.

"He had to relearn things you never think about," Sarah explains. "Even how your arms swing naturally when you walk."

returned and his confidence grew. To address his vision deficits, his therapy team offered several unique interventions that made a significant impact on his recovery.

Just as importantly, Nick maintained a positive attitude – alongside his family, who rarely left his side. On Halloween, he dressed up as 'Baby Shark,' and his nurses and therapists embraced his humor, enthusiasm and willingness to try anything.

"They found ways to make therapy feel functional and motivating. They could throw crazy therapy ideas at him, and he'd just say, 'Okay, let's do it,'" Sarah says. "They had Nerf wars, played kickball outside, pushed shopping carts up ramps – whatever they wanted him to try, he was up for it. He really wanted to do the work to recover and get back to our life."

On November 8, Nick was ready for discharge. He then participated in outpatient therapy until February 2025, where he continued to make steady gains in his strength, speech, vision and independence. Nick credits the reha-

They had Nerf wars, played kickball outside, pushed shopping carts up ramps – whatever they wanted him to try, he was up for it. He really wanted to do the work to recover and get back to our life."

— Sarah Bitting on Nick's rehab experience

To support gait retraining, his therapists incorporated the Ekso Bionics' exoskeleton into Nick's therapy plan. While physically and mentally demanding, the exoskeleton helped reinforce proper movement patterns during early recovery.

"Feeling like he had to learn how to walk again was probably one of the hardest things for him," Sarah says. "But the therapists knew when to challenge him and when to scale things back."

The rehabilitation team also worked with Nick to address swallowing deficits and risk for aspiration with targeted speech therapy interventions and adaptive strategies. According to Sarah, his therapists consistently broke larger recovery goals into smaller, measurable milestones, allowing Nick to recognize progress throughout his stay. "The beauty of setting so many small goals were that he could actually see improvement happening in real-time," she says.

And progress came quickly. Within weeks, Nick advanced from moving around using a wheelchair to a walker, then a hiking stick. His swallowing improved, his strength

bilitation team not only for helping him recover physically, but for giving him hope.

"My Rehab care team was phenomenal," Nick says. "Speech therapy, occupational therapy, physical therapy teams, my doctors and nurses – everyone worked together and pushed me to keep improving. Without this team, I'm not sure I'd have gotten back to my life, my family and my business as quickly as I did."

Today, Nick is feeling great and occasionally stops by the WakeMed Rehab Hospital to visit the therapy team who supported his recovery. He also took up running and has completed numerous 5K races in several states with no signs of slowing down. He says he runs 'because he can,' which he recognizes is a gift. Surrounded by his wife, daughter, twin brother and extended family on their Chatham County property, he remains deeply grateful – for the people who recognized the signs of stroke, for the care he received at WakeMed and for the second chance he was given.

"I've been through a lot in life," Nick says. "But I'm still here. And that means there's still purpose in it."





WakeMed 
Rehabilitation

Support Groups

WakeMed Amputee Support Group

**Third Wednesday of each month
4 to 5:30 pm**

Conference Dining – WakeMed Raleigh Campus
For information or to join the meeting
virtually or in-person, please email
AMPsupportgroup@wakemed.org.

WakeMed Spinal Cord Injury Support Group

**Third Wednesday of each month
Noon to 1 pm**

Conference Dining – WakeMed Raleigh Campus
For information or to join the meeting
virtually or in-person, please email
SCIsupportgroup@wakemed.org.

WakeMed Stroke Support Group

**Second Thursday of each month
10:30 to 11:30 am**

WakeMed Rehab Hospital – 2D Dining
For information or to join the meeting
virtually or in-person, please email
strokesupportgroup@wakemed.org.

Brain Injury Association of North Carolina (BIANC) Support Groups

For a full list of in-person and virtual options
near you, please visit the BIANC website at
www.bianc.net/support-groups.



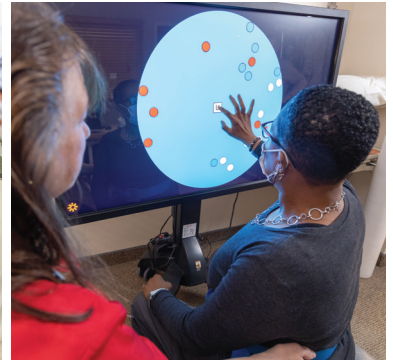
Redefining Discharge Readiness

As the WakeMed Rehabilitation Hospital leadership team began planning for 2026, one strategic priority emerged clearly: strengthening both formal and informal education for patients and their families before they return to the community. Our responsibility extends beyond inpatient care – we must ensure patients and caregivers leave the Hospital with the knowledge, skills and resources needed to manage recovery and daily life after discharge. While we have addressed several components of discharge readiness in recent years, it has been some time since we conducted a focused review of a critical element: patient and family training.

Family training is just one part of a broader approach to preparing patients for success after discharge; however, it is essential in helping individuals move from being physically ready to feeling confident and capable at home. Our outcomes demonstrate measurable progress from admission to discharge, and patients often report that they feel prepared to leave. Even so, feedback from multiple sources indicates that patients and families sometimes encounter unanticipated challenges in the first days following discharge.

At WakeMed, we believe the highest form of respect in the workplace is giving the people who do the work the opportunity to improve it. One tool that supports this is a Kaizen Workshop. In 2026, a small interdisciplinary team participated in a 3-day workshop to review the current state of patient and family training, identify gaps and barriers, and develop practical improvements. The team incorporated input from previously discharged patients and families, as well as staff from multiple departments, and evaluated and refined proposed solutions. The group was also given the opportunity to test select ideas in real time. By the end of the workshop, our goal was met. The team implemented an improved process that better anticipates and addresses barriers to successful reintegration into the community.

Ultimately, strengthening patient and family training supports safer transitions, generates greater confidence at home and helps to prevent avoidable setbacks after discharge. By standardizing our training content, delivery and methods for confirming understanding, we have better equipped patients and caregivers to transition home safely – and to thrive in the community.



WAKEMED REHABILITATION HOSPITAL DATA

The entire WakeMed Rehab team thanks the physicians and care teams, patients and families who support our efforts to provide high-quality care and service across our care continuum. The following data is derived from admission and discharge information from October 1, 2024, through September 30, 2025.

REHABILITATION HOSPITAL

Admission Diagnosis

Cerebrovascular Accident (Stroke)	28%
Orthopaedic	16%
Spinal Cord Injury	12%
Brain Injury	12%
Debility	7%
Multiple Trauma	11%
Amputee	4%

Our Patients with Stroke

Total Number	396
Average Age	67
Average Length of Stay	20 days

Our Patients with Orthopaedic Conditions

Total Number	261
Average Age	67
Average Length of Stay	15 days

Our Patients with Spinal Cord Injury

Total Number	169
Average Age	60
Average Length of Stay	21 days

Our Patients with Brain Injury

Total Number	176
Average Age	57
Average Length of Stay	16 days

Our Patients with Multiple Trauma

Total Number	157
Average Age	46
Average Length of Stay	16 days

Our Patients with Amputations

Total Number	49
Average Age	60
Average Length of Stay	15 days

Pediatric Patients (ages 4-17)

Total Number	47
Average Age	13
Average Length of Stay	17 days



3000 New Bern Avenue
Post Office Box 14465
Raleigh, North Carolina 27610-4465

ADDRESS SERVICE REQUESTED

Non Profit Org.
U.S. Postage
PAID
Raleigh, NC
Permit No. 1307

**To Make a Referral
to WakeMed Rehab**

Inpatient: 919-350-7876
Outpatient: 919-350-7000



**ARE YOU ON
THE LIST**

**Be the First to Learn
about New Specialty
Rehab Programs for
Your Patients**

WakeMed Rehabilitation Hospital and Outpatient Rehab locations lead the region in offering specialized programming for complex adult and pediatric as well as workers' compensation patients. Be the first to learn more about our services and programs. Send an email to dpowell@wakemed.org to join our email list. Don't worry! We are too busy with patients to fill your mailbox with emails. We will only share important news about new locations and services.