

New Thinking

About
Thinking

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



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 **Cleveland Clinic**

KEEP MEMORY ALIVE
Supporting the Mission of the Cleveland Clinic Lou Ruvo Center for Brain Health
ALZHEIMER | HUNTINGTON | PARKINSON | ALS | MULTIPLE SCLEROSIS

Message From The Director | Windows on The Brain



This issue of New Thinking About Thinking highlights progress in Alzheimer's disease, Parkinson's disease, and multiple sclerosis. New programs are under development at Cleveland Clinic Lou Ruvo Center for Brain Health, and new research and care programs are advancing treatment for all these conditions.

What ties these three diseases together? Surprisingly, these conditions that seem so different have many features in common. Although they have different symptoms and affect different age groups, they are all brain diseases that produce significant disability. They all affect both the patient and the patient's family. All are diagnosed using a combination of brain scanning and expert clinical examination. All are chronic disorders that take a long-term toll on patients and families.

None of them is adequately treated with current medications. Developing new treatments is critically important for all of them.

Research is showing us many more shared characteristics of Alzheimer's disease, Parkinson's disease and multiple sclerosis. In the first two, loss of nerve cells leads to inflammation of the brain; in multiple sclerosis, brain inflammation leads to nerve cell loss. Protecting nerve cells is a central challenge in all three.

A comprehensive response to these shared features comprises the core elements of the Lou Ruvo Center for Brain Health. Our family programs help families of patients with all these diseases. Our expert physicians use advanced brain-imaging technology (MRI, PET) to diagnose these diseases. Our clinical trials team is conducting trials in all three disorders, and we are pressing forward to discover new treatments for all.

As director of the Lou Ruvo Center for Brain Health, I am extremely pleased to be leading an organization that provides great care to patients with Alzheimer's disease, Parkinson's disease, and multiple sclerosis. The more we can help patients and families, the better. These conditions are linked by a shared neuroscience and by our commitment to providing quality care and advancing new therapies.

Jeffrey L. Cummings, MD, ScD
Director, Cleveland Clinic Lou Ruvo Center for Brain Health
Camille and Larry Ruvo Chair for Brain Health
Neurological Institute, Cleveland Clinic
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2013 Power of Love™ Gala | A Legendary Celebration to Keep Memory Alive

The April 13 Power of Love™ gala will be a landmark evening celebrating both Quincy Jones' and Sir Michael Caine's 80th birthday. Celestial twins, the pair will celebrate in legendary style at this star-studded evening that will raise funds and elevate awareness for the Quincy Jones Foundation and Cleveland Clinic Lou Ruvo Center for Brain Health.

Won't you join us at the MGM Grand Garden Arena in Las Vegas?

♥ Quincy Jones

Quincy Jones' career encompasses the roles of composer, record producer, artist, film producer, arranger, conductor, instrumentalist, television producer, record company executive, magazine founder, and multimedia entrepreneur. Named by *Time* magazine one of the most influential jazz musicians of the 20th century, Mr. Jones began creating magic in the mid-1950s and continues to revolutionize the music industry and entertainment world.

Not only is Mr. Jones an artistic and creative force; he is also widely recognized as a humanitarian. Through his Quincy Jones Foundation, Mr. Jones raises awareness and funding for initiatives that support global children's issues in areas of conflict, malaria eradication, and clean water.



♥ Sir Michael Caine

Renowned for his distinctive accent, British actor and author Sir Michael Caine has appeared in more than 100 films and is one of Britain's most honored and recognizable actors.

He has achieved remarkable critical success, earning multiple Academy and Golden Globe awards. Sir Michael Caine is one of only two actors nominated for an Academy Award for acting in every decade from the 1960s to the 2000s. In 2000, Sir Michael Caine was knighted by Queen Elizabeth II in recognition of his contribution to cinema.



Celebrity Chefs



♥ Gordon Ramsay

Opening his first restaurant at the age of 31, Restaurant Gordon Ramsay was quickly awarded three Michelin stars. Now internationally renowned, Chef Ramsay has opened successful restaurants around the globe, from Italy to Qatar to the United States. He has also become an international TV star, including four FOX shows that air in more than 200 countries: Kitchen Nightmares, Hell's Kitchen, MasterChef and Hotel Hell.

11 Michelin stars worldwide

Order of the British Empire awarded by Queen Elizabeth II (2006)

Longest running 3 Michelin star restaurant in London (Restaurant Gordon Ramsay, London, 1998 - present)



♥ Wolfgang Puck

Wolfgang Puck has crafted an empire that includes 17 fine-dining restaurants, premium catering services, fast-casual restaurants, cookbooks and licensed products. The first Keep Memory Alive fundraising event was held at Chef Puck's Spago in The Forum Shops at Caesars Palace in 1996 and Chef Puck has been an ardent supporter since Keep Memory Alive's inception.

Michelin two-star winner (Spago Beverly Hills, 2009)

Michelin Star winner (CUT, 2007)

James Beard Foundation Award for Outstanding Chef of the Year (1991 and 1998)

James Beard Foundation Award for Restaurant of the Year, Spago Las Vegas (1994)



Tickets for the April 13 Power of Love gala can be purchased online at keepmemoryalive.org or by calling 702.263.9797

Seats range from \$1,500 to \$7,500. Sponsorships are also available.

♥ 2012 Power of Love gala honoree Muhammad Ali with David Beckham, Lorenzo Fertitta and Larry Ruvo



L to R - Charles Bernick, MD, MPH, Regina Benjamin, MD, MBA, Surgeon General, and Jeffrey Cummings, MD, ScD

Gathering to Evaluate the Long-term Impact of Brain Trauma on The Playing Field and The Battlefield

Leading medical experts, athletes, military officials, and policymakers gathered in Las Vegas in September at the first national conference to focus exclusively on chronic traumatic encephalopathy (CTE), a neurodegenerative disease found in people with a history of repetitive brain trauma, such as athletes and soldiers. The two-day conference was cosponsored by Cleveland Clinic Lou Ruvo Center for Brain Health and Boston University's Center for the Study of Chronic Traumatic Encephalopathy.

While CTE has received considerable media attention in recent years, scientific study of the disease is still in its infancy. "With CTE, we are where Alzheimer's disease research was 20 to 30 years ago," says Charles Bernick, MD, MPH, Conference Co-chair and Associate Medical Director, the Lou Ruvo Center for Brain Health. "Given the huge number of people exposed to brain trauma, it is critical that we understand how and why repetitive blows to the head lead to a long-term degenerative brain disease."

While best known as a disease affecting soldiers in combat and

professional athletes in contact sports, CTE affects people across many segments of society, from soldiers and amateur athletes to battered wives, making the disease a pressing public health issue. U.S. Surgeon General Regina Benjamin, MD, MBA, a conference guest speaker, identified CTE as a growing public health concern (see related article on page 6).

First described in 1928 as "punch drunk syndrome" in professional boxers, CTE occurs when brain trauma triggers progressive degeneration of brain tissue. This brain degeneration, which can begin months, years, or even decades after repeated brain traumas or the end of an athletic career, causes symptoms such as memory loss, aggression, confusion, impulse control problems, impaired judgment, depression, suicidality, and, eventually, progressive dementia. A conclusive diagnosis can be made only at autopsy.

Preventing brain injuries in amateur athletes was the focus of keynote speaker Christopher Nowinski's presentation. Mr. Nowinski is a former Harvard University football player and professional wrestler; Co-founder and CEO, Sports Legacy

Features

Institute; and Co-director, Boston University Center for the Study of Traumatic Encephalopathy. He spoke of the dangers of concussion to the still-developing brains and bodies of youths and adolescents, especially in light of the growing numbers of boys and girls participating in contact sports, some as young as age eight. “We need to try harder to protect the brains of athletes,” said Mr. Nowinski.

Dr. Bernick presented the latest findings of the Professional Fighters Brain Health Study, which is being conducted at the Lou Ruvo Center for Brain Health. The study, which uses MRI to evaluate the brain functioning of active boxers, has found that changes in brain volume, resting-state connectivity, and blood flow occur very early in a boxer’s career, long before symptoms develop.

“The conference accelerated understanding of where we are and where we need to go. It created new synergies among participants that will help advance CTE research. We’re off and running to make greater progress in addressing CTE,” says Dr. Bernick.



Robert Cantu, MD, shares insight into the NFL



L to R - Robert Cantu, MD, Captain Paul Hammer, MC USN, Charles Bernick, MD, MPH, and T. Blain Hoshizaki, PhD

Surgeon General Participates in Cleveland Clinic's CTE Conference



U.S. Surgeon General Regina M. Benjamin, MD, MBA, presented the keynote address September 30, when Cleveland Clinic Lou Ruvo Center for Brain Health collaborated with Boston University to convene national experts in Las Vegas to discuss chronic traumatic encephalopathy (CTE) and head trauma in professional sports (see related article on page 4).

Dr. Benjamin noted that head trauma occurs not only in professional sports, but in daily activities Americans participate in, thus rising to the level of a public health concern.

“We know that bicycle and motorcycle helmets work. We need to do the public health preventive measures to make sure that we prevent head injuries,” Dr. Benjamin told the Las Vegas NBC affiliate KSNV-TV.

“Given the huge number of individuals exposed to brain trauma, ranging from athletes involved in contact sports to those engaged in the military, it becomes imperative that we understand how and why repetitive blows to the head lead to long-term degenerative brain disease,” said Charles Bernick, MD, MPH, Co-chair of the CTE conference and Associate Medical Director, Lou Ruvo Center for Brain Health. “Chronic traumatic encephalopathy has emerged as a public health problem, yet little is known about the true incidence and prevalence of the disease in our society.”

The Office of the Surgeon General is interested in further study of traumatic head injuries as a public health concern. Current public health initiatives span smoking prevention among youths and young adults, to suicide prevention, to breastfeeding.

PET at The Lou Ruvo Center | A New Window on The Brain

By Jeffrey L. Cummings, MD, ScD

Cleveland Clinic Lou Ruvo Center for Brain Health has a new technology: Positron Emission Tomography (PET) scanning. This innovative form of brain scanning uses small doses of radioactive substances to demonstrate the metabolism or chemistry of the brain.

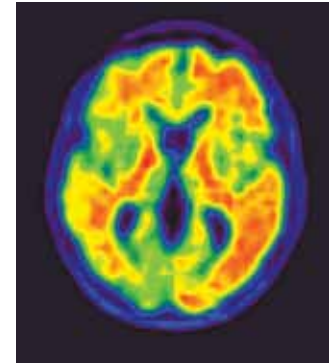
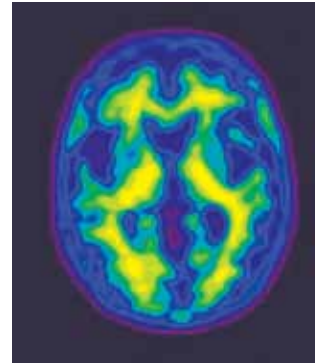
For a scan of brain metabolism, a small amount of radioactive sugar is injected intravenously, after which the patient is scanned to see how the brain uses sugar. Diseases such as Alzheimer's or frontotemporal dementia have a unique "signature" of changes in brain metabolism that helps the physician diagnose the cause of the patient's symptoms.

Even more specific is a brand new type of brain imaging called Amyvid™ that shows whether the protein associated with Alzheimer's disease is present in the brain. If the patient has memory loss and a negative scan, he or she does not have Alzheimer's disease. If the scan is positive in someone with memory loss, the scan supports the presence of Alzheimer's disease.

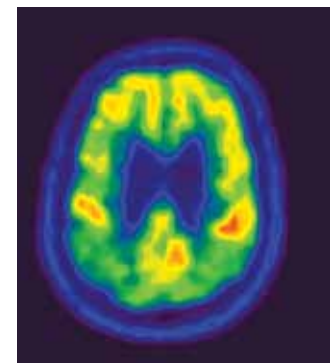
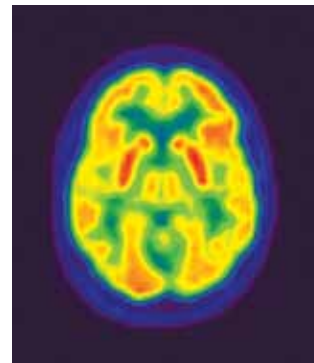
This is a great advance in our ability to diagnose Alzheimer's disease specifically, and the Lou Ruvo Center for Brain Health is the only facility in Nevada approved to conduct this type of scanning. Amyvid was only recently approved by the FDA and it is not yet covered by insurance; those wishing to have this scan will incur out-of-pocket costs.

PET is employed extensively in studies of Alzheimer's disease and Parkinson's disease in the Lou Ruvo Center for Brain Health clinical trials program. Along with our state-of-the-art MRI scanner, PET equips us to use the most advanced technologies available anywhere in the world to better diagnose and care for our patients.

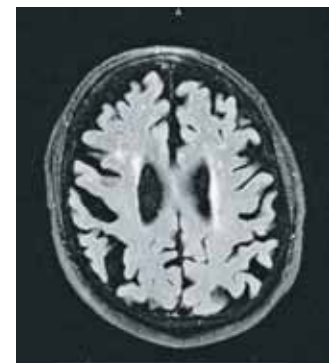
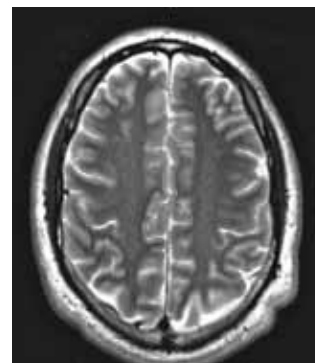
To inquire about an appointment for a PET scan at the Lou Ruvo Center for Brain Health in Las Vegas, please contact us at 888.370.8933 or visit us online at clevelandclinic.org/brainhealth



Amyloid imaging shows amyloid in the brain in Alzheimer's (right) compared to normal (left)



Positron emission tomography shows reduced brain activity in Alzheimer's (right) compared to normal (left)



MRI reveals a loss of brain substance in the Alzheimer's patient (right) compared to a normal older person (left)



Jefferson Kinney, PhD, flanked by UNLV students

UNLV Researcher Jefferson Kinney | An Ally Against Alzheimer's Disease

As a local resource with an increasing clinical and scientific presence, it is critical for Cleveland Clinic Lou Ruvo Center for Brain Health to collaborate with other Las Vegas-based researchers. The center has found an outstanding collaborator in Assistant Professor Jefferson Kinney, PhD, at the University of Nevada Las Vegas (UNLV) who shares a commitment to developing new treatments for Alzheimer's disease and Parkinson's disease.

Dr. Kinney and his team at UNLV are passionate about their research to understand what is responsible for Alzheimer's disease and to identify novel approaches to treat the disorder.

When Dr. Kinney heard that noted clinical Alzheimer's researcher Jeffrey Cummings, MD, ScD, had taken the helm as Director of the Lou Ruvo Center for Brain Health, he lost no time in reaching out in the hope of establishing a collaboration.

In Dr. Cummings, Dr. Kinney found a collegial, enthusiastic, and internationally renowned senior investigator with an interest in pairing the Lou Ruvo Center for Brain Health's large patient population and clinical trials program with UNLV's expertise in studying biomarkers and animal models. Several projects have been started to bridge the preclinical or animal model environment of drug trials to the clinical or patient trials environment.

"There are no clear answers as to why so many new treatments being tested in Alzheimer's disease clinical trials fail in humans, despite having shown promise in animal models," says Dr. Kinney. "Numerous animal models have advanced our understanding of Alzheimer's disease. However, there remains a lack of data examining the overlap of the many features of AD between the (animal) models and the patients they are designed to mimic."

Features

Biomarkers and Bexarotene

Bexarotene, a drug used to treat cancer, has shown some effectiveness in reducing the symptoms of Alzheimer's disease in mice. The Lou Ruvo Center for Brain Health is conducting a clinical trial of Bexarotene in Alzheimer's patients with assistance from Dr. Kinney and his lab, which will analyze blood samples.

Closing the gap

Dr. Kinney says that, as a result of these collaborations with Dr. Cummings and the Lou Ruvo Center for Brain Health, "Now a major focus of my lab's work on Alzheimer's disease is trying to determine how well the animal models correspond to clinical populations and how to improve novel drug testing in the animal models to improve our success in human clinical trials."

For information on participation in the Bexarotene study, please see related article on page 12. To learn more about other clinical trials, please visit us online at clevelandclinic.org/brainhealthtrials



Jeff Cummings, MD, ScD, and Jefferson Kinney, PhD



Developing Nevada's Next Generation of Medical Providers

Ask Dylan Wint, MD, why he chose neurology as one of his specialties and he'll tell you about the great opportunity to be a part of "figuring things out."

"I don't think that the mysteries of the brain will be solved in my lifetime, and I'm energized by the unknown and the challenges it presents," explains Dr. Wint, Director of the Fellowship in Behavioral Neurology and Neuropsychiatry at Cleveland Clinic Lou Ruvo Center for Brain Health.

Dr. Wint, who also directs the Lou Ruvo Center for Brain Health's Education in Neurodegeneration (EiN) program, believes that "Nevada's medical community contains incredible potential. There's an opportunity for the Lou Ruvo Center for Brain Health to have an even bigger impact by helping to develop Nevada's next generation of medical providers."

That's exactly what the Lou Ruvo Center for Brain Health aims to do through the EiN. The program is innovative in serving individuals at multiple levels of training — from middle school internships through subspecialty training — and in various medical disciplines. On any given day, the center might host internal medicine and family medicine residents from University of Nevada School of Medicine (UNSOM), Touro University physical therapy and medical students, and University of Nevada Las Vegas graduate students in neuropsychology and social work.

"Cleveland Clinic offers an invaluable educational opportunity for University of Nevada School of Medicine residents to learn about neurological disorders that often impact older Nevadans," says Patti Swager, Director of the university's Nevada Geriatric Education Center. "The doctors are passionate about education and sharing best practices with other providers."

Dr. Wint and Education Coordinator Susan Farris routinely receive calls a year in advance from students seeking this unique clinical experience. In an effort to accommodate as many as possible, the EiN accepts Las Vegans studying locally during the academic year, while reserving summer slots for those returning home from out-of-state studies.



Las Vegas native Liz Groesbeck interns with Dylan Wint, MD, during her summer 2012 break from Carleton College

Valley Hospital hosts the only neurology residency in Nevada, and all of its residents spend a month at the Lou Ruvo Center for Brain Health. Graduate Medical Education Administrative Manager Deborah O'Connor says, "The Lou Ruvo Center for Brain Health is a fantastic academic resource in an under-resourced state, providing a unique training opportunity for our neurology residency program."

Adds Dr. Wint, "Whether our trainees become primary care physicians, physical therapists, or laboratory scientists, we know they'll bring to their work a better understanding of brain diseases and their impact on individuals, families and our community. That understanding will make Nevada an even better place to live."

For information on the Lou Ruvo Center for Brain Health's education programs, please contact CBHeducation@ccf.org.



Improving Brain Function Team - L to R - Triny Cooper, Yolande Mucharbach and Kate Zhong, MD

Clinical Trials at Cleveland Clinic | You can be Part of Improved Treatments

Improving Brain Function Through Cognitive Training and Magnetic Stimulation

Did anyone ever tell you that spending too much time in front of the computer might cause your brain to “turn to mush”? Now, new and innovative research may suggest that sitting in front of the computer can actually stimulate brain activity.

Research being conducted in Israel using the NeuroAD system, commonly referred to as NICE (Non Invasive Cortical Enhancer), combines computerized cognitive training with repetitive Transcranial Magnetic Stimulation (rTMS) — a technique using painless, noninvasive brain stimulation to improve brain function. The system sends a small electric current to the brain that, when applied repetitively, has positive effects on the pathways that contribute to memory and learning. The combination of rTMS and cognitive training is now being tested for its ability to improve brain function in patients with Alzheimer’s disease.

Beginning in spring 2013, Cleveland Clinic Lou Ruvo Center for Brain Health will be recruiting volunteers aged 60-90 years with Alzheimer’s disease to participate in this trial. Those selected for active treatment will use the system for 45 to 60 minutes a day, five days a week, for six weeks.

“We have a lot of enthusiasm for this new approach to improving brain function,” says Kate Zhong, MD, Senior Director, Clinical Research and Development.



Spotlight on Brain Health



Bexarotene Team - L to R - Sarah Martin, Joanne Moll Tudla, Michelle Sholar, Carol Varela and Kate Zhong, MD

Bexarotene: can a cancer drug treat Alzheimer's disease?

For some time, a drug called Bexarotene (Targretin™) has been effective in treating skin cancer. Recently, researchers made another breakthrough with Bexarotene: The cancer drug is now indicating promise in the treatment of Alzheimer's disease.

In research in mice, Bexarotene has been shown to reduce within 24 hours the amount of amyloid, a protein associated with Alzheimer's disease. Now the research community would like to see if this drug has a similar beneficial effect in humans with Alzheimer's disease.

With recent FDA review of Bexarotene, Cleveland Clinic Lou Ruvo Center for Brain Health is poised to launch the only Bexarotene clinical trial in the country for Alzheimer's patients. For this 10-week study, the center is looking for volunteers, ages 50-90 years old, with mild to moderate Alzheimer's disease. Participants in this landmark clinical trial will receive free PET imaging.

"This program places the Lou Ruvo Center for Brain Health in the forefront of testing this exciting agent," says Director Jeffrey L. Cummings, MD, ScD.



For more information:

Considering participation in a clinical trial at Cleveland Clinic Lou Ruvo Center for Brain Health? We would be happy to answer your questions. Please contact Samuel Hickson, Research Assistant, at 702.685.7073 or brainhealth@ccf.org. For a complete list of clinical trials, please visit clevelandclinic.org/brainhealthtrials.

Spotlight on Brain Health



Nuedexta Team — L to R - Joanne Moll Tudla, Michelle Sholar, Carol Varela and Drew McDaniel

Can Nuedexta help manage agitation in Alzheimer's disease?

A drug known as Nuedexta® has shown promise in treating agitation in individuals with Alzheimer's disease. Cleveland Clinic Lou Ruvo Center for Brain Health will be among the first to test this novel drug, which could benefit not only Alzheimer's patients, but also their caregivers, whose stress is typically augmented by the patient's agitation.

In the spring of 2013, the Lou Ruvo Center for Brain Health will begin enrolling individuals ages 50-90 with moderate to severe Alzheimer's disease for a 10-week trial. Participants may live either at home or in an assisted living or skilled nursing setting, but must exhibit signs of agitation defined as:

- Being aggressive verbally
- Being aggressive physically
- Displaying non-aggressive physical behavior, such as pacing

"New treatments can control agitation and improve patient and caregiver quality of life," notes Dr. Zhong.





Can Older Brains Learn New Tricks?

People often ask Cleveland Clinic Lou Ruvo Center for Brain Health for specific recommendations to promote better memory and healthy brain aging, inquiring about the value of crossword puzzles and similar “brain games.” We can think of the brain as a muscle and apply a “use it or lose it” approach; we know that with the right form of exercise, muscles get bigger.

The topic becomes even more interesting as we examine the different types of thinking and memory.

Quick thinking versus world knowledge

Some aspects of the brain and the thinking and memory processes they govern, are more affected by normal aging than others.

Skills involved in quick thinking and making new memories decline with normal aging:

- Speed of thinking
- Working memory: keeping a phone number in mind for a minute or two
- New learning: learning your way around your new neighborhood, or remembering the name of the restaurant you went to last night

Other memory abilities stay the same or even improve slightly with age:

- World knowledge: remembering who the sixth president was, or knowing the meaning of unusual words
- Autobiographical memory: the name of your fifth-grade grade teacher; your favorite childhood toy

This collection of world knowledge and autobiographical memories often leads us to dismiss our own or a loved one’s decline in cognition. Have you ever thought, “Sure, Aunt Mary told me the same story twice this morning, but it included every detail of a family picnic 40 years ago. Certainly she must be sharp as a tack?”

In some contexts, older brains can accomplish the same tasks as younger brains, but it takes more effort to achieve the same level or speed of thinking.

Navigating and Juggling

Before GPS, in order to drive an iconic black taxicab in London, prospective drivers had to pass an exam called “The Knowledge,” attesting to the driver’s knowledge of every street inside the beltway that encircles the city. In preparation for the exam, individuals would spend up to two years driving around London learning the streets, gathering information that is processed in the brain by the hippocampus.

Spotlight on Brain Health

Eleanor Maguire at University College London studied London taxi drivers of varying adult ages who had been driving professionally for different amounts of time. She found that regardless of age, the longer individuals had been driving, the larger their brain volume was in the hippocampal region responsible for long-term memory, suggesting an improvement not only in long-term memory, but also in size of the brain's memory centers.

Another study involving juggling was conducted to assess the potential for adult brains to change with experience. Participants were given an MRI to assess their brains before they received juggling training. They were then trained to juggle and instructed to practice a few hours a day for a few weeks. At the end of the juggling period, another MRI was administered, which showed that areas of the brain involved in the processing of movement had grown dramatically. Participants were then told not to juggle. Three months after juggling cessation, MRIs indicated the brain areas that had grown had shrunk slightly, but were nowhere near their original pre-juggling state.

What does this mean?

What we do every day can change our brains; for example, by introducing new knowledge. Unfortunately, that learning doesn't always transfer. We can't assume that if you learn to juggle, you learn spatial coordination in general that would immediately make you a great tennis player, or that learning your way around London transfers to knowledge of New York City streets. In fact, most of the memory tasks we could teach in a lab setting don't transfer to practical knowledge.

So... what should you do?

Accept that there is no silver bullet for perfect brain health. Select activities that you enjoy and stretch yourself beyond your initial comfort zone. Make a lifestyle change that you can enjoy on multiple levels and can sustain for a long time. The more activities you can combine, the greater the challenge presented to your brain. Discussing current events with friends while walking is probably among the best multitasking you can do. Remember that our brains are constantly changing, even when we're adults; perhaps we can teach older brains new tricks!

For more information on brain health, please visit clevelandclinic.org/brainhealth and keepmemoryalive.org.

About the author:

Dr. Sarah Banks oversees the neuropsychology program at the Lou Ruvo Center for Brain Health's Las Vegas location. Her research includes how patients perceive their condition using brain imaging to study behavior and thinking. To schedule an appointment, please call 702.483.6000.





Gabriel Léger, MD



Ryan Walsh, MD, PhD

Neurology and Psychiatry | Working Together for Optimal Patient Care

A woman in her early 50s came to Cleveland Clinic Lou Ruvo Center for Brain Health complaining of memory problems that had started a couple years earlier and had recently worsened: She forgot plans she'd made with her family and details of past events. When her physician, neurologist Gabriel Léger, MD, administered a standard memory test, the woman became paralyzed by anxiety and started crying and hyperventilating. "It was like stage fright. She tried to speak but couldn't," says Dr. Léger.

Her extreme reaction raised the question of whether her difficulties were due to a psychiatric condition, a neurological disease, or possibly both — a common dilemma in diagnosing conditions that affect the brain.

Once, neurological and psychiatric conditions were defined as having clear differences: neurological diseases affected movement, cognition, and sensation, while psychiatric conditions affected emotions and behavior. Today, thanks in part to advances in neuroimaging techniques such as MRI and a greater

understanding of brain chemistry, physicians recognize that both neurological and psychiatric conditions impact the brain and can co-occur, which can paint a confusing clinical picture. Many neurological diseases, such as Parkinson's disease, Alzheimer's disease, and multiple sclerosis, can have a wide-ranging impact on the brain, causing psychiatric conditions such as depression and anxiety. Psychiatric conditions can affect cognition, as can moods and emotions. These common symptoms can make diagnosis challenging.

"When patients exhibit memory problems in their 50s, they are often treated for depression before it is discovered that they have Alzheimer's disease, which is uncommon at that age. On the other hand, elderly people with cognitive difficulties may be diagnosed with dementia when their difficulties are actually related to depression," says Dylan Wint, MD, a Lou Ruvo Center for Brain Health physician certified in both neurology and psychiatry.

Lou Ruvo Center for Brain Health neurologists understand the psychological and psychiatric symptoms associated with brain



Dylan Wint, MD

disorders and can often address them. But when patients have symptoms of uncertain origin or severe psychiatric symptoms, they may be referred for a psychiatric consultation. “We try to schedule patient appointments back-to-back, discuss the case and come up with a plan that very day,” says Dr. Wint.

In the case of the woman in her early 50s, Dr. Léger referred her to Dr. Wint, who thought her severe anxiety might be a symptom of the manic phase of bipolar disorder. After he prescribed a psychotropic medication, “she calmed down tremendously and became able to discuss her anxiety. Her functioning and interactions with people also improved,” says Dr. Léger. But her memory problems persisted.

Tests indicated early-onset Alzheimer’s disease. “When people develop Alzheimer’s at an early age, they are more likely to have psychiatric symptoms, such as psychosis and anxiety, than people who develop Alzheimer’s later in life,” says Dr. Léger. The psychiatric effects of Alzheimer’s and other neurological diseases “often cause patients the greatest suffering,” says Dr. Wint.

During the course of her evaluation and treatment, Dr. Léger learned of her traumatic past, which contributed to her emotional state. However, with her Alzheimer’s-related anxiety under control, she is better able to handle her psychological response to the disease. She is also taking medications that address the cognitive symptoms of Alzheimer’s disease.

In another case, a woman in her 70s consulted Ryan Walsh, MD, PhD, Director of the Lou Ruvo Center for Brain Health’s Parkinson’s Disease and Movement Disorders Program, about her Parkinsonian-like movement difficulties, including a shuffling gait. Dr. Walsh learned that she had been hospitalized for psychiatric problems a few months before and was taking psychotropic medications. To find out if there was a relationship between her movement problems and her medications, Dr. Walsh referred the patient to Dr. Wint. “Psychotropic medications can cause side effects that resemble neurological diseases,” says Dr. Wint.

Taking her off the medications was risky because they had stabilized her condition. After considering a number of treatment options, Drs. Walsh and Wint, in consultation with the patient and her family, recommended electroconvulsive therapy. It proved successful in treating her psychiatric condition and allowed her to stop taking the medications that were the cause of her movement difficulties.

For information on an appointment with a Lou Ruvo Center for Brain Health neurologist or psychiatrist, please call 702.483.6000.



Jim Jones' motor control is evaluated by the Cleveland team shortly after DBS surgery

Collaborating to Provide World-Class Care | Brain Stimulator Implanted in Cleveland Helps Las Vegas Patient

Nine years after he was diagnosed with Parkinson's disease at age 44, James Jones was having symptoms — a tremor in his right hand, difficulty walking — that weren't fully controlled by the medications he'd been taking for several years. He came to Cleveland Clinic Lou Ruvo Center for Brain Health in Las Vegas and saw Associate Medical Director Charles Bernick, MD, MPH. After he took the new medication regimen Dr. Bernick prescribed, Mr. Jones' walking improved and his tremor went away.

But a year later in 2011, his symptoms worsened again. His biggest difficulty was walking; he experienced a common Parkinson's symptom known as "gait freezing," which made his feet stick to the floor as he tried to walk. "It took me 45 minutes to walk 100 feet," says Mr. Jones.

His symptoms were interfering with his job as a service technician for a Las Vegas chemical company: To get through the workday, he had to come home in the afternoon to rest his legs. He was also experiencing a common medication side effect, involuntary movements known as dyskinesia, and a medication problem, "wearing off," when symptom relief from each dose of medication lasts for a shorter period of time.

For Parkinson's disease patients like Mr. Jones whose symptoms are no longer controlled by medications — or who have an inadequate response or unacceptable side effects — there is another treatment option: a surgical procedure known as Deep Brain Stimulation (DBS). DBS uses a medical device called an impulse generator, which is similar to a pacemaker, to deliver electrical stimulation to targeted areas in the brain that control movement and generate Parkinson's symptoms. The generator is implanted in the chest and connected to electrodes implanted in the brain. DBS can significantly reduce Parkinson's symptoms such as tremors, rigidity, slowed movements, and gait freezing, as well as dyskinesia and wearing off.

Mr. Jones had known about DBS for several years and discussed it with Ryan Walsh, MD, PhD, Director, Parkinson's Disease and Movement Disorders Program at the Lou Ruvo Center for Brain Health. "Jim was already very knowledgeable about DBS. We talked about the pros and cons and expectations of results," says Dr. Walsh.

After learning that he was a candidate for DBS, Mr. Jones decided to have the procedure. "I was nervous about having brain surgery but I felt it was worth the risk. I knew I wouldn't be 100 percent better, but 85 percent was OK by me," he says.

Spotlight on Brain Health

In spring 2012, Mr. Jones traveled from his home in Las Vegas for a presurgical evaluation at Cleveland Clinic in Cleveland, where DBS procedures are performed for patients of the Lou Ruvo Center for Brain Health. He returned there for surgery to implant the DBS components, the last in July 2012.

In the months since the surgeries, Mr. Jones says, he has gotten “better and better all the time. My walking has improved quite a bit and I don’t have to come home from work to rest during the day.” He barely notices the device, and was able to return to work in September.

Back home in Las Vegas, Dr. Walsh has adjusted Mr. Jones’ DBS to optimize symptom relief. “After surgery, we work closely with the patient to program the device and adjust the medications. It isn’t just the procedure but the follow-up programming that helps control symptoms,” he says. “Jim has had a very good response to DBS. His symptoms are better controlled with less medication.”

“I would recommend DBS to anyone with Parkinson’s in a heartbeat,” says Mr. Jones.

For more information on collaborative care across the Lou Ruvo Center for Brain Health’s four locations, please visit clevelandclinic.org/brainhealth.

Back in Las Vegas, Ryan Walsh, MD, PhD, monitors the deep brain stimulation implant in Jim Jones





The Conrad N. Hilton Foundation | Supporting an Expanded MS Program for Nevada

Thanks to a grant of almost \$1.4 million from the Conrad N. Hilton Foundation, “now for the first time, we’re able to offer a comprehensive care program for the estimated 3,000 people in Southern Nevada with multiple sclerosis,” says Tim West, MD, Director, Multiple Sclerosis Program, Cleveland Clinic Lou Ruvo Center for Brain Health.

For Dr. West, comprehensive care connotes a four-pronged approach comprising education, social work, research and a dedicated medical team. He modeled the multiple sclerosis (MS) clinic at the Las Vegas-based Lou Ruvo Center for Brain Health after the Mellen Center for Multiple Sclerosis Treatment and Research at the Main Campus of Cleveland Clinic in Cleveland.

Education

With the Conrad N. Hilton Foundation grant, the Lou Ruvo Center for Brain Health will reach out to Nevadans not only in English, but also in Spanish via community education initiatives. We have

also increased our library’s collection of English- and Spanish-language books and DVDs about living with MS.

Education is critical to early detection of MS. Because of the disparate symptoms, which can include numbness, weakness, dizziness, or problems with speaking or vision, the disease often goes undiagnosed for years. Frequently, an individual will briefly experience a symptom that goes away after days or weeks and may be forgotten.

“If an unusual neurologic symptom lasts for more than a day, you should see a neurologist, even if that symptom went away on its own,” urges Dr. West. “If treatment is necessary, the earlier you start, the better off you are in the long term.”

Stay tuned to the program calendar on our website, keepmemoryalive.org, for educational events about MS.

Spotlight on Brain Health

Social Work: patient and family services

MS can be socially isolating. If you're struggling with the disease, you're not alone. At the Lou Ruvo Center for Brain Health, we offer education programs and support services designed to increase knowledge, coping skills, and well-being for patients and family members.

The Conrad N. Hilton Foundation grant has allowed us to expand access to counseling for patients with MS who may be struggling with depression or anxiety.

Research

The Conrad N. Hilton Foundation grant is also helping to fund a dedicated clinical trials program for MS here in Nevada. A clinical trial is a research process that is used to test new ways of treating disease; trials are the only path to securing FDA approval for new drugs.

For the most up-to-date list of MS clinical trials currently enrolling participants, please visit clevelandclinic.org/brainhealthtrials.

Dedicated Medical Team

The newly expanded clinical MS team at the Lou Ruvo Center for Brain Health, led by Dr. West, includes Physician Assistant Michelle Thompson, Melissa Ellis, RN, and Medical Assistant Andrea Lopez.

The process of diagnosing MS typically includes a neurological exam and an MRI, though no test by itself is conclusive. Thanks to the grant, the center also offers optical coherence tomography (OCT) and visual evoked potential (VEP) diagnostics, which assess the impact of MS on eyesight.



Barron and Marilyn Hilton, parents of Hilton Foundation Chairman, President & CEO Steven M. Hilton

Looking Ahead

The grant from the Conrad N. Hilton Foundation covers the first three years of expansion for the Lou Ruvo Center for Brain Health's MS program; afterward, the program must become self-sustaining through its operations and its ability to identify additional philanthropic partners.

"Dr. West's passion for MS has ignited my passion for this disease. As a philanthropist, I now look for people who share this passion for MS," says Gina Hines, Director of Philanthropy. "No matter who you are, rich or poor, English or Spanish speaking, early or advanced MS, you should be able to receive world-class care at our center."

The Conrad N. Hilton Foundation

Hilton Foundation Chairman, President & CEO Steven M. Hilton understands the toll the MS can take on people's lives. His mother, Marilyn Hilton, passed away from complications associated with the disease. "When someone you love is afflicted with MS, it opens your heart to the suffering that others go through. We feel it's important to help people who are experiencing a similar struggle. The Lou Ruvo Center for Brain Health is helping patients and their families cope with this disease and are poised to make an important contribution to the fight against MS."

**Interested in supporting a program?
Whether you're a grateful patient or family member or someone who is interested in expanding health care for all Nevadans, there is always a way to help. Please contact Cleveland Clinic Lou Ruvo Center for Brain Health at 702.331.7052 to discuss ways to give, from contributions today, to estate planning, to an endowed chair for the Director of the MS program.**

Contact us:

- For an appointment with a neurologist: 702.483.6000
- For information on social services: 702.483.6023 or the Patients and Families section of keepmemoryalive.org
- For information on clinical trials: 702.685.7073 or clevelandclinic.org/brainhealthtrials



Living With MS | Advice from a Son and Doctor

“As Eleanor Roosevelt said, ‘Learn from the mistakes of others. You can’t live long enough to make them all yourself,’ ” advises Tim West, MD, Director, Multiple Sclerosis Program, Cleveland Clinic Lou Ruvo Center for Brain Health.

Growing up with a mother who has multiple sclerosis (MS) informed and inspired Dr. West to seek a career in neurology. It also gave him the opportunity to make mistakes that he shares openly with his patients and with anyone interested in learning more about the chronic inflammatory and neurodegenerative disease.

Here are some of Dr. West’s insights on achieving quality of life while living with MS or with almost any other debilitating, degenerative disease.

Educate yourself

Only when you acknowledge how little you know about MS can you start to ask the truly important questions:

- Why am I taking this medication and what are the side effects?
- What are the costs associated with this treatment?
- What are my other conditions/medications not related to my MS?
- What resources are available in my community?

Take action

- If you smoke, quit. Smoking is an independent but modifiable risk factor for the development and progression of MS.
- Find a medication that works for you and that you can afford. Take it and don’t stop until you and your doctor agree you should.

Dr. West once asked his mother, Abby, how she was able to manage her own quality of life with MS. He found her answer surprisingly simple: “I realized I still had something to offer and I stopped focusing on what I couldn’t do and started focusing on what I could do.”

Protect the ones you love

Caring for a loved one with any neurodegenerative disease can be a very difficult proposition. Many patients are fortunate enough to have someone in their life who advocates and cares for them. As a patient, it is important to recognize the efforts of your loved one and to protect these precious individuals as much as possible by taking good care of yourself and of them.

Confront depression

The lifetime risk of depression in those with MS is around 50 percent, three times the rate of the general population. Twenty-five percent of those with MS contemplate suicide. If you suspect depression in yourself or a loved one with MS, seek help immediately.

Finally ...

“Don’t get so caught up in taking care of your brain that you forget to take care of your mind, your heart, or your soul,” concludes Dr. West.

For More Information

Information on no-cost social services programming is available at keepmemoryalive.org.



Tim West, MD, with mother, Abby

Using Physical Therapy to Manage Multiple Sclerosis

“**W**hen crossing a street or walking down the sidewalk, I used to avoid curbs because I often fell, but during physical therapy I learned that by avoiding curbs, my muscles were deteriorating,” says Laura Bloch, 66. “I don’t avoid curbs anymore. I don’t avoid much of anything anymore.”

She has come a long way. Ms. Bloch was diagnosed with multiple sclerosis (MS) in 1994 following numbness in her right hand, slurred speech and double vision. She had visited a number of neurologists in different states before July 2011, when she read in the Las Vegas Review-Journal that Tim West, MD, was joining Cleveland Clinic Lou Ruvo Center for Brain Health as Director, Multiple Sclerosis Program.

“He’s the first true MS specialist in the state,” says Ms. Bloch, who remembers looking forward with great anticipation to her first appointment with Dr. West, who has been fellowship-trained in MS.



Jen Nash, DPT, NCS, monitors Laura Bloch’s exercise

Spotlight on Brain Health

What she found was “a totally different way of looking at patients.

“At the Lou Ruvo Center for Brain Health, they genuinely care. Everybody does, from Nurse Melissa Ellis to Dr. West himself. I’d never before had a doctor’s appointment that included a one-hour conversation. Dr. West wanted to help me learn to live with MS,” says Ms. Bloch, who had begun declining theater invitations from friends after experiencing too many falls in public venues due to stairs, long walks, and uneven surfaces.

Noticing that she was tripping over her left foot, Dr. West recommended physical therapy as well as a small, unobtrusive neurostimulator to assist her left leg in walking.

Laura Bloch has used all of the drug treatments currently available for MS, but they are no longer beneficial for her. Until a new drug is released in 2013, physical therapy is her only effective treatment. Because MS affects each individual differently, she appreciates that the exercises are customized to her needs.

“For example, under the guidance of Dr. Jen Nash, my physical therapist, I use the treadmill at a 15 percent incline to help acclimate to my driveway, which is even steeper,” says Ms. Bloch.

To help her adjust to unanticipated and uneven surfaces, Jen Nash, DPT, NCS, placed an assortment of objects under a mat over which Ms. Bloch practiced walking. She also learned to look around and get her bearings prior to turning and moving.

“Now,” Ms. Bloch says, “when we’re out and about and I save myself from tripping, my husband, Hal, tells me, ‘Good recovery!’”

“I once sent my grandkids a holiday card of a Christmas tree lying down that said, ‘Help, I’ve fallen and I can’t get up.’ At one time, that was me,” adds Ms. Bloch. “Now, I can play Simon Says with my grandkids because once again, I can stand on one leg.”

Having learned tips from Drs. West and Nash for improving quality of life, Ms. Bloch advises others navigating MS to: Get plenty of rest. Eat properly. Be good to yourself and be forgiving of yourself. Know that everyone is human and you’re going to make mistakes.

Most importantly, she says, “Have a good sense of humor and learn to laugh at yourself.”



*L to R - Hal and Laura Bloch with granddaughters Lillie and Ava
Dragonfly Portrait Design*



Under the guidance of Meleah Murphy, DPT, Volunteer Mark Anastas tosses a ball with Sharon Saley



Mark Anastas takes blood pressure

Meet Our Volunteer | Mark Anastas

“It shouldn't be called 'retirement,'” says Mark Anastas, “it's 'rejuvenation.’”

Retired from a career in human resources, Mr. Anastas finds himself rejuvenated by the experience of volunteering at Cleveland Clinic Lou Ruvo Center for Brain Health. He remembers feeling energized the first time he walked into the building, and that energy rekindles each day he returns to volunteer.

“You see the exhaustion, anxiety, and fear on the part of the patients and their family caregivers, and yet, they come here and work hard,” says Mr. Anastas. “They want to get better and they believe the physical therapists at the Lou Ruvo Center for Brain Health have the expertise to help them.”

Twice a week, Mr. Anastas assists physical therapists during exercises with the patients, perhaps tossing a ball back and forth while they work on balance, but he says it's possible to make a difference simply with a warm greeting while escorting a patient to the therapy room.

He enjoys observing the interactions between physical therapists and patients: “I watch patients thanking the physical therapist because they came in a wheelchair and go out with a walker, or even walking unassisted. Patients have regained confidence and they're motivated for further improvement. There's a sense of possibility that they, too, can be rejuvenated, both physically and emotionally.”

Mr. Anastas has also watched relationships deepen between patients and family caregivers as together, they navigate a disease and gain a new perspective on life. He says they're finding courage and strength they might never have realized they had.

Mr. Anastas firmly believes the center is a place of hopes and dreams, where patients and caregivers know they don't have to face a memory or movement problem alone. “I've had more than a few goose bumps while volunteering here,” he says.

For information on volunteering at the Lou Ruvo Center for Brain Health, please contact Director of Volunteer Services Dee King at 702.331.7046 or dking@keepmemoryalive.org.

Employee Profile | LeeAnn Mandarino and Team Lou Ruvo



LeeAnn Mandarino meets Regina Benjamin, MD, MBA, Surgeon General U.S.

Walk into Program Manager LeeAnn Mandarino's office at Cleveland Clinic Lou Ruvo Center for Brain Health and you'll see photos of her with various celebrities who have visited the center.

"I go to work and expect it to be just another day, and then I'm asked to take Tony Soprano on a tour of the center. You don't think about touring a notable TV mob boss when you're getting dressed in the morning," says Ms. Mandarino. "Otherwise, I would have worn my pinstriped suit."

While it's been a thrill to meet James Gandolfini, Danny DeVito, Mitt Romney, and President George W. Bush, Ms. Mandarino says she really enjoys meeting the incredible medical experts who have attended the conferences she has facilitated.

"I pick up a *Washington Post* article about Alzheimer's and I know most of the doctors cited," she says.

With a master's degree in political science, Ms. Mandarino was attracted to the Lou Ruvo Center for Brain Health by the opportunity to help shape public policy. One of her favorite projects was the 2008 Leon Thal Symposium for the Prevention of Dementia. Participants included some of the best Alzheimer's disease doctors

in the world as well as representatives from the Alzheimer's Study Group, a Washington, D.C. advocacy consortium. Recommendations from the think tank were incorporated into the National Alzheimer's Strategic Plan, which helped shape the National Alzheimer's Project Act that became law in January 2011.

"For years, Las Vegas was overlooked by the national medical community, but here we are helping to shape public policy on a major medical issue," Ms. Mandarino says.

Most recently, she organized the first national conference on chronic traumatic encephalopathy, cosponsored by Boston University and attended by Nobel Laureate Stanley Prusiner, MD, and Regina M. Benjamin, MD, MBA, Surgeon General of the U.S., among other notable scientists and sports figures.

"Every time I secure a grant, it's a thrill," says Ms. Mandarino. "It's an affirmation of the important work we do here."

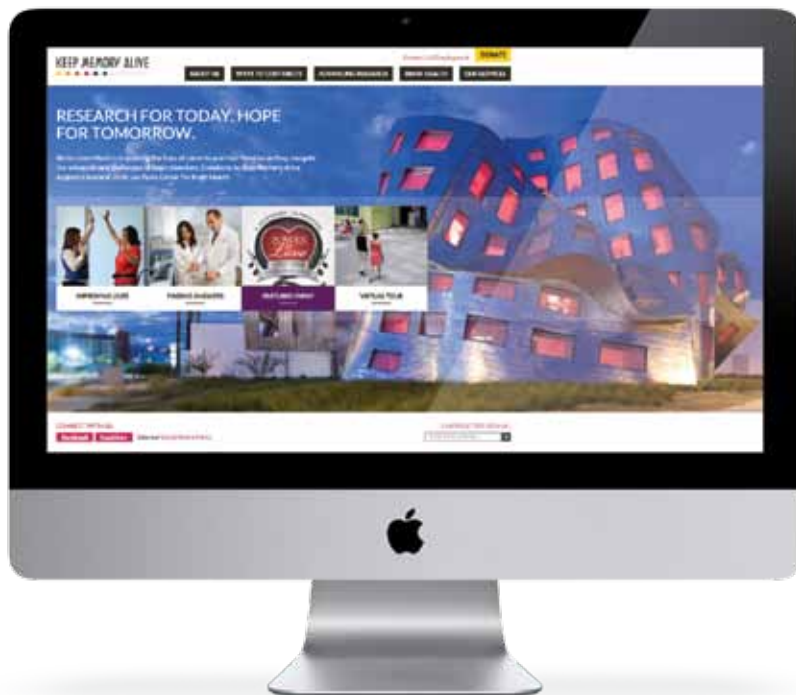
She hopes to help grow the Lou Ruvo Center for Brain Health for the team and the doctors, whom she admires greatly: "The level of expertise they bring to Las Vegas is making this city a great place to work, raise a family, and practice medicine."



L to R - LeeAnn Mandarino, daughter Natalie, a student and soccer player at Northern Arizona University, and husband Todd Gilbertson

Interested in Joining the Team?
Jobs at the Lou Ruvo Center for Brain Health are posted at clevelandclinic-jobs.com. Type in the keywords "Las Vegas" to identify openings at the center's Nevada headquarters.

Visit Our New Website at keepmemoryalive.org



The New keepmemoryalive.org

For the ethereal (a virtual tour of our Frank Gehry-designed headquarters) to the practical (how to find our building or schedule a medical appointment), we encourage you to visit us online. Learn more about brain health. Peruse our calendar of educational programming for patients and families. Plan to attend an upcoming Keep Memory Alive event. Include us in your estate plans. To find out more, visit us online at the new keepmemoryalive.org.

We invite you to join the Keep Memory Alive social media circle for the latest news from Keep Memory Alive and Cleveland Clinic Lou Ruvo Center for Brain Health.

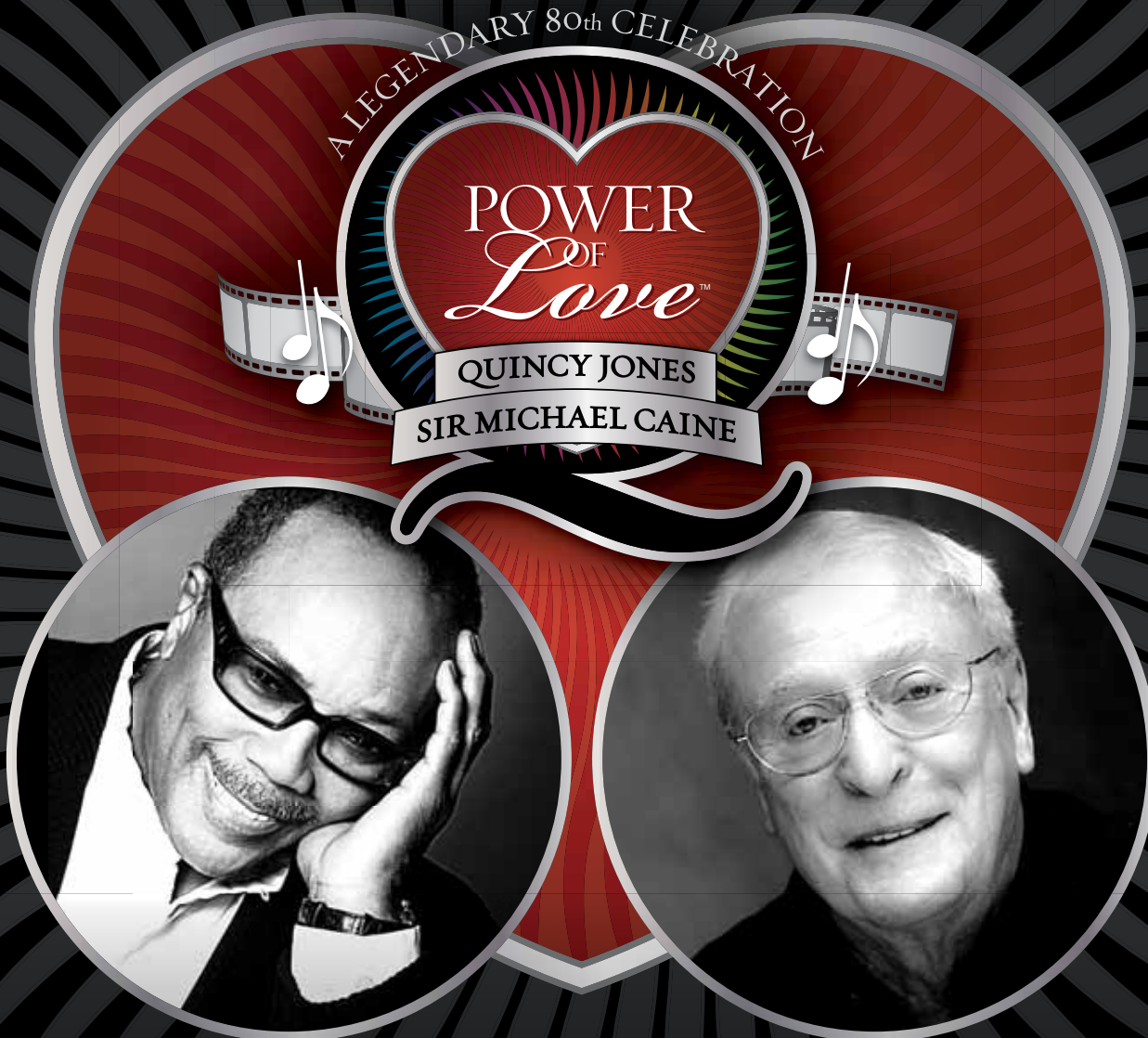
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KEEP MEMORY ALIVE

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

ALZHEIMER | HUNTINGTON | PARKINSON | ALS | MULTIPLE SCLEROSIS



 **Cleveland Clinic**
Lou Ruvo Center for Brain Health

Camille and Larry Ruvo, Recipients of The Distinguished Fellow Award

The Distinguished Fellow Award was established in 1971 to celebrate Cleveland Clinic's 50th anniversary. Conferred by the Board of Trustees, the Distinguished Fellow remains the highest lifetime honor bestowed to date upon only 83 individuals who have made extraordinary contributions of service and resources to further the mission of Cleveland Clinic.

In addition to envisioning an outpatient facility that would offer comprehensive patient and family care for those affected by brain disorders, Camille and Larry Ruvo secured world-class architect Frank Gehry to design the Lou Ruvo Center for Brain Health in Las Vegas and Cleveland Clinic to operate it. Mr. Ruvo also focused on the creation of a program for family caregivers that has served nearly 3,000 families.

Mr. Ruvo is a member of Cleveland Clinic's Board of Trustees and is Founder and Chairman of Keep Memory Alive, which raises significant funds through its annual, star-studded Power of Love™ gala. Mrs. Ruvo serves as Vice Chairman of Keep Memory Alive's Executive Board. The couple was inducted into the 1921 Society in 2010. They recently established the Camille and Larry Ruvo Chair for Brain Health, and also support Cleveland Clinic's highest priorities through the Cosgrove Innovation Fund.

The Lou Ruvo Center for Brain Health honors Mr. Ruvo's father, Lou, who passed away from Alzheimer's disease in 1994. Now with great pleasure, Cleveland Clinic honors Camille and Larry Ruvo as Distinguished Fellows.



Larry Ruvo accepts the Distinguished Fellow award on behalf of himself and wife Camille Ruvo

Las Vegas Inductees Join Cleveland Clinic's 1921 Society

The 1921 Society is Cleveland Clinic's most prestigious donor recognition group, which includes individuals and organizations whose cumulative lifetime giving to Cleveland Clinic totals \$1 million or more. Induction into the 1921 Society — named for the year Cleveland Clinic was founded — reflects heartfelt generosity, compassion, volunteer service, and dedication to improving lives at Cleveland Clinic and around the world.



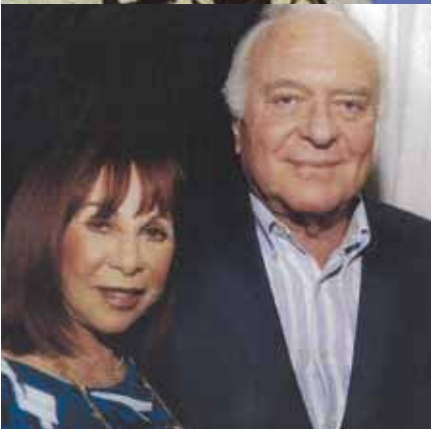
Lovee and Bob Arum

After losing her father, Morris A. Hazan, to Alzheimer's disease, Lovee Arum and husband Bob were committed to supporting Keep Memory Alive. Having overseen the careers of many renowned boxers in his role as President of Top Rank, Inc., Mr. Arum was instrumental in the 2012 Power of Love™ gala that celebrated the 70th birthday of boxing legend Muhammad Ali. Ms. Arum serves on the KMA board.



Jewel Brooks

In honor of husband Bob, who succumbed to Alzheimer's disease, Jewel Brooks chose to support Cleveland Clinic Lou Ruvo Center for Brain Health, yet another example of the Brooks family's visionary philanthropy and never-ending compassion that have made an impact on countless Las Vegans.



Bobbi and Mel Dick

Among the earliest supporters of Keep Memory Alive, Bobbi and Mel Dick have given in myriad ways. Perhaps one of the most memorable was providing the boxing gloves worn by Muhammad Ali when he fought Floyd Patterson in 1965, which were auctioned amid great excitement at Keep Memory Alive's 2012 Power of Love gala.



Caesars Entertainment and Caesars Foundation

Gifts from Caesars Entertainment and Caesars Foundation have supported efforts to bring a broad range of neurodegenerative disease specialists to Southern Nevada. Along with a commitment to good health and independent living for America's seniors, the foundation supports access to clinical trials and compassionate services for patients and their caregivers.



Bill Edwards

Perhaps the greatest testament to Bill Edwards' generosity and dedication to Keep Memory Alive is the global attention he brought to the organization by producing the 2012 Power of Love gala, which aired nationally on ESPN and on ABC.



Carolyn and Gary Hanna

Carolyn Hanna and her late husband, Gary, made a commitment to help the residents of Las Vegas, the city they called home for more than 50 years. Supporting Keep Memory Alive is one of the ways Mrs. Hanna has chosen to honor that commitment (see related article on page 32).



MGM Resorts International

A leading global hospitality company recognized for its community philanthropy programs, MGM Resorts International has made numerous gifts to the Lou Ruvo Center for Brain Health. Affiliated with some of the most memorable charity events in Las Vegas, MGM Resorts International partnered with Keep Memory Alive to host the 2012 Power of Love gala, with nearly 2,000 attendees.



Southern Wine & Spirits of America

SWS Charitable Foundation, Inc., the charitable arm of the country's largest family-owned liquor distribution company, provides philanthropic support to the communities it serves. Under the leadership of the Chaplin family, the company's founders, SWS Charitable Foundation pledged early support and has made multiple gifts to the Lou Ruvo Center for Brain Health, inspiring hope for patients diagnosed with brain diseases.

A Gift for The Future | Carolyn and Gary Hanna



Carolyn Hanna recalls her husband, Gary Hanna, often saying, “The people of Las Vegas supported my business, so I want to give back.”

Mr. Hanna passed away in 2011. Since that time, Mrs. Hanna has focused on bringing his wishes to fruition.

Mr. Hanna founded, owned, and operated Las Vegas Dodge, Chrysler-Plymouth and Nissan, and was recognized by *Time* magazine as Man of the Year in the automotive category for most cars sold nationwide.

Married for 46 years, the couple began to focus on their philanthropic legacy after Mr. Hanna retired in 1997. Having been stricken with ovarian cancer in 1999, Mrs. Hanna says, “When you survive cancer, it makes you very aware of how important medicine is.”

Mr. Hanna also benefited from good medical care. He suffered from encephalitis, and his memory and movement were affected in myriad ways as he remembered his wife but forgot how to walk. “I learned through him how important it is to follow a proper physical therapy regimen,” says Mrs. Hanna.

After suffering a stress fracture in her foot that she developed while improperly lifting her husband, she also learned how important it is to be a caregiver. Years before, she had been a different kind of caregiver, caring for customers as a hair stylist at the Riviera Hotel and as a flight attendant for Bonanza Airlines when Las Vegas was morphing from a frontier town into a worldwide tourist destination.

Recently, as Mrs. Hanna reflected on how to fulfill the couple’s wishes to make a difference in the city that has been so good to them, she noted two developing sectors: arts and medicine. There are so many great entertainers in Las Vegas, but until the Smith Center for the Performing Arts opened in March 2012, the city lacked a world-class stage; she decided to be a part of the philanthropy that changed that situation.

Mrs. Hanna is careful to plan for the future. Her gift to Cleveland Clinic Lou Ruvo Center for Brain Health will benefit generations to come.

“People recognize the name Cleveland Clinic, and now they know to go there and get world-class care right in Las Vegas,” she says.

Harry Winston Provides Hope for Brain Disorders

HARRY WINSTON *Brilliant Futures*TM

The limited-edition bracelet features a sleek white gold and engraved mother-of-pearl design set with a delicate Winston diamond at the center



Harry Winston, Inc., the American fine diamond jeweler and watchmaker, has selected Keep Memory Alive to be a recipient of the new Harry Winston Hope CollectionTM Bracelet, which was developed to support leading charitable organizations.

As part of the Harry Winston Brilliant Futures Charitable program, Harry Winston will donate 100 percent of the \$2,500 retail sales price from each bracelet to seven organizations nationwide, including Keep Memory Alive in Las Vegas, where bracelets will be available in January 2013.

Support from sales of the bracelet in Las Vegas will enable Keep Memory Alive to develop a lecture series featuring Cleveland Clinic brain health experts discussing how lifelong healthy lifestyle choices impact brain health.

For more information on supporting Keep Memory Alive by purchasing a Harry Winston Hope Collection Bracelet, please contact the Las Vegas salon directly at 702.262.0001.



L to R- Jenna Clifford, CSW-I, Maxwell Blanchard, Jean Younker, PhD, and Jennifer Gayan, LCSW

Counseling and Support Groups Help Patients Navigate Parkinson's

In 2008, Maxwell Blanchard began experiencing an odd tremor; by the end of each day, his left arm would become so stiff it was nearly paralyzed. He lost his sense of smell, developed severe depression and had suicidal thoughts. His primary care physician treated his panic attacks with low-dose tranquilizers as frequently as a few times a week.

In the ensuing years, as the panic attacks worsened and the need for tranquilizers increased, Mr. Blanchard's medical team began to suspect that the tremors and stiffness were attributable not to stress, but rather to a specific disease: Parkinson's.

"I was pushing him hard and encouraging him to go to Cleveland Clinic Lou Ruvo Center for Brain Health," says wife Jean Younker, PhD.

Mr. Blanchard remembers his first visit to the Lou Ruvo Center for Brain Health: "I was expecting them to confirm my worst fears: that I had Parkinson's and in six months, I'd be a vegetable in a wheelchair. I'd have dementia and I wouldn't be able to talk."

Instead, Mr. Blanchard met with Ryan Walsh, MD, PhD, Director of the Parkinson's Disease and Movement Disorders Program,

Caring for Caregivers

and learned that while he did have Parkinson's disease, it could be managed with exercise and drug treatment. Not only have his movement and cognition remained intact; he has been able to resume activities the couple enjoys, including sailing, hiking in national parks, and snorkeling and swimming in Hawaii.

It hasn't always been this easy. There was a time when Mr. Blanchard's tremors were so severe, he worried he would fall off the couple's beloved sailboat, Voyager. Although they have resumed sailing, they are more cautious with respect to extreme weather and stress-inducing situations.

On a recent plane trip, Mr. Blanchard made a concession: He went through security in a wheelchair to avoid any stress-induced tremors. He credits the Lou Ruvo Center for Brain Health's counseling services for helping him learn to make such lifestyle choices that help him manage the disease.

In just eight weeks of one-on-one counseling with Jenna Clifford, CSW-I, Mr. Blanchard learned how to control his stress-induced tremors and enhance his coping skills. She told him, "When you feel a panic attack coming on, sit down, de-stress, and start deep breathing exercises." He now lies on the floor and is able to relax his mind and move his limbs into a position where the tremors stop.

"Counseling helps patients reframe the way they view the world and develop a more positive view of the future," explains Mr. Blanchard. "Ms. Clifford was able to provide models for coping that, combined with antidepressants from my doctor, got me through a deep depression."

The couple also participates in two concurrent monthly support groups with Jennifer Gayan, LCSW, and Ms. Clifford: one for individuals with Parkinson's disease and one for family members. The support groups reduce isolation as participants realize they're not the only ones coping with a life-changing disease. Moreover, the testimonials provided by their peers around the table reinforce what they've heard from Dr. Walsh: Medication can help with Parkinson's disease, but so can exercise.

Mr. Blanchard goes to the gym every day and often takes a two-mile walk as well. He notes that for hours after exercise, his tremors are reduced or disappear entirely.

Mr. Blanchard regards Dr. Walsh as his "knight in shining armor." After multiple visits and discussions around Mr. Blanchard's symptoms and the benefits and side effects of available

medications, the pair has settled on three that, combined with antidepressants and the support groups, are providing maximum quality of life.

The couple's advice for other families coping with Parkinson's?

"Come to Cleveland Clinic. They're at the cutting edges of science. Take advantage of the free social services offered," says Mr. Blanchard.

Learn more at the support groups and psychotherapy pages at keepmemoryalive.org



Maxwell Blanchard and Jean Younker continue to enjoy hiking and snorkeling



The MGM Resorts Foundation | Providing for Psychotherapy



The MGM Resorts Foundation has awarded a grant to Cleveland Clinic Lou Ruvo Center for Brain Health to expand its psychotherapy program. This grant will increase the Lou Ruvo Center for Brain Health's capacity to offer psychotherapy at no cost to individuals diagnosed with neurodegenerative diseases.

Individuals impacted by degenerative brain disease can experience a tremendous range of emotions and concerns, which may include depression, anxiety, fear, anger, and guilt. Additional challenges arise in understanding the diagnosis and treatment choices as well as in learning how to adjust to new symptoms.

Psychotherapy is an effective treatment intervention to address such challenges. At the Lou Ruvo Center for Brain Health, we have witnessed firsthand the benefits of psychotherapy in improving coping skills, reducing depression and anxiety, increasing knowledge of disease and strengthening family relationships.

Thanks to the MGM Resorts Foundation, we look forward to helping more individuals master these challenges.

To learn more about the Lou Ruvo Center for Brain Health's psychotherapy program, please contact Jennifer Gayan, LCSW, at 702.483.6036 or gayanj@ccf.org.

Our library volunteers are waiting to assist you



**"I love being able to come upstairs to the library and immediately locate materials referenced in the support group I attend at Cleveland Clinic."
— Ronald Kay**



**"At 89 years old, it's really important to me to keep my mind sharp. That's why I visit the library at the Lou Ruvo Center for Brain Health."
— Berniece Borge**

**Browse the 1,500 volumes in our library catalog on the "library" tab at keepmemoryalive.org
Visit the library Monday through Thursday, 10 a.m. — 2 p.m.
Write to us at LouRuvoLibrary@ccf.org**

Photo Gallery



Cee Lo Green provides an autograph for Keep Memory Alive's Gina Sinclair while Larry Ruvo looks on



L to R - Gordon Macpherson of Bacardi USA with Drew Hopkins and Larry Ruvo



Corey Sanders, COO MGM Resorts International, flanked by Larry Ruvo (L) and Jeffrey Cummings, MD, ScD



Larry Ruvo (L) with Kathryn and Craig Hall



Gayle Anderson, Nevada Commission on Economic Development, left, with Karen Lanyon, Australian Consul-General



L to R - John Nicodemo and Bryan Fry of Pernod Ricard join Larry Ruvo for a tour

Photo Gallery



Nobel laureate Stanley Prusiner, MD and Jeff Cummings, MD, ScD



Park City Municipal Corporation includes the Lou Ruvo Center for Brain Health on its multi-city tour



Young Presidents Organization Las Vegas visits the Lou Ruvo Center for Brain Health



L to R - KMA Board Member Michael Severino with Robert DeNiro and friends.



Ron Burkle

Photo Gallery



The Lou Ruvo Center for Brain Health philanthropy and research teams join William Thompson in unveiling a plaque in memory of his wife, Ellen



Larry Ruvo (L) with Dani and Ted Virtue of MidOcean Partners



L to R - Dave Henry, Joe Tumminia, Laura Burns, Jeremy Ziegler and Paul Schmitt of Whiting-Turner Contracting Company



L to R - Larry Ruvo, Tony Novelly of Apex Oil and Steve Wallace of Wally's Wine and Spirits



Steven Spielberg (center) with Kate Zhong, MD, and Jeffrey Cummings, MD, ScD



Man v Food's Adam Richman (L) and friend

Also in This Issue



Team Cleveland Clinic at the Walk to End Alzheimers



Ready, Set, Ride

Team Cleveland Clinic Walks and Rides Towards Cures



L to R - Jeffrey Cummings, MD, ScD, Michelle Sholar, Samuel Hickson, Gina Hines and Isaac Santa Ana

Walk to End Alzheimer's: September 27

"Our volunteers never cease to amaze me," says Dee King, Director of Volunteer Services, Cleveland Clinic Lou Ruvo Center for Brain Health. "Not only did they participate and recruit friends, children, and grandchildren, but we also had students from Touro University join our team, as well as nearly half of our own staff."

Ranging in age from 3 to 83, the Lou Ruvo Center for Brain Health's 120 walkers constituted the largest team at the Alzheimer's Association's Walk to End Alzheimer's in Las Vegas.

Bike MS: November 10-11

For the second year in a row, the Southern California & Nevada chapter of the National Multiple Sclerosis Society hosted its largest annual fundraiser at Cleveland Clinic Lou Ruvo Center for Brain Health in Las Vegas.

Tim West, MD, Director, Multiple Sclerosis Program, and Jen Nash, DPT, NCS, Manager, Neurologic Outpatient Rehabilitation, spearheaded the Lou Ruvo Center for Brain Health's team, which included staff and patients riding side by side.

Based on feedback from individuals with multiple sclerosis who found it difficult or prohibitive to ride the Las Vegas city streets last year, Drs. West and Nash championed the use of stationary spinning bikes in the center's parking lot. The parking lot also served as the start and finish point for each day's ride.



L to R - Jen Nash, DPT, NCS, Susan Lanchester, Suzanne Roske, Tim West, MD, TerriLynn Thorn, Stephanie Wickens and Judi Hanson

A “Grape” Way You Can Support Keep Memory Alive



Wolfgang Puck joins Larry Ruvo in the Keep Memory Alive Event Center to launch his new wine benefiting the organization



L to R - Cabernet Sauvignon, Sauvignon Blanc, Chardonnay, and Red Blend

In 1995, when Wolfgang Puck began donating his services to Keep Memory Alive — a nonprofit committed to eradicating Alzheimer’s disease — little did he know the disease would strike so close to home. In 2004, he lost his mother, Maria, to Alzheimer’s disease.

Today, Puck’s commitment to Keep Memory Alive is stronger than ever. In addition to again cooking at the Power of Love™ gala in April 2013, he has launched an eponymous line of wine that benefits the charity.

Currently available at select convenience, grocery, and wine and liquor stores, Wolfgang Puck wines are being offered at an increasing number of stores across the country including Whole Foods and numerous premiere locations.

Next time you’re looking for a chardonnay, sauvignon blanc, cabernet sauvignon or red blend, pick up a bottle of Wolfgang Puck and enjoy your wine, knowing that a portion of the proceeds supports the mission of Keep Memory Alive: to find a cure for Alzheimer’s, ALS, Huntington’s, Parkinson’s and multiple sclerosis and improve quality of life for our friends and families.

WOLFGANG PUCK

CABERNET SAUVIGNON
2010 CALIFORNIA

I hand selected this Cabernet Sauvignon for its lush expression of blackberries, violets and hints of toasty oak. Enjoy with roasted beef tenderloin, rich pasta dishes or spicy chicken pizza.

IN HONOR OF MY MOTHER

I began cooking at my mother Maria’s side as a child and her love and support inspired me to follow my dreams. I lost my mother to Alzheimer’s in 2004. Enjoy this wine knowing a portion of the proceeds will support the mission of Keep Memory Alive, a charity committed to curing Alzheimer’s, Parkinson’s, Huntington’s, ALS and MS.

Wolfgang

KEEP MEMORY ALIVE

Supporting the “War on the Alzheimer’s and Dementia” for the Memory Health
ALZHEIMER’S | HUNTINGTON’S | PARKINSON’S | ALS | MULTIPLE SCLEROSIS

KEEP MEMORY ALIVE

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



ALZHEIMER | HUNTINGTON | PARKINSON | ALS | MULTIPLE SCLEROSIS



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