The WakeMed Brain Injury Continuum of Care

Navigating Your Course

Patient & Family
Education & Support Groups

Outpatient Day Treatment

Rehabilitation Hospital

Neuro Care Unit

Acute Care

Emergency/Trauma

// PLUS //

WE ARE MAGNET®!

NEW OUTPATIENT REHAB LOCATION
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The WakeMed Neuro Care Program
Navigating Your Course
If you blink, you might miss this five-bed unit on the sixth floor of the WakeMed Raleigh Campus. Though the WakeMed Neuro Care Unit lacks in square footage, it is the only one of its kind in the region. It’s highly committed and collaborative team fills an important gap in the care continuum for a special population of patients.

The unit’s core team, including Wing Ng, MD, medical director; Susan Gates, PT; Laurie Leach, PhD, program director; Linda Bell, LCSW, case manager; Karen Wilhelm, PhD, neuropsychologist; Carolyn Gregg, OTR/L; Christine Fernandini, RN, manager; Rachel Bliss, SLP, and a dedicated team of nurses and nurse techs offers hope to patients and families who “fall through the cracks” and cannot get the type of care they need before moving onto to the next stage of the care continuum. Because the unit’s beds are designated as...
acute care, patients can be more medically unstable than patients in the Rehab Hospital. Dr. Ng, who is a physiatrist and certified in brain injury medicine, and the care team provide medical and therapeutic services to prepare patients for discharge to the Rehab Hospital, home or to an appropriate care facility. Core team members Carolyn Gregg, OT, and Susan Gates, PT, as well as neuropsychologist Karen Wilhelm, PhD, have been with WakeMed’s Neuro Care program for 20 years.

Patient and family centered care is alive and well in the Neuro Care Unit, where family members help WakeMed caregivers determine if a patient’s emotions and behaviors are due to the brain injury or just typical of the patient’s usual functioning. In turn, the care team works with families to help them understand the “new normal” and their role in helping their loved one to be as independent as possible.

Neuro Care Occupational Therapist Carolyn Gregg says it best: “Neuro Care gives patients a coordinated medical and therapy program to encourage recovery, while families receive some much needed time, information, and skills to transition from crisis mode toward the next chapter.”

**Congratulations, Dr. Ng!**

Wing Ng, MD, medical director of the WakeMed Neuro Care Unit, is one of the first approximately 300 physicians in the United States to receive subspecialty certification in brain injury medicine from the American Board of Psychiatry and Neurology and the American Board of Physical Medicine and Rehabilitation. Dr. Ng is one of just three physicians in North Carolina to have this certification.

**Congratulations, Dr. Wilhelm!**

Karen Wilhelm, PhD, ABN, a clinical neuropsychologist with WakeMed, has been appointed to a two-year term as president of the American Board of Professional Neuropsychology. Dr. Wilhelm specializes in adult neuropsychology, with special interests in acquired brain injury, cerebrovascular accident and dementia.
John Lavery  
A Brain Injury Patient’s Journey through the Neuro Care Continuum

“Why does my neighbor keep calling me?” thought Monica Lavery as she watched a movie at a local Raleigh movie theater with her children. The answer became clear when she later answered a call from the Raleigh Police Department. John Lavery, PhD, Monica’s husband who was 68 years old at the time, had fallen 30 feet from a ladder while cutting tree limbs and was being taken by ambulance to WakeMed.

When Monica arrived at the WakeMed Emergency Department, she learned that John had suffered numerous serious injuries including an aortic tear, internal bleeding, broken ribs, and spinal and pelvic injuries. “He had so many immediate needs to keep him alive that we didn’t even talk about his brain injury until quite a bit later,” Monica recalls.

John spent the next month in a semi coma in the WakeMed Medical Intensive Care Unit (ICU). Monica hung a brief biography about John in his room so the staff could learn about him. John, who has a doctoral
degree in mathematics, was employed as program manager of the U.S. Army Research Office, Mathematics Division. He also served as adjunct faculty in the N.C. State University Materials Sciences Engineering department and speaks six languages.

John was in the ICU for a month. He had a feeding tube, a breathing machine and other equipment to keep him alive. Acute care therapies were initiated at this time. “The autonomic nervous system in John’s brain was injured. This is the part of the brain that regulates basic functions like breathing, blood pressure and heart rate, which is why he needed so much support. We were in total awe of all the things the people in the ICU could and were doing for him,” said Monica.

The WakeMed Neuro Care Unit was John’s next stop along the continuum of care. The WakeMed Neuro Care Unit team of therapists, nurses, physicians and neuropsychologists provides limited therapy and nursing care for patients who need extensive care but cannot tolerate the three hours of daily therapy necessary to qualify for a rehabilitation hospital stay.

It was in the Neuro Care Unit where Monica first learned about the high level of expertise in brain injury recovery that is available at WakeMed. Providers explained to Monica that a brain injury can cause other bodily processes like bone regrowth to malfunction. This can result in a painful condition in which bone tissue grows into the muscles. The WakeMed Neuro Care Unit team administered blood tests and appropriate medication to reverse John’s bone regrowth issues. The Neuro Care Unit is also where the Laverys encountered Karen Wilhelm, PhD, a neuropsychologist. Dr. Wilhelm became the main resource for education about John’s brain injury and introduced Monica to the WakeMed Patient & Family Education Group. She also administered tests to help the team determine how John was progressing throughout his recovery.

John remained in the Neuro Care Unit for six weeks. Then, in mid-March, during a visit with family John became significantly more alert and responsive. This positive change in his condition meant he could move to the WakeMed Rehabilitation Hospital to begin intensive therapy.

After a medical setback that sent him back to the acute care hospital, and two months in the WakeMed Rehabilitation Hospital, John’s case manager helped Monica find a suitable nursing home where he continued his recovery. A bout of pneumonia sent him back to WakeMed for a couple of weeks, but he then was able to return to the nursing home. From there, he went to Learning Services, a private residential brain injury treatment community. Learning Services contracts with WakeMed Rehabilitation for therapy services. Therefore, John could continue working with many of the same therapists he saw at WakeMed.

The expertise of the WakeMed team coupled with John’s never-give-up attitude and family support helped him reach his goal of returning home for Christmas 2014. Once at home, John received care and therapy from WakeMed Home Care providers. WakeMed Home Care therapists helped the family adapt their home to accommodate John’s disabilities, and the Home Care nurses taught Monica how to care for him on a daily basis. He is currently enrolled in the WakeMed Day Treatment program and has made excellent progress.

Today, John takes care of most of his daily activities by himself and is walking with a rollator. He is learning to understand his limitations as well as his abilities. In 2016, John plans to join Club REACH at WakeMed and he will continue to work independently on recovery activities such as strengthening his speech and fall prevention therapy.

Monica, a licensed social worker, is no stranger to the efforts involved in coordinating the right care for patients. “I was highly impressed by the social workers and the accessibility of the nursing staff. At WakeMed, there is collegiality across disciplines – team members have a professional respect for one another and truly coordinate care on behalf of the patient and family. The WakeMed Rehab team is the cream of the crop.”
Katie Lee
from Provider to Patient
“Now, I completely understand how REALLY tired a rehab patient can get,” recalls WakeMed Rehabilitation Speech Therapist Katie Lee, MS, CCC-SLP, after a rare condition transformed her from caregiver to patient.

It was a Friday morning in September 2014 and Katie was working on swallowing with a patient when she was hit with sudden back pain. “It was intense, binding pain in my mid-back that circled around my body,” she explains. Katie quickly excused herself and went back to the Speech office where she collapsed. She called her supervisor who helped her get to Occupational Health Services. Soon after her arrival in Occupational Health, Katie’s right leg went totally numb.

By the time Katie was admitted to a room, she had also lost some sensory ability as well as bladder and bowel function. Katie was absolutely terrified, especially because she had a 5-month-old baby at home.

Tests revealed that Katie had transverse myelitis, an inflammation of the spinal cord. Physicians began treating her with intravenous steroids, therapy services were initiated and she soon found herself in the WakeMed Rehabilitation Spinal Cord Injury Unit.

“My gosh – to be on the other side – patient instead of provider – was eye opening,” says Katie. Like most patients on the Spinal Cord Injury Unit, Katie endured three hours of therapy, five to seven days a week. As is the practice with all patients, she and her therapy team set goals that were unique to her, such as being able to hold her baby girl and walking with her in a stroller.

Two weeks passed then finally, a breakthrough. “I woke up one day and I could wiggle my toes,” recalls Katie. Her therapists soon had her practicing standing and walking with the use of Vector technology. They also weighted a doll to simulate her baby. With her “baby”, she could practice lifting a child and pushing her in a stroller.

After four weeks in the hospital, Katie was ready to go home. “I left the hospital in a wheelchair and I never sat in it again,” recalls Katie. She quickly enrolled in WakeMed Rehab’s Day Treatment Program and continued her therapy on an outpatient basis. On December 7, 2014, she returned to work full-time.

Today, Katie’s daughter is almost two years old and Katie can just about run after her. “It is simply impossible to put into words how thankful I am for the outstanding care and outpouring of support I received from WakeMed through the entire continuum,” says Katie. “Without that, I would not be back at work, walking and, most of all, being an active mother to my Parks.”
WakeMed has partnered with Cambridge Village Retirement Living in Apex, NC to promote healthy aging and ‘aging in place’ – the ability to comfortably and safely live at home as you age. The partnership will help active residents and the area’s growing senior population continue to focus on health, quality of life and independence. These services include:

**WakeMed Healthworks Fitness & Wellness Center**
Healthworks at Cambridge Village of Apex is open to residents and members of the public, age 45+. Members have access to exercise equipment, an indoor pool, group exercise classes and specialty exercise programs for adults who have completed a cardiac rehab and would like the security of exercising in a monitored environment. For more information, please call 919-629-8151.

**WakeMed Physician Practices – Physical Therapy**
Our occupational and physical therapists work with Cambridge Village residents as well as members of the public. All ages are welcome. Some of the conditions we treat/services we provide include:
- Orthopaedic injuries
- Pre- & post-surgical care
- Sports-related injuries & problems
- Neurological problems
- Neuromuscular conditions
- Falls prevention and balance deficits
- Hand injuries & postsurgical care of the hand
- Auto injuries & whiplash
- Sacroiliac injuries
- Neck/back pain
- Herniated discs/sciatica
- Postural abnormalities/scoliosis
- Leg pain
- Arthritis
- Rotator cuff injuries
- Shoulder pain
- Hip, knee, ankle & foot injuries
- Muscle strains
- Tennis elbow
- Tingling or numbness
- Carpal tunnel syndrome
- Bursitis/tendonitis

For more information, please call 919-350-1508. Referrals can be faxed to 919-350-1475.

**WakeMed Home Health & Supportive Care Services**
Home care services include skilled nursing, PT, OT & speech therapy, home health aides, clinical social workers, TeleHealth, infusion and nutrition therapy and wound care. Supportive care services include such non-medical services as help with bathing and dressing, medication reminders, some sick care (terminal cleaning, supplies) and some ambulation assistance. Please call 919-363-2080 for additional information.
The patients and families we serve are the main focus of the WakeMed Health & Hospitals mission and strategic plan. We see them not as customers but as colleagues, whose expertise makes their input integral to the care delivery process. With our patients and families, as well as the overall goals of the health system in mind, WakeMed Rehabilitation identified several areas of focus for the year. Two of them are described for you below:

**Rehab Hospital: Making every moment count**

In today’s challenging health care environment with decreasing reimbursement and a drive to reduce length of stay, it is more important than ever that WakeMed Rehab physicians, nurses and therapists are intentional about maximizing the time they spend with each patient and individualizing the plan of care such that every moment of the patient’s experience counts toward recovery. This involves gathering input from patients and families about their goals for rehabilitation and then targeting interventions to those ends. Crafting the schedule around patient and family preferences is another way that we keep our attention focused on the things most important to our patients. Further, our case managers are working to coordinate care both while the patient is still in our program and as he/she prepares for the next environment. With our ultimate goal to discharge patients to the community, maximizing the rehab program is the best way to get them ready.

**Outpatient Rehabilitation: Focusing on evidence-based practices**

WakeMed Outpatient Rehabilitation strives to provide evidence-based programming to our patients during their episodes of care. This care includes seamless transitions into post discharge programs. Evidence-based practices embrace more than just applying the best available care supported by research; they also include individualized programs developed by our clinical expertise in all areas. These programs are central to providing high-quality care and help to decrease unwarranted variation in outcomes. We believe these services allow our patients and families to be successful and achieve sustainable outcomes.
EMPLOYEE SPOTLIGHT

Nancy Hicks, PT, OTR/L
WakeMed Rehabilitation

It’s common to see Nancy Hicks, PT, OTR/L on the floor in the WakeMed Health Park. From the pool table, to the walking track to a quiet corner where more intricate therapies can be practiced, the Health Park offers Nancy the diverse tools she needs to help brain injury patients regain cognition and mobility.

Nancy has been a physical therapist for 31 years. Her love of working with patients recovering from brain injuries is one of the reasons Nancy went on to earn her occupational therapy degree as well. “PT is how you get somewhere and OT is the reason why you went,” explains Nancy.

Nancy began to work with patients with brain injuries at a rehabilitation hospital in Youngstown, Ohio. She quickly found the unique needs that each of her patients had to be very motivating. “Every person is different and each patient represents a new challenge to help them succeed,” explains Nancy.

Occupational therapy school brought Nancy to North Carolina 23 years ago. “I fully intended to go back to Ohio, but I fell in love with the weather and people in North Carolina and never left.” Her special combination of skills enables her to work with patients who have complex needs. But Nancy will quickly tell you that all of her colleagues in WakeMed’s outpatient rehabilitation and specialized day treatment programs are highly capable therapists. “We
WakeMed Rehabilitation’s Nancy Hicks, PT, OTR/L led the hospital’s annual Brain Injury Survivors Panel in the fall. The panel is made up of current and former patients of the WakeMed Brain Injury Program. Panelists shared their perspectives about the care they received at different “stops” throughout the Brain Injury Program journey with a room full of WakeMed Rehab leaders, nurses, physicians and therapists. “We learn a lot from these sessions,” says Laurie Leach, PhD, director, WakeMed Neuropsychology and program director of the Brain Injury Rehabilitation System. “Patients and their families help us understand our opportunities and challenges, which can be difficult to see when working with patients who have complicated needs.”

Nancy was also instrumental in creating WakeMed’s ReGAIN program, which is geared toward helping patients after stroke or brain injury continue to progress in the real world after their health insurance coverage for therapy visits runs out. “Sometimes patients get home and realize they don’t have the motor skills they need to easily do tasks unique to their daily lives, such as playing with their child or stirring a pot. The ReGAIN program helps them work on some of these finer skills,” explains Nancy.

For more information about ReGAIN and the services Nancy and the entire team at WakeMed Rehabilitation provide to brain injury patients, please call 919-350-8347.

Advocating for the Essentials of Daily Living
WakeMed Rehabilitation and the North Carolina Spinal Cord Injury Association (NCSCIA) teamed up to host a townhall-style discussion with Congressman David Price. The NCSCIA’s Debbie Myers and Justin Richardson joined Congressman Price and members of the audience in celebration of the 25-year anniversary of the Americans with Disabilities Act and to advocate for the importance of high-quality complex rehab equipment to daily living for individuals in wheelchairs.

Healthways SilverSneakers® Program at WakeMed Healthworks
WakeMed Healthworks Fitness & Wellness offers group exercise classes, exercise equipment and a walking track and is open weekdays from 6 am to 7 pm. It is located in the WakeMed Rehabilitation Health Park on the WakeMed Raleigh Campus, 3000 New Bern Avenue. To learn more about SilverSneakers, visit www.silversneakers.com or call 1-888-423-4632 (TTY: 711). Call 919-350-8602 for information about WakeMed Healthworks Fitness & Wellness.
WakeMed Rehabilitation Inpatient & Outpatient Data

The entire WakeMed Rehabilitation team thanks the providers, patients and families who support our efforts to provide high-quality care and service across our care continuum. The following data is derived from WakeMed Outpatient Rehabilitation admission and discharge information from October 1, 2013 through September 30, 2014, and WakeMed Rehabilitation Hospital data from January 1, 2014 through December 31, 2014.

Rehabilitation Hospital

**Admission Diagnosis**
- Cerebrovascular Accident (CVA) 28%
- Orthopaedic 18%
- Spinal Cord Injury 9%
- Brain Injury 11%
- Debility 8%
- Multiple Trauma 6%
- Amputee 4%

**Our CVA Patients**
- Total Discharges 470
- Average Age 66
- Average Length of Stay 20 days

**Our Orthopaedic Patients**
- Total Discharges 296
- Average Age 67
- Average Length of Stay 14 days

**Our Spinal Cord Injury Patients**
- Total Discharges 145
- Average Age 60
- Average Length of Stay 21 days

**Our Brain Injury Patients**
- Total Discharges 178
- Average Age 58
- Average Length of Stay 19 days

**Our Debility Patients**
- Total Discharges 128
- Average Age 69
- Average Length of Stay 16 days

**Our Multiple Trauma Patients**
- Total Discharges 95
- Average Age 50
- Average Length of Stay 18 days

**Our Amputee Patients**
- Total Discharges 63
- Average Age 62
- Average Length of Stay 15 days

**Pediatric Patients (ages 4-17)**
- Total Number 26
- Average Age 14
- Average Length of Stay 16 days

Outpatient Rehabilitation

**Day Treatment**
- Total Day Treatment Discharges 116
- Total Visits 6,333
- Overall Patient Satisfaction 98%

**Admission Diagnosis**
- Cerebrovascular Accident (CVA) 59%
- Brain Injury 27%
- Spinal Cord Injury 9%
- Other Neuro Conditions 4%
- Other 1%

**Our CVA Patients**
- Total Discharges 69
- Average Age 58
- Average Length of Service 123 days

**Our Spinal Cord Injury Patients**
- Total Discharges 10
- Average Age 37
- Average Length of Service 123 days

**Our Brain Injury Patients**
- Total Discharges 31
- Average Age 47
- Average Length of Service 190 days

**Pediatric Neuro Rehab Patients**
- (ages 4-17)
- Total Number 3
- Average Age 12
- Average Length of Service 56 days

For additional information about the WakeMed Day Treatment Program, please call 919-350-1711.
Support Groups

WakeMed Amputee Support Group
4 to 5 pm
Third Wednesday of each month
WakeMed Raleigh Campus
Rehabilitation Hospital
3000 New Bern Avenue, Raleigh
For information, call 919-350-8903

Spinal Cord Injury or Disease (SCI/D) Support Group
WakeMed Raleigh Campus
Rehabilitation Hospital
3000 New Bern Avenue, Raleigh
For information, call 919-350-8137 or e-mail kvasquez@wakemed.org

Triangle Brain Injury Support Group
Third Tuesday of each month
7 pm
A separate caregiver support group meets at the same time
WakeMed Raleigh Campus
Conference Dining
3000 New Bern Avenue, Raleigh
For information, call 1-800-377-1464 or 919-618-3003

Cary Brain Injury Support Group
First Monday of each month
6:30 to 8 pm
WakeMed Cary Hospital
Conference Center
1900 Kildaire Farm Road, Cary
For information, call 919-460-9094

Stroke Support Groups

WakeMed Rehabilitation Hospital
Health Park Classroom
Second Tuesday of each month
Noon to 1 pm
WakeMed Raleigh Campus
3000 New Bern Avenue, Raleigh
For information, call 919-350-4163

WakeMed Cary Hospital Conference Center
First Monday of each month
6:30 to 8 pm
1900 Kildaire Farm Road, Cary
For information, call 919-460-9094

WakeMed Clayton Medical Park
Noon to 1 pm
Third Wednesday of each month
555 Medical Park Place, Clayton
(off Highway 70 West between Guy & Shotwell roads)
For information, call 919-350-4174

Stroke Community Education

You’re never too young or too old to know the signs and symptoms of a stroke. Learning them can help save your life and the lives of others. WakeMed stroke specialists are often available to provide this life-saving information as well as blood pressure checks to school, church and other community groups. Please call 919-350-5240 or email bscolio@wakemed.org to schedule.
WakeMed Earns Magnet® Recognition

The WakeMed Rehabilitation Hospital and all of the hospitals and healthplexes in the WakeMed health system recently earned Magnet status from the American Nurses Credentialing Center. The Magnet Recognition Program® honors health care organizations for quality patient care and innovations in professional nursing practice. At this writing, only 423 organizations in the world have attained Magnet recognition. Congratulations to the entire WakeMed family for this prestigious achievement.