

New Thinking

About
Thinking

A Publication by the Cleveland Clinic Lou Ruvo Center for Brain Health



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Las Vegas, Nevada

Saturday, February 18

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 Cleveland Clinic

Lou Ruvo Center
For Brain Health









KEEP MEMORY ALIVE

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Message from the Director

Jeffrey L. Cummings, MD, ScD



Dear Readers,

Thank you for your continued interest and support of the Cleveland Clinic Lou Ruvo Center for Brain Health and Keep Memory Alive (KMA). You have proven to be generous, open-hearted, spirited individuals who continue to contribute to the success of our center and our search for treatments of Alzheimer's disease, Parkinson's disease, Huntington's disease and multiple sclerosis.

There are many ways in which people like you contribute to our success. Volunteers provide hundreds of hours of unpaid work in critically important activities: escorting patients, conducting tours, assisting with physical therapy.

Patients who volunteer for clinical trials help us to determine the value of promising new therapies to alleviate symptoms or reduce the progression of Alzheimer's disease or other neurological disorders. They play a key role, since clinical trials are the only means of developing new therapies for these tragic illnesses.

Today more than ever, philanthropic support is critical to the success of our center as other sources of support decline while our economy struggles to recover. Generous donors

fill the gap left by funding vacancies and provide flexibility in our research and care programs. Sponsoring events and using our beautiful Keep Memory Alive Event Center are additional means of providing income for our clinical and research programs.

This issue of "New Thinking About Thinking" highlights our Cleveland Clinic care and research network, with sites in Las Vegas; Cleveland, Ohio; Lakewood, Ohio; and Weston, Florida. With multiple sites providing care to many and enrolling them in research, we are able to advance new therapies more rapidly.

This issue also highlights our valued colleagues who conduct basic science investigations at the Lerner Research Institute in Cleveland.

The Cleveland Clinic Lou Ruvo Center for Brain Health is in a period of dramatic growth. Our new programs in Parkinson's disease, Huntington's disease and multiple sclerosis, and our new physical therapy programs, are thriving and providing important services to our clients. Our clinical trial program is growing quickly, from six clinical trials in July 2010 to more than 20 today. We are testing new types of treatments for Alzheimer's and Parkinson's disease, as well as new diagnostic approaches using blood tests and brain scans. Trials of multiple sclerosis agents will begin soon.

We will not rest or stop building these programs until we have discovered therapies that cure, prevent or improve the lives of patients with Alzheimer's disease and other brain disorders. We look forward to continuing to work closely with the citizens of Las Vegas and Nevada who support our programs and to identifying new individuals who can join our family of supporters.

What happens in Las Vegas benefits the world. We will be happy to have you join our team.

Jeffrey L. Cummings, MD, ScD
Director, Cleveland Clinic Lou Ruvo Center for Brain Health
The Andrea L. and Joseph Hahn
Chair of Neurotherapeutics
Neurological Institute Cleveland Clinic
Las Vegas, Nevada, Weston, Florida and Cleveland, Ohio

Continuing Medical Education in Nevada

The field of neuroscience is progressing rapidly. Advances in diagnostics, pharmacology and biotechnology are racing to respond to the urgent need for therapies to treat diseases such as Alzheimer's, Parkinson's, multiple sclerosis (MS) and amyotrophic lateral sclerosis (ALS). People are living longer than ever before, and age-related diseases are becoming much more prevalent.

A busy modern family physician requires effective resources to remain current in numerous medical specialties, and the Cleveland Clinic Lou Ruvo Center for Brain Health strives to fulfill that need. On September 17, 2011, the Lou Ruvo Center for Brain Health hosted its first annual Advances in Neurological Therapeutics conference in the Keep Memory Alive Event Center. This regional conference attracted more than 100 physicians, nurses, physical therapists, researchers and other allied health care professionals who came to learn the latest information on diagnostic modalities and therapies for Alzheimer's disease (AD), Parkinson's disease (PD), MS and ALS.

The goal of this annual conference is to update practitioners on cognitive screening techniques and pharmacological and physiological therapies available for these diseases. This will enable them to diagnose a patient as early as possible and begin medication, with the hope of delaying the disease progression. The goal is to maintain wellness long enough to reap the benefits of a more effective treatment or a cure.

Improved insights into early symptoms make this possible. For example, there are numerous nonmotor symptoms that can precede the onset of motor symptoms in PD. One sign is loss of the ability to smell, which occurs in 90 percent of patients. Sleep disturbances, such as rapid eye movement and sleep behavior disorders, can precede the onset of motor symptoms by years. Educated primary care physicians learn to notice these symptoms and signs as possible predictive features of PD and begin therapies.

Similarly, a dementia patient can be accurately diagnosed early when a physician suspects cognitive decline and sends the patient for a cognitive screening or MRI. Early diagnosis of dementia offers many benefits; for example an evaluation for reversible causes of memory loss. If the cause of dementia is progressive, pharmacologic intervention may slow cognitive decline. Early diagnosis also provides time for patients and families to prepare for future care and maximizes a patient's ability to contribute to the care-planning process. This proactive approach is positive for all involved, but it begins with the physician's initial identification of the underlying disease process.

Being a practicing member of the healthcare profession requires frequent and ongoing updates on the most current diagnostics and remedies available. Through its continuing medical education programs, the Lou Ruvo Center for Brain Health endeavors to be instrumental in the professional collaborations that will help the healthcare providers in our region excel in the detection and treatment of neurological diseases.



Introducing Our New PET Projects

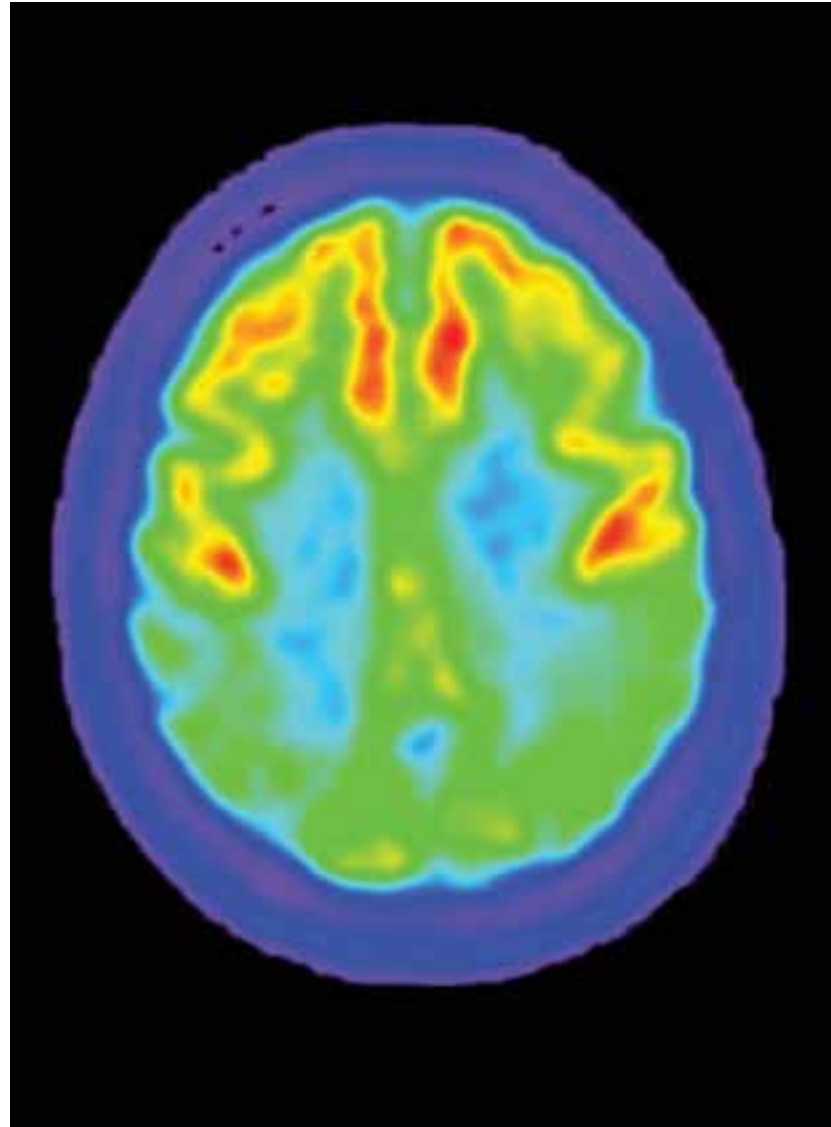
Cleveland Clinic Lou Ruvo Center for Brain Health physicians use an advanced form of magnetic resonance imaging (MRI) technology to visualize the structure of the brain. Changes in structure can assist in diagnosing neurocognitive and movement disorders, and in tracking patients' response to treatment.

Starting in 2012, the physicians will begin using new and exciting technology to visualize brain diseases that gives new clues to brain function. A new positron emission tomography (PET) unit will allow the physicians to see changes in brain function. In Alzheimer's, for example, changes can be seen on PET long before the point at which they affect the structure of the brain and therefore can be detected by MRI. This makes PET ideal for research studies.

"PET opens the door to exciting possibilities by enabling us to visualize changes occurring at the cellular level. The technology will enable us to participate in clinical studies of new compounds with potential for the early diagnosis of Alzheimer's and Parkinson's — something that cannot be done today," says Jeffrey L. Cummings, MD, ScD, internationally renowned Alzheimer's researcher and Director of the Lou Ruvo Center for Brain Health.

"For clinical trials of new medications, the ability to administer these treatments early in the disease process may increase the chance of reversing the disease," he says.

Early diagnosis also enables patients to make lifestyle changes with the potential to delay or slow the disease process and may improve the efficacy of today's medications.



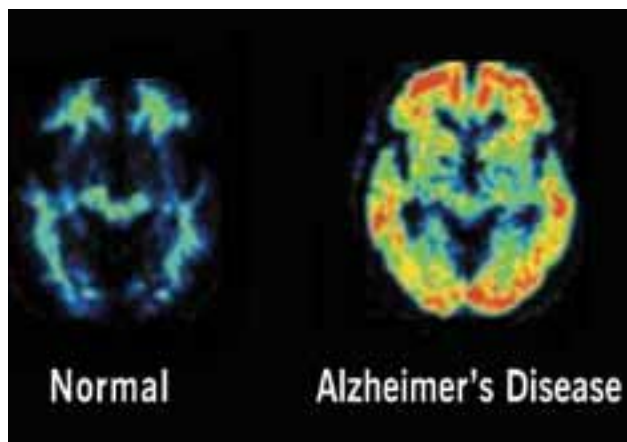
Features

PET in Alzheimer's research

PET scanning utilizes radioactive tracers that are injected into the bloodstream. These harmless, short-lived substances are attracted to specific tissues in the brain. When the brain is scanned, the tracers highlight the tissue.

Alzheimer's specialists at the Lou Ruvo Center for Brain Health will use the new tracer AV-45, which binds to beta-amyloid plaques, the hallmark of Alzheimer's disease. AV-45 reveals plaques in the earliest stages of the disease — plaques that may precede symptoms by many years. This ability may allow a definitive diagnosis of Alzheimer's to be made very early and assist in finding a cure.

“We will be actively recruiting patients for clinical trials of new medications with the potential to slow the progression of the disease,” says Dr. Cummings, noting that their progress will be monitored with PET scans.



PET in Parkinson's research

Lou Ruvo Center for Brain Health Parkinson's specialist Ryan R. Walsh, MD, PhD, is trained in neuroimaging in addition to movement disorders. He is eager to participate in clinical trials of AV-133, a PET tracer that targets dopamine, a key chemical in Parkinson's disease.

Preliminary studies highlight the ability of AV-133 to visualize changes in the brain consistent with Parkinson's disease. The connection may help in diagnosing and tracking disease progression.

“It has become clear that Parkinson's disease has important non-motor features, in addition to the classic movement problems. For example, even early in the disease almost every Parkinson's patient demonstrates impaired performance on cognitive tests involving the frontal cortex, which governs the ability to strategize, create a plan and multitask. I'm interested in knowing why some patients develop more severe cognitive problems than others,” says Dr. Walsh. PET scanning will be essential to studying these problems.

PET scanning with AV-133 may help identify patients at risk for developing more pronounced cognitive impairment. Down the road, similar tests may aid in the process of diagnosing the disease,” Dr. Walsh says.



Redefining Alzheimer's Disease

By Jeffrey L. Cummings, MD, ScD

Alzheimer's disease (AD) has traditionally been defined as a dementia syndrome requiring sufficient cognitive decline to produce impairment of activities of daily living such as shopping, preparing a meal, pursuing one's hobbies and participating in community affairs. This approach means that patients are fairly advanced in their disease before a diagnosis is made.

Alzheimer's dementia is preceded by a five to ten year period of gradually increasing memory impairment that worsens slowly and eventually crosses a threshold of severity where impairment of the patient's daily function is evident. Clearly, the early milder stage is the same disease as the later more severe stage.

Could we diagnosis AD in patients with this milder form of impairment? A challenge to this logical approach is that there are many causes of memory impairment in older adults. Stroke, physical illnesses, depression, stress

and many other conditions can cause memory loss. It is important that these individuals not be diagnosed as having AD when they are suffering from other, sometimes reversible, disorders.

Can we sort out which individuals with memory impairment have AD and which do not? The way out of this conundrum is through our increasingly sophisticated biomarkers such as MRI, amyloid brain scanning, and spinal fluid analysis — all of which are available to our doctors at the Cleveland Clinic Lou Ruvo Center for Brain Health. AD produces characteristic changes on brain scans and spinal fluid analyses even early in the disease before dementia is present. We can now confidently diagnose AD in persons who exhibit mild memory loss and have biomarker features of AD even if they do not have dementia. This is a revolutionary advance that fundamentally redefines AD.

Features

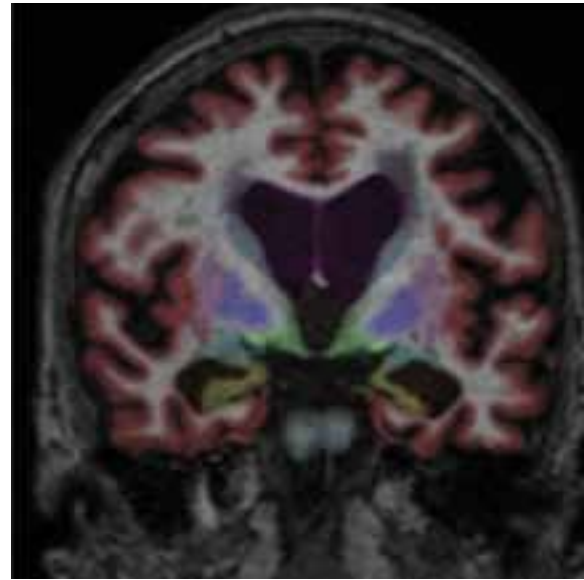
Diagnosis of AD before dementia is present has many important implications for scientists, patients and society.

It dramatically increases the number of persons recognized as having AD. Prevalence figures such as those stating that there are 5.3 million AD victims in the US were based on AD dementia; when the entire spectrum is considered the number will be at least twice that large.

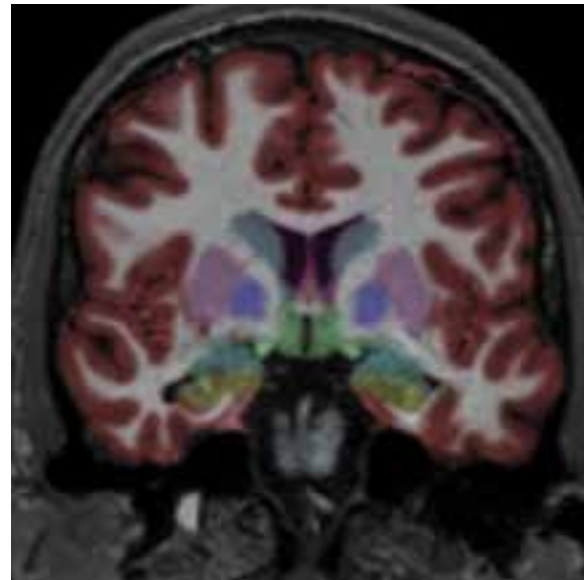
If these new criteria are applied in the clinic, diagnosed individuals might live with the diagnosis much longer than when the diagnosis was applied only after dementia occurred. The psychological and emotional consequences of living with the diagnosis of AD for long periods remain to be determined. Certainly, new resources will be needed to assist these individuals.

Ethical challenges are raised for criteria that facilitate diagnosis of conditions for which there is not treatment. All current AD treatments are approved for AD dementia and none are approved for use in patients with milder forms of AD. Should individuals be diagnosed when they cannot be treated? Patients, doctors, ethicists and others must contribute to this discussion.

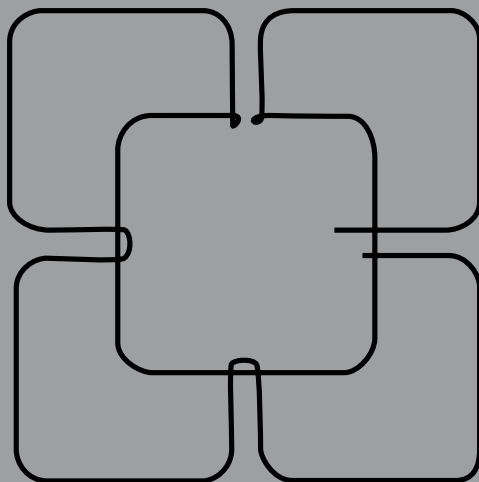
Biomarkers are giving us remarkable power to identify the earliest phases of AD; they are also raising important new questions that must be answered to insure that we are using these new tools to best serve the needs of our patients.



Coronal image of Alzheimer's brain



Coronal image of normal brain



Invest in Your Health

with Cleveland Clinic's Executive Health Program

When life becomes so fast-paced that you overlook your own personal health, you can turn to our preventive medicine specialists. During a comprehensive full-day examination, we give you the tools you need to avoid illness and optimize wellness, even with your busy lifestyle.

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Cleveland Clinic

Every life deserves world class care.

Rhoda Starker | This Busy Senior Won't Let Parkinson's Slow Her Down

At 81, Rhoda Starker is more active than many women half her age. She drives all over town, bowls, cooks gourmet meals and manages a large home.

"I cleaned out the garage the other day," she says.

So in 2007, when symptoms started slowing her down, she was eager to get back on track.

"I had had a back problem for some time, then my feet started getting numb. I thought it was due to my spine, but the neurologist said I had Parkinson's disease," she recalls.

For three years, she coped by taking medications and attending a monthly support group for Parkinson's patients. But she just wasn't herself. One day, the support group leader asked if she could introduce Mrs. Starker to Dr. Charles Bernick at the Cleveland Clinic Lou Ruvo Center for Brain Health.

"She knew I wasn't feeling good, and thought he might be able to help me. He certainly did," says Mrs. Starker, who admits she adores Dr. Bernick.

He changed Mrs. Starker's medication and added an antidepressant. It gave her the physical and emotional strength she needed to continue providing care for her husband, who was dying from kidney failure.

"I watched his diet carefully and cooked for him. I managed to keep him off dialysis for four years. He was 88 when his kidneys went and he passed away. The last year was horrible, but I came through it fine," she recalls.

In August 2011, Dr. Bernick suggested Mrs. Starker see Ryan R. Walsh, MD, PhD, the Lou Ruvo Center for Brain Health's new Parkinson's disease specialist. Dr. Walsh gave the spritely senior a thorough exam and told her he'd like to try an adding one medication.

"I told him I had tried this pill right after I was diagnosed, and it made me sick. But he started me on a low dose and gradually raised it, and I never got sick. In four days, I was a new person," she says.

Mrs. Starker is thrilled with the care she receives at the Lou Ruvo Center for Brain Health. "Dr. Walsh is a special guy, and his nurse, Josie Gatbonton, is so warm and caring. I get the feeling everyone is interested in me as a person, not just a patient," she says.

"I also like the fact that they run on time. When I have an appointment, that's when I'm taken. I've never had to wait more than a couple minutes," she says.

Today, Mrs. Starker describes herself as a slim, good-looking lady who feels much younger than 81. Although she has some numbness in her feet, the pain is gone. Most importantly, she has the energy she needs to visit her family, which is spread across the U.S. and now includes a great-granddaughter. They adore her, and appreciate that she doesn't let Parkinson's slow her down.

"Just because you are old doesn't mean you have to fall apart. You have to do the best you can," she says.



Rhonda Starker visits with Ryan Walsh, MD, PhD



Timothy West, MD and Chris DePersio (R)

Chris DePersio | Man in Motion

By all accounts, Chris DePersio leads a very active life. As Western Regional Training Manager for Southern Wine and Spirits, the 42-year-old Las Vegas resident rotates through 11 states teaching sales and management techniques to company employees. For recreation, he bikes up to 120 miles a week and competes in long-distance races. A former competitive tennis player, he still plays a fine game.

So it may be easy to forget he has multiple sclerosis (MS). "I'm living a perfectly normal life," he says.

A Serious Shock

At the end of 2010, things didn't look so rosy. Mr. DePersio developed an odd sensation on the right side of his torso. His doctor suspected shingles, but medication failed to relieve the symptom, and it proceeded to spread. He was referred to a neurologist, who ordered an MRI of his spine. The scan revealed a nasty surprise — lesions that could indicate MS, but a brain MRI and spinal tap were needed for a definitive diagnosis.

Features

Mr. DePersio was scared. “I wanted a second opinion before I went any further,” he says.

He spoke with his boss, Larry Ruvo, who overnighted the MR scans and a note to Richard Rudick, MD, head of the Mellen Center for Multiple Sclerosis, and Michael Modic, MD, Chairman of the Neurological Institute at Cleveland Clinic in Ohio. The following day, both physicians called Mr. DePersio personally.

“Dr. Modic agreed with my neurologist that a brain MRI and spinal tap were a good idea. Dr. Rudick suggested I forward him the test results or bring them to him in person,” says Mr. DePersio.

Confident he was following the right path, he went ahead with the tests, which confirmed he had the relapse-remitting form of MS. It was almost too much for Mr. DePersio to take.

“The diagnosis was like someone hit me in the gut. I knew about the disease, and the thought of wheelchairs and walkers freaked me out,” he recalls.

He decided to make an appointment to see Dr. Rudick and flew to Cleveland. In no time at all, he was glad he did. The personable Mellen Center staff put him at ease, and Dr. Rudick spent three hours testing him and talking about the disease.

“He spent two hours assessing me before he looked at the scans and doctors' notes that I had brought with me,” Mr. DePersio recalls in amazement.

Dr. Rudick agreed with the neurologist's diagnosis and suggested he start treatment with Avonex, a drug given once weekly to slow the debilitating effects of MS and reduce outbreaks.

Treatment at home

Before the end of the appointment, Dr. Rudick mentioned that an MS specialist name Timothy West, MD, would be joining the Lou Ruvo Center for Brain Health in August. Since that was six months away, Mr. DePersio returned to the care of his local neurologist. As as soon as Dr. West came aboard, Mr. DePersio made an appointment to see him. “He is brilliant and very personable,” he says. Although Avonex caused him to suffer flu-like symptoms

for a month, the side effects disappeared, and he resumed his normal, hectic pace, completing a 103-mile bike ride in October and the National Multiple Sclerosis Society's grueling two-day Bike MS ride on a team with Dr. West, a fellow cyclist, in November.

He also started playing tennis again, and was relieved to find he could move normally and hit the ball well.

“I thought to myself, 'Aha! I'm going to be okay,’” he says, adding that sometimes it's still tough. “What to expect is unknown. But having Rudick and West, the two top MS docs on the planet, on my side gives me a huge sense of security,” he says.



Chris DePersio

Introducing the Newest Additions to our Staff | Gabriel Léger, MD, CM, FRCPC, and Sarah Banks, PhD



Gabriel Léger, MD, CM, FRCPC

“I am extremely excited to be part of an organization that puts such a strong emphasis on patient care and satisfaction, and promotes its integration with clinical research,” said Gabriel Léger, MD, CM, FRCPC, upon joining Cleveland Clinic Lou Ruvo Center for Brain Health in October.

For Dr. Léger, respect for the patient is a top priority. Although his patients might be losing their cognitive abilities, he speaks directly to them. When he needs to speak with the care partner, he might say to the patient, “I apologize, I’m going to speak to your husband/wife now, and we’ll be talking about you in the third person.”

Dr. Léger will play a significant role in the center’s research and treatment of patients suffering from frontotemporal and other atypical, non-Alzheimer’s

dementias. He says, “I look forward to being the principle investigator in trials that may bring new and much needed medications to patients with both Alzheimer’s disease and frontotemporal dementia.”

Dr. Léger notes that the opportunity to work with Jeffrey L. Cummings, MD, ScD, Director of the Lou Ruvo Center for Brain Health, was a big draw to accepting the position. “Dr. Cummings is a leading expert in dementia, but he’s more than that. He’s one of the most insightful and influential people in the field, and a great educator. Since residency, I’ve had the pleasure of reading his articles and books, and attending his lectures at meetings of the American Academy of Neurology. He has the gift of being able to synthesize complex data and educate other neurologists,” he says.

Before coming to the Cleveland Clinic, Dr. Léger, who is also dedicated to medical education, served as Assistant Professor and Director of the Neurology Residency program at the University of Montreal. He completed his training in clinical neurology at the Montreal Neurological Institute, where he also performed research in the imaging of neurodegenerative diseases. He completed the Robert and Linda Mendelson Fellowship in cognitive and behavioral neurology with Marsel Mesulam at the Cognitive Neurology and Alzheimer’s Disease Center of Northwestern University in Chicago.

Dr. Léger remembers that as a child he enjoyed science and working with people. He thought that medicine would be the most compelling combination of these interests. In school, he enjoyed helping his classmates when he arrived at an answer before they did, and has enjoyed numerous opportunities to provide assistance as a swim coach, teaching assistant and, ultimately, as head of the neurology residency program in Montreal.

Today, Dr. Léger is struck by how little of the brain is

understood, and yet how deeply it changes people when it becomes diseased. “A patient can have cancer or a heart problem, and yet they remain fundamentally the person they have always been. This is not the case with neurocognitive disorders,” he says.



Sarah Banks, PhD

Dr. Léger hails from Montreal, while our new neuropsychologist, Sarah Banks, PhD, is from London, England. Dr. Léger and Dr. Banks met at Northwestern University’s Cognitive Neurology and Alzheimer’s Center. Since arriving in Las Vegas in October with their three-year-old son, they have enjoyed settling into their home and visiting The Shark Reef, Springs Preserve and Red Rock Canyon, along with swimming outdoors well into the Fall.

Dr. Banks is a clinical psychologist specializing in neuropsychology. She worked with movement disorders in Oxford, UK, and focused on neurodegenerative disease during graduate work at Northwestern University. After her internship at the University of Chicago, she completed a postdoctoral fellowship at the Montreal Neurological Institute, where she also practiced as a licensed clinical psychologist. Her research includes the investigation of how patients perceive their condition, and using structural and functional neuroimaging to study memory, epilepsy and aging.

Dr. Banks enjoys research and is particularly proud of her study of awareness of symptoms in dementia. “Understanding why some patients deny certain aspects of their condition is important to everything from diagnosis through treatment planning and caregiver interventions,” she says.

Dr. Banks’ research interest in patients’ awareness of their own disease was inspired by her grandmother, who lived in rural Wales and had dementia that was never properly diagnosed. Her grandmother was utterly unaware of her declining cognitive health, which made it difficult for her grandfather to care for her as her dementia progressed, and she became increasingly dependent on him.

When assessing a patient, Dr. Banks is able to understand his or her strengths and weaknesses, as well as discrepancies in cognitive abilities that may explain why the patient has trouble learning new routes around town, but is still comfortable with verbal information such as shopping lists, or remembering what his wife or her husband said that morning. This understanding enables Dr. Banks to offer patients and their caregivers advice that helps them compensate for weaknesses and maximizing strengths.

According to Dr. Banks, the Lou Ruvo Center for Brain Health provided an attractive opportunity to continue her research in an environment that balances research and treatment with patient care and caregiver attention, as we strive for a better understanding of the brain. Dr. Banks has been charged with growing the specialized neuropsychology program, which will encompass state-of-the-art testing of elements that might impact thinking or behavior, in addition to helping patients, their caregivers and their physicians understand the full impact of the disease on patients’ cognitive abilities.

“The Lou Ruvo Center for Brain Health is a world-class center that is still in its infancy. There’s a mandate to incorporate all the newest methodologies to provide cutting edge clinical practice,” says Dr. Banks. “I can take the most salient information from my training and experience, collaborate with my new colleagues in Las Vegas and throughout the Cleveland Clinic network, and strive to create the best possible service for the community and our patients.”

Lou Ruvo Center for Brain Health | A Nationwide Organization

No longer just in Las Vegas, the Cleveland Clinic Lou Ruvo Center for Brain Health is proud to introduce the physicians in our Ohio and Florida locations. Having staff in more locations allows us to provide treatment to more patients closer to home and also attracts clinical trials partners, who appreciate that we are able to speed innovation by recruiting patients in multiple locations under the supervision of one Institutional Review Board. In fact, we are currently the largest site in the country with respect to recruitment for Alzheimer's trials.

Cleveland Clinic Leadership



Delos Cosgrove, MD
CEO, Cleveland Clinic

Delos M. "Toby" Cosgrove, MD presides over a global healthcare system comprising Cleveland Clinic, nine community hospitals, 15 family health and ambulatory surgery centers, Cleveland Clinic Florida, the Lou Ruvo Center for Brain Health in Las Vegas, Nevada, Cleveland Clinic Toronto, and Cleveland Clinic Abu Dhabi. Widely regarded as a leading thinker in healthcare delivery, Dr. Cosgrove's leadership emphasizes patient care and patient experience, including the re-organization of clinical services into patient-centered, organ- and disease-based institutes. He launched major wellness initiatives for patients, employees and communities. Dr. Cosgrove received his medical degree from the University of Virginia School of Medicine and completed his clinical training at Massachusetts General Hospital, Boston Children's Hospital, and Brook General Hospital in London. His undergraduate work was at Williams College.



Michael Modic, MD, FACR
Chairman Neurological Institute,
Cleveland Clinic

Appointed as Chairman of the Neurological Institute in 2006, Dr. Michael T. Modic has served on multiple Editorial Boards of peer reviewed journals. Dr. Modic was President of the Society of Magnetic Resonance in Medicine for the 1992-1993 year and in 1991 was the recipient of the Society Gold Medal. He is co-author of the text "Magnetic Resonance Imaging of the Spine" which is in its second edition and the author/co-author of over 180 peer reviewed articles related to neuroradiology.



Jeffrey Cummings, MD, ScD
Director, Cleveland Clinic Lou
Ruvo Center for Brain Health

Ranked by the Journal of Alzheimer's Disease as the 6th most prolific Alzheimer's researcher, Dr. Jeffrey Cummings is the author of 31 books and 600 peer-reviewed articles. He is a respected clinician, a neuroscientist with expertise in clinical trials and drug development, and a forward-thinking strategist concerning how to deliver optimum care to the growing number of patients with neurodegenerative disorders. He has expertise in clinical trial design and analysis, global trial implementation, and trial outcome measures, and has been recognized with the Alzheimer's Association Research Award and the AAGP distinguished scientist. Dr. Cummings was featured as a "Rock Star of Science" in *Gentleman's Quarterly*, *Vogue* and *Vanity Fair*.

Cleveland, Ohio



Brian Appleby, MD
Neurologist, Lou Ruvo
Center for Brain Health

Dr. Appleby received his MD from Georgetown University and completed a psychiatry residency and geriatric psychiatry fellowship at The Johns Hopkins Hospital. As Assistant Professor at Johns Hopkins, he founded/directed its Creutzfeldt-Jakob Disease Program and co-directed the Frontotemporal Dementia and Young-Onset Dementias Clinic. He is a member of the FDA Transmissible Spongiform Encephalopathy Advisory Committee and serves on the Board of Directors for the CJD Foundation and Friends/Advisors Group of the International CJD Support Alliance.

Hubert Fernandez, MD



Head of Movement
Disorders Section, Center for
Neurological Restoration

Dr Fernandez completed his internship in internal medicine at University of Pennsylvania, his residency in neurology at Boston University Medical Center, and his fellowship in movement disorders at Brown University. Dr Fernandez is an internationally recognized expert in movement disorders who has been voted one of the best doctors in America by his peers and who has directed nearly two dozen clinical trials. He has served as Assistant Professor of the Department of Clinical Neurosciences at Brown University School of Medicine. At the University of Florida, he was Director of the Clinical Research Unit for Neurological and Psychiatric Disorders, Vice Chair of Academic Affairs, and Professor of Neurology prior to joining Cleveland Clinic. He is the Medical Editor of the Movement Disorder Society Website.



Aaron Bonner-Jackson, PhD
Staff Neuropsychologist, Lou
Ruvo Center for Brain Health

Dr. Bonner-Jackson joined the staff at the Cleveland Clinic in the fall of 2011 after completing a 2-year post-doctoral fellowship in Clinical Neuropsychology at the Warren Alpert Medical School of Brown University and Rhode Island Hospital. Prior to that, he earned his PhD at Washington University in St. Louis and completed a one-year clinical internship at the University of Illinois at Chicago. He also holds a BA in psychology from Oberlin College. He has published scientific papers on a number of topics, including schizophrenia, functional neuroimaging and Alzheimer's disease.



**Richard Naugle,
PhD, ABPP**
Head, Section of
Neuropsychology,
Neurological Institute

Dr. Richard Naugle obtained his doctoral degree from the University of Texas at Austin in 1985. He joined the staff of the Cleveland Clinic in 1987 and was appointed to head the Section of Neuropsychology in 2001. He has contributed to multiple manuscripts, chapters and presentations at national and international meetings and has co-authored a text on diagnostic clinical neuropsychology. He has also been an active member of Cleveland Clinic's Institutional Review Board, which protects the rights and welfare of research subjects by reviewing and monitoring biomedical and behavioral research involving humans.



Michael Parsons, PhD, ABPP

Neuropsychologist, Lou Ruvo Center for Brain Health

Dr. Michael Parsons is a board certified neuropsychologist with

broad-ranging expertise. He received his undergraduate degree from University of Virginia, his doctorate at University of Texas, Austin and completed internships and residencies at University of Florida and Medical College of Wisconsin. In addition to providing clinical neuropsychology services, he has developed programs for clinical and research applications of functional brain imaging for patients with brain tumors, brain injury, MS and other neurologic conditions.



Alex Rae-Grant, MD, FRCP(C)

Neurologist, Lou Ruvo Center for Brain Health Jane and Lee Seidman Chair for Advanced Neurological Education Clinical Associate

Professor, Cleveland Clinic Lerner College of Medicine of Case Western Reserve University

Alex Rae-Grant is a neurologist at the Cleveland Clinic and holds the Jane and Lee Seidman Chair for Advanced Neurological Education at the Cleveland Clinic. He was named Teacher of the Year in 2009 by the neurology residency program at the Cleveland Clinic. He is board certified in Neurology in the US and Canada and has written many textbooks in neurology. He co-directs the neurology clerkship at the Cleveland Clinic. His special interests include dementia and multiple sclerosis.



Jagan Pillai, MD, PhD
Neurologist, Lou Ruvo Center for Brain Health

Dr. Jagan Pillai trained as a medical doctor at the University of Kerala, Trivandrum, India. Subsequently, he obtained a PhD from Northwestern University in Evanston, IL. He undertook training in clinical neurology at

Albert Einstein College of Medicine, Bronx, NY from 2005-2009. At the University of California San Diego from 2009-2011, Dr. Pillai developed clinical research in dementia and Huntington's disease. He now works to develop treatment strategies for people with cognitive difficulties resulting from neurological disorders.



Stephen Rao, PhD

Ralph and Luci Schey Chair & Director, Schey Center for Cognitive Neuroimaging
Professor, Cleveland Clinic Lerner College of Medicine

Dr. Stephen M. Rao has authored over 135 scientific papers/book chapters and edited four books. His current research areas involve the application of advanced neuroimaging techniques to persons with Alzheimer's and Huntington's diseases, traumatic brain injury and multiple sclerosis. Dr. Rao's lab is supported by \$2.4 million annually in grants from the National Institutes of Health, US Department of Defense and private foundations. His research has been featured in national lay publications (Time, Newsweek, Discover). Dr. Rao is Editor-in-Chief of Neuropsychology and a Past President of the International Neuropsychological Society.



Patrick Sweeney MD, FACP, FAAN
Neurologist, Department of Neurology and Lou Ruvo Center for Brain Health

Dr. Patrick Sweeney graduated from the University of Buffalo school

of Medicine. He completed a medical internship and residency and then a neurology residency at the University in Buffalo as well as at Case Western Reserve University. This was followed by a fellowship in Neuro-Ophthalmology at the University of California in San Francisco. Dr. Sweeney joined the Neurology Department at Cleveland Clinic in 1973, and was the Neurology Residency Program Director for 11 years. He is particularly interested in Parkinson's Disease, tremor and dementia.

Weston, Florida



Po-Heng Tsai, MD
Neurologist, Department of Neurology, Section of Behavioral and Cognitive Neurology, Lou Ruvo Center for Brain Health

Dr. Tsai received his undergraduate degree

in Biology from Brown University and obtained his medical degree at Tufts University. He then completed his Neurology Residency and Behavioral Neurology Fellowship at University of California, Los Angeles. He is board certified in neurology with additional certification in Behavioral Neurology & Neuropsychiatry from the United Council for Neurologic Subspecialties. He has served as co-investigator in clinical trials involving patients with Alzheimer's disease, frontotemporal dementia and traumatic brain injury.

Lakewood, Ohio



Babak Tousi MD, FACP
Medical Director, Cleveland Clinic Seniorcare Assessment Program at Lakewood Hospital

His professional zeal was shaped by his Cleveland Clinic training, which

included fellowships in Geriatrics Medicine and Movement disorders. He is Medical Director of Seniorcare Assessment at Lakewood hospital and a recipient of distinguished medical director award. He is a member of the scientific advisory board of Alzheimer's Association in Cleveland. He embraced his opportunity to serve on the medical school faculty to share his experience with students and joined the Lou Ruvo Center for Brain Health to facilitate patients' participation in clinical trials at the Lakewood program.

Study to Help Determine Whether Alzheimer's Disease Progression Can Be Slowed by Changes in Lifestyle



Stephen Rao, PhD

“We now know that brain changes causing Alzheimer's begin as much as a decade before symptoms such as memory loss emerge. Today, the emphasis in Alzheimer's research is to identify accurate measures, called biomarkers, to detect these preclinical brain changes and to use these biomarkers to test the efficacy of novel treatments designed to slow or prevent disease progression” says Cleveland Clinic researcher Stephen Rao, PhD. It is one thing Dr. Rao and his team of physicians and researchers from Cleveland Clinic Lou Ruvo Center for Brain Health are doing to investigate opportunities to slow or prevent the progression of the disease.

One possible biomarker is functional magnetic resonance imaging (fMRI). This technique allows researchers to view activity of the brain as a person performs a task. Dr. Rao has applied this technique to examine the parts of the brain involved in memory. He has participants perform a memory task that involves deciding whether a presented name is that of a famous person (such as Frank Sinatra) or an unfamiliar person.

He has found that cognitively normal seniors at genetic risk for Alzheimer's disease demonstrate greater brain activity than persons not at risk for the disease. The increased activity may be necessary to compensate for early brain changes associated with Alzheimer's disease. Dr. Rao and his colleagues have shown that this increased brain activity can be used to predict who later develops cognitive decline.

Study on preventive measures

Prior to joining Cleveland Clinic in 2007, Dr. Rao used the functional MRI biomarker to examine the role of physical activity on brain activation. Results from this study indicated that persons with the gene marker apolipoproteinE-e4 (APOE-e4), a risk factor for Alzheimer's, had different patterns of brain activity depending on whether they were engaged in regular physical exercise or were relatively inactive.

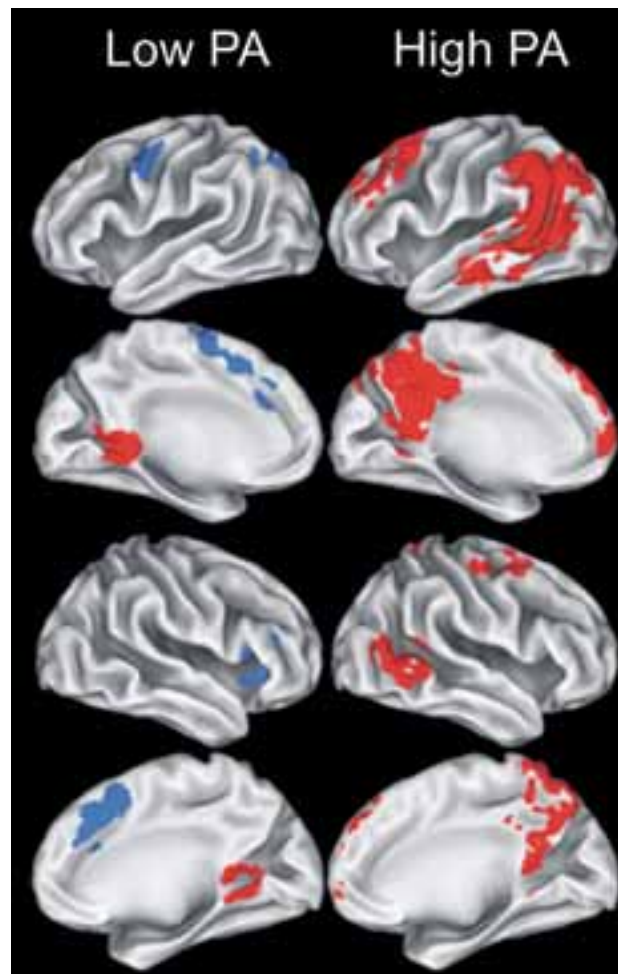
Physically active persons at risk for Alzheimer's exhibited a greater degree of brain activity (shown in red in the figure). Greater activity has been shown to protect against future cognitive decline in cognitively normal older adults. More recently, Dr. Rao showed that exercise produced a positive benefit on brain activity in persons with mild cognitive impairment, a condition that usually precedes Alzheimer's disease.

"In addition to physical exercise, other lifestyle factors, such as engaging in cognitively stimulating activities, may also be protective against the effects of Alzheimer's," says Dr. Rao. "We know that persons who continue to read, go to concerts, attend museums, play musical instruments and do crossword puzzles, to name a few, are less likely to develop the symptoms of Alzheimer's disease than people who stop participating in these cognitively enriching activities."

Effect of exercise and cognitive stimulation on brain activity

Dr. Rao and his team are currently conducting a National Institute on Aging-funded clinical trial comparing the effects of physical exercise and cognitive stimulation on brain activity. In this trial, one group is exercising, one is doing cognitive training using a computerized program, and a third group is doing both. All participants are sedentary, at least 60 years old and with a family history of Alzheimer's. The goal is to determine whether either or both of these lifestyle interventions can delay the onset of Alzheimer's.

"If we can delay the onset by five years, we can cut the number of people diagnosed with Alzheimer's by about 50 percent. If we can delay onset by 10 years, we can cut this figure by 85 percent and, in so doing, virtually eliminate this major health problem," says Dr. Rao.



Physically active persons at risk for Alzheimer's exhibited a greater degree of brain activity (shown in red)



Hubert H. Fernandez, MD, Parkinson's Pioneer

Cleveland Clinic's program for Parkinson's disease and other movement disorders is one of the most advanced in the world today. Thanks to Hubert Fernandez, MD, Head of the Movement Disorders Section at the Cleveland Clinic's Center for Neurological Restoration (CNR), its benefits are now available to patients at the Lou Ruvo Center for Brain Health. Dr. Fernandez will work closely with Ryan Walsh, MD, PhD, head of the Movement Disorders Program at the Lou Ruvo Center for Brain Health.

Dr. Fernandez is designing a program that will bring patient care, clinical trials and education of movement disorders specialists under a single organizational umbrella. And he is well qualified for the task. A world-renowned expert in movement disorders, Dr. Fernandez has authored or edited six textbooks and more than 40 book chapters, published more than 185 research papers in peer-reviewed journals and made more than 424 presentations at national and international conferences.

His scientific contributions have changed how psychosis in Parkinson's disease is treated.

"I am proud of our clinical trials program, our multidisciplinary approach to clinical care and surgery and the comprehensive fellowship and research fellowships we offer in movement disorders. I want to spread these programs throughout the Cleveland Clinic system," he says.

He is so passionate about his mission that he flies from Cleveland to Las Vegas once a month to spend one intensive day working out details with Lou Ruvo Center for Brain Health staff and administrators, and developing collaborative programs with Dr. Walsh. He spends a second day a month coordinating the program at Cleveland Clinic Florida in Weston, a suburb of Fort Lauderdale.

"My main goal is to create a system-wide offering of deep brain stimulation (DBS) to enable more patients to take advantage of this breakthrough therapy," he says.

DBS: Three letters that change lives

At the heart of the Movement Disorders Program is DBS, a procedure in which neurosurgeons implant a type of pacemaker called a neurostimulator deep in the brain. When activated, it blocks the signals that cause such symptoms as tremor, rigidity and slowed movement, substantially alleviating these symptoms in most patients.

"DBS is the biggest advance in Parkinson's and movement disorders since levodopa was discovered in 1969. It dramatically changes patients' lives," says Dr. Fernandez. Cleveland Clinic is one of only a few centers in the country performing a high volume of this procedure, with highly successful results. Andre Machado, MD, PhD and Milind Deogaonkar, MD are at the forefront of this work.

Spreading the Wealth

At the Lou Ruvo Center for Brain Health, Dr. Fernandez is working closely with Dr. Walsh to create a uniform system for providing DBS to Las Vegas patients. Preoperative assessment of appropriateness for the procedure will be done by Dr. Walsh in Las Vegas.

Patients who are candidates for DBS and who prefer to have their surgery done in Cleveland will travel there for additional testing in a two-day period, followed by the surgery. After the patients return to Las Vegas, Dr. Walsh will activate the neurostimulator and program the stimulator to obtain optimal results. Patients who have surgery performed in Las Vegas will also be followed by Dr. Walsh.

Dr. Fernandez is excited about the promise that this DBS program holds for patients with Parkinson's disease and essential tremor residing in the western U.S.

"The DBS procedure is so complicated that the best results are attained by a multidisciplinary team that is used to working together. A single electronic medical record system facilitates communication and enables the process to proceed more quickly," he explains.

"Cleveland Clinic is a unique place in the world, where patient care, teamwork, and innovation are not only valued, but are truly taken to the highest level. In the case of DBS, it helps make us successful," he says.

Quadrupling Efforts to Speed Drugs to Market | Cleveland Clinic Lou Ruvo Center for Brain Health Conducts Clinical Trials in Four Locations



Las Vegas, Nevada

Without clinical trials, there can be no new treatments or cures. Clinical trials provide the only type of information acceptable to the U.S. Food & Drug Administration to determine whether a drug works and is sufficiently safe to be made widely available.

To invigorate the drug-discovery process, the Cleveland Clinic Lou Ruvo Center for Brain Health has quadrupled its efforts to create an innovative, multi-site clinical trial program that extends beyond the Gehry building in Las Vegas, to Cleveland Clinic sites in Weston, Florida; Cleveland, Ohio and Lakewood, Ohio. This ambitious arrangement merges with the organization's equally ambitious objective to find preventions and therapies for neurodegenerative diseases.

The most important factor determining the success of a clinical trial is having a sufficient number of patients. In this regard, multiple sites provide a definite advantage. According to Kate Zhong, MD, Senior Director of Clinic Research Development at the Lou Ruvo Center for Brain

Health, recruiting trial volunteers can be difficult. "First they have to have the specific disease state for the trial drug being targeted. For example, volunteers can't be too mild or too far along in their dementia," she explains. "In addition, there are certain medications that are excluded, and by the time we see them here at the Lou Ruvo Center for Brain Health, they often have already been prescribed medications."

Having a broad pool of participants from which to recruit enhances the likelihood of conducting a successful clinical drug trial. The Lou Ruvo Center for Brain Health can recruit more patients faster, because each location has its own staff.

As a single integrated organization, the sites collect and record data using standardized procedures. Cleveland Clinic holds high standards, and all research staff are trained through a rigorous series of educational conferences, teleconferences and internal online instruction.



Sponsors also enjoy the benefits of multiple sites in one research organization. These benefits include a single location for monitoring data; a single Institutional Review Board that evaluates the sponsor's research protocol and patient protections; and a single organization with which contracts are negotiated. In an atmosphere that is often rife with regulation and details, dealing with one organization that can streamline the process of clinical drug trials can be a welcome respite from multicenter disparities.

"All these factors play a role in expedited enrollments, quality data capture and, ultimately, conducting an accurate and informative clinical trial so the sponsors can move on to the next phase of their research," says Dr. Zhong.

The AclarusDx Trial

The Lou Ruvo Center for Brain Health research team is currently recruiting patients for a clinical trial that seeks to determine whether a blood test called AclarusDx can positively identify the presence of Alzheimer's disease (AD). The trial will take place at three Cleveland Clinic sites: Las Vegas, Cleveland Clinic Main Campus and at Lakewood Hospital. A total of 160 new patients with memory impairment are being enrolled in the study.

According to Dr. Zhong, this diagnostic test promises to be a less-invasive and less-expensive method for establishing whether Alzheimer's disease is present. Currently, AD diagnosis is based on psychometric tests, behavior evaluations, and brain imaging, and must be conducted after the onset of the disease. An accurate and reliable diagnostic tool that allows early diagnosis is essential to improving patient management and therapeutic treatments.



Cleveland Clinic, Cleveland, Ohio

"Knowing that 5.4 million Americans are living with AD and that it costs \$183 billion per year, significant efforts must be made to identify AD at its very early stages to improve the management of the disease," said Loïc Maurel, MD, President of the Management Board of Exonhit, the company sponsoring AclarusDx. "Our ultimate goal is to define the clinical utility of AclarusDx so that we may provide primary care physicians with a diagnostic tool that will help them identify patients at high risk of having AD and prescribe a complete diagnostic workup." Cleveland Clinic Lou Ruvo Center for Brain Health is the only site in the United States conducting this trial. Dr. Zhong states Exonhit is one of several research sponsors based outside of the United States with whom the Lou Ruvo Center for Brain Health will collaborate.



Cleveland Clinic, Florida



Building The Foundation for a Cure | From Basic Research to Patient Treatment

Lerner Research Institute

The various Alzheimer medications offered in clinical studies at the Cleveland Clinic Lou Ruvo Center for Brain Health were developed through an arduous scientific process that started in laboratories like those found in the Lerner Research Institute on Cleveland Clinic's main campus in Cleveland, Ohio. Such basic research works to better understand a disease or the way in which a body responds to it. This type of research provides the foundation for the development of drugs that are eventually tested in human clinical trials.

At the Lerner Institute, three teams of research scientists led by Bruce Lamb, PhD, Sanjay Pimplikar, PhD, and Riqiang Yan, PhD, are following different paths toward the same goal: unlocking the mysteries of Alzheimer's disease.

Dr. Lamb's lab is trying to understand how Alzheimer's begins and progresses by studying change in the brains

of genetically engineered mice. Dr. Pimplikar and his colleagues are pursuing a rarely studied protein that appears to play a role in the disease. Dr. Yan's group has identified proteins that may be directly involved in damaging nerve endings, causing them to malfunction.

Findings from any of these labs may hold the key to developing more effective treatments and, ultimately, a cure.

The Immune Connection

Until recently, Alzheimer's research was focused on the nervous system. Today, recent evidence from genetic studies that connects Alzheimer's disease to the immune system is leading research in a new direction.

"It appears there is no single Alzheimer's gene, but rather many genes that increase or decrease risk, and some of these are expressed in the immune system,"

Spotlight on Brain Health | National Network

says Dr. Lamb. “This suggests that disease mechanisms might be different than we thought. We might be able to use these genes as diagnostic markers for the disease, and we will need to develop therapies that manipulate the immune system.”

One pathway being explored involves fractalkine, a protein that allows immune cells and nerve cells to communicate. “If we can identify compounds that modify the fractalkine pathway, we might be able to lessen the severity of brain diseases, or perhaps block Alzheimer’s from developing altogether,” says Dr. Lamb.

From Molecules to Minds | Cleveland Clinic Lou Ruvo Center for Brain Health

Jeffrey L. Cummings, MD, ScD, Director of the Lou Ruvo Center for Brain Health and one of the world’s most prolific Alzheimer’s researchers, is excited by the potential impact of developments in Cleveland Clinic’s Alzheimer’s laboratories.

Ultimately, agents tested in animals must eventually prove value in humans suffering from neurological disease. He wants to see the findings from basic research translated into useful medications quickly. To achieve this, he is seeking funding to establish an academic research organization that would enable the Lou Ruvo Center for Brain Health to coordinate clinical trials in Alzheimer’s disease, Parkinson’s disease and multiple sclerosis for the entire Cleveland Clinic health system. The arrangement would enhance the ability to make viable drugs available to the public more quickly.

“The clinical trial process is painfully slow, and we need medications to improve the quality of life for our patients now,” says Dr. Cummings. “By serving as a center for clinical research, we can obtain results faster and have a larger voice in drug development,” he says. “In addition to bringing sorely needed therapeutics to market, we can help companies decide more quickly and accurately which drugs to advance or not.”

The implications are both staggering and thrilling. “There are many overlaps, parallels and connections among neurological diseases. Every neurological disease treated at the Lou Ruvo Center for Brain Health is associated with an abnormal protein. This tells us that if we can understand protein processing abnormalities, we can develop drugs or treatment strategies with widespread impact across all areas,” he says.



Bruce Lamb, PhD, Alzheimer's Scientist and Advocate

Bruce Lamb, PhD, leads one of three teams of Cleveland Clinic scientists working to uncover the basic mechanisms behind Alzheimer's disease. But his other job — that of tireless advocate for Alzheimer's research — is equally important.

“I became involved in advocacy for Alzheimer's disease because of the importance of research in developing treatments that can stop the disease,” he says.

In 2010, with the support of the Alzheimer's Association, Dr. Lamb organized 55 researchers and others impacted by the disease to make a 4,500-mile bike ride across the country, during which they collected 110,000 signatures supporting the Breakthrough Act. This legislation would allocate \$2 billion a year to further Alzheimer's research and develop an infrastructure to deal with the impending epidemic of the disease. Although Congress has yet to act on the bill, the National Alzheimer's Association recognized Dr. Lamb's seminal role by bestowing on him their National Civic Award.

He continues to fight for this bill and another one, known as the Hope Act. The latter would increase support to communities and caregivers for the day-to-day realities of dealing with the disease.

But one important project Dr. Lamb pushed for was signed into law on January 4, 2011. The National Alzheimer's Project Act (NAPA) funds an office within the Department of Health and Human Services that will coordinate all national efforts in Alzheimer's research and clinical care, as well as institutional, home- and community-based programs. A major victory for the Alzheimer's community, it is the first legislation ever passed in support of this disease.

As Dr. Lamb sees it, there's a long way to go.

“We have not yet achieved what we want, and that's increased funding for research. It's about perseverance. You have to look through a long scope, get people behind you and keep plugging away,” he says. “We will continue to have a loud voice.”



Senator Mark Warner (left) presents the National Civic Award to Bruce Lamb, MD, at the Alzheimer's Association National Gala in April 2011



Bruce Lamb, MD, (right) received the prestigious Zaven Khachaturian Award for Research Excellence from Ronald C. Petersen, MD, PhD, at the Alzheimer's Association International Conference in Paris, France, in July 2011. This lifetime achievement award recognizes individuals whose selfless dedication and extraordinary achievement have significantly advanced the field of Alzheimer's science.

Gift Planning to Support Cleveland Clinic Lou Ruvo Center for Brain Health

Charitable Remainder Trust

As a certified registered nurse-anesthetist, Ellen Boyer of Laughlin, Nevada, has an abiding professional interest in medical issues. However, her support of research at Cleveland Clinic Lou Ruvo Center for Brain Health in Las Vegas is mostly personal.

Ms. Boyer, 62, has kept up on Cleveland Clinic's work in heart disease since she was in her 20s but only recently learned about the Lou Ruvo Center for Brain Health through reading Las Vegas newspapers. She has decided to support the center's work with a gift in memory of her parents, Dora and Albert Boyer, through IRAs held in a charitable remainder trust (CRT).

"Forty years ago, they didn't know what they do now about the heart," she says. "Forty years from now, who knows what Cleveland Clinic will do with brain disorders?"

Supporting the Lou Ruvo Center for Brain Health while meeting your charitable and financial goals

The Cleveland Clinic Lou Ruvo Center for Brain Health depends on the generosity of individuals, families, corporations and foundations to ensure its continued excellence in patient care, medical research, family social services and education. Integrating clinical care and research with caregiving services and educational opportunities sparks innovation and groundbreaking work.

By supporting the Lou Ruvo Center for Brain Health with a planned gift, you make an investment with long-lasting benefits for you, your family, and other loved ones.

What it is |

A Charitable Remainder Trust

A charitable remainder trust (CRT) generally is used when there are multiple beneficiaries. A CRT can provide income to you, you and your spouse, or you, your spouse and your children for life or for a term of years, in exchange for a gift. The payment can be fixed (annuity trust) or variable, based on the year-end market value of the trust (unitrust). Additionally, you will receive an immediate income tax charitable deduction.

"Being in medicine, I am very much aware of the impact of cognitive disorders. I want some of my hard-earned dollars to go toward that research."

– Ellen Boyer, Certified Registered Nurse-Anesthetist, Laughlin, Nevada





**What it is |
Pyramid Legacy Society**

By establishing a planned gift to support the Lou Ruvo Center for Brain Health, you can become a member of Cleveland Clinic's Pyramid Legacy Society. Pyramid was established in 1992 to honor and show appreciation to friends, patients, alumni and supporters worldwide whose help is the foundation on which Cleveland Clinic builds its legacy of superior healthcare. For more information, please complete and return the reply card. A member of Cleveland Clinic's gift planning team would be happy to assist you.

Recognizing a Lifetime of Achievement

Jeffrey L. Cummings, MD, ScD, Director, Cleveland Clinic Lou Ruvo Center for Brain Health, has spent a lifetime caring for patients and serving his peers who frequently refer their most challenging cases, relying on him as a final common pathway. Scholars travel from abroad to study with him and he leads peer committees to develop new diagnostic criteria for Alzheimer's, authoring books on that topic as well as the dementia of Parkinson's disease, dementia with Lewy bodies and frontotemporal degeneration. Patient care is a passion as he integrates patient assessment and treatment with scientific and administrative duties.



Honoree Jeffrey Cummings, MD, ScD, with wife Kate Zhong, MD

On September 20, Dr. Cummings' body of work was recognized by *VEGASInc* with top honors in the "Lifetime Achievement" category of the magazine's 2011 Healthcare Headliner awards. Just some of his accomplishments include:

- Recognition by the *Journal of Alzheimer's Disease* as the 6th most prolific researcher of the disease worldwide over a 20-year period
- Principal architect of our contemporary understanding of the behavioral aspects of Alzheimer's and developer of The Neuropsychiatric Inventory (NPI), which is now included in epidemiological and clinical studies around the world and is available in more than 40 languages
- The Henderson Award of the American Geriatrics Society (2006)
- The Research Award of the John Douglas French Alzheimer's Research Foundation (2008)
- The Ronald and Nancy Reagan Research Award of the national Alzheimer's Association (2008)
- Recognition as a "Rockstar of Science" in *Gentleman's Quarterly* (June 2009), *Vogue* (September 2009) and *Vanity Fair* (September 2009)
- Past president of the Behavioral Neurology Society and of the American Neuropsychiatric Association
- Author or editor of 35 books and over 600 peer-reviewed papers



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Ralph Denton tests his balance in the garden

Regaining Independence

“Marrying Sara 62 years ago is the smartest thing I’ve ever done,” exclaims Ralph Denton, 86, looking fondly across the table at his wife.

Regrettably, on December 27, 2008, he didn’t heed his wife’s advice that he wait in the car until she was able to go inside and turn on the front porch light. Instead, he marched up the front stairs of their home, slipped on a patch of ice and landed on his back at the bottom of the stairs. After a visit to the emergency room to triage the gaping hole in his head, he spent three days in the hospital, followed by time in rehabilitation.

For two-and-a-half years after that fateful night, Mr. Denton was dependent on a walker to assist with his

balance. A physician friend of the Denton’s son, Scott, himself a pediatrician, recommended he take his dad to Cleveland Clinic. “They’re the best,” he said.

Mrs. Denton clearly remembers their first appointment with Ryan R. Walsh, MD, PhD, at Cleveland Clinic Lou Ruvo Center for Brain Health on July 27, 2011. “Ralph was very impressed with Dr. Walsh, who conducted the most thorough exam he’s had since his fall,” she says.

Dr. Walsh, Head of the Parkinson’s Disease and Movement Disorders Program, recommended his patient undergo physical therapy at the Lou Ruvo Center for Brain Health’s new facility, the E. L. Wiegand Neurorehabilitation Clinic. After only six weeks of therapy, Mr. Denton was able to

Investing in Brain Health

give up his walker in favor of a cane. Today, he can rise unassisted from a seated position, thus relieving the burden from his wife.

Another effect of the 2008 fall had been an orthostatic tremor, which evolved into Parkinson's. But the tremor has disappeared since Mr. Denton has been engaged in therapy at the Lou Ruvo Center for Brain Health.

"Christy Ross, the physical therapist at Cleveland Clinic, gives him a rigorous workout. She doesn't let up. If he says 'I'm tired,' she says, 'You can do it,' and she pushes him harder," says Mrs. Denton.

Yet the physical therapy sessions are easier for her, since they take less time from her day.

"What I find remarkable about the Lou Ruvo Center for Brain Health is that everyone — the doctors, the physical therapists — start on time. Not so long ago, I went to a doctor elsewhere and sat for two hours before he waited on me," she says.

Mr. Denton is faithfully doing his part to regain his independence.. "I do my homework 30 minutes every day. I walk. I do my biking, my stretching," he smiles. "And I listen to Sara."

Christy Ross PT, DPT, guides Ralph Denton's ride



Supporting Excellence | E. L. Wiegand Foundation Funds New Physical Therapy Center

“We do not fund need: We support excellence,” says Kristen Avansino, President and Executive Director of the Reno, Nevada-based E. L. Wiegand Foundation. “Collaboration is so important, as is knowing that outcomes are not shelved in an obscure drawer in Las Vegas, but shared. In Cleveland Clinic, the Wiegand Foundation has found a perfect partner, because we, too, are obsessed with outcomes.”

According to Mrs. Avansino, the E. L. Wiegand Foundation had its eye on the Lou Ruvo Center for Brain Health long before the Foundation was approached for a grant. “Within the Ruvo Center, and certainly at Cleveland Clinic, there has always been a goal of protecting and amplifying a sense of human dignity, be it in an interaction between two people or a search for the right exercise protocol that will improve a patient’s quality of life,” she says.

Role Model Behavior

Steeped in tradition, yet futuristic in thought and deed, since 1981 the E. L. Wiegand Foundation has been providing grants to support education, medical research, civic and community affairs, art and cultural affairs and public affairs.

A new rehabilitation facility at the Lou Ruvo Center for Brain Health in Las Vegas resonated with the Foundation, which views its grant as establishing the physical space that Mrs. Avansino is confident “will be melded with expert personnel and attention to medical protocols and controls, and all of which will be fueled by a passion and a professionalism by everyone involved.”

The Foundation enjoys playing the role of catalyst. As Mrs. Avansino explains, “We hope that this grant will have a very long afterlife, so that in our small, humble manner, we can create with you a template that will ignite philanthropy in others and build an army to model these best practices.”



Rehabilitation Therapy for Neurocognitive Disorders, Movement Disorders and Multiple Sclerosis



It's the job of Frederick Frost, MD, as Interim Chairman of Physical Medicine and Rehabilitation, to encourage all 687 therapists in the Cleveland Clinic system, including those at the Lou Ruvo Center for Brain Health, to utilize the consolidated educational and electronic information systems that extend throughout the enterprise. "Coordination helps ensure quality control. Patients get the same care in Brunswick, Ohio, and Las Vegas, Nevada, as they do in Cleveland," he says.

Consistency enables information to be collected through the Cleveland Clinic's electronic medical records system, and the outcomes analyzed to determine which therapy protocols are most effective. The ongoing emphasis on quality supports Cleveland Clinic's system of disease-based programs, which allocates therapy teams to specific disease groups.

"This ensures patients are placed with the right type of therapist the first time and treated with programming proven to have the highest likelihood of success," says Dr. Frost.

Beyond hip replacement

The role of rehabilitation therapy in Alzheimer's, Parkinson's and multiple sclerosis is not widely appreciated by the general public. With the vast majority of physical therapy programs focusing on orthopedic physical therapy — treating patients after hip replacement or a sports injury, for example — few people are even aware the subspecialty of neurological rehabilitation exists. Once they have seen what neurological therapy can do, however, its value becomes clear.

"Patients want more than pills. Rehabilitative therapy is a critical component of treating neurocognitive disorders by addressing family and social settings. It's really an art — a rare skill we have been able to transplant from Cleveland to Las Vegas," says Dr. Frost. "It focuses on keeping people in the community and in their homes as long as possible."

Physical therapists in the Lou Ruvo Center for Brain Health's new E. L. Wiegand Neurorehabilitation Clinic address their patients' physical restrictions, such as mobility deficits, walking deficits and balance problems, by providing custom-designed exercise programs. Therapy starts at the clinic and continues at home. A significant part of the therapists' job is to teach patients and their caregivers home exercises to reduce the risk of fall-related injury.

"The exercises improve confidence, balance and mobility, and give patients the ability to remain active in the community," says Dr. Frost.

Sandy Vannozzi exercises with Christy Ross, PT, DPT (R)





Mark James

Profile in Philanthropy | Moving Toward Innovation

“All my memories of my dad are great,” says Mark James. “He was at every track meet, every football game, and every speech contest. He’d take us hiking during the day and tell us stories at night. He was always doing something. When I was a legislator, he’d come and follow that. He was a very good father.”

A star football player and track and field athlete in high school and college, Mark’s father, John W. James, had gone for a run nearly every day of his life. Mark remembers suggesting that his father go to the doctor to

see whether there was any reason why he’d been tripping recently during his routine runs. John called his son with the verdict: “They think I have Parkinson’s disease. I’m just going to seek treatment for it and live with it.”

The first member of his family to attend college, John was used to living with challenging situations and creating opportunity for himself and his children. Armed with a degree from the University of Oregon, John pursued his numerous outdoor passions. His accomplishments included being appointed to the Office of the State

Investing in Brain Health

Climatologist by Nevada's Governor Bryan, gaining international recognition for his pioneering work in cloud seeding to increase rainfall, heading numerous drought and other study committees, testifying in front of the legislature, publishing a monthly climatology report for more than twenty five years, serving as one of the founding faculty of Sierra Nevada College and teaching geography, climatology and geomorphology at University of Nevada Reno for 30 years.

John's climatology work was very physical and included hiking and transporting heavy equipment throughout Nevada to set up more than 100 weather stations, whose readings continue to inform much of the weather that is reported throughout the state. Outside of work, he enjoyed participating in and watching track and field. Each year until his death, John took Mark to the Prefontaine Classic at the University of Oregon. John refused to sit in the wheelchair area, and insisted on climbing up the bleachers even when he could barely walk. His lifelong commitment to fitness helped mitigate the symptoms of Parkinson's, even as his daily runs slowed to walks.

Mark says of his father, "He's an inspiration to me in everything that he did. He was a creative thinker who was never bound by convention. He was an innovator and a hard worker who sought excellence, yet managed to devote an incredible amount of time to our family. He focused on what we did, rather than dwelling on his own achievements. He made our house a happy place."

John was known for his joyful approach to life. While his relaxed attitude didn't change even as his Parkinsonian symptoms and related dementia increased, John's muscles had a mind of their own, developing increased rigidity that ultimately shut down his breathing. John passed away in 2007 at the age of 73.

A longtime friend of Larry Ruvo, Mark had followed the development of Cleveland Clinic Lou Ruvo Center for Brain Health even before his father developed Parkinson's disease. He says he is pleased to work for Las Vegas-based Frias Holding Company, which is dedicated to philanthropy and presented the Lou Ruvo Center for Brain Health with a sizable gift. Although his father passed away prior to the center's opening, Mark forecasts the difference it will make saying, "The Lou Ruvo Center is a focal point for outreach into treatment and cures. I know

there are some other places in the country, but this one is certainly destined to be one of the best."

Today, John W. James lives on at the Lou Ruvo Center for Brain Health through a plaque placed in his honor by his son.

To honor his father's passions Mark and his wife, Lori, endowed the John W. James Scholarship for Atmospheric Sciences at the University of Nevada Reno, as well as the John W. James Grant for the throwing events within the USA Track & Field Foundation to assist athletes with Olympic aspirations.



Mark and John James

Success Unshared is Failure



Eloise and John Paul DeJoria are KMA enthusiasts

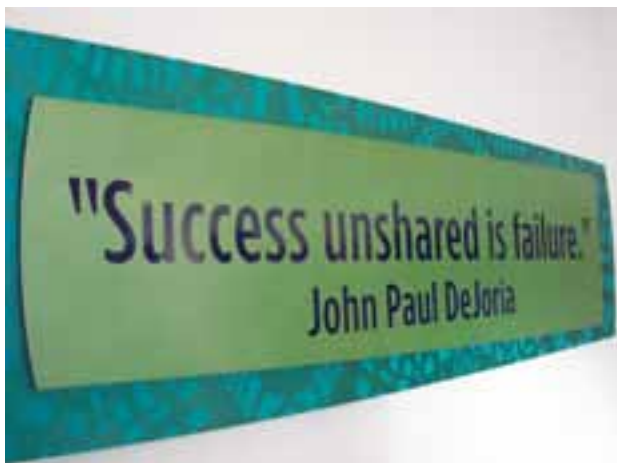
John Paul DeJoria remembers the day in February 1996 when he entered Wolfgang Puck's Spago to meet some colleagues, only to discover long-time friend Larry Ruvo hosting an intimate memorial dinner for his father, Lou. Little did Mr. DeJoria know it at the time, but the impromptu check that he handed Larry Ruvo that evening with the admonition, "Do something to cure this devastating disease, Alzheimer's, that prematurely took your father" would in fact be the inspiration behind what has now come to be known as the non-profit Keep Memory Alive.

That 1996 dinner serendipitously turned into the very first fundraising event for Keep Memory Alive, with friends of the Ruvos opening their hearts and their wallets to honor Lou and inspiring his son Larry's persistent quest for a cure. Larry Ruvo remembers saying to friend and Chef Wolfgang Puck, "That was easy. We raised \$35,000 at a dinner that wasn't even supposed to be a fundraiser. We should actually plan a fundraiser for next year."

The next year, invited guests Eloise and John Paul DeJoria took matters into their own hands when at the first annual Power of Love™ gala, Larry Ruvo ran out of auction items.

As Larry Ruvo tells it, "My good friend John Paul got up and said, 'I have something to auction off' and I thought, 'This should be great! Which one of his fabulous homes or cars is he lending to our cause?' As it turned out, through his charisma and our guests' enthusiasm for Keep Memory Alive, JP was able to auction off absolutely nothing — three times in a row for \$10,000 each."

Owner of Paul Mitchell Hair Products and Patron tequila, John Paul DeJoria long ago adopted as his personal and business mantra "Success Unshared Is Failure." In July 2009, thanks to the generous sharing of the DeJorias and so many like-minded individuals, Cleveland Clinic Lou Ruvo Center for Brain Health opened its doors to its first patient. In November 2011, a plaque was installed at Keep Memory Alive's headquarters at the Lou Ruvo Center for Brain Health, recognizing the flame ignited by John Paul DeJoria that evening at Spago.



Success Unshared is Failure is John Paul DeJoria's philosophy

Investing in Better Brain Health | The Rewards of Research

The Cleveland Clinic Lou Ruvo Center for Brain Health was founded by a philanthropist whose dream of eradicating Alzheimer's disease has been eagerly embraced by generous individuals, corporations and foundations. Philanthropy drives the center's ability to achieve its mission of providing state-of-the-art care for patients and supportive services to their families, while investigating the next generation of drug therapies for a group of neurocognitive disorders that now includes Parkinson's disease, Huntington's disease, and multiple sclerosis, in addition to Alzheimer's.

Funding the Future

As we pursue a healthier future for patients and their families, we recognize we cannot meet our challenges alone. Support is critical to our advancement and we welcome investors who are committed to sharing in the future success of our research programs, such as the following:

- **Director's Innovation Fund**
To further the center's research and response to critical opportunities
- **Center for Neurotherapeutic Innovation**
To support the advancement of drug development and clinical trials in neurodegenerative diseases
- **Biomarker collection and archiving programs**
To assist with research being conducted in neurodegenerative diseases
- **Care Partner Education Program**
A certificate-granting program to train caregivers of patients with memory and movement disorders.
- **An endowed chair for the Medical Director at the Cleveland Clinic Lou Ruvo Center for Brain Health in Las Vegas**
To ensure the retention of world-class leadership
- **An endowed chair for the Cleveland Clinic Lou Ruvo Center for Brain Health in Cleveland**
To assist in recruiting the highest-quality faculty
- **Endowed Clinical Scholars/Research Fellows**
To assist in recruiting expert faculty



Linda Kilpatrick (in green) presents a check to Kate Zhong, MD, Senior Director of Research. The pair is flanked by Research Interns Brittany Mayer and Heath Gould

Join Us

If you would like to discuss ways to add your name to our family of loyal benefactors who are investing in the future of brain health, please contact Laura Fritz, CFRE, at 702.483.7044 or fritzl@ccf.org

Philanthropy in Action | Fighting for Brain Health by Studying Fighters



Gabe Casillas fights for brain health at Cleveland Clinic Lou Ruvo Center for Brain Health

When mixed martial arts (MMA) fighter Gabe Casillas reported to the Lou Ruvo Center for Brain Health in October 2011 for his first of four annual visits in the center's Fighting for Brain Health study, he was given a battery of tests that included:

- Basic questions about his background, personal and family medical history and sports experience
- Computer and verbal tests to measure memory and other aspects of mental functioning
- An MRI scan of his brain
- A neurological examination with Dr. Bernick

The MRI examination is a routine component of the Nevada Athletic Commission's licensing process, and participants in this study may utilize their results to satisfy licensing requirements. However, the study is confidential, and an individual's results will not be released without signed consent.

Gabe Casillas heard about Cleveland Clinic Lou Ruvo Center for Brain Health's research study of professional combatants, "Fighting for Brain Health," from his trainer, Sidney Silva, at Wand Fight Team Las Vegas. Mr. Casillas says he was intrigued by the opportunity to "validate clinically what we think we know."

Principal Investigator Charles Bernick, MD, Associate Medical Director of the Lou Ruvo Center for Brain Health, confirms that repeated blows to the head are not conducive to brain health, but why different fighters react differently to the same quantity and intensity of blows is both unknown and intriguing.

Mr. Casillas has been an MMA professional since 1999 and has never received a blow as hard as those he



Gabe Casillas in the ring

routinely received as an amateur boxer. He says he has no concerns about his own brain health, but wants to participate in this study, because “I want to contribute to brain health, validate the levels of safety in the sport, and prove scientifically that it’s not as detrimental in the long-term as people think.”

The study seeks to correlate any changes seen on the participant’s MRI with performance on cognitive assessments and neurologic exams.

“This information may help us find ways to identify those who are at risk for brain injury. The hypothesis is that we will find changes — be it in blood flow, fiber sheathing or change in volume of certain areas of the brain — that will allow us to establish objective markers for ongoing damage [and] allow us to inform the fighter where he stands,” Dr. Bernick told the *Los Angeles Times* in July.

The Lou Ruvo Center’s Fighting for Brain Health study goes beyond the desire to make boxing or mixed martial arts safer. It may shed light on other head injuries, such as those received in car accidents, and even help lead to a cure for Parkinson’s or Alzheimer’s. The study is funded by a generous grant from The Lincy Foundation.

Thanks to the enthusiasm of Mr. Casillas and other participants in the “Fighting for Brain Health” study, we are optimistic that we will achieve our goal of following 600 professional fighters for four years.

Meet the 2012 Power of Love™ Chefs

February 18, 2012, MGM Grand Garden Arena, Las Vegas



Tom Colicchio

Since opening Gramercy Tavern in 1994, Tom Colicchio has opened restaurants in five states. Since 2006, Chef Colicchio has been applying his experience and expertise to cable television as the head judge on Bravo's Emmy-winning reality cooking series "Top Chef." He regularly appears on national television shows including The Today Show and ABC's Nightline.

James Beard Foundation Award for Outstanding Chef (2010)
Bon Appétit Chef of the Year (2002)
James Beard Foundation Award for "Best New Restaurant" (*Craft*, 2002)
James Beard Foundation Award for Best Chef-New York (2000)



Scott Conant

Scott Conant has launched his award-winning Scarpetta in five cities, the most recent being in 2011 at the Cosmopolitan of Las Vegas, where he also opened D.O.C.G Enoteca. A graduate of The Culinary Institute of America, Chef Conant has appeared on The Today Show, MARTHA and Bravo's Top Chef. On the Food Network, he is a guest judge on "Chopped" and serves as host of the "24 Hour Restaurant Battle."

James Beard Foundation Nomination for Best New Restaurant (*Scarpetta*, 2009)
Best New Restaurants in America by *Esquire* magazine and *The New York Times* three-star review (*Scarpetta in New York City*)
Food & Wine magazine America's Best New Chefs (2004)



Michael Mina

Under the auspices of Mina Group, Michael Mina has opened 18 concept restaurants and a lounge concept. He has been a featured guest chef at the James Beard House numerous times, and has cooked for three Presidents of the United States: Bill Clinton, George W. Bush, and Barack Obama.

Gayot Restaurateur of the Year (2011)
Food Arts Silver Spoon Award (2011)
Bon Appétit Chef of the Year (2005)
International Food and Beverage Forum Restaurateur of the Year (2005)



Wolfgang Puck

Wolfgang Puck has crafted an empire that includes 17 fine dining restaurants, premium catering services, fast-casual restaurants, cookbooks and licensed products. He has raised over \$14 million through his Wolfgang Puck-Barbara Lazaroff Charitable Foundation. The first Keep Memory Alive fundraising event was held at Chef Puck's Spago in The Forum Shops at Caesars Palace in 1996.

Michelin, two star winner (*Spago Beverly Hills*, 2009)
Michelin star winner (*CUT*, 2007)
James Beard Foundation Award for Outstanding Chef of the Year (1991 & 1998)
James Beard Foundation Award for Restaurant of the Year, Spago Las Vegas (1994)



L to R: Anna Robins, Charles Bernick, MD, Larry Ruvo, Camille Ruvo, Muhammad Ali, Lonnie Ali, Ryan Walsh, MD, PhD, Sarah Banks, PhD

And In Our Corner | The Greatest of All Time™

Legendary boxer Muhammad Ali visited Cleveland Clinic Lou Ruvo Center for Brain Health to learn more about the resources the center offers those with Parkinson's disease. He greeted the center's physicians and administrative staff, he posed for the camera and he discussed the celebration that Keep Memory Alive is hosting on February 18 to fete his 70th birthday.



Charles Bernick, MD, Principal Investigator on Cleveland Clinic Lou Ruvo Center's Fighting for Brain Health research study of professional fighters, takes a swing at The Champ

Keep Memory Alive's Power of Love™ gala will be held on Saturday, February 18, 2012, at the MGM Grand Garden Arena. This legendary evening will feature exceptional dining by Chefs Tom Colicchio, Scott Conant, Michael Mina and Wolfgang Puck alongside wine pairings prepared by master sommeliers. Exclusive auctions and a larger-than-life concert will make this the event of the century. The Power of Love is certain to be in the air as we celebrate the 70th birthday of beloved athlete and humanitarian, Muhammad Ali.

For more information, please call 702.263.9797 or visit keepmemoryalive.org.



Jeff Mitchum of Jeff Mitchum Galleries is pleased to offer the first of only seven collectors-edition prints for auction at the Power of Love™ gala



on February 18. This photograph of Cleveland Clinic Lou Ruvo Center for Brain Health was taken April through November 2011.



Meet Our Volunteer | Barbara Ciocca

“I cared for my aunt and my parents. I didn’t think of myself as a caregiver. I was just a niece and a daughter, and it’s what I needed to do,” explains Barbara Ciocca.

She remembers telling her aunt, who had Alzheimer’s, “One day I’m going to do something to see what’s causing this awful disease.”

Ms. Ciocca’s good intentions were put on hold for many years while she devoted her time first to managing the office for her family’s business, Whittier Fertilizer, and later to volunteering 40 hours a week at the local hospital in her hometown of Whittier, California, where she managed hospice volunteers.

After moving to Las Vegas in 2003, Ms. Ciocca sought out new volunteer opportunities. She delivered lunches from Ronald McDonald house to parents of children in the pediatric ward at Sunrise and UMC hospitals and staffed events for the Las Vegas Philharmonic Guild. But it was upon attending volunteer orientation at Cleveland Clinic Lou Ruvo Center for Brain Health and meeting Director of Social Services Susan Hirsch that Ms. Ciocca’s eyes were opened to a role that blended her administrative and caregiving skills with her passion for doing something about Alzheimer’s.

Today, Barbara Ciocca provides much of the volunteer energy behind the Community Outreach Initiative. She says, “Our goal is to make people in the community

aware of the free family resources that are available at the Lou Ruvo Center for Brain Health. We want caregivers to know there's something here for them."

She continues, "I remember feeling depressed because I didn't have the time to do some of the things I wanted to do personally, and I didn't know how to do some of the things I needed to do as a caregiver. At the center, we strive to alleviate those concerns."

In its first five months, volunteer members of the Community Outreach Initiative speakers bureau gave 23 presentations, addressing over 600 participants.

With audience sizes ranging from three to 100, no group is too big or too small. Ms. Ciocca reports that attendees are most interested in the center's Family Services Programs, the diseases we treat and the Frank Gehry architecture. She says everyone seems to know a caregiver or someone with the disease, and that one of the most common questions is about how to provide care to a loved one who lives out of state.

Ms. Ciocca's role entails identifying community organizations that might be interested in having the Community Outreach Initiative present for 20-30 minutes at one of their meetings, and organizing the logistics such that the presenter need only show up, step to the front of the room and begin speaking. She also brings information packets that have been prepared by other center volunteers.

Ms. Ciocca says, "Most community groups are surprised to find out that our family programs exist, and even more delighted to hear that they are free."

Interested in Volunteering?

We're always on the lookout for upbeat, enthusiastic, passionate and smart individuals.

We have some work-from home volunteer opportunities as well as opportunities at the Center. We can help you design your own, or you may choose from:

- Lending library
- Patient hospitality
- Caregiver support
- Health and fitness
- Newsletter Contributor
- Community events / Health fairs
- Arts & crafts
- Fundraising events
- Power of Love gala
- Office work
- Scheduling volunteers

Contact Dee King via phone at 702.263.9797 or dking@keepmemoryalive.org.

You may also contact us via the "Volunteer" page of keepmemoryalive.org.



Community Outreach Initiative

L to R: Barbara Ciocca, Camilla Camburn, Beth Sylvester, Pam Fine, Patti Nixon, Sandy Runkle, Chris Kisel, Susan Hirsch and Annette Kinsman

Are you a member of a community, social or professional group in the greater Las Vegas area? Are you looking for an interesting speaker? Want to learn more about the social services offered at the Cleveland Clinic Lou Ruvo Center for Brain Health?

Our new Community Outreach Initiative brings this useful information directly to you at no cost.

To date, members of our Outreach team have visited more than 35 groups, large and small, sharing this important message. The response has been heartwarming:

- Husbands sought help for their wives in the early stages of Alzheimer's.
- A daughter found the support she never knew existed.
- Individuals learned about our weekly education programs, told a friend and are attending together.

The presentation offers an overview of the range of services offered at the Lou Ruvo Center for Brain Health, in addition to more in-depth information about our educational and support programs. Everyone is encouraged to serve as an ambassador, carrying the message to others affected by the neurocognitive diseases we treat. As the saying goes, "It takes a village."



Volunteer Beth Sylvester presents to a group of social workers

To Schedule an Outreach Speaker:

- **Presentations run 20–30 minutes and are available any day, time or location in the greater Las Vegas area**
- **No group is too small**
- **There is no charge**
- **Contact Susan Hirsch, Director of Social Services, at 702.483.6023 or hirschs2@ccf.org**

CarePRO | Care Partners Reaching Out

They have been married 51 years. She just wishes he would get better. Betty's [not her real name] husband has Alzheimer's disease. As his primary caregiver, Betty worries about what to expect as his disease progresses. She did not realize that many of the stressful situations she was experiencing are actually quite common and that there are strategies that can help. For example, although she expected that her husband might ask the same questions again and again, she was surprised when he became reluctant to take a bath.

Betty learned about a program called CarePRO that was created to help caregivers develop the skills they need to care for someone with dementia or memory loss. It is designed for unpaid family caregivers who are providing more than four hours of care per day and find the responsibility increasingly demanding of their time and energy.

Betty began participating in the workshops which meet every other week for 10 weeks. In her group, she found others in similar circumstances, caring for husbands, mothers, sisters and friends. The workshops taught Betty how to manage the stresses and frustrations that caregivers commonly experience. Now when challenging situations occur like her husband's refusal to bathe one day, Betty can ask herself, "Who does it bother or hurt?" lending some perspective to the situation. She has also learned simple, direct communication, ways to alter the environment and relaxation strategies to help encourage him to bathe tomorrow. It is a source of comfort to know that she is not alone; others experience similar stresses and wonder whether things will get worse.

Betty also found a sense of camaraderie among her fellow CarePRO participants, as together they learned to take care of their loved ones and, in the process, themselves as well.

For more information about CarePRO, please call 702.483.6055 or e-mail hirschs2@ccf.org

The purpose of CarePRO is to provide free dementia-related education and training workshops to assist family members who spend more than four hours a day caring for a loved one.

Workshops are held at various community locations.

The program consists of five 2 ½ hour workshops and 5 individual telephone coach calls, as well as confidential telephone interviews about the caregiving experience prior to starting the program and at 3, 6 and 12 months.

Introducing Our New Library

To celebrate the October 2011 reopening of the family services library on the fourth floor of Cleveland Clinic Lou Ruvo Center for Brain Health's Las Vegas location, we hosted a series of special speakers at our Wednesday Lunch & Learn lecture series.

The library is free and open to the public, Monday through Thursday, 10a.m.-2p.m. or by appointment.

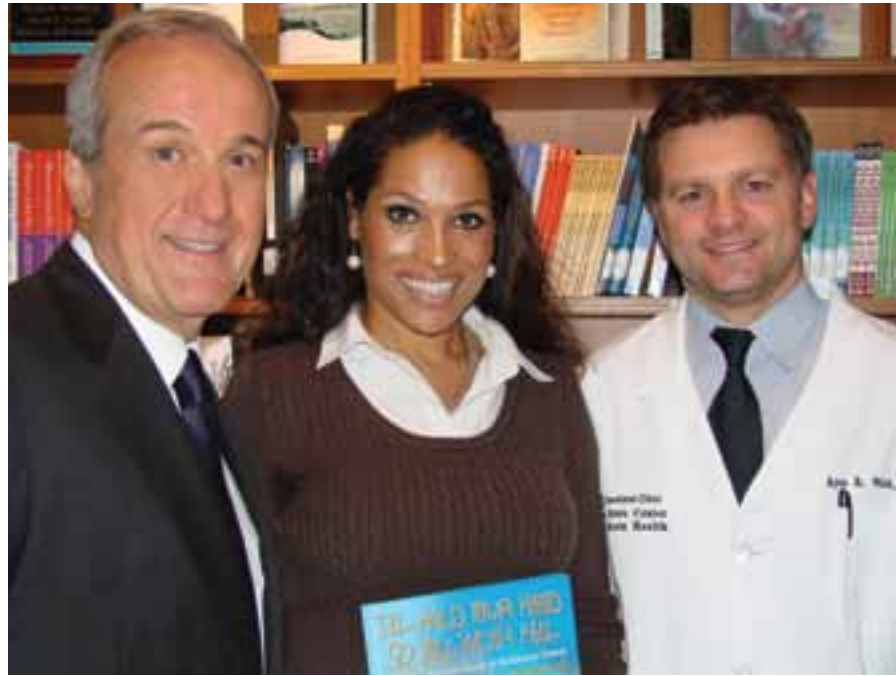
To see who is speaking at next week's Lunch and Learn or to browse our library collection online, visit the Support Services section of keepmemoryalive.org.



Rasheda Ali



Lunch and Learn with Neurologist Gabriel Leger, MD, CM, FRCPC and Neuropsychologist Sarah Banks, PhD



Larry Ruvo, Rasheda Ali and Ryan R. Walsh, MD, PhD



Chef Alex Stratta conducts a cooking demonstration while Cleveland Clinic Chief Wellness Officer Michael Roizen weighs in via video conference on the merits of healthy food choices

Open.

Host an event to remember so that others will never forget.

KEEP MEMORY ALIVE

Supporting the Mission of the Cleveland Clinic Lou Ruvo Center for Brain Health



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888 W. BONNEVILLE AVE. LAS VEGAS, NV 89106

Photo Gallery



L to R: Dr. Jens Deerberg-Wittram, Carla Naumann, Dr. Axel Fischer and Dr. Mani Rafii from Germany's Schon Klinik



Larry Ruvo and Mel Dick of Southern Wine & Spirits of America



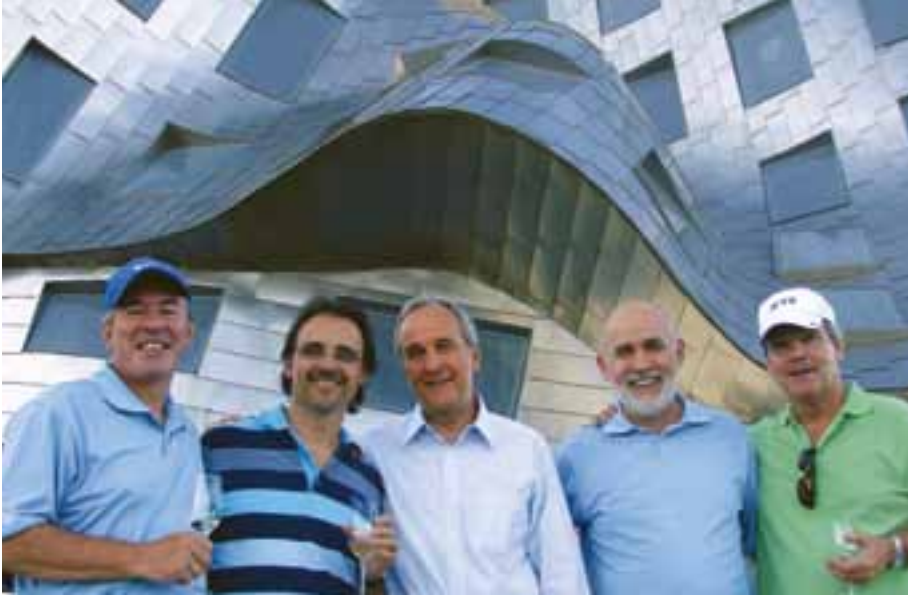
Architect Frank Gehry remarks on the sheer size of James Rosenquist's *Cervello Spazio Cosmico*



Cleveland Clinic Lou Ruvo Center for Brain Health Volunteers Donna Achrem and Jordan, Pet Therapy Dog



L to R: Jeffrey Cummings, MD, ScD, Eva Longoria and Robert Shapiro, Esq



L to R: Jim Clerkin, Tony Murphy, Larry Ruvo, Enda McGovern and Sidney Shera



Keep Memory Alive Board Member Michael Severino tours James Gandolfini (R) around Cleveland Clinic Lou Ruvo Center for Brain Health



L to R: Alan Dershowitz, Solomon Lew and Larry Ruvo



L to R: Kate Zhong, MD, Larry Ruvo, Eloisa Maturen, Gustav Dudamel and Jeffrey Cummings, MD, ScD



L to R: Michael Severino, contemporary pop surrealist Robert Deyber and friends



L to R: Jeffrey Cummings, MD, SCD, Larry Ruvo, Nobel Prize Winner Stanley Stonely Prusiner, MD and Kate Zhong, MD



Team Cleveland Clinic at the Walk to End Alzheimer's

Moving Together Toward a Cure

At Cleveland Clinic Lou Ruvo Center for Brain Health, we are fortunate to be headquartered in Las Vegas, a city with vibrant affiliates in two of the diseases that we treat: Alzheimer's and multiple sclerosis. We enjoy a rich collaboration as we work toward raising awareness and funds, and addressing the science that will lead to cures.

Walk to End Alzheimer's

On October 29, more than 100 volunteers, staff and friends of the Lou Ruvo Center for Brain Health proudly donned fluorescent yellow tee-shirts at the Alzheimer's Association's annual Walk to End Alzheimer's. Jeffrey Cummings, MD, ScD, thanked the center's team saying, "This is one more way to fight Alzheimer's disease and to make our presence known in the community."



L to R Marlene Rengert, Robyn Hennessy, Dee King (seated), Murlin Hampton, Gerri Shaw, Sharon and Bob McGarity

Also In This Issue

Bike MS

Each year, the Southern California & Nevada Chapter of the National Multiple Sclerosis Society hosts a Bike MS event to support research in the disease. This year, the ride started and ended at the Lou Ruvo Center for Brain Health. Much of the money raised at this event will stay in Las Vegas to help Nevadans with multiple sclerosis (MS). Cleveland Clinic hopes to make advances in the early diagnosis and treatment of MS, as the cause and cure for this disease are still unknown.

In July 2011, the Lou Ruvo Center for Brain Health announced the arrival of Timothy West, MD, as director of our Multiple Sclerosis Program. Susan Bradley, Executive Vice President of the National MS Society (NMSS), told the Las Vegas Review Journal, "Up until this time, there has been very limited access to specialty care for MS in Southern Nevada. Now, the estimated 2,500 people with MS in Las Vegas will have the highest level of care that's available."

Dr. West, whose fellowship training was sponsored by the NMSS, led a team of eight who called themselves "Abby's Avengers," and rode in honor of Dr. West's mother, who developed MS around the time of his birth.

MS Support Group

In December, The Lou Ruvo Center for Brain Health launched a support group for loved ones of those with multiple sclerosis. The group meets on the second Tuesday of each month. For more information, please contact Donna Munic-Miller, PhD at 702.483.6035 or MunicD@ccf.org.

Timothy West, MD (Center) and his BikeMS team, Abby's Avengers, ride in honor of Dr. West's mother



Introducing Keep Memory Alive's Newest Board Member | Thomas J. Matthews



Thomas J. Matthews served on International Gaming Technology's (IGT) board of directors from December 2001 until March 2011 and was Chairman from March 2005 until December 2009. He served as IGT's President and CEO from 2003 to 2009, and was IGT's COO from 2001 to 2007. Mr. Matthews held a number of key positions at Anchor Gaming from 1994 until it was acquired by IGT in December 2001, including President, CEO and Chairman of the Board. During his tenure, Mr. Matthews did all of the original game math for Wheel of Fortune, the most successful slot machine game in history. He holds a B.S. in Business Administration from the University of Southern California.

Mr. Matthews has also served as chairman of the American Gaming Association, and was a member of the board of trustees for the National Center for Responsible Gaming from 2005 to 2009. He has served on the board of trustees for Catholic Charities of Southern Nevada since 2006, and from 2005 to 2009, Mr. Matthews served alongside Larry Ruvo as a director for the Council for a Better Nevada.

We are delighted that he has agreed to join Keep Memory Alive's board of directors. Mr. Matthews accepted the invitation saying, "I am honored to be part of the noble vision and passion that Keep Memory Alive and Cleveland Clinic support. Ensuring world-class care for both patients and caregivers while seeking to eradicate the diseases that rob so many of their physical and mental well-being is indeed something to rally behind."

Serving up Support | Red Velvet Opens at The Ruvo Center



Chef Aneesha

In January 2012 the “Keep Memory Alive Café Brought to You by Red Velvet Café Chef Aneesha” opened at Cleveland Clinic’s Las Vegas location. Consistent with Cleveland Clinic Lou Ruvo Center for Brain Health’s philosophy that wise food selections may help maintain brain health, the Keep Memory Alive Café serves healthy options.

Healthy Eating

Menu items range from the traditional (Veggie Wrap or the Caprese Salad) to the innovative (Baby Beet and Tangerine Salad or the Chicken Spinach Artichoke Panini), to a twist on the original (Chipotle Caesar Salad). The barista is also blending smoothies and crafting a full array of gourmet coffee and tea options. Although the desserts look sinful, they are surprisingly health-conscious, ranging from 120 to 200 calories and three to six grams of fat per item.

A graduate of Le Cordon Bleu and alumna of Chef Thomas Keller’s kitchen, Red Velvet Café Co-Founder Chef Aneesha strives to create food that “motivates anyone attempting to lead a healthy and fulfilling lifestyle.” Her food is low in carbohydrates and high in protein and fiber, stimulating metabolism.

Supporting Keep Memory Alive, Bite by Bite

A portion of the proceeds from Keep Memory Alive Café Brought to you by Red Velvet Café Chef Aneesha support Cleveland Clinic Lou Ruvo Center for Brain Health’s work to find better treatments for Alzheimer’s, Huntington’s, Parkinson’s and multiple sclerosis.

Planning Your Visit

The Keep Memory Alive Café is open Monday through Friday, 7:30 a.m. to 3:30 p.m. at Cleveland Clinic Lou Ruvo Center for Brain Health, 888 W. Bonneville Avenue, Las Vegas, Nevada.

Patients and families, visitors, employees and neighbors may walk up to the window during these hours, or place an order in advance via e-mail to redvelvetcafe@gmail.com. Catering and delivery are also available. View the full menu online at keepmemoryalive.org.



KEEP MEMORY ALIVE

Supporting the Mission of the Cleveland Clinic Lou Ruvo Center for Brain Health



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Go to keepmemoryalive.org to learn how you can invest in memories and support the work of the Cleveland Clinic Lou Ruvo Center for Brain Health