UNIVERSITY OF CINCINNATI NEUROSCIENCE INSTITUTE

as one

UC Health
UC Health is committed to providing life changing patient-centered medical care, driving innovation through pioneering research, and educating and inspiring the next generation of healthcare professionals. The UC Neuroscience Institute is a core pillar of UC Health. In collaboration with the UC College of Medicine, it brings together state-of-the-art technology with the most advanced clinical care, education and research to deliver the absolute best care possible to patients with diseases and disorders of the brain and spine.
For more than 100 years patients have come to University of Cincinnati Medical Center for the superior care that faculty from the University of Cincinnati College of Medicine provides. And no part of the system has led the advance more consistently than the neurosciences. We have played an international role in the development of tPA for the treatment of stroke, introduced the use of lasers in neurosurgery, and brought the first intraoperative MRI machine to North America.

That history of innovation continued in 1999 when our neuroscience specialties at UC and UC Health coalesced into a novel whole – the UC Neuroscience Institute – paving the way for unprecedented collaboration among clinical specialists and laboratory researchers. Since then thousands of patients have come to UCNI for all the advantages of a tertiary care hospital working synchronously with a college of medicine. They have come expecting the newest treatments, delivered seamlessly and compassionately, with healing and with hope.

UCNI’s impact continues to grow. This Executive Report is designed to describe the integration of research, education and clinical care across departments, disciplines and our nine Centers of Excellence. More importantly, our patients describe in their own words how our efforts have changed their lives and those of their families. The stories told in the following pages are a testament to the commitment of every UCNI physician, nurse, allied health professional and administrator to work together – as one – toward our vision: To be the Neuroscience Institute by which all others are measured.

Anya Sanchez, MD
Administrative Director

John M. Tew, Jr., MD
Clinical Director

Joseph Broderick, MD
Research Director
Collaborative Leadership Working Together

as one

M E D I C A L  D I R E C T O R S

Brain Tumor Center
Ronald Warnick, MD

Comprehensive Stroke Center
Dawn Kleindorfer, MD

Comprehensive Stroke Center
Mario Zuccarello, MD

Epilepsy Center
Michael Privitera, MD

Gardner Center for Parkinson's Disease and Movement Disorders
Fredy Revilla, MD

Memory Disorders Center
Brendan Kelley, MD

Mood Disorders Center
Scott Ries, LISW-S

Neurosensory Disorders Center
Lee Zimmer, MD

Neurotrauma Center
Norberto Andaluz, MD

Waddell Center for Multiple Sclerosis
Maria Melanson, MD
Continuing a 200 Year Legacy: Innovative Care, Groundbreaking Research, Distinguished Education

1823
The Commercial Hospital and Lunatic Asylum opens as an indigent-care hospital, open to all patients. It serves as the teaching hospital for the Medical College of Ohio in Cincinnati, precursor to the UC College of Medicine.

1861
Name changed to The Commercial Hospital.

1869
Name changed to Cincinnati Hospital.

1815
Medical College of Ohio becomes part of the University of Cincinnati. The hospital buys 15 acres for Cincinnati General Hospital.

1916
One of the first bachelor's degree program in nursing is created in collaboration with the University of Cincinnati College of Nursing.

1915
Medical College of Ohio becomes part of the University of Cincinnati. The hospital buys 15 acres for Cincinnati General Hospital.

1960
First polio vaccine, developed by UC College of Medicine faculty member Dr. Albert Sabin, approved for use in the United States.

1984
UC Stroke Team is founded as the first multi-disciplinary stroke team in the United States.

1970
UC College of Medicine creates the first Emergency Medicine Residency Program in the United States.

1984
Dr. John Tew, Jr., a neurosurgeon at University of Cincinnati Medical Center, is the first to receive FDA approval to use the YAG laser to vaporize inoperable brain tumors.

1987
The use of tissue plasminogen activator (tPA) for the treatment of patients with ischemic stroke is pioneered at UC Medical Center.
1997
Neurosurgeons and radiologists at University of Cincinnati Medical Center introduce North America’s first Hitachi Intra-operative MRI.

1999
UCNI is launched at UC Medical Center. UCNI introduces the world’s first LEXAR Radiotherapy Center.

2001
The U.S. Air Force selects UC Medical Center as one of five national military-civilian training centers.

2003
UCNI grows to include five Centers of Excellence: Brain Tumor Center, Comprehensive Stroke Center, Epilepsy Center, Neurotrauma Center, and Neurosensory Disorders Center. UC Brain Tumor Center introduces one of the first freestanding radiotherapy centers in the country.

2005
UC Medical Center earns designation as the first Primary Stroke Center in the region.

2006
UCNI adds two more Centers of Excellence: Gardner Center for Parkinson’s Disease and Movement Disorders and Waddell Center for Multiple Sclerosis.

2009
West Chester Hospital is opened, providing greater access to neurological care.

2010
The health care system rebrands itself as UC Health. U.S. News & World Report ranks UC Medical Center as No. 1 among the region’s 38 hospitals and one of the best hospitals in the United States.

2011
UCNI adds two more Centers: Mood Disorders Center, Memory Disorders Center.
Brain Tumor Center

The UC Brain Tumor Center is the Cincinnati region’s market leader, the clear destination for individuals facing a brain tumor diagnosis. The center’s excellence is anchored in a mission that blends compassion and education with a multidisciplinary team of sub-specialists, state-of-the-art diagnostics and treatments, highly trained nurses, and relentless attention to innovation. We are guided by data and driven by our passion to find a cure.

We work together as a team during daily rounds and the weekly Multidisciplinary Tumor Board Conference, a fast-moving roundtable of experts in radiology, surgery, radiation and oncology. With each case presentation specialists discuss, debate and ultimately recommend a course of action that will optimize the care of each individual patient.

Neurosurgery is an essential treatment but often only the beginning. Additional therapies include cancer-fighting radiation seeds, placed in the tumor cavity; chemotherapy, sometimes taken simply as a pill; and precisely targeted radiation.

Immunotherapy, which seeks to harness the body’s own defenses, is no longer on the horizon. It’s here. Our researchers are seeking patients for novel clinical trials that use vaccines to target glioblastoma multiforme, a fast-growing cancer that accounts for 17 percent of the 60,000 primary brain tumors that occur in the United States each year.

In the realm of benign but challenging skull base tumors, we have perfected minimally invasive surgical techniques and have become a national leader in efforts to map the large expanse that includes the nasal passages and the lower part of the brain.

Following tumor eradication, recovery begins. Patients who have undergone surgery recover in the nation’s first acuity-adjustable neurosurgery unit, where the room and nursing team adapt to changing needs. Many patients enroll in clinical trials, which offer new hope. Simultaneously, nurse navigation, patient mentors and brain tumor care bags add compassion and support to a healing process that is coordinated, personalized and expert in every way.

Other studies include a “first-in-human” phase-1 trial that targets recurrent glioma; The Cancer Genome Atlas, a national effort to map the entire genetic sequence of primary brain cancers; and the Ohio Brain Tumor Research Study, a joint venture of Ohio’s four brain tumor centers to discover why tumors develop at all. In 2011, with support from the Harold C. Schott Foundation, we launched our Brain Tumor Molecular Therapeutics Program. Today, our laboratory investigators are working hard to unlock the molecular secrets of brain metastasis and translate them into more effective treatments for the 170,000 Americans who experience a brain metastasis each year.

In the last three years, two endowments totaling $4 million have been established for Brain Tumor Center research. Two endowments totaling $4 million have been established for Brain Tumor Center research.

Brain Tumor Center physicians have been ranked locally as Best Doctors for the last 10 years and nationally as top 1% in their field.

FUNDING SUPPORT

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Community Support  Physicians Groups  Endowments  UC College of Medicine

In the last three years, two endowments totaling $4 million have been established for Brain Tumor Center research.

SURGICAL VOLUME

|----------|-----------------|-----------|-----------|-----------|-----------|

THE BRAIN TUMOR CENTER PERFORMS THREE OUT OF EVERY FOUR BRAIN TUMOR SURGERIES IN THE GREATER CINCINNATI AREA.
Lynne

Semiretired and working part-time at a restaurant, Lynne knew something was amiss when she looked at the cash register and then struggled to make her hands produce the correct amount of change. Could she have suffered a stroke? Lynne pushed the thought aside until one of her daughters insisted on taking her to a hospital, where a CT scan and lung X-ray revealed the double-barreled problem: an egg-sized tumor in her lung and a cherry-sized tumor in her brain. The brain tumor was metastatic, caused when cancerous cells from Lynne’s lung traveled to her brain. Four days later, Lynne met the UC Brain Tumor Center team that would help save her life. Neurosurgeons removed the metastatic tumor from her left temporal lobe and performed aggressive, localized secondary treatment by lining the tumor cavity with tiny radiation seeds the size of grains of rice. As she recovered from brain surgery, a second team of surgeons made plans to remove the tumor in her lung. Eventually sound but not yet safe, Lynne underwent regular MRI’s. At 9 months a routine scan picked up two pea-sized brain tumors. This time the Brain Tumor Center team took aim with focused beams of radiation from a linear accelerator. Lynne was treated using a noninvasive mask that was custom fit to her head – no bolts or surgically implanted pins necessary. Stereotactic radiosurgery took about an hour, leaving no side effects. Today, after five years without a recurrence, Lynne lives a life of wellness and adherence to the Buddhist faith. “Since cancer, I’ve changed my whole attitude on life,” she says. “My faith has become very special to me. I call it my gift of cancer.”
Comprehensive Stroke Center

The UC Comprehensive Stroke Center is one of the nation’s premier tertiary centers for the treatment of stroke, the fourth leading cause of death in the United States and a leading cause of long-term disability. The Center is also a stroke research powerhouse that has implemented new interventional treatments for acute ischemic and hemorrhagic stroke; has illuminated the underlying genetic, behavioral and cultural risk factors for stroke; and is awarded millions of dollars in research grants each year from the National Institutes of Health. Designated a Primary Stroke Center by the Joint Commission since 2005, the UC Comprehensive Stroke Center cares for more stroke patients than any other institution in the region.

The Center provides comprehensive treatment for cerebrovascular conditions that include transient ischemic attack (TIA), ischemic stroke, brain aneurysms, arteriovenous malformations and moyamoya disease. A multidisciplinary team includes neurologists, emergency physicians, interventional neuroradiologists, neurosurgeons, nurses and critical care specialists.

Living out the mission to provide the very best in stroke care, clinicians also provide immediate medical consultation for more than 1,900 acute stroke patients from 35 different regional hospitals and emergency diagnostic centers in Ohio, Kentucky and Indiana. In 2012 the launch of the UC Health Telestroke Network enables real-time audio-video communications between a patient and clinician at a distant site and a UC Stroke Team member. This program provides robot technology and clinical excellence to underserved and rural areas beyond the I-275 beltway.

The Stroke Center’s history as a global research leader is founded in its trailblazing study of tPA for treatment of acute ischemic stroke in the 1980s. Today, the Center coordinates the largest international stroke clinical trial in the world, a national trial of tPA and eptifibatide, national trials of intracerebral hemorrhage, an international genetic study of stroke and aneurysms, and population-based estimates of stroke that are used by Center for Disease Control and NIH.

Meanwhile, laboratory researchers are studying vascular mechanisms of cerebrovascular diseases such as stroke, hemorrhage, and cognitive dysfunction; the molecular mechanisms of ischemic and hemorrhagic stroke; and the potential for improving the delivery of the clot-busting drug tPA.

The Center’s surgical/interventional team, which uses advanced procedures and technologies to treat stroke and complex vascular conditions, also plays a critical research role. As a leader in the multi-institutional Endovascular Neurosurgery Research Group, researchers are equipped and trained to test the potential for complex surgery, endovascular procedures and new medical devices for patients at risk of recurrent stroke.

For people who have survived a stroke but have difficulty speaking – a condition called aphasia – or other deficits, the UC Stroke Team is now making strides in what comes next: the emerging and enormously hopeful field of long-term recovery, rehabilitation and renewal. During the last four years nearly 200 stroke survivors from 10 states have benefited from sustained and intensive rehabilitation efforts through the Stroke Team Assessment and Recovery Treatment Program at UC Health’s Drake Center. The new realm of long-term recovery, researchers believe, is the next great frontier in stroke.

University of Cincinnati Medical Center was the first hospital in the region to be designated a Primary Stroke Center by JCAHO, certifying that our team follows nationally recognized best practices for the treatment of stroke.
It was a weekday evening like any other when a friendly customer service representative named Doug became the ultimate customer. His need? Stroke services, A to Z. Doug, a self-described overweight former smoker with high blood pressure and diabetes, was trying out a new exercise routine in his living room when, at 5:25 p.m., his risk factors for stroke reached a tipping point. Doug’s head began to hurt, his face began to droop, and as he tried to walk to another room, he heard himself mumble, “I’m going down.” Before he hit the floor, his stroke-savvy adult daughter had dialed 911. Paramedics arrived and whisked Doug to West Chester Hospital, where he found himself paralyzed on his left side. Physicians, moving quickly and in accordance with research pioneered at the UC Comprehensive Stroke Center, determined that Doug’s type of stroke made him a candidate for the clot-busting drug tPA. Doug got the drug within 2 hours of his stroke’s onset, well within the 3- to 4½-hour window of the drug’s effectiveness. Paramedics transported Doug to University of Cincinnati Medical Center for further testing and, by midnight, he was undergoing surgery for a total blockage of his right carotid artery. The surgeon cleaned out the artery, then sealed the wound with glue, leaving Doug with a 7-inch scar on his neck and no stitches. Soon, Doug was squeezing fingers, following commands and walking down the hallway outside his room. He was soon discharged. “I came home and had pizza,” Doug says. “I do think it’s a miracle. No one can believe it.” Five days after suffering a major stroke, Doug was back at work, cheerfully helping dozens of customers with the nuances of industrial products like hand wrenches, power tools and safety gloves. Now that’s service.
For 25 years, the Epilepsy Center has provided the most advanced medical and surgical treatments for people with epilepsy. Our center is one of the largest in the Midwest.

The Epilepsy Center received the only Level 4 (highest) rating in the region by the National Association of Epilepsy Centers and has achieved that status for 21 consecutive years.
For 45 years Rick coped with his epilepsy. As a young man he experienced undiagnosed “spells,” sensations of muscle tension and déjà vu. Later, as a theme park project manager who traveled the world, he suffered his first “grand mal,” or tonic clonic, seizure. An MRI at a hospital in Australia revealed a small tumor, which they declared inoperable, and which led to a diagnosis of epilepsy. Rick took medications, functioned at an unusually high level during his seizures, and flourished in his career. Then came the seizure that changed everything. Driving in complete silence, Rick turned right off a highway exit ramp from the far left lane, drove half a mile down the road, pulled into a parking lot, and never remembered any of it. Shocked, Rick and his wife went home, searched the Internet for “epilepsy” and “Cincinnati,” and found the UC Epilepsy Center. He made an appointment and, for the first time, came under the care of highly trained specialists at a comprehensive epilepsy center. “They hooked me up to 25 wires and a long tether in the epilepsy monitoring unit,” Rick said. The doctors stopped Rick’s medications and assessed the dozen seizures he had during the next 48 hours. Further testing with functional MRI confirmed that the source of Rick’s seizures, the “inoperable” tumor, was not close to any of his control centers for language, movement, or memory and therefore could be safely removed. After surgery, Rick was able to cut his medication in half. He returned to his normal, frenetic workload, and then retired to the good life. Seizure-free, Rick noted wryly that he has been busy doing home repairs “that I wasn’t interested in when I was on large amounts of medication.”
Gardner Center for Parkinson’s Disease and Movement Disorders

The total cost of Parkinson’s, including treatment, social security payments and lost income, is estimated to be nearly $25 billion per year in the U.S. alone.

The clinical and research teams at the James J. and Joan A. Gardner Center for Parkinson’s Disease and Movement Disorders never stand still. As clinicians they work to maximize quality of life for patients and as researchers they strive to understand how these diseases might be slowed or stopped. With more than 1 million Americans diagnosed with Parkinson’s disease, and with an expected doubling of that number within a generation, there is clearly no time to waste.

Led by a skilled and experienced clinical team, the Gardner Center is a regional destination that diagnoses and treats more patients with Parkinson’s disease, essential tremor, Huntington’s disease and other movement disorders than any other center in the Cincinnati region. The Gardner Center’s neurologists, neurosurgeons, voice specialists and physical therapists collaborate to determine the best individualized treatment options including medication, exercise, voice therapy and deep brain stimulation (DBS) surgery.

Dozens of clinical trials are underway. In 2012, researchers participated in a national, multi-site Phase 3 study in which levodopa, which boosts dopamine in the brain, was delivered through a tube that led directly into the small intestine, with the goal of reducing the severe on-again-off-again fluctuations experienced when taking oral levodopa at intervals during the day. In addition to medication studies, researchers also evaluated a device for DBS. Clinical researchers are exploring strategies to improve freezing of gait, a troublesome symptom of Parkinson’s disease, and the effects of strength and balance training on balance and cognitive impairments. An ongoing study is evaluating visual cueing therapies and methylphenidate medication as possible treatments for freezing. And in the arena of exercise training, the Gardner Center and the Cincinnati YMCA have launched the Parkinson’s Disease Exercise Initiative, which engages patients with symptom-specific exercise.

Collaboration is key. The Center works with the Michael J. Fox Foundation, National Institutes of Health (NIH), and the Davis Phinney Foundation. In 2009, the Center was designated a Morris K. Udall Center for Parkinson’s Disease Research by the National Institute of Neurological Disorders and Stroke, a division of NIH. The designation was accompanied by a research grant of $6.2 million over five years. These national collaborations are essential in order to deliver more effective treatments and, eventually, a cure for Parkinson’s disease.

The Selma Schottenstein Harris Laboratory for Research in Parkinson’s, established in 2003, has furthered the Center’s commitment to basic science research. Dopamine nerve cell degeneration is the primary cause of Parkinson’s disease, and as a result, much of the team’s research efforts focus on developing novel experimental treatments that enhance dopamine cell survival. By examining why and how dopamine cells degenerate and how the brain is altered when dopamine production slows or is absent, researchers are able to identify risk factors associated with the disease and to develop and test theories that could lead to therapeutic treatments.
Some people have vacation homes. Frank has the UC Neuroscience Institute. This is where he comes for comprehensive, compassionate medical care for Parkinson’s disease, which he has lived with for 15 years. “They make us feel safe,” says Frank’s wife, Sandy. “It’s an illness where you want to feel safe, because you don’t know what’s coming around the bend.” Frank was a human resources consultant with a frenetic travel schedule when he was diagnosed with Parkinson’s disease at age 52. A friend welcomed him to “the club” with a little golfing advice: “Play a lot now, because in a few years, your game will be terrible.” Parkinson’s is a progressive disorder of motion, where abilities once taken for granted begin to slip away, one by one. So each time Frank began struggling, the expert teams at UCNi’s Gardner Center and Neurosensory Disorders Center stepped in to help get him back on track. A clinical trial helped him with stiffness and pain in his neck and helped widen his eyes. Deep brain stimulation surgery stilled his hand and leg tremors, calmed the involuntary twitches known as dyskinesias, and made his handwriting legible again. And, most recently, after learning about voice therapies at the annual Sunflower Revolution educational symposium, Frank sought treatment for his bowed vocal cords, which had left him with the ever-so-soft “Parkinson’s voice.” After surgery, he had only one complaint for his otolaryngologist: “I don’t sound like Sinatra.” Even so, it’s been a very good year for traveling, playing catch with his grandchildren and fantasy football, thanks to his stellar team at UCNI. Frank stated, “When we saw the list of Best Doctors, I think all of them are ours.”
Memory Disorders Center

One could say that the UC Memory Disorders Center arrived just in time. Already 5 million Americans suffer from Alzheimer’s disease, and the numbers are expected to surge to more than 8 million by 2035. Sandy and Bob Heimann provided the building blocks for the UC Memory Disorders Center in 2008, and their generosity continues to help Cincinnati meet the challenges posed by memory disorders and an aging population.

More than 100 health conditions are associated with cognitive decline, which involves the loss of one’s ability to reason, remember, make decisions and communicate. The Memory Disorders Center is providing Cincinnati with much-needed expertise in the diagnosis and treatment of these conditions, which include Alzheimer’s disease, non-Alzheimer’s dementia, cerebrovascular disease, hydrocephalus, Parkinson’s disease, Huntington’s disease, and many other neurodegenerative diseases. Our team includes neurologists, neuroscience nurses, psychiatrists, neuropsychologists, a sleep specialist, pharmacists and social workers. Beyond the Center, neurosurgeons, neuroradiologists and geriatric medicine specialists can be called upon to provide collaborative care for individual patients’ needs.

The Center provides comprehensive evaluations and treatments for hundreds of adult patients from across the Greater Cincinnati region each year. The benefits of such comprehensive neurologic care can be life-changing. Establishing an accurate diagnosis early in the clinical course, and identifying medical conditions that may be contributing to a patient’s symptoms, may allow an individual to preserve cognitive function or delay the onset of major symptoms. Through a comprehensive evaluation, the Center can determine whether a condition is related to normal age-related forgetfulness, mild cognitive impairment, or a more significant cognitive disturbance such as Alzheimer’s disease.

Sleep apnea, diabetes, vitamin deficiency or chronic infections are some examples of potentially treatable medical conditions that lead to cognitive impairment, while management of risk factors for cardiovascular disease or stroke can help protect against additional cerebrovascular damage. In some patients, treatment of medical conditions may result in substantial improvement in their cognitive and behavioral symptoms.

UCNI researchers are actively studying interventions: whether the Rivastigmine patch can help patients with severe dementia from Alzheimer’s, and whether inflammation and metabolic parameters that contribute to neurodegeneration can be influenced by dietary modifications and supplementation. The nuclear medicine facility has been approved to begin using the Amyvid™ radiomarker in PET imaging, providing opportunities to develop diagnostic and treatment research studies in memory and stroke.

In the realm of basic science, our researchers who study cognitive impairment made national news when they announced that cyclocreatine successfully treated X-linked mental retardation syndrome in an animal model they had developed. They are now working to validate cyclocreatine as a treatment in humans.

The Memory Disorders Center team works closely with Lindner Center of HOPE. Because we face the challenge of Alzheimer’s as families and as a community, we work closely with regional organizations, including the Alzheimer’s Association, the Council on Aging of Southwestern Ohio and the Ohio Geriatrics Society. Our approach is holistic and patient-centered, with an emphasis on lifestyle modifications and community support in addition to medication management.

Early studies demonstrate that Alzheimer’s can be delayed and someday eliminated through early detection and continued development of effective medications.

An estimated 5.4 million Americans had Alzheimer’s disease in 2011. The annual number of new cases is projected to double by 2050.
Dick was enjoying his retirement as a full-time volunteer at Crayons to Computers when his memory began to go awry. He told his granddaughter that his car was due for an oil change, when he had just had the oil changed a few weeks earlier. After a neighbor borrowed his car, he had no recollection of her doing so. “I was acting funny, but I didn’t realize I was acting funny,” Dick recalls. Then, while out with friends one evening, he lifted a glass of water to his mouth and heard it land with a crash on the table. By now, his friends were worried. Some began praying for this kind, energetic widower with a penchant for plaid shirts. One friend thought Dick had suffered a mild stroke, while Dick was certain that he had a brain tumor. Eager to solve the mystery, Dick made an appointment at the UC Brain Tumor Center, where a specialist carefully reviewed his medical history and progressing forgetfulness. The specialist quickly ruled out the possibility of a brain tumor and, determining that Dick was suffering from a complex cognitive problem, referred him to a neurologist at the UC Memory Disorders Center. Dick underwent neuropsychological testing, and an MRI was quickly performed. The news was good. Dick’s forgetfulness was caused by a treatable condition called limbic encephalitis, an inflammation of the brain triggered by exposure to an antibody in his blood. Dick began taking two medications and continued his visits with the neurologist. Over time, his memory returned to full capacity. “During my visits, my doctor always gave me some words to repeat,” Dick says. “On my last official visit, he said, What day is it today? And I said, It’s Sept. 21, the day I get my driver’s license back.” Case closed.
Mood Disorders Center

The UC Mood Disorders Center is dedicated to improving the diagnosis and treatment of complex mood disorders. The Center’s mission is to synergistically combine clinical care, research and teaching to provide state-of-the-art individualized treatment plans for patients with major mood disorders. The Mood Disorders Center is a collaborative effort of the Department of Psychiatry and Behavioral Neuroscience at the University of Cincinnati, Lindner Center of HOPE in Mason, Ohio, and Cincinnati Children’s Hospital Medical Center Division of Child and Adolescent Psychiatry.

The Mood Disorders Center is staffed by a multidisciplinary team of highly respected and award-winning clinicians and serves as a major national center for patients seeking diagnostic clarification and access to the most advanced and comprehensive treatment options in the region. Clinical resources available through the Center combine advanced psychotherapeutic approaches with innovative pharmacotherapies and other cutting-edge interventions. In addition, the Center offers an eclectic range of complementary and integrative therapeutic approaches to optimize patient outcome.

The Center’s clinical mission is closely integrated with an extensive research portfolio. Internationally recognized researchers are supported by the National Institutes of Health (NIH), as well as grants from private foundations and the pharmaceutical industry. As leaders in the field, the Center’s investigators direct a wide array of studies that range from efforts to identify basic science models of stress and metabolism to clinical trials of novel therapeutics. Additionally, the researchers of the Mood Disorders Center have extensive expertise designing and successfully implementing complex translational research utilizing advanced neuroimaging technologies. A primary goal of these studies is to evaluate potential biomarkers of illness course and response, in order to improve treatment assignment, and ultimately, maximize the quality of life for individuals with mood disorders. Another main research goal of the Mood Disorders Center is to examine clinical and biological risk and resilience factors associated with mood disorders in order to identify genetic and environmental contributions to illness development. The ultimate goal of this potentially paradigm-changing line of research is to establish early intervention and prevention strategies.

As a member of the National Network of Depression Centers, a network of 21 academic health centers dedicated to advancing public awareness and collaborative research initiatives involving mood disorders, the Mood Disorders Center is an active participant in many national cross-institutional efforts. In addition, the Mood Disorders Center has taken the lead in several international research projects aimed at studying cultural influences on bipolar disorder and major depression. Going forward, the Mood Disorders Center will continue our ongoing commitment to educate the next generation of researchers and clinicians. This mission goes hand-in-hand with developing and implementing state-of-the-art personalized treatment strategies to provide optimal care to individuals across the lifespan with, and at risk for, mood disorders.

The Mood Disorders Center at UC Health is the leading clinical and research site for mood disorders treatment in this region, and offers a full range of evidence-based treatment options.

THE MOOD DISORDERS CENTER HAS RECEIVED $18.5 MILLION IN NIH FUNDING OVER THE PAST FIVE YEARS.
Deanna was averaging three seizures a week when she arrived at the UC Neuroscience Institute. Sometimes her seizures caused her to pass out, and sometimes they left her blinking and wondering where the time had gone. Complicating her situation, Deanna suffered from a mood disorder, had been victimized by crime and had a history of using non-prescription drugs. Clearly, a cross-center collaboration among specialists would be needed to sort out the reason for her seizures and to craft a solution. Deanna began by spending a week in the Epilepsy Monitoring Unit. “They sleep-deprived me, tested me with lights,” she recalled. “But it didn’t stress me out at all. I was so comfortable I didn’t have any seizures.” Deanna went home with a portable monitor on her head and promptly triggered a seizure. The results showed that her seizures were stress-related; they did not involve the abnormal electrical discharges that define epilepsy. As a result, her doctors recommended that she take advantage of a unique opportunity: a clinical trial that involved a collaboration between the Epilepsy Center and the Mood Disorders Center. The study was testing a dual treatment that combined a mood medication with an intense regimen of talk therapy provided by a specially trained therapist at the Mood Disorders Center. The "seizure counseling" therapy, which included meditation, was designed to relieve the anxiety that was playing a role in Deanna’s seizures. By learning to meditate, Deanna discovered that she could stop a seizure even if she felt an aura coming on. “You sit there and breathe and you come up with your own mantra, where you feel lightness in your limbs, and all the worries and the cares in the world slip away,” she said. With her doctors’ help, Deanna has now accomplished two major goals of her young adulthood: she has moved into her own apartment, and she has been cleared to drive. She has also put a new spin on her life. She’s no longer “a person who had seizures.” She’s “Seizure Girl,” the person who conquered them.
The UC Neurosensory Disorders Center is anchored by UC Health otolaryngologists, specialists who care for patients challenged by a wide variety of sensory-related problems. With subspecialties in the areas of hearing and balance, taste and smell, voice and swallowing and facial pain and paralysis, our team of specialists use advanced technologies and procedures, always pushing the envelope to find new treatments or therapies. The center includes neurosurgeons, neurologists, speech pathologists, physical therapists and occupational therapists.

The Adult Airway Reconstruction Program, one of the busiest airway reconstruction programs in the nation, serves patients who have suffered damage to the trachea (windpipe) or larynx (voicebox). Many of these patients have suffered trauma in an auto accident, while others have developed scarring caused during a prolonged hospitalization that required a breathing tube.

Another gem is the UC Health Voice and Swallowing Center and the affiliated UC Health Performance & Professional Voice Center, where specialists treat hundreds of patients each year with therapies that range from behavioral modification to complex surgical reconstructions. A woman who had been unable to talk for 35 years because of a larynx problem received national attention after UCNI specialists performed reconstructive surgery to help her regain her voice.

In the realm of hearing disorders, the Adult Cochlear Implant Program, established 20 years ago, is another national leader, and the recently established Auditory Brainstem Implant Center is one of only a few in the United States.

Within basic science programs, researchers are studying laryngeal biomechanics (asymmetric vocal fold motion, vocal cord scarring, swallowing disorders, and sources of sound) and computational flow dynamics (pediatric sleep apnea and subglottic and tracheal stenosis). Some of the researchers are using functional MRI imaging to examine the direct effect of sound and the lack of sound on the brain pathways and processing, while others are studying the molecular mechanisms of mitochondrial mutations (which play a significant role in pediatric hearing loss) in cell, animal and human models.

The Neurosensory Disorders Center was ranked 21st in the nation for Otolaryngology-Head & Neck Surgery by US News and World Report in 2011.
NeUROsENSory dISoRdeRS CeNTeR

Brian

One by one, the symptoms of a throat problem tapped on the pastor’s door. Pastor Brian Tome, leader of Crossroads Church and speaker of five weekly sermons to a following of 15,000, acknowledged the symptoms and tried to dismiss them. He was frequently clearing his throat and coughing, but of course he used his voice a lot. During a motorcycle trip to Alaska, he was chronically hoarse, but of course it was an intense trip with some good times around the campfire. His voice sounded deeper, too, but that can happen to preachers as they age. Finally, the man who used his voice to serve God and humanity knew he needed answers. A doctor’s scope revealed a tiny cyst on his left vocal cord. Unnerved and fearful, he asked if the doctor could carve out the cyst at once. A delay ensued, and during that time Brian learned more about the delicate qualities of vocal cords and acquired a referral to the Neurosensory Disorders Center. There, further testing revealed the cause of the cyst – acid that was backing up from his stomach – and a microsurgical alternative was recommended by the team. Using a small metal tube and microscope, the surgeon made an incision, lifted up a microflap of tissue and removed the cyst, preserving the smooth skin on the vocal cord. Following the outpatient procedure, a careful recovery began. During week 1, Brian could not utter a word. During week 2, a stopwatch around his neck, he could speak for only 10 minutes of every hour. “We should all have this discipline,” Brian reflects. “Before speaking, I had to ask myself, is this worthy of my 10 minutes?” Normalcy returned quickly. By week 6, just in time for Advent, he was back in the pulpit, using a voice of renewal to encourage, motivate and renew.
Neurotrauma Center

A young man falls from a steep hillside onto a riverbed. A woman slips and slides down a mountain, slamming into a boulder. A skier falls and strikes his head on compacted snow, and a motorcyclist riding without a helmet crashes and slams his head against the unforgiving pavement. Unexpected and life-changing, these stories of brain and spinal trauma are seen every day at the Neurotrauma Center, at the only Level I trauma center in the region.

Patients arrive from around the region and the country. They come via life squad, helicopter or medical jet. Many are brought by UC Health Air Care & Mobile Care, the nationally recognized helicopter transport system that has flown thousands of patient care missions.

Once a patient arrives at University of Cincinnati Medical Center, medical specialists launch a two-part battle: first to save the patient’s life from the initial trauma, and second to maximize the patient’s quality of life by doing everything possible to minimize secondary injury.

Initially, emergency medicine specialists work with trauma surgeons, brain surgeons and otolaryngology-head and neck surgeons to stabilize the patient, repair broken bones, aspirate clots, repair shredded arteries and even remove a portion of the skull if the brain needs room to swell.

Once stabilized, the action moves to UC Medical Center’s Neuroscience Intensive Care Unit (NSICU), where physicians and nurses trained in neurocritical care implement round-the-clock care and monitoring to keep the patient’s brain physiology – intracranial pressure, brain oxygen and temperature – as close to normal as possible. Patients are also monitored continuously for seizure activity and cardiac output, and a portable CT scanner allows for on-demand imaging while eliminating the risk of moving a critically ill patient to another floor. Specially trained nurses are assigned to only one or two patients in order to provide a constant, high level of care. Neurointensivists, physicians who specialize in neurocritical care, coordinate and manage the needs of patients and their families. During recovery, patients leave for UC Health’s Drake Center, where they continue their recovery with physical medicine and rehabilitation specialists and a full complement of physical, occupational and speech therapists.

Looking to the future, UCNI researchers are among a select group of academic medical centers taking part in the Neurological Emergencies Treatment Trials, or NETT, a permanent research framework that enables physicians from many disciplines to work together as they search for better ways to treat brain emergencies. The internationally recognized Clinical Neurophysiology Lab seeks to develop the clinical science for monitoring tiny electrical disruptions known as “brain tsunamis” that often occur after brain trauma or stroke. Funding from the Department of Defense is helping to develop a “smart sensor” that is capable of continuously monitoring multiple physiological parameters in brain tissue, and researchers are actively studying mild traumatic brain injury, the mechanisms of second concussion syndrome, and point-of-care diagnostic methods for concussed athletes at or near the field.

Care delivered through the Neurotrauma Center is centered on reintegrating patients into their family, community and society as a whole while maintaining their dignity and pride.

INPATIENT LENGTH OF STAY VS. READMISSION RATES*

*From the UHC Clinical Database for 2011.
A D A M

Adam and two friends were tooling down the freeway on their motorcycles one fine Sunday last October when the accident occurred. Adam, who liked to feel the breeze on his shaved head, was not wearing a helmet. Changing lanes, he was struck by a van and thrown 20 feet in the air. Adam slid another 500 feet before coming to a stop, critically injured.

During the hours and days that followed, Adam lay in a coma, his skull fractured in five places, while the Neuroscience Intensive Care Unit team maximized his chances of survival with nonstop monitoring of EEG, intracranial pressure, brain oxygenation and temperature. Adam’s mother still has photos on her cell phone: Adam in the NSICU, eyes closed, his head distorted from the massive swelling. “Had it not turned out so well, I would have deleted all these images,” Adam’s mother explains. Instead, the pictures reinforce “the miracle of the whole thing.” Three weeks after the accident Adam was moved to Drake Center, where UCNi’s neurotrauma rehabilitation specialists took over the next phase of his care. Adam recalls getting out of bed and trying to walk for the first time, feeling “like I was a year old.” Five months post-accident, Adam’s doctors do a double-take when they see the slim young man with no outward sign of injury. Inside the injured brain, progress continues with the help of exercise and a speech therapist. “I’ve been blessed to make it through,” Adam says. “It was a life lesson for me, something I need to deal with. It also brought love into my life. I had a bunch of friends, but I never realized how loyal they were.”
The Waddell Center offers advanced diagnostic capabilities, which include complete diagnostic workups (with spinal fluid analysis and laboratory protocols) and advanced MRI technology and state-of-the-art imaging protocols. Treatment is determined by many factors, including the type of multiple sclerosis the patient has and how far the disease has advanced. The Center provides thorough patient education and follow-up with referring physicians, and it works closely with Drake Center, a provider of therapy and rehabilitation programs.

All Waddell Center physicians have advanced training in MS and neuroimmunology. These physician-scientists focus their clinical skills and research interests solely on MS and related disorders, including neuromyelitis optica, acute disseminated encephalomyelitis and other disorders that can mimic MS. Because of their comprehensive knowledge in the MS field, they have a deep understanding of the harmful mechanisms, both inflammatory and degenerative, that underlie the development of MS disability. This comprehensive knowledge optimizes treatment for individual patients with drugs that can stabilize or calm the disease.

The Waddell Center for Multiple Sclerosis is a living legacy of Oliver and Virgilee Waddell, a Cincinnati couple who sought to create a comprehensive center that offered competent and compassionate treatment for people with MS, an incurable disease of the central nervous system that affects more than 400,000 individuals in the United States and more than 2 million worldwide. The Waddell Center was established in 2002, a little more than 20 years after Mrs. Waddell was diagnosed with MS. The Waddells both were concerned that many MS patients often traveled out of town for optimal care and the opportunity to participate in clinical trials that tested promising new treatments.

Today, approximately half a dozen clinical trials are in process. These trials focus on novel therapies that have the potential to help patients who fail to get relief from existing FDA-approved medications. In the laboratory, researchers have investigated how the immune system mediates severe nervous system tissue damage in animal models of multiple sclerosis, and they have used MRI in high-field-strength scanners to examine features of MS, central atrophy of the brain, and spinal cord atrophy. With a grant from the Marvin Lewis Community Fund, the UCNI team oversaw the development of the “Marvin Mouse,” a transgenic mouse that is being used as an animal model in experiments designed to shed light on how killer T cells contribute to multiple sclerosis.

Waddell Center neurologists work as part of a multidisciplinary team that also includes a nurse practitioner, gastroenterologists, urologists, psychiatrists, physical and occupational therapists and social workers. The Waddell Center’s psychologist helps patients learn how to live more comfortably with a disease whose flare-ups can be distressing, unpredictable and potentially debilitating.

The Waddell Center for Multiple Sclerosis is recognized by the National Multiple Sclerosis Society as a regional referral center for MS in the Greater Cincinnati area.

IN THE LAST FIVE YEARS ALONE, MORE THAN 8,500 PATIENT VISITS HAVE TAKEN PLACE AT THE WADDELL CENTER.
In retrospect, multiple sclerosis had probably been stalking Amy for a long time. She had suffered from chronic headaches in high school, and her seasonal allergies had been over the top. Then, in her mid-30s, the busy wife and mother of two had just finished staining the deck when a peculiar numbness and fatigue rolled in like a heavy fog. “I thought, I am really overdoing it,” Amy recalls. At the urging of her brother, she called her doctor, who summoned her to his office that day. MRI images hinted at MS, then a spinal tap confirmed it. Over the next seven months, taking steroids and other medications prescribed by a community neurologist, Amy gained 70 pounds while suffering sleeplessness and hot sweats. When the neurologist finally saw her for a follow-up, he told her she had gained so much weight that he didn’t recognize her. He referred her to an Ohio State specialist, who sent her back home to the Waddell Center. There, a holistic treatment program for Amy’s relapsing-remitting MS included physical therapy and a psychologist to help her understand “how MS can make or break you.” Her medications remained problematic, however, making her feel as if she had the flu. After a year without medications, Amy and her Waddell Center team faced a moment of reckoning. “The next exacerbation could be the one that puts you in a wheelchair,” they told her. “Are you willing to take that risk?” Amy agreed to try a newly approved oral medication, Gilenya™, which reduces relapses in people with her type of MS. It was a life-changer. Today Amy is moving forward, her Waddell Center team by her side. “If I have a problem, if I have a question, if I ever need anything,” Amy says, “I know they are there for me.”
**NEUROMUSCULAR DISORDERS**

The Neuromuscular Disorders Program at the UC Neuroscience Institute employs the most advanced technologies and therapies to diagnose and treat hundreds of adult patients from across the Greater Cincinnati region each year. Our physicians are experts in the diagnosis and treatment of neuromuscular disorders, which can include everything from common lower back pain to very specific disorders of muscle strength and deterioration.

The goal of the program is to treat what can be modified, improve symptom control, and increase mobility and functionality. The collaborative team includes neurologists, pulmonologists, otolaryngologists, neurosurgeons, nurse clinicians, neuroscience nurses, physical and occupational therapists, and social workers. Services included are physical therapy (legs and walking), occupational therapy (hands and arms), speech and swallowing therapy, and pulmonology to maximize quality of life for patients.

**NEUROCRITICAL CARE**

Neurocritical Care at the UC Neuroscience Institute is the intensive care of patients with life-threatening neurological illnesses. These illnesses include massive stroke, bleeding in and around the brain, brain tumors, brain trauma, severe seizures, nerve and muscle diseases and spinal cord disorders.

Neurocritical care units specialize in managing the unique needs of these patients with dedicated physicians, called neuro-intensivists. The ultimate goal of neurocritical care is to resuscitate and support the severely ill neurological patient, minimize secondary neurological injury and medical complications, and facilitate the patient’s transition to a recovery environment.

**NEURORESTORATIVE CARE**

The Neurorestorative Program at the University of Cincinnati Neuroscience Institute is an integrated multidisciplinary program focused around one goal: restoration of functionality to patients who suffer from intractable neurological impairments. The Neurorestorative team is comprised of specialists who focus on innovations in the surgical treatment of neurological disorders such as epilepsy and movement disorders, along with medical and surgical treatment of psychiatric disorders such as obsessive-compulsive disorder and depression as well as chronic pain syndromes. Patients who benefit from Neurorestorative services also interact with other areas of UCNI in order to receive the most comprehensive care available. Through comprehensive care from our Neurorestorative Program, patients see improvements in symptom control and quality of life.

**Setting the Bar in Neurocritical Care**

- The only NIH-funded Neurocritical Care T32 Fellowship Training Program for clinical research in the country
- Ongoing state-of-the-art research that transforms clinical practice worldwide
- 24/7 coverage for our 20-bed Intensive Care Unit plus 10-bed Acuity Adjustable Unit
- Around-the-clock consultations for hypothermia for cardiac arrest, serving as a referral base from community hospitals
UCNI’s matrix structure of disease-based centers and functional programs provides the architecture for optimal integration and collaboration.
In the lab, our basic scientists study the roots of disease and injury. What protein launches a cascade of dire events? What compound shuts it off? What mutation in a strand of DNA primes the pump for disease? What receptor unleashes the torrent?

Our basic scientists strive across the spectrum of neuroscience to understand the molecular basis of disease and health, first in test tubes and petri dishes, and eventually in non-human models of disease and injury.

Their interests include:
• Growth-factor therapies for Parkinson’s disease
• Predictors of vasospasm following stroke
• Vocal cord scarring
• Neuropeptide Y’s role in post-traumatic stress
• A receptor that fuels the virulence of the glioblastoma brain tumor
TRANSLATIONAL

Our translational researchers are taking findings from the research laboratory and applying them – translating them – to the development of clinical studies and new treatments for patients.

Our understanding of electrical short-circuits in the injured brain has sparked the development of new methods of monitoring patients.

Our Parkinson’s Exercise Initiative builds on the evidence linking vigorous exercise to an improvement in balance, gait and quality of life.

Our study of circulating mutant DNA biomarkers leads us further down the path of “personalized” medicine, which involves tailoring therapies directly to each individual. And our vast research into the effects of anti-epileptic drugs has reduced risks for women with epilepsy who hope to have children.

CLINICAL

Clinical research studies span all of UCNI and its nine Centers of Excellence.

For patients who cannot be helped by existing treatments, a clinical trial offers a reason for hope. We offer Phase I and II trials, the early-phase studies of the newest and most promising therapies, and we are prolific in publishing in peer-reviewed journals.

We partner with many other institutions and non-profit organizations to maximize research results.

We are part of the Michael J. Fox Foundation’s global search for Parkinson’s biomarkers, and we are an important cog in the National Network of Depression Centers, the Network for Excellence in Neuroscience Clinical Trials, the Neurological Emergencies Treatment Trials and The Cancer Genome Atlas.

By offering the newest clinical trials to our patients and by taking part in the most prestigious national consortiums, we own a front-row seat to progress. We help the world know what works.

With $40 million in research funding, neuroscience is the number one funded area at the UC College of Medicine.
Training the Physicians of Tomorrow
More than half of our physicians graduated from the UC College of Medicine and went on to practice at UC Health.
During the last several years the UC Neuroscience Institute has embraced collaborative rounds as a new standard of care. During collaborative rounds, also known as Patient- and Family-Centered Rounds, the neurological healthcare team meets each morning at the patient’s bedside to discuss all aspects of their treatment. The daily routine provides patients and family members with an opportunity to ask questions about the treatment plan, to express personal needs or expectations and to review issues that may arise following hospital discharge. Topics include the patient’s diagnosis, health status, diagnostic tests, changes that may have occurred during the night, discharge and follow-up treatment and rehabilitation.

Patients who undergo surgery will likely recover in the Acuity-Adjustable Unit, the first of its kind for neurosurgical patients in the United States. An acuity-adjustable room is designed to eliminate the need for patients to be transferred to different care settings as their recovery progresses. Instead, the room and nursing team adjust to the seriousness, or acuity, of the patient’s
condition. Studies of acuity-adjustable units have demonstrated a 70 percent reduction in medication errors and a 75 percent decrease in patient falls. At University of Cincinnati Medical Center patient satisfaction has soared as the new rooms are designed to enhance autonomy and allow a family member to stay with the patient around-the-clock. Enhanced family participation has a direct impact on patient satisfaction and has been shown to reduce stress and expedite recovery.

This patient-centric perspective was also the genesis of our Nurse Navigator Program, designed to help patients and families navigate the different phases of their care and provide support, education and resources to those who are experiencing difficulties. The Nurse Navigator contacts the patient prior to his or her admission, meets with family members while the patient is in surgery, and follows up with “high-risk” patients at home or in a rehabilitation facility after discharge. If a patient is admitted to the hospital unexpectedly, the Nurse Navigator also can assist family members with lodging.

TECHNOLOGICAL INNOVATIONS

Technological progress has been a hallmark of neurological care in Cincinnati for many decades, however the pace of change has accelerated since UCNII’s inception in 1999. Our innovations range from pioneering the use of tPA for the treatment of acute ischemic stroke to establishing the safety of frameless radiosurgery without an invasive headframe for the treatment of metastatic brain tumors. Our physicians have even invented their own instruments for the treatment of aneurysms and trigeminal neuralgia.

Today, UC Medical Center is the only hospital in the Greater Cincinnati region to offer around-the-clock EEG, or brain-wave recording, for patients in the Neuroscience Intensive Care Unit or the Emergency Department. This procedure enables physicians to identify critically ill patients who may be suffering from ongoing seizure activity. We also offer continuous EEG in our Epilepsy Monitoring Unit to help determine whether surgery is safe for patients whose seizures do not respond to anti-epileptic drugs.

In 2012 we unveiled an important new technological initiative: telemedicine robots to extend the UC Stroke Team’s life-saving skills. Time is precious when a stroke occurs, as brain cells lacking oxygen begin to die. The telestroke initiative enables our physicians to examine and expedite treatment for patients both at UC Medical Center and in outlying areas at too great a distance for patients in need of immediate attention.

This year also marked the arrival of the first BrainLAB Curve™ in the Ohio-Kentucky-Indiana region. The new technology builds on the evolving use of multiple types of brain imaging and helps surgeons plan the safest and most effective path to a brain tumor or other malformation. The technology facilitates the integration of multiple types of brain scans, brain scans taken at various diagnostic or hospital sites, and various types of surgical technologies. The bottom line: it helps doctors move through safe corridors in the brain while avoiding “eloquent” areas responsible for speech and memory, critical white-matter tracts, veins and arteries.

Changes in both technology and how we deliver care dramatically affect the development of new therapies for neurologic diseases.

– Joseph Broderick, MD
As part of its educational mission, the UC Neuroscience Institute connects to the Cincinnati community through numerous free educational programs, symposia and public service announcements. Each year, more than 1,000 people from a five-state area benefit from discussions that range from prevention, diagnosis or maintaining life normalcy with disease.

We are perhaps best known for our free educational symposia: the Sunflower Revolution Symposium and Expo for people affected by Parkinson’s disease; the Midwest Regional Brain Tumor Conference; and the Play It Safe symposium that focuses on injury prevention geared to coaches, athletic directors, teachers and parents. We also hold free symposia for people who are affected by epilepsy and mood disorders. Our reach is broad, our impact immeasurable.

Experts with the UC Memory Disorders Center have made a major commitment to reach out to the community through the Alzheimer’s Association, giving lectures on topics that include warning signs, treatments, the latest developments, and the association between sleep and dementia. And our Neurosensory Disorders Center specialists have provided free voice and hearing screenings as well as screenings for head and neck cancer.

The UC Stroke Team developed an educational program for stroke warning signs known as F-A-S-T. The FAST terminology, accepted as a simple, effective, easy to recall tool to recognize the symptoms of this time-critical condition, has been adopted across the world.

As members of the national Neurological Emergencies Treatment Trials Consortium, we produce public service announcements about research studies that may enroll unconscious or severely ill or injured patients without their ability to consent. Federal law has established a system that allows physicians to begin emergency investigational treatment if no proven or effective treatment is available, if the patient’s situation is life-threatening, and if early studies have shown that these patients might benefit from the investigational treatment.

While UCNI connects with the community through public education, outreach takes other forms as well. We come together as a larger community to raise awareness for neurological diseases and conditions as well as funds for research and support programs. Together we walk, run, ride and learn about the cause and, hopefully someday, find a cure.
After passing through the treatment and recovery phases of their lives, they want to help others who inevitably follow the same path. These individuals may join our community advisory boards, or they may sign up to participate in events that raise funds for research. Some send donations or start a fund in a loved one’s honor or memory, while others hold events for our benefit. We are always humbled and grateful when patients connect with us in these altruistic ways. Gifts large and small fund programs that allow us to go beyond our mission; such as patient comfort bags, nurse navigators and tablet computers for bedside access to information.

Above the 37th Parallel, a one-woman play by Nancy Jones, benefited the Waddell Center for Multiple Sclerosis, while the Cheering for Charity Sideline Event supported the UC Memory Disorders Center. The Shemenski Foundation presented the UC Brain Tumor Center with a check for $24,000 in 2012, and the Parkinson’s Disease Support Network Ohio Kentucky Indiana (PDSNOKI) has raised more than $325,000 since 2004 for research at the Gardner Center through their annual Jerry Wuest-Pete Hershberger Dinner & Golf Classic.

The UC Neuroscience Institute is privileged to have received several legacy gifts of $1 million or more.

- 2001: Charles E. Scripps donated $1 million to help establish the UC Neuroscience Institute.
- 2001: Saul Schottenstein, who had Parkinson’s, donated $1 million to establish The Selma Schottenstein Harris Laboratory for Research in Parkinson’s in honor of his sister.
- 2002: Our research program continued to grow with a $1 million gift from the James E. and Anne R. Bever family.
- 2002-2012: The Charles L. Shor Foundation for Epilepsy Research donated gifts totaling more than $1 million for research into the link between stress and epilepsy.
- 2002: Oliver Waddell established the Waddell Center for Multiple Sclerosis in honor of his wife, Virgilee, who lived bravely with her disease, with a $5 million gift.
- 2006: Stanley Kaplan, MD, a former UC professor, established the Dr. Stanley and Mickey Kaplan Endowed Chair in Psychiatry with a gift of $2.5 million.
- 2007-2009: The James J. and Joan A. Gardner Family Center for Parkinson’s Disease and Movement Disorders was established and supported with gifts of $6.5 million.
- 2008: Sandy and Bob Heimann provided the building blocks for the Memory Disorders Center by endowing a chair in research and education of Alzheimer’s; to date they have donated more than $2 million.
- 2008-2009: Lindner Center of HOPE received gifts of more than $1 million from the Farmer Family Foundation and two anonymous donors.
- 2011: Francie Schott Hiltz and L. Thomas Hiltz established the Harold C. Schott Chair for Molecular Therapeutics with a $2 million gift from the Harold C. Schott Foundation.

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Or online at UC Neuroscience Institute Discretionary Fund at on.uc.edu/givetoUCNI
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