

New Thinking

About Thinking

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



What Do Mad Cows, Boxing and Alzheimer's Disease Have in Common?



These three seemingly disparate items — Alzheimer's disease (AD), boxing and mad cow disease — have in common the accumulation of abnormal proteins in the brain. Repeated head trauma leads to a condition called chronic traumatic encephalopathy (CTE), which is characterized by deposits of a protein called tau in vulnerable brain areas. Patients exhibit mood changes and progressive impairment of memory and cognitive function. The disorder occurs in athletes, such as boxers, football players and hockey players who experience repeated episodes of head trauma. CTE also occurs in soldiers with head injuries such as blast injuries, commonly seen in those serving in Afghanistan and Iraq.

A feature of Alzheimer's disease is the accumulation of tau protein in the form of neurofibrillary tangles within nerve cells. Disturbances of the tau protein correlate with declining memory, worsening cognitive function, impaired activities of daily living and changes in behavior.

In mad cow disease and Creutzfeldt-Jakob disease (CJD), a form more commonly seen in the U.S., a prion protein accumulates, spreads from cell to cell, and rapidly leads to loss of cells and the eventual death of the patient. Lessons learned through prion protein studies are being applied to studies of tau protein involved in AD and CTE. Tau protein is passed from cell to cell in much the same way that prions are transmitted among cells. This fundamental observation is critical to understanding the progressive worsening of these diseases and provides new avenues for therapeutic investigation. Stopping cell-to-cell transfer of prion proteins or tau proteins would effectively treat these disorders. A breakthrough in one could mean a treatment for all tau-related conditions.

In this issue of *New Thinking About Thinking* we introduce Stanley Prusiner, MD, Chair of the Scientific Advisory Board of Cleveland Clinic Lou Ruvo Center for Brain Health. In 1997, Dr. Prusiner received the Nobel Prize for his work in prion disease. More recently, he has focused his attention on Alzheimer's disease, specifically the role of amyloid and tau proteins, and he has a deep interest in CTE. His important relationship with the Lou Ruvo Center for Brain Health will help guide us toward developing effective therapies for these devastating disorders that affect millions of U.S. citizens and place athletes and soldiers at particular risk for neurological disease.

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2012 Power of Love™ gala | a knockout for 2,000 guests

Keep Memory Alive's 16th Annual Power of Love™ gala, held on February 18, 2012 combined fundraising for Cleveland Clinic Lou Ruvo Center for Brain Health with celebrating the 70th birthday of boxing great, Muhammad Ali. The event raised millions to support the Cleveland Clinic Lou Ruvo Center for Brain Health and the Muhammad Ali Center. The gala was aired on ABC and nationally on ESPN2 in a special entitled "Ali 70th From Las Vegas."

Dubbed our best gala yet, highlights of the evening included a heartfelt "Happy Birthday" serenade by Stevie Wonder, Snoop Dogg leading the crowd in chanting "Ali" during his performance of "Who Am I (What's My Name)?", and famed boxers Sugar Ray Leonard, Evander Holyfield and Tommy "Hitman" Hearns joining LL Cool J on stage for "Mama Said Knock You Out."

Stars like Andre Agassi, David Beckham, Samuel L. Jackson, Sean Combs and Terrence Howard gave personal remembrances about "The Greatest," and Cee Lo Green, Chris Cornell, Joe Perry, John Legend, Kelly Rowland, Lenny Kravitz, Raphael Saadiq and Slash performed for Ali and the sold-out crowd of 2,000.

Photos and a video of the performance are available at keepmemoryalive.org.



President Obama addresses the crowd at the Power of Love™ gala



Cee Lo Green



L to R: George Foreman, Leon Spinks, Earnie Shavers, Ken Norton, George Chuvalo and Chuck Wepner



♥ Stevie Wonder entertains the crowd as hearts fall from the sky marking the end of the evening's festivities

The 17th Annual Power of Love™ will be held on Saturday, April 13, 2013. Join us as we celebrate the 80th birthdays of Quincy Jones and Sir Michael Caine. If you didn't receive an invitation this year and don't want to miss the fun again next year, please contact us at events@keepmemoryalive.org or 702.331.7045.



♥ LL Cool J



♥ Kelly Rowland



♥ Snoop Dogg shows his admiration for The Greatest, Muhammad Ali



♥ Larry Ruvo with Cleveland Clinic CEO Toby Cosgrove, MD



L to R: Bob Arum, Nicole Ruvo, Brianna Ruvo, Lauren Ruvo, Camille Ruvo and Larry Ruvo join Muhammad Ali at the Power of Love™

Larry Ruvo | the Force Behind the Knockout Punch

Larry Ruvo is an indomitable force in Las Vegas philanthropy. Many have observed that what fuels him most is the skepticism of others countered by his own obsession for all to see the possible through his optimistic lens.

Mr. Ruvo's wife, Camille, remembers when her husband decided to engage celebrity architect Frank Gehry to build a center for the study and treatment of the brain in Las Vegas, a city located miles and a desert away from the country's renowned medical hubs, he met with skeptics at every turn.

"First they said Frank Gehry would never build in Las Vegas. Then they said the medical powerhouses wouldn't take Las Vegas seriously. They told him he could never recruit world-class doctors," Mrs. Ruvo remembers.

But they were wrong. Frank Gehry conceived a world-class building and was present at its groundbreaking in 2007. Cleveland Clinic partnered with the Lou Ruvo Center for Brain Health in 2009, and the following year, world-renowned Alzheimer's specialist Jeffrey Cummings, MD, ScD, was hired as director. Mr. Ruvo had delivered and the cynics were silenced.

In 2012, Mr. Ruvo set a new goal — that the Power of Love™

gala would surpass the 15 preceding galas in number of celebrity supporters in attendance, national reach and impact on Keep Memory Alive. And then Mr. Ruvo found out about Muhammad Ali's 70th birthday party and the wheels started spinning.

Mr. Ruvo contacted his longtime friend and boxing promoter Bob Arum of Top Rank International. Bob Arum and his wife, Lovee Arum, board member of Keep Memory Alive and initial supporter, started contacting their friends from the boxing world to create a knockout of an evening. With that foundation, Mr. Ruvo reached out to friends in the entertainment world. Together with Lonnie Ali and the MGM Resorts International team, they turned the 2012 Power of Love gala into a city-wide weekend of festivities featuring superstar entertainment and legends of the boxing world and including a Sunday-night Lenny Kravitz concert, which also benefitted Keep Memory Alive. Bill Edwards of Bill Edwards Presents produced the gala entertainment while Billy Vassiliadis and Rob Dondero of R+R Partners orchestrated the media assets.

"Ali 70th from Las Vegas," a two-hour special, aired on ABC and nationally on ESPN2 on February 25, 2012 — only one week after many of us saw the knockout event live at the MGM Grand Garden Arena.



Charles Bernick, MD, left, and Larry Ruvo welcome The Greatest to Cleveland Clinic Lou Ruvo Center for Brain Health

Muhammad Ali | championing brain health

Muhammad Ali has been a champion both in and out of the boxing ring. An Olympian, the first three-time world heavyweight champion and *Sports Illustrated's* "Sportsman of the Century," Ali is a committed humanitarian and social activist who has focused on issues in the developing world. His efforts earned him the Presidential Medal of Freedom in 2005. Diagnosed with Parkinson's disease in 1984, Ali has become a major advocate and fundraiser for research and education in the disease.

Ali is a spokesperson for the Parkinson's Disease Research Initiative, which is dedicated to investigating genetic factors associated with the disease (see a short video about Muhammad Ali and Parkinson's disease at 23andme.com/pd/). The initiative is sponsored by 23andMe, a personal genetics company that offers consumer genetics analysis service (see related article on page 6). The goal of the research initiative is to enroll 10,000 individuals with Parkinson's disease.

An inspirational video about the initiative featuring Ali and his wife, Lonnie, was debuted at Keep Memory Alive's 16th annual Power of Love™ gala on February 18, 2012. The gala raised more than \$11 million for the Muhammad Ali Center and Cleveland Clinic Lou Ruvo Center for Brain Health. The funds will be used to further research on neurological diseases through studies that include the Professional Fighters Brain Health Study (see related article on page 8), led by Lou Ruvo Center for Brain Health Associate Medical Director Charles Bernick. Researchers hope the information from this study will help prevent permanent brain injury in fighters, athletes, soldiers and others who receive repeated blows to the head.

What Is Your 23?

One of the most important numbers in human life is 23. It represents the 23 pairs of chromosomes found in each human cell, chromosomes that contain the genetic information that determines everything from eye color to gender. Genes also play an important role in the development of illnesses such as cancer, diabetes and Alzheimer's disease. When consumers want to know what information their genes hold, they often turn to 23andMe®, a personal genetics company, for genetic testing.

23andMe's research team is investigating genetic factors in a number of diseases, including Parkinson's disease (PD). Anne Wojcicki, the CEO of 23andMe, has a strong personal interest in Parkinson's: Her husband, whose mother has the disease, discovered that he has a genetic variant that also puts him at risk for PD.

"Ms. Wojcicki has a sense of urgency to advance Parkinson's research, and 23andMe's web-based research paradigm is perfect for investigating how genes may influence the development and progression of the disease," says Emily Drabant, PhD, 23andMe's Research Director.

The 23andMe Parkinson's Disease Research Initiative, which has support from the Michael J. Fox Foundation, the National Parkinson Foundation and the Parkinson's Institute, has a goal of enrolling 10,000 people with Parkinson's disease in its research cohort and online PD community. PD patients can join the cohort at 23andMe's web site and receive a free genetics analysis from its Personal Genome Service®.

Online enrollment makes it easy to recruit research participants: to date, 7,600 patients have enrolled in the PD cohort, making it the largest in the world. One of them is boxing legend Muhammad Ali, who appears in the 23andMe video "Give Us Your Hand," which debuted at Keep Memory Alive's Power of Love™ gala in February 2012 to showcase the 23andMe's newly formed collaboration with Cleveland Clinic (see related story on page 5).

In a short time, 23andMe has achieved some notable research accomplishments: its researchers analyzed genetics data from more than 3,400 Parkinson's patients and successfully replicated the top 20 known PD genetic associations and identified new genetic associations.

Collaborating with Cleveland Clinic

Cleveland Clinic and 23andMe have joined forces to enroll 1,000 Cleveland Clinic PD patients from all locations in the cohort and to collaborate on research studies. "Given Cleveland Clinic's stellar track record in neurological disease and research, we were very interested in this relationship," says Dr. Drabant.

"We felt that collaborating with 23andMe would help advance Parkinson's disease research and help us understand our own patient population better by matching 23andMe's genomics capacity to our patients' clinical data," adds Andre Machado, MD, PhD, Director, Center for Neurological Restoration, Cleveland Clinic.

In addition to the Parkinson's study, 23andMe is also performing genotyping of fighters participating in the Professional Fighters Brain Health Study, a Cleveland Clinic Lou Ruvo Center for Brain Health research program investigating the long-term effects of head trauma in fighters. "It's important to include genetics information in the study to determine if there are genetic factors that contribute to the development of long-term complications from head trauma," says the study's Principal Investigator Charles Bernick, MD, Associate Medical Director, Cleveland Clinic Lou Ruvo Center for Brain Health (see related article on page 8).

How to Enroll in the 23andMe PD Research Initiative

Cleveland Clinic patients with PD can enroll in 23andMe's Parkinson's Disease Research Initiative at 23andMe information portals at Cleveland Clinic locations, including the Lou Ruvo Center for Brain Health in Las Vegas.

To learn more about 23andMe's Parkinson's disease research, please e-mail pd-help@23andme.com or sign up at www.23andme.com/pd.

Our “Spit Party”

On July 25, over 200 members of Las Vegas’ Parkinson’s community convened as Emily Drabant, PhD, Research Director 23andMe presented some of the company’s research findings.

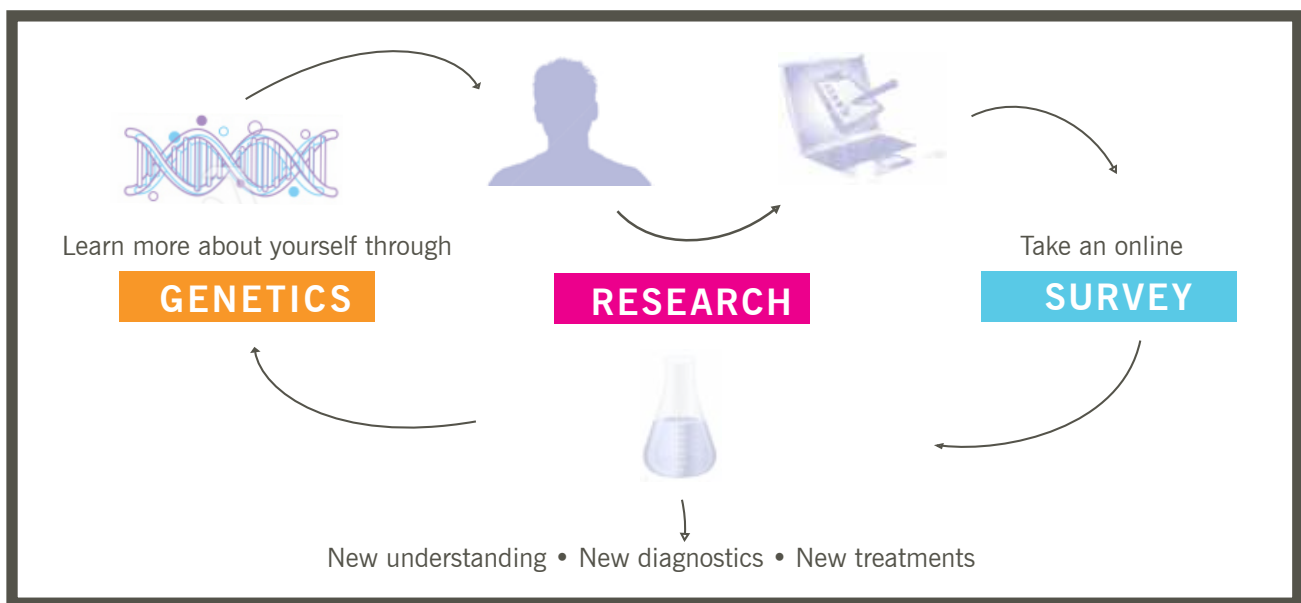
Many attendees chose to sign up on the spot for the 23andMe Personal Genome Service. Casually dubbed a “spit party,” participants donated a saliva sample from which they will receive a complimentary report on whether they carry genetic variants associated with Parkinson’s disease.



Under the guidance of Volunteer Judi Hanson, Mr Svensson spits in the collection tube provided by 23andMe while his wife, Yvonne, looks on



23andMe Research Director Emily Drabant, PhD



Fighting for The Brain: Cleveland Clinic Lou Ruvo Center for Brain Health Professional Fighters Brain Health Study

By Charles Bernick, MD, MPH



Professional Fighters Brain Health Study participant Diego Magdaleno with Bob Arum of Top Rank

Repeated head trauma can lead to progressive neurological deterioration, a fact recognized since 1928 when New Jersey pathologist Harrison Martland, MD, described the clinical abnormalities that appeared in a significant number of boxers. Clinicopathological studies have since identified a neurodegenerative condition caused by repetitive head injury known as Chronic Traumatic Encephalopathy (CTE).

Over time, evidence of CTE has been associated with a variety of sports and, most recently, in war veterans suffering blast injuries in Iraq and Afghanistan. Despite the attention this devastating condition has engendered, little is known about the natural history of, and risk factors for, CTE.

The Cleveland Clinic Lou Ruvo Center for Brain Health hopes to fill in the missing information by studying the effects of head trauma in professional boxers and mixed martial artists. The Professional Fighters Brain Health Study (PFBHS) was launched

in April 2011 and aims to:

- 1) Examine in real time the cumulative effects of repetitive concussive and subconcussive injuries to the brain in professional combatants;
- 2) Detect the earliest and most subtle signs of brain injury using MRI techniques and clinical measures;
- 3) Identify the factors that make an individual more likely to develop chronic neurological disorders (e.g., dementia, parkinsonism);
- 4) Identify individuals who are progressing to long-term neurological disease.

The PFBHS study is designed to evaluate professional fighters on a yearly basis for at least four years. Each evaluation consists of a brain MRI scan, computerized testing for cognitive function, speech sample analysis, genotyping, inventories of mood and impulsivity, and a neurological examination. Demographic information and

Features

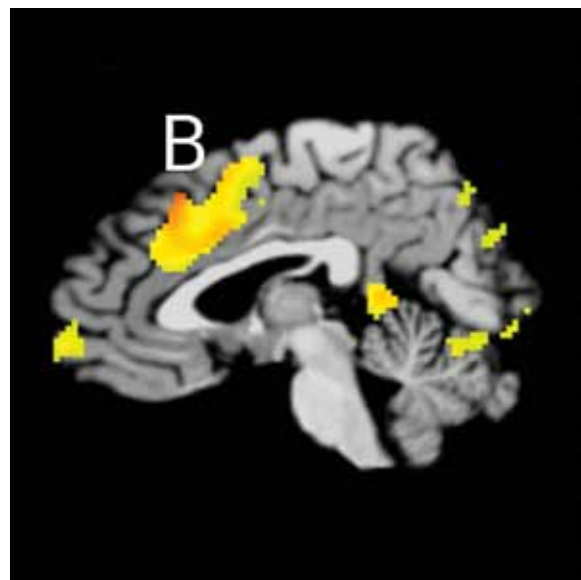
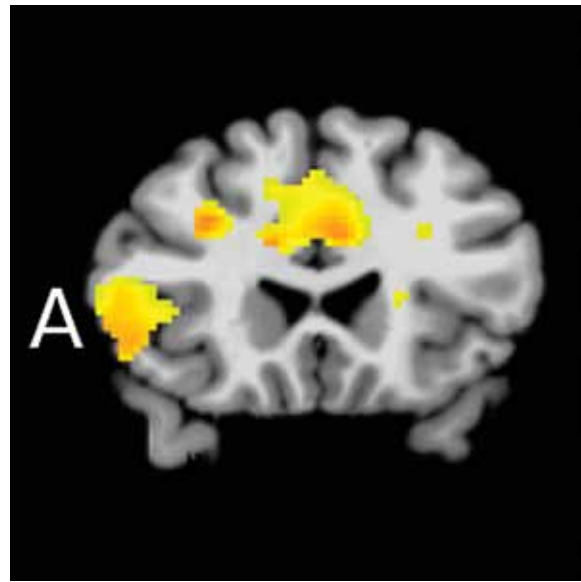
sports and medical histories are collected at the first interview.

At the one-year mark, nearly 180 fighters were enrolled. Participants were about evenly split between boxers and mixed martial artists. Early analysis has revealed some intriguing results. The thalamus, an area that acts as a relay station between the action and thinking regions of the brain, appears smaller in fighters who have participated in 15 or more fights. Yet a much higher number of fights are needed before brain performance measures, such as speed of processing information, drop.

Greater exposure to head trauma as measured by a larger number of fights was also related to other outcomes. Those who fought more were more likely to have lower self control. More fights and more knockouts were also associated with changes in the connections between different regions of the brain.

The application of new technologies developed at Cleveland Clinic is expected to enhance the study output. One of these, an iPad-based test that can assess brain function, will be used ringside. It will be complemented by a device now under development that can be integrated into a mouthguard to measure the force of impact to the head.

More knowledge of the natural history, risk factors and biomarkers of CTE will enable neurologists to tell fighters when they have reached a point in their career that additional blows are likely to cause permanent, irreversible brain damage. In aggregate, the data will also enable regulatory agencies to develop objective guidelines and allow them to advise athletes of long-term neurological complications inherent in their sport. Output from studies such as the Professional Fighters Brain Health Study will help provide this vitally important information.



MRI methods measuring the strength of functional connections in the brain show that with fight exposure, a reduction in connection strength occurs between the important executive region (region A) and motor control region (region B).

Information on clinical trials being conducted at the Lou Ruvo Center for Brain Health is available at ClevelandClinic.org/BrainHealthTrials. To participate in the Professional Fighters Brain Health Study, please call 702.675.5237.

Nobel Laureate Stanley Prusiner, MD, Leads the Ruvo Center's Scientific Advisory Board



L to R: Jeffrey Cummings, MD, ScD, Stanley Prusiner, MD, and Larry Ruvo at Cleveland Clinic Lou Ruvo Center for Brain Health

National Medal of Science recipient and Nobel Prize-winner Stanley B. Prusiner, MD, has assumed the chairmanship of the Cleveland Clinic Lou Ruvo Center for Brain Health's Scientific Advisory Board.

Having a Nobel Laureate on our team opens doors, promotes collaboration and adds to the arsenal with which we pursue neurological breakthroughs.

"Dr. Prusiner's research on prions, for which he was awarded the Nobel Prize, is enormously important. We see that many aspects of Alzheimer's disease and other neurodegenerative disorders behave in a manner similar to prions," said Jeffrey L. Cummings, MD, ScD, Director of the Lou Ruvo Center for Brain Health.

The Lou Ruvo Center for Brain Health treats Alzheimer's, Huntington's and Parkinson's diseases — disorders that share abnormalities of cell proteins. A breakthrough in one disease could speed discovery in another.

The advisory board provides guidance to the Lou Ruvo Center for Brain Health's scientific program and facilitates

connections to major biomarker and drug discovery efforts, such as Dr. Prusiner's program at The University of California, San Francisco, where he serves as Professor of Neurology and Director of the Institute for Neurodegenerative Diseases. Dr. Prusiner is developing new therapies and discovering biomarkers that will find rapid application in patients at Cleveland Clinic Lou Ruvo Center for Brain Health.

Dr. Prusiner's hope for the Lou Ruvo Center for Brain Health's Scientific Advisory Board is that it will address the challenges of brain health, inspire hope and discover drugs that stop Alzheimer's disease in order to keep memory alive.

An additional benefit to Dr. Prusiner's outstanding scientific background is his desire to forge strong collegial relationships. As he said to the Nobel Foundation at the time of his award, "The most rewarding aspect of my work has been the numerous wonderful friends that I have made during an extensive series of collaborative studies."

At the Lou Ruvo Center for Brain Health, we're honored to have Dr. Prusiner as a friend and collaborator.

Bexarotene: a breakthrough for Alzheimer's?

By Jeffrey L. Cummings, MD, ScD

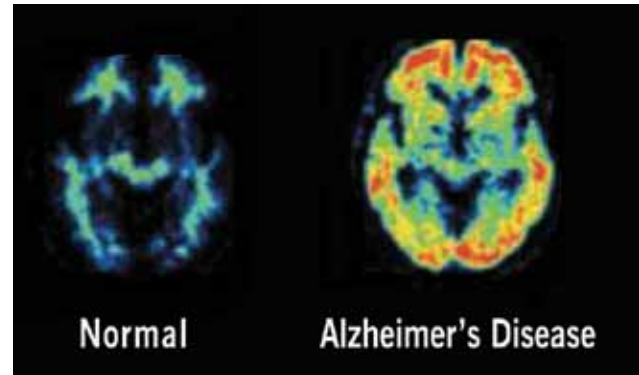
Alzheimer's disease (AD) is a complex brain disease in which the first recognizable abnormality is the accumulation of a protein called "amyloid." Many of the treatment approaches currently being studied in clinical trials are aimed at reducing the production or increasing the removal of this abnormal and toxic substance. Oral medications and vaccines are being developed to try to control this protein. No drug has yet proven to be effective against the amyloid protein.

A recent observation provides new hope for approaches to amyloid-based therapies. Using a drug already approved for the treatment of human skin cancer, investigators showed a marked reduction of the amyloid protein in the brain of mice genetically engineered to produce that protein. The dramatic reduction occurred only a few days after the mice were given the drug, and was accompanied by improved performance on several measures of behavior.

Because the agent, bexarotene (Tegretin™), is approved for skin lymphoma in humans, the dosing, side effects and methods of manufacture of this agent are already known. In this setting, bexarotene can be repurposed to assess its impact on AD. Cleveland Clinic Lou Ruvo Center for Brain Health is planning to conduct a clinical trial of bexarotene in patients with mild to moderate AD.

It is fortuitous that the Amyvid™ brain scan, which shows the presence of amyloid in the brain and has recently been approved by the FDA, is available for use in the Lou Ruvo Center for Brain Health study of bexarotene. Clinical and amyloid imaging assessments will be conducted before and after treatment to determine whether the drug produces clinical benefit and whether there is any corresponding effect on the amyloid protein. The Lou Ruvo Center for Brain Health is at the forefront of studying bexarotene and applying genetic and biomarker (amyloid imaging) approaches to understanding drug effects in AD.

Such clinical trials are expensive. Oversight by the FDA, research databases, the clinician's time with patients and multiple other details have associated costs that require funding. The bexarotene trial is made possible due to the generous support of Stan Fulton, David Morgenthaler and Mel Wolzinger. The Lou Ruvo Center for Brain Health and all patients who may be helped by this trial are grateful for their support.



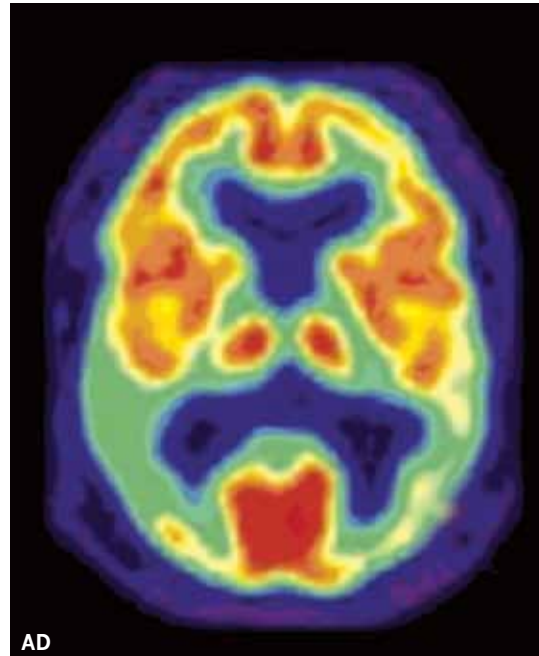
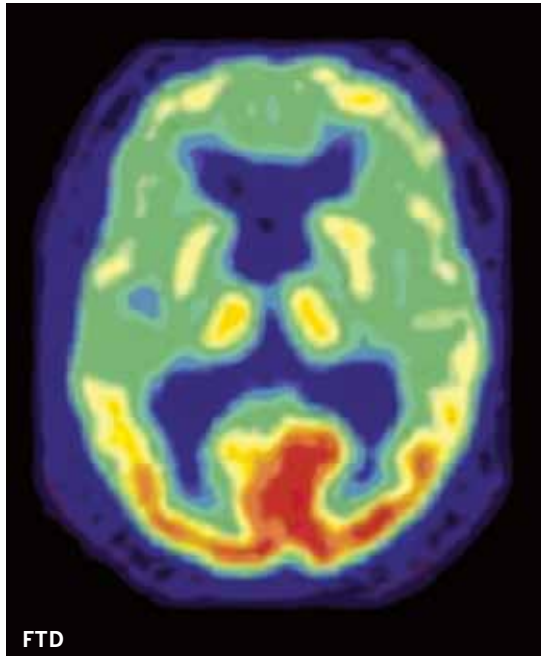
Amyvid (TM) combined with a PET scan creates very distinct insight into amyloid plaque



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

Cleveland Clinic Lou Ruvo Center for Brain Health is the only facility in Nevada to conduct amyloid PET imaging for clinical use in patients. Used in combination with recently FDA-approved Amyvid™, PET images will help ascertain with the best certainty to date the presence of amyloid plaque, a key indicator of Alzheimer's disease. If you are interested in a PET scan, please contact us at 702.483.6000.

Frontotemporal Dementia | a formidable adversary



Tall and strapping, with a larger-than-life personality and a voice that commanded respect, Donald Hines embodied the virtues of the military man he was: courageous, resilient and able to take charge in a crisis. His 22 years as an aircraft engineer and mechanic in the United States Air Force made him the go-to guy when friends and family needed help with a stalled car or a clogged drain. Outgoing and good-natured, he was happy to help.

Late in life, Mr. Hines, a veteran of three wars — World War II, Korea and Vietnam — met his most formidable adversary: Frontotemporal dementia (FTD). FTD encompasses a diverse group of neurodegenerative disorders that primarily affect the frontal and temporal lobes of the brain, areas associated with decision-making, emotion, judgment, behavior and language. In some patients, it causes movement disorders similar to Parkinson's disease.

FTD causes dramatic changes in personality and behavior, producing lack of empathy, impulsivity, social inappropriateness — even changes in what one chooses to eat. The problems affecting a specific patient depend on where in the brain the disease begins and where it spreads.

If a physician isn't familiar with the disease, it can be difficult to diagnose. "Patients referred here almost always have another diagnosis, which can include Alzheimer's disease — the most frequent misdiagnosis, stroke, midlife crisis and psychiatric illnesses such as depression," says Gabriel Léger, MD, who started the FTD clinic at the Las Vegas location of Cleveland Clinic Lou Ruvo Center for Brain Health.

Mr. Hines' disease made him irritable, short-tempered, impulsive and less sociable. "It was very difficult for us to see him become a person we didn't know. He wasn't like my dad anymore," says his daughter Gina, who was named Director of Development for the Lou Ruvo Center for Brain Health two years after her father became a patient.

"When he spoke too loudly in church and I shushed him, he told me to shut up. He could be loving one minute and sharp the next," says his wife, Virginia.

In one regard, Mr. Hines was very fortunate, because he developed FTD in his mid-80s. FTD is the most common form of dementia in people under 60, primarily striking between ages 45

Spotlight on Brain Health

and 65. “When a family member starts to show uncharacteristic behavior, it’s a good idea for a spouse or adult child to keep a list of examples to show the doctor,” advises Sarah Banks, PhD, a Lou Ruvo Center for Brain Health neuropsychologist.

Mr. Hines was fortunate in another way, as well. In 2009, about a year after his family first noticed changes in his behavior, they took him to the Lou Ruvo Center for Brain Health, where his MRI showed significant atrophy in the frontal lobe. Ryan Walsh, MD, PhD, later diagnosed him with FTD. Lou Ruvo Center for Brain Health patients with suspected FTD undergo a thorough individualized evaluation, which may include neurological and neuropsychological evaluations and brain imaging. Treatment can include medications along with physical and speech therapy.

The center offers programs for families, including support groups to help caregivers deal with the challenges of caring for a family member whose personality has changed. The Hines family appreciated the support of the Lou Ruvo Center for Brain Health, especially after another member of the family, son Steve Hines, developed a rare devastating neurodegenerative disease called Creutzfeldt–Jakob disease at 61; he passed away a few months later. Donald Hines, who had difficulty comprehending his son’s death, passed away in November 2011 at the age of 88.

There is hope on the horizon for FTD patients. Researchers are making progress in developing potential therapies for FTD, and Cleveland Clinic Lou Ruvo Center for Brain Health will conduct clinical trials of these agents as soon as they become available.

For more information on services available for individuals with FTD and their families, please visit clevelandclinic.org/brainhealth or the “Family Services” section of keepmemoryalive.org. To make an appointment with a physician, please call 702.483.6000.



Virginia and Donald Hines celebrate their 60th wedding anniversary in 2007



Donald Hines serves his country

Presenting a Comprehensive Approach to Huntington's Disease Treatment

For seven years, Denise Billingham had watched as the signs of Huntington's disease (HD) began to affect her boyfriend, Martin Sarnowski. First, it was the twitching — the involuntary muscle movements of chorea. Then he began stumbling. Ms. Billingham encouraged him to walk and exercise, but his doctors in New Jersey felt that she was pushing him too hard.

On a vacation in Las Vegas, the duo discovered Cleveland Clinic Lou Ruvo Center for Brain Health and made an appointment after learning about its Huntington's Disease Comprehensive Clinic (HDCC).

"I wanted to see what kind of options there are outside of our town," says Ms. Billingham.

Because the HDCC is multidisciplinary, patients have all their physical, emotional, and cognitive needs assessed and treated during the same clinic visit. "The goal of the program is to have a real home for HD patients, their caregivers and their families," says Ryan R. Walsh, MD, PhD, an expert in movement disorders and neurology, and Director of the HDCC in Las Vegas.

Mr. Sarnowski, 59, met with Dr. Walsh and Dylan Wint, MD, a psychiatrist and neurologist. He also worked with Christy Ross, DPT, who agreed with Ms. Billingham that physical therapy would be helpful.

"When they did the physical therapy assessment, he learned how to get up and down and out of the bed," says Ms. Billingham.

Huntington's disease is a genetic neurodegenerative disorder that affects one in every 10,000 Americans. In some ways, it can be thought of as the combination of the worst of Alzheimer's disease, Parkinson's disease and multiple sclerosis. If one parent carries the gene mutation, a child has a 50 percent chance of inheriting HD. Symptom onset usually occurs between the mid-20s and mid-40s. The first signs of the disease are typically psychological — depression, anxiety, mood swings — so people are often unaware the disease has begun. Because HD presents both physical and mental problems, it must be treated by a variety of doctors and therapists.



Christy Ross, DPT, assisted by Physical Therapy Student Christopher Nelson, guides Martin Sarnowski through his exercises

Spotlight on Brain Health

Jenny Rogers, head of the Huntington's Disease Society of America's Las Vegas affiliate, agrees that the HDCC's breadth of services is a major convenience for patients with HD. "I think it could improve quality of life tremendously. In Las Vegas, people who are symptomatic often think they don't have many local options, and they give up," she says.

Ms. Rogers, who has the HD gene mutation, feels fortunate she will have access to all these experts at one location when her symptoms begin. Her mother struggled with HD because she didn't have access to all the right providers and at the time, there was less of an understanding of the disease.

"I was taking care of my mom, but I did not know what the disease was. After she passed away, I found out there was a chance I would have it, too," she says.

Jenny Rogers not only underwent genetic testing herself, but also wants to help find a cure. She joined a clinical trial and became an advocate for HD. She makes sure her HDSA affiliate collaborates with the experts at the Lou Ruvo Center for Brain Health's HDCC (see related article on page 16).

In addition to providing comprehensive services for patients with HD, the HDCC will soon provide genetic counseling and testing for people with a family history of the disease.

"The whole point of the clinic is to comprehensively address the many challenges HD patients and their family caregivers face. This way, we can anticipate the development of symptoms, rather than simply react to them."

For more information on the Huntington's Disease Comprehensive Clinic, please visit clevelandclinic.org/brainhealth or call 702.483.6000 to make an appointment.



Ryan Walsh, MD, PhD, examines range of motion



Dylan Wint, MD, assesses Mr Sarnowski's frontal lobe function



Cleveland Clinic Lou Ruvo Center for Brain Health volunteers and staff joined the Huntington's Disease Society of America's Las Vegas Affiliate in its May 12, 2012 Team Hope walk. L to R: Lou Ruvo Center for Brain Health Employees and Volunteers Shelley Cranley, Pockets Schultz, Judi Hanson, Ryan Walsh, MD, PhD, Renee Evers, Gina Hines, Rodney Anderson, Susan Farris, Sharon Anderson and Gail Vranesh, RN

Cleveland Clinic Lou Ruvo Center for Brain Health Supports Huntington's Disease Initiatives in The Community

"Huntington's disease poses a unique constellation of symptoms. It's aggressively neurodegenerative, it's purely genetic, and it affects patients at a young age when they tend to be engaged in child rearing. So the disease affects families in a unique way," says Ryan Walsh, MD, PhD, Director, Huntington's Disease Comprehensive Clinic, Cleveland Clinic Lou Ruvo Center for Brain Health in Las Vegas. "In addition to being medically devastating, Huntington's disease has legal, insurance and social ramifications."

For all of these reasons, the Lou Ruvo Center for Brain Health is committed to supporting the Huntington's Disease Society of America's (HDSA) local and national initiatives.

Huntington's Disease Parity Act of 2011

According to the HDSA, every one of the 30,000 Americans with Huntington's disease (HD) will ultimately lose the ability to live independently. Today, the Social Security Administration uses antiquated evaluation criteria to determine if a person with HD is eligible for disability benefits. Once Social Security eligibility is determined, there is currently a two-year waiting period before Medicare benefits are distributed.

Thanks to recent legislation, that waiting period has been removed for individuals with Alzheimer's disease. The Huntington's Disease Parity Act of 2011 aims to do the same for people with HD. Dr. Walsh participated in the May 20, 2012 Advocacy Day while Nevada Congresswoman Shelley Berkley has agreed to sign the bill, ensuring the state's place at the forefront of this critical initiative.



Congresswoman Shelley Berkley visits the Lou Ruvo Center for Brain Health

What you can do:
If you are not yet a Huntington's Disease Society of America E-Advocate, you may sign up at www.hdsa.org/takeaction.

HDSA Holds Its Annual Conference in Our Back Yard

On June 8-9, 2012, Cleveland Clinic Lou Ruvo Center for Brain Health volunteers and staff welcomed attendees at the Huntington's Disease Society of America's annual conference, held at Red Rock Hotel & Casino in Las Vegas. Dylan Wint, MD, presented a session on pharmacologic interventions in Huntington's disease while Donna Munc-Miller, PhD, spoke about managing behavior without medication.



“Around the world, a new case of dementia arises every four seconds. That’s a staggering growth rate, equivalent to 7.7 million new cases of dementia every year – the same size as the populations of Switzerland and Israel ...” — Marc Wortmann, Alzheimer’s Disease International

The Lou Ruvo Center for Brain Health hosts Dementia 2012 | a continuing medical education conference

Dementia 2012 is an international conference designed to raise awareness of the worldwide problem of dementia. The first conference was held in Las Vegas on June 2, 2012. The European counterpart of the conference will take place at the Vrije Universiteit Medical Center (VUMC) in Amsterdam on November 8, 2012.

Dementia 2012 is a collaboration between Cleveland Clinic Lou Ruvo Center for Brain Health and the VUMC. Led by Jeffrey L. Cummings, MD, ScD, Director, Lou Ruvo Center for Brain Health and Philip Scheltens, MD, PhD, of the VUMC, the conference seeks to provide insights into the causes, symptoms, diagnostics and therapies available for dementia today.

Dr. Scheltens, who specializes in imaging and biomarkers for Alzheimer’s disease, asserted that early diagnosis is essential if physicians and researchers are to come to grips with the looming threat of dementia in light of an aging population. The early diagnosis of dementia offers many benefits:

- If the course of the disease is determined to be progressive, pharmacologic intervention may slow cognitive decline.
- Early diagnosis provides time for patients and families to prepare for future care and maximizes patients’ opportunities to contribute to the care planning process. A proactive approach to diagnosis and intervention may improve the wellbeing of both the person with dementia and family members involved in their care, ultimately delaying institutional placement.

New technology is enabling medical professionals to confirm such diagnoses earlier and earlier according to Dr. Scheltens, while Dr. Cummings attests that new drugs coming on the market through clinical trials are aimed at slowing the disease. These advances enhance the possibility that interventions for Alzheimer’s disease are on the horizon.

Dementia 2012, Las Vegas, is being rebroadcast for credits as a webcast on the Cleveland Clinic Center for Continuing Education website. To register, please visit clevelandclinicmeded.com.



Jeffrey Cummings, MD, ScD, welcomes Philip Scheltens, MD, PhD, to the Lou Ruvo Center for Brain Health in Las Vegas

Using Red Wine and Technology to Combat Alzheimer's | two ways you can help

Resveratrol

In the midst of composing *The Iliad* and *The Odyssey*, Homer made the claim that "the weary find new strength in generous wine." Nearly 3,000 years later, scientists say he might not have been wrong.

Resveratrol, one of the primary active ingredients in red wine and red grapes, is already being explored in the treatment and prevention of ailments such as cancer, atherosclerosis, and cardiovascular disease. Based on growing evidence that Resveratrol may also have neuroprotective capabilities, the chemical compound is now being applied to Alzheimer's disease (AD) research. Laboratory studies suggest that Resveratrol may remove beta-amyloid plaques, one of the main biological hallmarks of this degenerative disease.

Before you reach for that bottle of cabernet, hear this: There is only about 1 mg of Resveratrol in a 150 ml bottle of wine. In order to reap any significant benefit against AD, you would need to drink at least 100 bottles of wine per day.

But there may be a viable alternative.

Cleveland Clinic Lou Ruvo Center for Brain Health is proud to offer you participation in a clinical trial of resveratrol supplements. Slated to begin in fall 2012, this large-scale clinical trial was conceived by the Alzheimer's Disease Cooperative Study (ADCS), a national coalition whose mission is to facilitate the development and testing of new drugs to treat AD. As one of the 27 sites that comprise the ADCS, the Lou Ruvo Center for Brain Health will be recruiting volunteers aged 50 and older with mild-to-moderate AD to participate in the trial. Those who are chosen will be given Resveratrol supplements to take in oral (pill) form for 12 months in hopes that the compound produces cognitive improvement.



MISTY

Technology is the future of many businesses, and healthcare is no exception. Cleveland Clinic Lou Ruvo Center for Brain Health is leading an innovative effort using technology to optimize the healthcare delivery system. Through a creative collaboration with electronics giant Hewlett-Packard and health information technology company Parental Health, Cleveland Clinic is set to unveil the unique Medical Information Systems To You (MISTY) software.

Designed to maximize the independence of senior citizens and give families peace of mind, MISTY is a technology platform with the capacity to shape the future of geriatric healthcare. Beginning this fall, Cleveland Clinic will test this groundbreaking technology through a clinical trial that focuses on strengthening the three-way relationship between patient, caregiver and healthcare provider.

The MISTY program runs on a state-of-the-art HP TouchSmart television, which will be provided to research participants for their in-home use during the trial. The user-friendly touchscreen will enable participants to monitor their health, manage their medications, connect with their family, and engage with their physicians on a regular basis. This highly interactive nature of the program creates an unprecedented live feedback system, ensuring that there is no disconnect between any two links of the healthcare triangle.

We need your help to fight Alzheimer's. If you or a loved one might be interested in participating in these or any of the clinical trials and research studies at Cleveland Clinic Lou Ruvo Center for Brain Health, please contact us at 702.659.0850. Information is available at clevelandclinic.org/brainhealth.



Employee Profile | Triny Cooper

When Triny Cooper was a high school student in Ely, Nevada, his uncle lived with the family. The energetic, joyful man was known around town as Dancing Phil. “He’d drive to the local casino, grab anybody he saw and dance the night away,” remembers Mr. Cooper. “Then, as his Alzheimer’s developed, we started getting calls from the casino that he’d left the keys in the car and it was still running while he was dancing.”

Today, Mr. Cooper works at the Cleveland Clinic Lou Ruvo Center for Brain Health as research coordinator for clinical trials. In addition to working with Alzheimer’s patients, he is overseeing the Brain Health in Professional Fighters study (see related article on page 8). A boxing and UFC fan since his youth, Mr. Cooper remembers watching greats like Mike Tyson, Sugar Ray Leonard, Marvin Hagler and Tommy Morris with his dad. “Now, thanks to my work, I’ve met Leon Spinks,” he says with a grin.

He doesn’t like thinking that fighting is hurting his heroes. “You want to think of it like a movie. You just want to be entertained. But now, as I see deterioration in our study participants’ cognitive ability, I feel sad. I think of the things boxers do with their hands, and yet when I shake the hand of one of these patients now, it often feels soft and weak,” he says.

For Mr. Cooper and his colleagues on the research team at the Lou Ruvo Center for Brain Health, being a part of a potential solution is exciting. “I believe the study will make the sport safer. We’ll get a better understanding of the cumulative effects of the fighting. We might even find a relationship between head trauma from fighting and other neurological diseases, such as Alzheimer’s and Parkinson’s,” he says.

Prior to joining the Lou Ruvo Center for Brain Health in May 2011, Mr. Cooper’s research career included stints at the Nevada Cancer Institute in Las Vegas and the Huntsman Cancer Institute in Salt Lake City. His interest in medicine began when he joined the US Navy as a hospital corpsman, working in Japan, Korea and Thailand. In the service, he gained a broad range of knowledge from working in a variety of situations that included the emergency room, labor and delivery and the morgue.

Today, Triny Cooper’s life has come full circle from high school afternoons caring for Uncle Phil and evenings spent watching fights on TV with his dad, to caring for Alzheimer’s patients and professional fighters at Cleveland Clinic Lou Ruvo Center for Brain Health.



Research Coordinator Triny Cooper draws blood from a clinical trial participant



Uncle Phil back in the day

Development Pioneer | Mel Wolzinger



Since his arrival in Las Vegas in 1946, Mel Wolzinger has been a pioneer in the city's development. An entrepreneur and owner-operator of numerous bars, restaurants, vending machines, slot machines and casinos, a director at the Golden Nugget from 1972 to 2000, and currently a director at MGM Resorts International, Mr. Wolzinger can tell quite a tale about the "good old days." "Those were good days, and these days will be better," he says.

Las Vegas continues to add resources for its residents and visitors. Upon visiting Cleveland Clinic Lou Ruvo Center for Brain Health, which had been founded by another like-minded, growth-oriented Las Vegan named Larry Ruvo, Mr. Wolzinger was impressed by the impact the facility is already making on its patients and community

as well as the possibilities that lie ahead.

"I met the center's director, Dr. Jeffrey Cummings, and he explained to me that the Lou Ruvo Center for Brain Health had grown its clinical trial program from six trials to 22 trials in less than a year. I learned the center is now conducting more Alzheimer's trials than any other site in the United States," says Mr. Wolzinger. "This is the new Vegas."

Fueled by his pioneering nature, his belief in growth, and his optimism for the future, Mr. Wolzinger was inspired to support a new clinical trial on bexarotene (Tegretin), a cancer drug that will be studied for its potential efficacy in slowing memory loss in Alzheimer's patients (see related article on page 11).

Today, Mr. Wolzinger frequently declares that his wife Ruth, his grandchildren and his philanthropy bring him the greatest joy. In addition to establishing the Mel and Ruth Wolzinger Center for Adult Jewish Learning at the Temple Beth Shalom, Mr. Wolzinger is an active contributor to the University of Nevada Las Vegas, where he has served on the UNLV Foundation Board of Trustees and supported the Wolzinger Family Research Scholarship Endowment, the Black Mountain Institute, the Wilson Advising Center, the Marjorie Barrick Museum of Natural History and the Earl E. Wilson Baseball Stadium, named in honor of Mr. Wolzinger's business partner and friend.

Mel Wolzinger is proud to see these fruits of his labor grow, just as he is proud to see his beloved Las Vegas continue to develop under his watchful eye.

If you are interested in helping fund Cleveland Clinic Lou Ruvo Center for Brain Health's growth, please contact Senior Director of Development Laura Fritz at 702.331.7044.



Chef Gustav Mauler of Spiedini Ristorante and Gustav's Master Chef Catering

Dining Out Supports Our Communities

Today in Las Vegas, the simple request, “Check, please,” not only signifies the end of a fine dining experience, but also that a donation to a local charity is being made.

Caring for Communities was launched in March 2011 by Keep Memory Alive and the Andre Agassi Foundation for Education. The program is a unique arrangement between these high-profile, not-for-profit organizations to address two underserved sectors of the Las Vegas economy: healthcare and education.

The program adds \$1 to dining checks, with an opt-out option available to customers. The monies are distributed between Keep Memory Alive, the Agassi Foundation for Education and additional charities selected by employees of each participating restaurant. The brainchild of Agassi Foundation leaders Phillip Agassi and Scott Hergott, Caring for Communities has already collected and contributed thousands of dollars.

Restaurants participating in Caring for Communities include:

- Alizé in the Palms Casino
- Andre's in the Monte Carlo Hotel
- Radio City Pizzeria located in Tivoli Village
- Smith & Wollensky on the Las Vegas Strip
- Spiedini Ristorante in the JW Marriott hotel
- Valentino's in the Venetian Hotel

Chef Gustav Mauler, owner of Spiedini Ristorante and Gustav's Master Chef Catering, has participated in the program since its inception. “Chef Mauler has been an incredibly generous partner to Keep Memory Alive and the Agassi Foundation for Education” says Gina Hines, Director of Development, Cleveland Clinic Lou Ruvo Center for Brain Health, adding the Mauler group has also contributed to over a dozen organizations including Opportunity Village, Catholic Charities, Shade Tree, Volunteers in Medicine and the Jewish Federation of Las Vegas.

Smith & Wollensky General Manager Matthew Griffith is another enthusiastic participant. “We have been able to contribute to the passions of our employees, including Three Square Food Bank and the Boys and Girls Clubs of Las Vegas. It's a win-win for everyone,” he says.

Elias Ghanem II, owner of Radio City Pizzeria, saw Caring for Communities as yet another way to continue his family's long-time support of Keep Memory Alive and belief in the Agassi Foundation for Education.

If you know of a restaurant interested in participating in the Caring for Communities program, please contact Gina Hines, Director of Development at 702.331.7055 or hinesg@ccf.org.

Invitation to Interact with Art

Cleveland Clinic includes art in its healing environments worldwide, and the collection at the Lou Ruvo Center for Brain Health continues to grow as part of that commitment. We display art that is unusual, that makes you think, transports you, distracts you, or grants you moments of levity or beauty. We think these are wonderful experiences to have in a medical setting, where many people are stressed.

We invite you to interact with our art on three levels:

1. Come and visit:

If you haven't visited us in 2012, you haven't seen the newest art in our collection. The lobbies and other public areas showcase local and nationally known artists. Trained volunteer docents offer tours of the Lou Ruvo Center for Brain Health to individuals and community groups. For more information on tours, please call 702.263.9797.

2. Support through art:

Proceeds from the sale of each artwork benefit Keep Memory Alive/Lou Ruvo Center for Brain Health. Donations of artwork for our permanent collection are also accepted. For more information, please call 702.263.9797.

3. Enjoy an interactive discussion presented by the Cleveland Museum of Art:

Twice a month, we invite you to participate in Distance Learning presentations, which are dynamic video conversations with a Cleveland Museum of Art Curator. You'll view art and artifacts, listen to lectures and discuss artworks from the world-renowned museum. For dates and topics, please contact Susan Hirsch at hirschs2@ccf.org or visit the calendar section of keepmemoryalive.org.

For more information on how art can make a difference in the lives of patients, their families, caregivers and our visitors, please visit our dedicated art website, louruvocenterart.org.



Randi Chaplin-Matushevitz, Magick 1-6, 2010



JW Caldwell, Vaquero, 2007



Frank Gehry, Puzzle 1, 2011

Creating a Legacy Through Life Insurance



*Cleveland Clinic Lou Ruvo Center for Brain Health
Senior Director of Development Laura Fritz*

Making planned financial investments for the well-being of loved ones while also helping the organizations they admire is an important goal for many. Supporting the Cleveland Clinic Lou Ruvo Center for Brain Health with a gift of life insurance is one way to help your family while leaving a legacy to benefit future generations.

As one Nevada couple explains, they give because they have strong memories of others affected by Alzheimer's disease, especially the toll it took on an older gentleman they observed caring for his wife in a nursing home. They also recall men in a home for retired veterans coping with dementia caused by battlefield injuries.

These committed philanthropists have chosen to support the Lou Ruvo Center for Brain Health because of its expertise in researching and treating dementia. Trusting that their gift will be used well, they have purchased a life insurance policy and named the Lou Ruvo Center for Brain Health as the beneficiary. They pay a small amount on insurance premiums quarterly because, they say, they enjoy knowing their total gift is likely to be larger than the sum of their premiums and will become a larger gift than they could comfortably make during their lifetime.

These friends of the Lou Ruvo Center for Brain Health advocate for attentive financial planning that can span both family and charitable organizations. They also express optimism that the generosity of so many Nevadans will help the Lou Ruvo Center for Brain Health find a cure.

The couple stresses that many organizations are studying Alzheimer's disease, but the population is growing older. More people are being affected, and everyone needs to take action. A gift of life insurance is one way to do so.

The Benefits of Giving Through Life Insurance

There are trillions of dollars of life insurance currently in force in the United States. Life insurance is often purchased to provide protection against economic loss, death or disability, or to be used as a supplemental source of retirement income as well as a source of liquidity for the payment of state and federal estate costs and other expenses after one's lifetime.

Financial needs, however, often change throughout life and you may find you no longer need your life insurance policy. Perhaps you purchased life insurance as a safeguard for your children. Now that your children are financially independent, they may no longer need those funds.

By assigning ownership of the policy to the Lou Ruvo Center for Brain Health, you are entitled to an immediate charitable income-tax deduction equal to the lesser of the premiums paid or the cash surrender value. This also removes the policy proceeds from your estate, and may generate potential estate-tax savings.

Additionally, if future premium payments remain to be made on the policy, you could receive a charitable income-tax deduction for each future gift you make to the Lou Ruvo Center for Brain Health to assist us in making the premium payments.

The simplest way to make a gift of a life insurance policy is to name Cleveland Clinic Lou Ruvo Center for Brain Health as beneficiary of your existing policy. "Change of Beneficiary" forms are available online or through your insurance agent.

Using a life insurance policy to fund your gift may allow you to make a larger gift than you ever thought possible. Now that's a nice thought!

Pyramid Legacy Society

By establishing a planned gift of any kind, including life insurance, a bequest, a life income gift or other planned gift to support Cleveland Clinic Lou Ruvo Center for Brain Health, you can become a member of Cleveland Clinic's Pyramid Legacy Society. This society was established in 1992 to honor and show appreciation to friends, patients, alumni and supporters worldwide. By supporting the center, you join a prestigious group of benefactors 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, or contact Laura Fritz at 702.331.7044; fritzl@ccf.org.



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SADDLE UP AND CHOW DOWN

A Weekend in Tahoe to Keep Memory Alive

Camille and Larry Ruvo, along with the McGill family, resurrected the Glenbrook, Nevada rodeo in 2000 after it had been discontinued in 1965. This year's iconic rodeo featured barrel racing as well as bull and bronco riding. Carnival games, a face painter and a watermelon eating contest delighted kids, while a Western-style barbeque and a silent auction captivated the young-at-heart.

Saturday afternoon, some guests enjoyed a picnic at the home of Financier and Philanthropist Michael Milken and his wife Lori Milken, at which Mr. Milken and Jeffrey Cummings, MD, ScD, presented an update on health in America.

The Ruvos once again opened their beloved Shakespeare Ranch to world-renowned restaurateur Emeril Lagasse, who saddled up in the kitchen to prepare an extraordinary dinner. Guests enjoyed the best of his signature cuisine accompanied by a selection of fine wines and spirits.

Rock musician and former lead singer of Van Halen, Sammy Hagar, performed his signature "You Can't Drive 55," while Emeril Lagasse picked up the drum sticks and joined the band.



Emeril Lagasse joins Sammy Hagar on stage

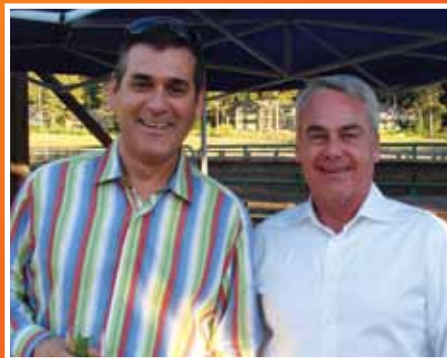
A WEEKEND IN TAHOE



L to R: Lori Milken, Camille and Larry Ruvo, Susan Schneider, Robin Williams and Michael Milken



Ann Johnson and Larry Ruvo



Denis Juvinville (L) and Scott Westfall



Brandis and Jon Deitelbaum



John O'Hurley and wife Lisa



Emeril Lagasse, Sandy Hardie and Ray Romano



Jane Engs with Denise and Tim Cashman



L to R: Wayne and Mimi Primm with Tammy and Michael Dermody



L to R: Pete Ernaut, Rosemary and Billy Vassiliadis and Rob Dondro

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- ★ RICK WOLFORD



Meet Our Volunteer | Stephanie Mulliken

“My father first received a diagnosis of Parkinson’s disease, then Lewy Body dementia, then unspecified dementia. “I’ve always had a little fear in the back of my head that I might end up like dad,” says Stephanie Mulliken.

Ms. Mulliken has channeled this nagging fear into an obsession with making educational materials as accessible as possible to visitors of Cleveland Clinic Lou Ruvo Center for Brain Health’s library.

“When I first heard about my father’s illness, I was angry and afraid, because I didn’t know how I could help him. I started researching on the internet. It was the only place I had. If I’d had this library, I could have picked up the myriad brochures that we have just on Lewy Body dementia, let alone other dementias,” she says.

Ms. Mulliken began volunteering at the Lou Ruvo Center for Brain Health in 2011. A consistent force among the library’s

10 volunteers, Ms. Mulliken has revamped the playbook of how to do things in the library, creating greater efficiencies for the volunteers and an enhanced experience for our patrons. She has logged more than 450 volunteer hours to date and says she has loved every minute of it.

In the organized library of more than 1,500 items, the volunteers quickly meet the needs of patients and families for information. The volunteers spend time listening to the issues and concerns of everyone who visits the library, serving as catalysts to education.

“The Lou Ruvo Center for Brain Health is not only on the cutting edge of all these new treatments, but we are also willing to talk to someone who is scared for themselves and struggling to provide care for a family member. We help to make these people comfortable enough to ask any questions they may have. If we don’t have the answers, we’ll work hard to find a resource that does,” says Mrs. Mulliken.

She has learned much from the Wednesday Lunch and Learn presentations in the library.

“There was a Lunch and Learn with a physical therapist talking about how to move a person out of bed and into a chair without injuring them or you. I was glad to be able to pass that information along to a friend who hasn’t been able to lift her sister without hurting herself,” she says.

For Ms. Mulliken’s father, who had been a witty correspondent for *Time* magazine, dementia was a very gradual change. “We just thought he was getting older. He went to a string of doctors, who

gave different diagnoses. It would have been nice for him to have gone to a facility like the Lou Ruvo Center For Brain Health, with one-stop shopping. It would have been nice for my stepmother to have had a resource like this one.”

“After volunteering here, I don’t feel so afraid about the possibility of getting whatever it is that’s in my family. I feel hope. I feel if I do get something, it could be managed,” she says.

If you are interested in 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.

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

Parkinson's Disease Support Groups Offered

Being diagnosed with a chronic illness can cause confusion, helplessness and feelings of isolation. In the same way, family members and caregivers of individuals with a chronic illness often find it difficult to locate support and resources as they strive to provide care. Support groups guided by trained professionals are a wonderful way for patients and caregivers alike to gain support from others who share similar experiences. Support groups also provide information about community resources and are a safe place to discuss challenging issues participants might be facing.

Cleveland Clinic Lou Ruvo Center's Parkinson's disease support groups began in October of 2011 and have become indispensable for individuals coping with the disease and their families. The support groups are open to the community at large and welcome new members at any time. There are two support groups: one for individuals with early stage Parkinson's disease and one for adult family members.

Support group participants find they are able to discuss difficult

issues with each another and explore ways to better cope with the challenges they face. They are also able to increase their knowledge about the disease through presentations provided by professionals in the community on topics such as understanding depression, nutrition, and advances in treatment. Most importantly, participants have increased their social support by engaging with others who share a common goal.

Join Us

Both the Parkinson's disease support group for individuals with the disease and the group for family members are held at Cleveland Clinic Lou Ruvo Center for Brain Health at the same time: the second Tuesday of every month from noon to 1 pm.

Support groups for memory loss, Alzheimer's and Huntington's disease are also held throughout the month. For dates and times, please visit the calendar in the Individual and Family Services section of keepmemoryalive.org or contact Jenna Clifford, CSW-I, at 702.483.6054 or cliffoj@ccf.org or Jennifer Gayan, LCSW, at 702.483.6036 or gayanj@ccf.org.



L to R: Parkinson's Family Support Group Members David Wald, Ruth McDermott, Adam Melendez, Jean Younker and Judi Linn



L to R: Parkinson's Support Group Members Helga Zachbauer, Maxwell Blanchard, Charles Pennington, Sharon Saley, Barbara Wald, Facilitator Jennifer Gayan and Cliff McDermott

Introducing the Caregiver Counseling Program



The Cleveland Clinic Lou Ruvo Center for Brain Health is pleased to announce a new study that will provide psychotherapy at no cost to adult family members of individuals with neurodegenerative disorders.

Adjusting to a family member's diagnosis of Alzheimer's, Parkinson's, Huntington's or multiple sclerosis can cause extreme emotional stress. Individuals often discover they begin to experience relationship strain, symptoms of depression, anxiety, or feelings of grief and loss. These stressors can lead to negative impacts on both physical and mental health.

If you are experiencing these challenges, it may be time to consider psychotherapy. By working with a trained therapist, many individuals are able to identify challenges, understand their feelings and find solutions to situations that initially felt beyond their control.

The study portion of the Caregiver Counseling Program is unique in that it will examine the relationship between emotional wellbeing and motor and cognitive functioning. Participants who engage in psychotherapy through the Caregiver Counseling Program will spend approximately 15 minutes prior to each therapy session completing questionnaires that measure their emotional health and motor and cognitive abilities.

Although the Lou Ruvo Center for Brain Health's Individual and Family Services department has offered psychotherapy services in the past and will continue to do so, the Caregiver Counseling Program offers the community at large an opportunity to engage in research, thanks to a grant from the Lincy Foundation. Adult family members of individuals who have been diagnosed with Alzheimer's, Parkinson's, Huntington's or multiple sclerosis may now enroll in the program. The individual with the diagnosis does not have to be a patient of Cleveland Clinic Lou Ruvo Center for Brain Health for the family member to participate.

For more information on the Caregiver Counseling Program, please contact Jenna Clifford, CSW-I, at 702.483.6054 or cliffoj@ccf.org.

Healthy Aging | Up2Me

“I consider myself a self-starter, and so I wasn't sure how much I would learn from the Healthy Aging: Up2Me program. However, I learned to re-prioritize, making personal health my number one priority on a daily basis, whereas it had previously been number two, three or perhaps even four on my list.”

— Jean Georges, Healthy Aging: Up2Me participant

Chronic diseases such as hypertension and heart disease are a fact of daily life for almost half of all adults in the United States. As a complement to our existing Individual & Family Services programs, Cleveland Clinic Lou Ruvo Center for Brain Health has partnered with St. Rose Dominican Hospitals to offer Healthy Aging: Up2Me. This education and support program is designed to help individuals with chronic conditions learn how to manage and improve their health and well being. At the Lou Ruvo Center for Brain Health, Healthy Aging: Up2Me has been tailored to the needs of its participants — both those with chronic disease and at-risk unpaid family caregivers.

An evidence-based program developed at Stanford University, Healthy Aging: Up2Me fosters a supportive environment in which participants can focus on building the skills and coping strategies they need to manage their personal health. This is especially important for caregivers, who often neglect their own health needs while focusing on the needs of a loved one. A series of six workshops is led by two trained peer facilitators who learned the techniques in order to manage their own health challenges. The first workshop, held in the spring of 2012, was led by Lou Ruvo Center for Brain Health volunteers Patti Nixon and Pam Fine. Upon completing the program, one participant commented, “I will highly recommend it to friends and acquaintances, especially those who are or have been caregivers, because all caregivers have chronic conditions and many neglect their own health.”

We could not have said it any better.

For more information about Healthy Aging: Up2Me, or to sign-up for the next workshop, please contact Susan Hirsch at 702.483.6023 or hirschs2@ccf.org. More comprehensive information about this and other programs for patients and their caregivers is available in the Individual & Family Services section of our website, keepmemoryalive.org.



L to R Healthy Aging: Up2Me Facilitators Pam Fine and Patti Nixon

Photo Gallery



Tim West, MD, receives a Healthcare Headliners Award from *VegasInc*



Chef Gordon Ramsay examines the Frank Gehry designed china at the Lou Ruvo Center for Brain Health



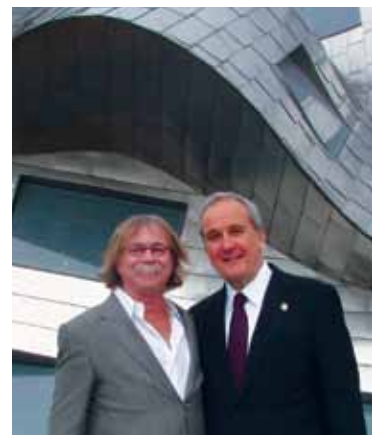
Assemblyman Marcus Conklin with Larry Ruvo



Larry Ruvo and Sammy Hagar



Jeffrey Cummings, MD, ScD, and KMA Board Member Michael Severino (center) welcome Francis Ford Coppola



Arthur Spector visits the Lou Ruvo Center for Brain Health



L to R: Larry Ruvo and John Nelson, Bobby Reynolds, David and Jim Allison of AEG



Ardette Carlson unveils a plaque the Lou Ruvo Center for Brain Health honoring her husband, Richard Carlson

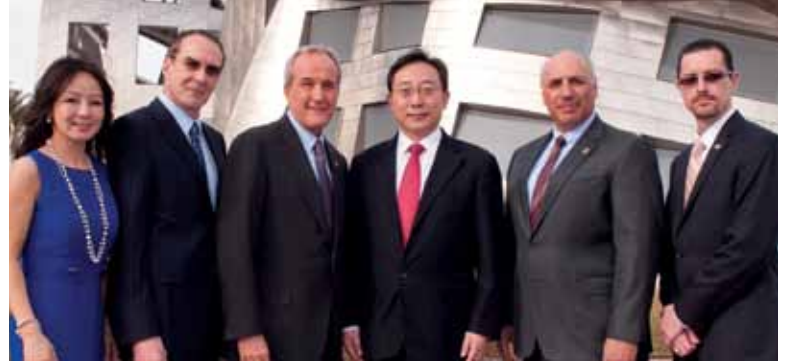


L to R: Gina Hines, UNLV Runnin' Rebels Coach David Rice and Patti Nixon

Photo Gallery



Laura Fritz, center, with Larry Preston, Treasurer (L) and Jason Meyer, President of Healthcare Financial Management Association, Nevada Chapter



Xuetao Cao, MD, President, Chinese Academy of Medical Sciences, center, flanked by L to R: Kate Zhong, MD, Jeffrey Cummings, MD, ScD, Larry Ruvo, Councilman Stavros Anthony and Kristopher Sanchez



The Epicurean Charitable Foundation presents Keep Memory Alive with a donation



L to R: Gina Sinclair, Honorary Counsel General Kathleen Blakely, Ambassador Ichiro Fugisaki of Japan, Kate Zhong, MD, and Gina Hines



L to R: Larry Ruvo, Greg Sills and Richard Sturm



L to R: Jean-Marc Lacave, Clement Reid, Anthony Keane, Anne Walraven and Laurent Boidevezi



Stephen Brauer of the Treasury Wine Estates with Larry Ruvo



L to R: Larry Ruvo, Leon Spinks, Bob Arum of Top Rank and Ken Norton



General Colin Powell with Larry Ruvo



Larry Ruvo with Jeffrey Frederick of Caesars Entertainment



Camille and Larry Ruvo Chair for Brain Health

Congratulations to Jeffrey L. Cummings, MD, ScD, Director, Cleveland Clinic Lou Ruvo Center for Brain Health, who has been selected the first to hold the Camille and Larry Ruvo Endowed Chair in Brain Health. Pictured here with Camille and Larry Ruvo, Dr. Cummings is looking forward to channeling their support into increased research into enhanced treatments for brain disease. Funding such as this makes finding a cure right here in Las Vegas all the more possible.

If you are interested in funding an endowed chair, please contact Senior Director of Development Laura Fritz at 702.331.7044.

The Brain Demystified

A daunting task, yet on April 4, 2012 in front of 270 attendees at the Symphony Park Lecture Series in downtown Las Vegas, Cleveland Clinic Lou Ruvo Center for Brain Health's staff tackled demystifying the brain in under an hour.

Neuropsychologist Sarah Banks, PhD, grabbed the crowd's attention early on with examples of noted artists — including architect Frank Gehry, who designed the Lou Ruvo Center for Brain Health at age 81 — whose skill and creativity progress while their aging brains remain vital.

On the contrary, she identified others who were at their peak creatively despite suffering from various brain illnesses. Did you know that Ravel is believed to have written his acclaimed Bolero while in the early stages of primary progressive aphasia? Stephen Wiltshire, an artist with autism, drew from memory the entire skyline of London in striking detail. Scholars suggest that noted pop-artist Andy Warhol had Asperger's.

Jeffrey Cummings, MD, ScD, covered brain imaging from the serious to the humorous. He introduced recent advances, such as the use of biomarkers to detect the effects of Alzheimer's drugs, and showed how newer technologies like functional

magnetic resonance imaging (fMRI) enhance insight into what is happening inside the brain as it performs various tasks, such as processing words. After explaining that the brain is also activated by humor, he elicited peals of laughter through a cartoon contrasting the male brain's focus on sex with the female brain's focus on chocolate.

Kate Zhong, MD, concluded the evening with tips for making brain span match life span. She reinforced the concept that when it comes to diet and exercise, what is good for the heart also good for the brain. Exercise increases blood flow to the heart and brain, improves memory and reduces stress. A diet rich in antioxidants reduces brain oxidation, something she calls "rust." As one audience member commented as she was leaving the lecture, "My husband has always been skeptical of my advice, but now having heard it from a doctor, he's vowing to make brain-healthy choices."

If you are interested in receiving information on future educational events offered by Cleveland Clinic Lou Ruvo Center for Brain Health, please contact info@keepmemoryalive.org.



Kate Zhong, MD, provides advice for a brain-healthy lifestyle



Sarah Banks, PhD, discusses creativity and the brain



The New keepmemoryalive.org

Be sure to mark “keepmemoryalive.org” as a favorite in your internet browser and check back frequently because in early winter 2012, we’re debuting a brand new look. Here’s a sneak peek.

In the interim, 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.

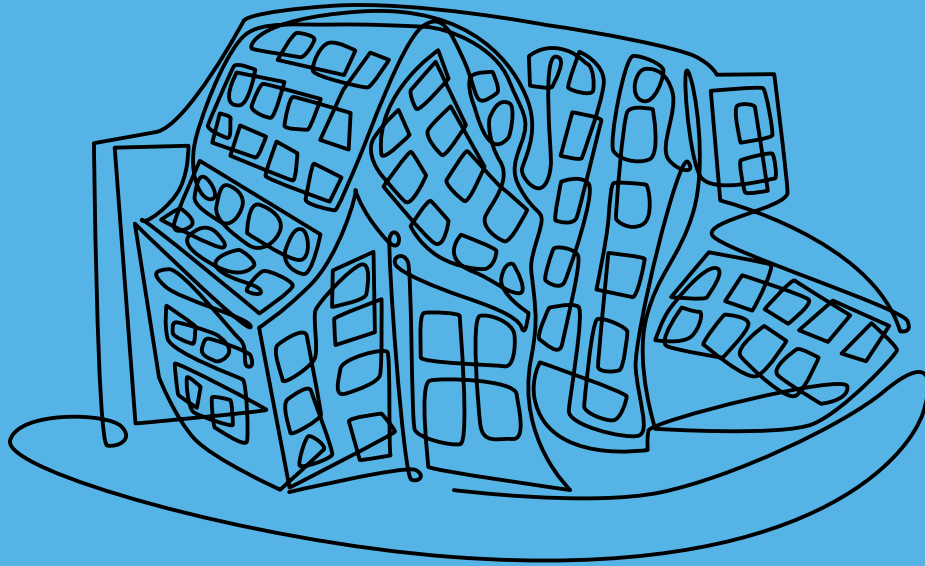
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**What happens in Vegas
will benefit the rest of the world.**



Lou Ruvo Center for Brain Health

In partnership with Keep Memory Alive Organization.
Learn more. clevelandclinic.org/brainhealth

KEEP MEMORY ALIVE

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