

New Thinking

Fall 2016
keepmemoryalive.org
clevelandclinic.org/brainhealth

ABOUT THINKING

A Publication by Cleveland Clinic Lou Ruvo Center for Brain Health



Celebrating Our History

HOW CLOSE ARE WE TO A CURE FOR ALZHEIMER'S?

One question I am asked at nearly every public presentation is, "How close are we to a cure for Alzheimer's?" No one can give a definite date for a cure or a meaningful treatment of Alzheimer's disease. However, the process for achieving such a globally important milestone is clear. Whether we are one step away or 100 steps away, the next step must be testing of promising new treatments in clinical trials. Clinical trials are the only mechanism through which the FDA will approve drugs that can become widely available and can stop the tsunami of Alzheimer's that is rushing toward us.

Clinical trials involve treating individuals who have symptoms of Alzheimer's or who are at high risk for developing Alzheimer's. Participants are assigned to a treatment or placebo, and neither the patient nor the doctor knows who is on active treatment and who is on placebo. All agents that will eventually be considered by the FDA must be tested in trials that include placebos. While some individuals are concerned that a placebo assignment is "wasting time," this approach is the only means of generating valid data, and clinical trials are the only means of accessing promising therapies that are not yet approved.



We are very grateful to those who participate in the clinical trials at Cleveland Clinic Lou Ruvo Center for Brain Health. These citizen-scientists are willing to accept some uncertainty in return for advancing our understanding of new therapies that may be critically important to the world, to their families and to themselves.

The Lou Ruvo Center for Brain Health conducts clinical trials in Alzheimer's disease, Parkinson's disease and multiple sclerosis. The center has one of the largest clinical trials programs for Alzheimer's disease therapeutics in the United States. We have an exciting repertoire of new treatments that we are testing, and we are more enthusiastic

about the current drugs than we have ever been. We may be one step away or 100 steps away, but we know that this is the way forward to find a breakthrough for Alzheimer's.

I encourage you to consider taking a step with us: Visit clevelandclinic.org/brainhealthtrials for a list of active trials.

Jeffrey L. Cummings, MD, ScD

*Camille and Larry Ruvo
Chair for Brain Health*

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

*Director, Center for Neurodegeneration
and Translational Neuroscience*

*Professor, Cleveland Clinic
Lerner College of Medicine*

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NEW THINKING ABOUT THINKING

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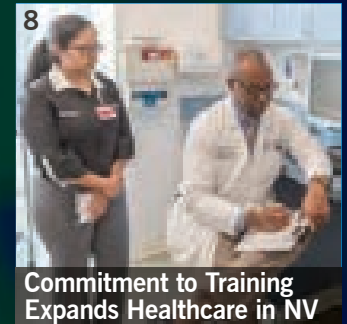
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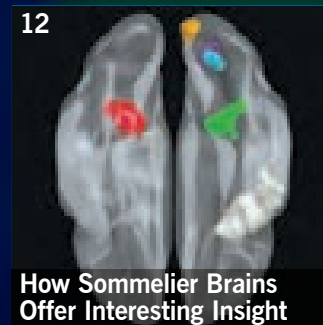
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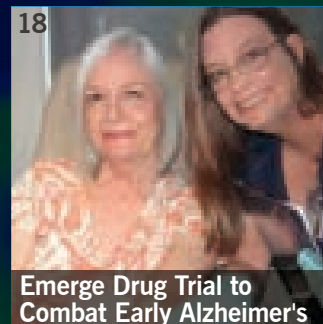
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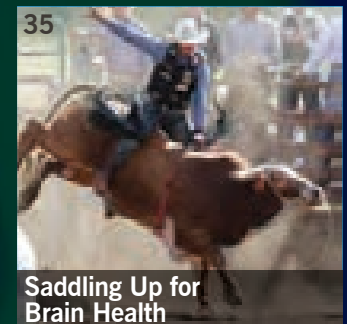
How Sommelier Brains Offer Interesting Insight



Professional Fighters Brain Health Study



Emerge Drug Trial to Combat Early Alzheimer's



Saddling Up for Brain Health



About the Cover:
In July 2016, Cleveland Clinic Lou Ruvo Center for Brain Health marked its 7th anniversary.



STARS CELEBRATE TONY BENNETT AT POWER OF LOVE® GALA



With more than 2,000 enthusiastic supporters celebrating Tony Bennett's 90th birthday, our 20th annual Power of Love® gala sold out, shattering previous attendance records and marking a milestone in Keep Memory Alive's history as we surpassed \$250 million in total funds raised.

The May 21 event drew renowned entertainers, celebrities, an army of 100 volunteers and 140 sommeliers, and the culinary teams from Mario Carbone, Nobu Matsuhisa and Wolfgang Puck to support the mission of Cleveland Clinic Lou Ruvo

Center for Brain Health: world-class treatment, clinical trials, and exceptional patient and family caregiver programs.

Andra Day kicked off the evening's performances with her rendition of "Steppin' Out With My Baby," and **James Corden** delivered his version of "Don't Get Around Much Anymore." Later, **Jordin Sparks** teamed up with **Dan Orlando** to perform a medley of hits, including "The Best Is Yet to Come," "Alright OK You Win" and "It Don't Mean A Thing." **Darius Rucker** treated guests to "Sunny Side of the Street" before **Herbie Hancock** took the stage to perform "Chameleon" and "Cantaloupe Island." Steven Tyler joined the elite ensemble to perform "Smile" with jazz trumpeter **Chris Botti** and Aerosmith classic "I Don't Want to Miss a Thing." The man of the evening, **Tony Bennett**, performed numerous hits, including "How Do You Keep the Music

Playing." To close the show, the entire cast sang "Happy Birthday" and presented Tony Bennett with a celebratory cake made and presented by Food Network star Duff Goldman of Charm City Cakes.

Following a special video tribute reflecting his decades-long impact on Las Vegas, **Bill Boyd**, a gaming, legal and philanthropic legend, received a Community Leadership award.

In addition to musical icons, artists honored and celebrity supporters included: **Adam Abdalla, Brad Garrett, Chazz Palminteri, Dale Chihuly, Jeff Koons, Jonathan Horowitz, Laurence Juber, Leslie Jackson Chihuly, Marina Abramović, Minnie Driver, Neville Wakefield, Nobu Matsuhisa, Petter Skavlan, Peter Tunney, Quincy Jones** and **Steve Schirripa**.

Items auctioned included a seven-day Italian vacation in Florence and Venice with world-famous tenor Andrea Bocelli as a tour guide, an original piece titled "The GOOD LIFE" from artist Peter Tunney and a personal culinary tour of Jean-Georges Vongerichten's eight New York City restaurants.



James Corden performs at 2016 Gala



The world-famous Las Vegas Boulevard becomes Tony Bennett Boulevard to honor the legendary entertainer. A Dom Pérignon champagne toast kicks off a weekend of 90th birthday festivities as casino marquees up and down the Strip light up with his image.

(L to R) Camille Ruvo, Bill and Joey Edwards, Larry Ruvo



Sheila and Eric Samson with Larry Ruvo (left)



Dr. Robert (Bill) Resnik and Lauren Resnik with Larry Ruvo (right)



Republic of Tea Founders Pam and Ron Rubin Family and guests

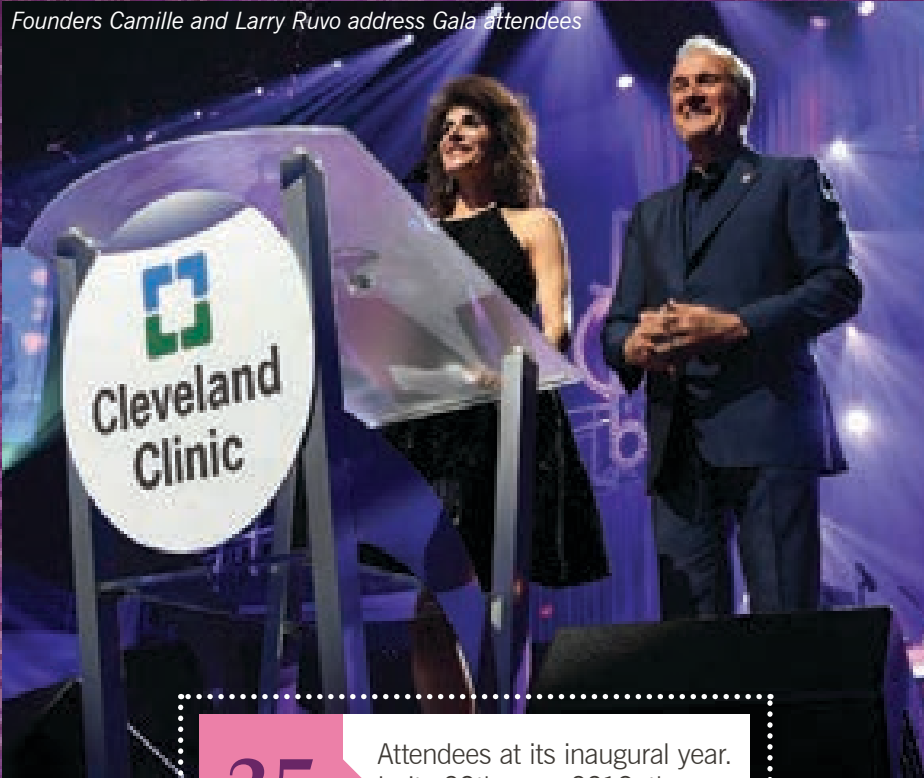


(L to R) Ana Laspetkovski, Larry Ruvo and Neil Weinreb

You may purchase tickets online at keepmemoryalive.org for a variety of Keep Memory Alive events throughout the year. Please contact us anytime at 702.263.9797 or events@keepmemoryalive.org for more information or to join our monthly events email updates.

IN 2016, POWER OF LOVE

Founders Camille and Larry Ruvo address Gala attendees



Larry Ruvo hosted the first gala in February 1996 at Spago by Wolfgang Puck.

19
96



35

Attendees at its inaugural year. In its 20th year, 2016, the gala hosted 2,000 guests.

Andra Day



Jordin Sparks with Dan Orlando



Locations home to the Power of Love gala:

Spago, Postrio, The Mirage, Bellagio Hotel and Casino, MGM Grand Conference Center and the MGM Garden Arena

6

2016 Gala

MARKED ITS 20TH YEAR

26

GRAMMY-award winning artists who have performed to date at the event



Steven Tyler

Chefs Nobu Matsuhisa, Wolfgang Puck and Mario Carbone



Celebrity chefs who have prepared one-of-a-kind event menus for the gala

30

Herbie Hancock



Total gala attendees to date

>16,000

Darius Rucker





KEEP MEMORY ALIVE

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

ALZHEIMER'S | HUNTINGTON'S | PARKINSON'S
MULTIPLE SYSTEM ATROPHY | MULTIPLE SCLEROSIS

POWER OF LOVE™

— 20TH —
ANNIVERSARY

THANK YOU

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Dylan Wint, MD, with Aaron Ritter, MD



COMMITMENT TO TRAINING EXPANDS HEALTHCARE ACCESS IN NEVADA

After four years of medical school, becoming a doctor involves ongoing mentorship from more seasoned physicians during a residency and, for many, a fellowship as well.

Cleveland Clinic Lou Ruvo Center for Brain Health has taken a leading role in providing graduate medical education (GME) in Las Vegas, training neurology residents from Valley Hospital and general medicine residents from the University of Nevada School of Medicine, including David Berg, MD (*see sidebar*).

In 2012, the center was accredited by the United Council of Neurological Subspecialties (UCNS) for its fellowship in behavioral neurology. Aaron Ritter, MD, started in July 2014 as the center's first fellow. Dr. Ritter excelled and joined the Lou Ruvo Center for Brain Health staff in July 2016.

Dr. Ritter praises Gabriel Léger, MD, CM, FRCPC, Director, Behavioral Neurology and Neuropsychiatry Fellowship: "His knowledge base and passion for neurology are amazing. His patients truly appreciate his thoroughness. When I encounter a difficult case, I ask myself, 'What would Dr. Léger do?'"

Of Dylan Wint, MD, NV Energy Chair for Brain Health Education, Dr. Ritter says, "You can't help but be influenced by Dr. Wint because of his ability to really listen and to address the patient's concerns in a personal, collaborative way with honest, straightforward language."

GME: Who benefits?

Although patients being seen by a resident or fellow may initially think they are not seeing the "real doctor," the assessment can be more comprehensive than that of a staff physician because trainees are allotted more time to fully explore the patient's complaints and concerns. Thorough diagnostic and therapeutic discussions occur between the mentoring staff (who also see the patient) and the trainee.

The presence of trainees enhances the environment of a medical practice. Trainees' developing interest in their new field of study leads to more frequent

Dylan Wint, MD, sees a patient accompanied by Georgetown University student Kajol Shrestha



exchanges with all staff, including advanced practice providers, nurses and support staff, which promotes teamwork and cutting-edge approaches.

A behavioral neurologist’s view

Dr. Ritter’s passion for behavioral neurology lies in the brain being the seat of behavior, with altered behaviors being driven by problems that may include dementia, Parkinson’s disease, multiple sclerosis or another brain disease.

“Even though neurodegenerative diseases affect millions of people, the medical community still does not adequately address the needs of patients afflicted with these diseases,” Dr. Ritter says.

“The Lou Ruvo Center for Brain Health represents a major paradigm shift in how patients with neurodegenerative diseases are treated and their families are supported. While new treatments are

desperately needed, current therapies can help ease many of the symptoms that are associated with these diseases.”

Perhaps that compassion is what prompted Cleveland Clinic to honor Dr. Ritter with its Excellence in Teaching Award for both 2015 and 2016. He was selected from among 1,800 Cleveland Clinic trainees.

As of July 2016, Dr. Ritter and his mentors, Dr. Léger and Lou Ruvo Center for Brain Health Director Jeffrey Cummings, MD, ScD, are the only fellowship-trained behavioral neurologists in Las Vegas.

What’s next for Las Vegas?

In addition to providing more than 95,000 patient visits since opening in 2009, the Lou Ruvo Center for Brain Health has added new physicians, who will in turn provide even more patient visits, thus

exponentially increasing healthcare access for Nevadans.

Due to the vibrancy of their GME experience in Las Vegas, both Dr. Ritter and Dr. Berg have chosen to hang their shingles here, thus improving access for those needing inpatient and neurology care. Their example shows why GME is critical to a city’s growth in healthcare: Seventy percent of physician trainees remain to practice in the city where they completed their GME.

Dr. Ritter predicts that the two new medical schools slated to open in Las Vegas — Roseman University College of Medicine and UNLV School of Medicine — and the resulting increase in GME positions will shape the growth of the medical community, adding new thinkers and fostering new opportunities to improve.



Q&A WITH DAVID M. BERG, MD

While on a geriatric medicine rotation as an internal medicine resident at the University of Nevada School of Medicine, Dr. Berg enjoyed two days at the Lou Ruvo Center for Brain Health. His training experience influenced his decision to stay in Las Vegas after the June 2016 completion of his residency. He is now employed as a hospitalist with Sound Physicians, a practice that is part of Dignity Health.

What's your most memorable patient experience during your time at the Lou Ruvo Center for Brain Health?

I saw a lot of disorders that we don't see in a general medicine practice; notably, a gentleman with Lewy body dementia. I've read about it in textbooks, but

rarely seen a patient. He seemed normal at times but, as the interview went along, it became clear the patient had classic symptoms. Typically, physicians focus on the patient, disease and how to treat it, so I was really impressed when Dr. Wint asked the wife how her husband's condition affected her as she cared for him.

What one thing did you learn here that you've incorporated in your patient care?

Don't forget that a patient with cognitive impairment can be difficult for a family to manage. I was so impressed with the center's personalized approach, where physicians escort patients and families from the exam room back to the lobby to make an appointment.

Asked why he and his wife, Susan, a primary care physician who also practices in Las Vegas, decided to stay after he completed training, Dr. Ritter replied, "There are unique opportunities in Vegas and a need for more doctors. It's a small medical community interested in growing and collaborating."

As for the Lou Ruvo Center for Brain Health, "It's truly unique on a national level to have a stand-alone facility devoted to solving brain health problems," he says. "We have the latest technology and clinical research studies." Dr. Ritter, who has a passion for research, adds, "A major goal of this center is to find better treatment for these diseases. This is the kind of place that will contribute to finding the cure."

Until then, we'll keep training more physicians.



*Gabriel Léger, MD, CM, FRCPC, Director,
Behavioral Neurology and Neuropsychiatry Fellowship*

CLEVELAND CLINIC LOU RUVO CENTER FOR BRAIN HEALTH LEADS GROUND-BREAKING DRUG TRIAL FOR ALZHEIMER'S DISEASE

By Jeffrey Cummings, MD, ScD

Bexarotene is unique in that it is already approved for the treatment of skin cancer and has been widely used in elderly individuals. “Repurposing” approved drugs is a great advantage because the safety of the treatments has already been established.

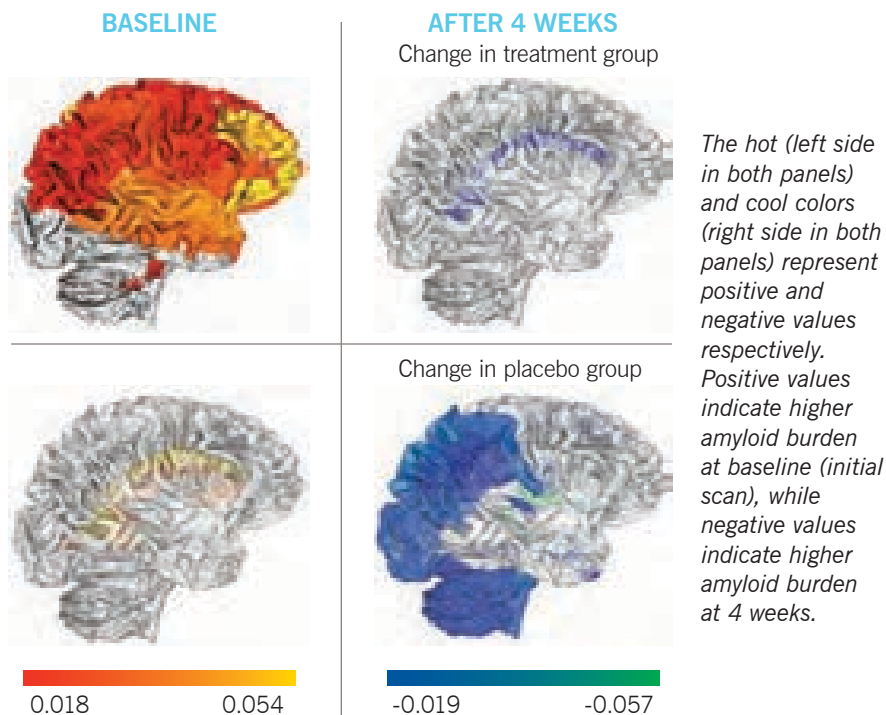
I joined with Kate Zhong, MD, Director of the Lou Ruvo Center for Brain Health's Clinical Trials Program, to design a human clinical trial as soon as the results of the mouse experiment were published. After review by the FDA and identification of support from generous donors, 20 patients were recruited to a one-month, double-blind, placebo-controlled trial, followed by a one-month extension during which all patients were treated with bexarotene. The results of the intervention were interpreted according to whether patients had a specific gene thought to influence the effects of the therapy.

Remarkably, in individuals without the risk gene, there was a marked reduction in the brain Alzheimer protein content. There was also a correlated increase in the blood level of the Alzheimer protein, suggesting that the protein was effectively being removed and exported into the blood stream, where it could be removed from the body. As anticipated given the short treatment period, there was no corresponding improvement in memory or thinking in the patients.

The critical observation in this study is that in a genetically defined subgroup of patients with Alzheimer's disease, bexarotene produced a significant lowering of brain Alzheimer protein content. There was a correlated increase in the blood level of the protein. This biological effect supports the further study of bexarotene as a possible treatment for Alzheimer's

disease. Longer treatment may result in clinical as well as biological benefit. The Lou Ruvo Center for Brain Health is unique in having studied this drug and, possibly, in opening a new pathway for the treatment of Alzheimer's disease; our work was published in 2016 in *Alzheimer's Research & Therapy*.

Mean change in amyloid burden of the non-e4 carriers



ABOUT THE AUTHOR

Jeffrey Cummings, MD, ScD, is Director of the Lou Ruvo Center for Brain Health. Ranked the sixth-most prolific Alzheimer's researcher by the *Journal of Alzheimer's Disease*, he is the author of 40 books and more than 650 peer-reviewed articles. He is a respected clinician, a neuroscientist with expertise in clinical trials and drug development, and a forward-thinking strategist concerning how to deliver optimal care to the growing number of patients with neurodegenerative disorders. He has expertise in clinical trial design and analysis, global trial implementation and trial outcome measures, and has been recognized with the Alzheimer's Association Research Award.

NEED A REASON TO EXERCISE YOUR BRAIN?

SOMMELIERS OFFER A CLUE

By Sarah Banks, PhD, ABPP/CN

Have you ever heard that once you get to adulthood, your brain cells start dying off? That it's downhill from there? That used to be the way we thought about brain health but, in the last couple decades, we've learned that some people do show positive brain changes, called neuroplasticity, even into adulthood.

The most famous study documenting this fact was of taxi drivers in London — experts in navigation and spatial memory — who have bigger memory structures in their brains than ordinary Londoners possess. Fascinating, but what about the surrounding areas: the smell and memory regions of the brain, which are the first to be affected in Alzheimer's disease and Parkinson's disease? Can those areas change for the better even in adults?

This is the question our research team at Cleveland Clinic Lou Ruvo Center for Brain Health wanted to answer, but first the

team had to find study subjects with reason to change that specific area of the brain as adults. In other words, who needs to become an expert in smell and memory? Answer: sommeliers.

In fine dining restaurants, sommeliers help us choose wine and pair it with our meals. Master sommeliers at the top of their field spend years learning about the geography, chemistry, history, legalities — all, of course, paired with the smells — of particular wines. These students pass a rigorous, four-step exam process, including blind tasting, which draws on the wealth

of memories they have built up in association with particular odors.

There are only 230 master sommeliers worldwide; with 13, Las Vegas has the largest number of any city in the United States. Thirteen master sommeliers enrolled in our study, in which we used MRI to assess both the sizes of various parts of their brains and brain activation during a smelling task.

The results were amazing: Not only did sommeliers have larger brain regions important in smell and memory, but the more experienced sommeliers had the largest differences. Their brains were also much more active and interconnected during smell than during other sensory tasks.

These results are exciting because they suggest that the most vulnerable of brain regions show neuroplasticity during adulthood, which may represent a mechanism for future interventions and provide evidence for why we should stay active and keep learning throughout our lifespans.

► **For more information on innovative research being conducted at the Lou Ruvo Center for Brain Health, visit clevelandclinic.org/BrainHealthTrials.**

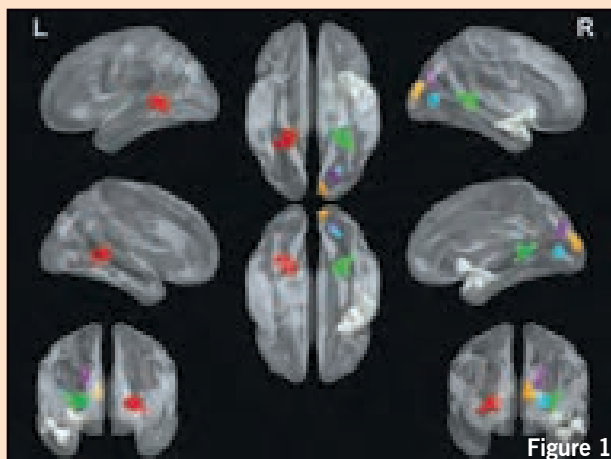


Figure 1 illustrates the regions of the brain that are more active in sommeliers than regular people during a task in which they make decisions about wine



Figure 2 shows the enhanced connectivity of the memory areas of the brain during the same task

ABOUT THE AUTHOR

Sarah Banks, PhD, ABPP/CN, Head, Neuropsychology Program, worked with movement disorders in Oxford, UK, and focused on neurodegenerative disease during graduate school at Northwestern University. After her internship at the University of Chicago, she completed a postdoctoral fellowship at the Montreal Neurological Institute. Her research includes investigating how patients perceive their condition, and using structural and functional neuroimaging to study behavior and cognition.

FOR ATHLETES, THE GAME IS CHANGING

The Nevada State Athletic Commission will now require all licensed fighters to undergo regular brain health testing with the Cleveland Clinic Concussion Assessment System (C3). That was the primary takeaway from a Washington, D.C. news conference hosted by Sen. John McCain, R-Ariz.

Charles Bernick, MD, MPH, Associate Medical Director of Cleveland Clinic Lou Ruvo Center for Brain Health and principal investigator for the Professional Fighters Brain Health Study, was a featured speaker at the April event. He praised the athletic commission's mandate as "the first instance of a sport tracking brain function over time."

Quick, inexpensive and portable, the tablet-based C3 app tests balance, reaction time, memory and more. This tool may help monitor individuals throughout their careers, documenting progressive functional decline, if present.

For Safety's Sake

A decade ago, few people had heard of chronic traumatic encephalopathy (CTE), yet evidence of this neurodegenerative disease was accumulating from autopsies of professional athletes with a history of repetitive brain trauma.

Launched in 2011, the Professional Fighters Brain Health Study has enrolled some 700 active and retired boxers and mixed martial arts fighters in Las Vegas and at Cleveland Clinic's main campus in Cleveland, Ohio. Participants undergo annual assessments. The goals are to develop methods to detect early signs of brain injury, determine whether certain

Study participant Ray 'Boom Boom' Mancini with Charles Bernick, MD, MPH



factors add to the risk of long-term neurological disease, and better understand the general relationship between head injury and cognitive health.

"Las Vegas is the fight capital of the world, and we have strong relationships with fight promoter organizations that have generously supported our work," says Dr. Bernick, explaining why the Lou Ruvo Center for Brain Health is well positioned to conduct this research.

In addition, the center is part of a National Institutes of Health-funded study to devise methods for diagnosing CTE during life. This multicenter study will include National Football League players with and without CTE symptoms (see article on page 14).

Funding Fuels Innovation

"These longitudinal studies span years," Dr. Bernick says. He would like to follow each fighter for at least 10 years; ideally, into retirement. "Government funding and grants simply can't support all of it. That's why philanthropy is so critical. It's amazing how the fight community has pitched in. Cleveland Clinic has really stepped up, too."

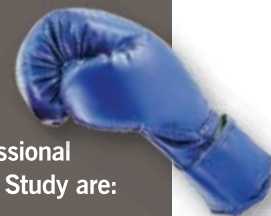
For Dr. Bernick, "To be in this field of study at the ground level is hugely exciting. Being with a leading, innovative organization makes it all possible."

FIGHTING FOR BRAIN HEALTH

Among the generous sponsors of the Professional Fighters Brain Health Study are:

- UFC
- Haymon Sports, LLC
- Viacom, Inc
- The Dream Fund at UCLA
- Top Rank, Inc.
- Zuffa, LLC
- Golden Boy Promotions
- Steven DeLonga
- Dan Park
- The Spector Family Foundation
- HBO Headquarters
- Siemens Medical Solutions USA, Inc.

Cleveland Clinic Lou Ruvo Center for Brain Health is grateful for their support. If you're interested in joining them, please contact DonateNevada@ccf.org.



"The future belongs to those who seize the opportunities created by innovation."

Delos M. Cosgrove, MD
CEO & President, Cleveland Clinic



Jeffrey Cummings, MD, ScD

PIONEERING STUDY PROBES BRAIN TRAUMA IN LIVING EX-FOOTBALL PLAYERS



Cleveland Clinic Lou Ruvo Center for Brain Health is part of a landmark study of chronic traumatic encephalopathy (CTE), a neurodegenerative disease that has been reported in professional football players, boxers and other athletes with a history of repetitive brain injuries.

The study — DIAGNOSE CTE — is the first to investigate ways to detect CTE in living players, a result of recent advances in neuroimaging. CTE, which is thought to be associated with changes in mood, behavior and cognition, historically has been diagnosed only by postmortem examination of the brain. This disease has received considerable attention with the discovery of damage in the brains of deceased athletes.

"We want to protect athletes' brain health, and I believe everyone involved in athletics wants that. We want to protect against the effects of head injury wherever it occurs. We're concerned about those experiencing military combat, traffic accidents, domestic abuse. This is a set of lessons that will have wide implications in society," says Jeffrey Cummings, MD, ScD, Director of the Lou Ruvo Center for Brain Health and

a co-principal investigator of the study, which is being led by Boston University School of Medicine and funded by the National Institutes of Health (NIH).

DIAGNOSE CTE will examine 240 men ages 45 to 74: 120 former National Football League players, 60 former college football players with and without CTE symptoms and, for comparison, 60 men who have never participated in contact sports.

Participants will undergo extensive testing at four centers, including the Lou Ruvo Center for Brain Health. Included will be brain scans (PET and MRI), blood tests and neuropsychological assessments, with the goal of finding biomarkers and other indicators of changes in the brain associated with CTE.

"If we can develop clinical criteria to detect CTE, we could enroll the

right people in clinical trials to test medications that could treat it," says Sarah Banks, PhD, a neuropsychologist at the Lou Ruvo Center for Brain Health and an investigator on the study.

The study will probe other factors — genetics, lifestyle and history of head injuries — that may influence why some players develop CTE and others don't. This study fits well with the research the Lou Ruvo Center for Brain Health has been conducting for years on athletes involved in contact sports, including the Professional Fighters Brain Health Study led by Charles Bernick, MD, MPH, who is an investigator on the CTE study.

➤ For information on studies at the Lou Ruvo Center for Brain Health that are currently enrolling participants, please visit clevelandclinic.org/BrainHealthTrials or call 855.LOU.RUVO.

NEW SCANNER WILL SUSTAIN EXCELLENCE IN IMAGING

CHRISTOPHER BIRD, RESEARCH COORDINATOR

“The new MRI scanner is certainly welcome news, benefiting both our clinical patients as well as our next phase of research. We have put a lot of effort into developing new studies that will utilize the enhanced imaging capabilities of the new scanner. The data we acquire will surely lead to new insight in our understanding of neurodegeneration.”

XIAOWEI ZHUANG, MS, RESEARCH ENGINEER

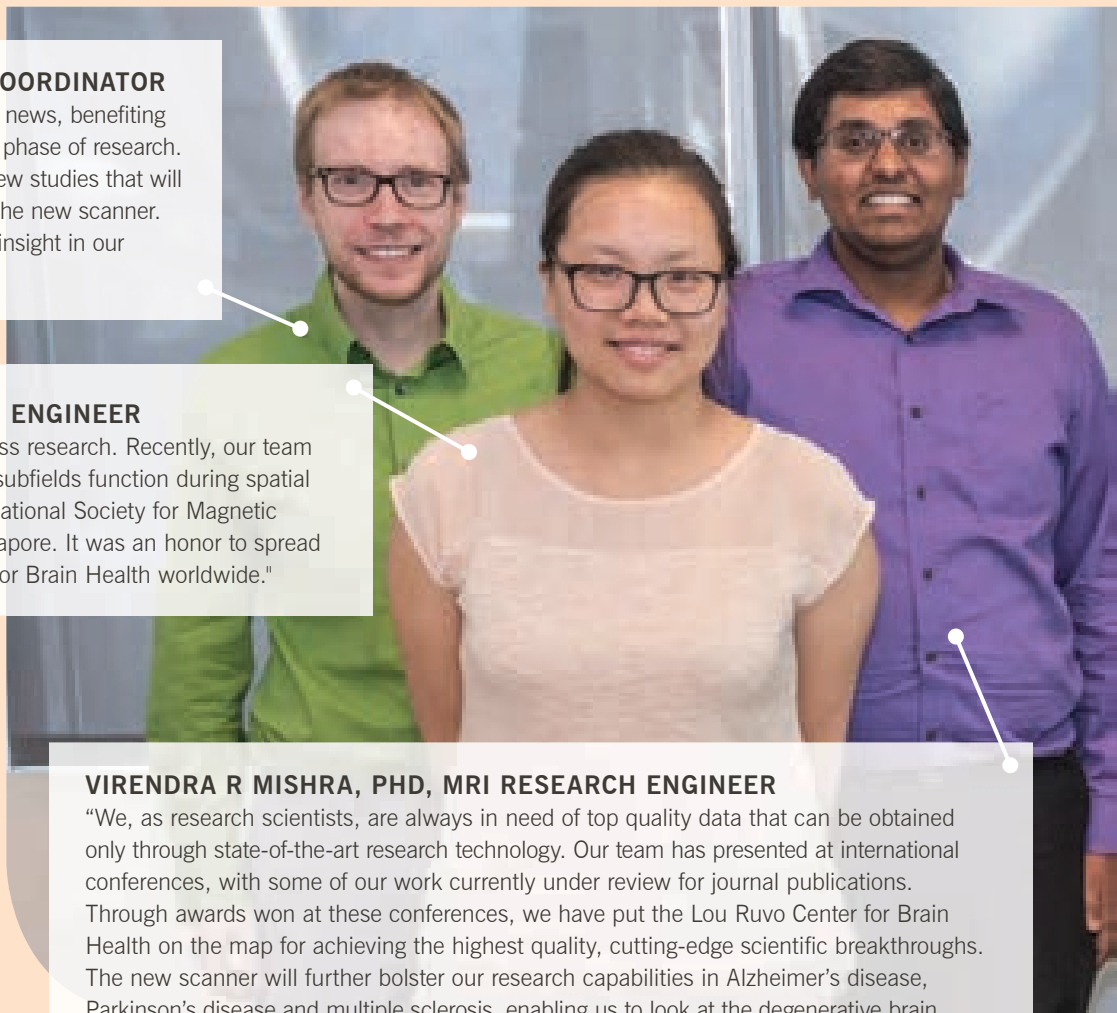
“Cutting edge technology enables world class research. Recently, our team presented the work on ‘How hippocampal subfields function during spatial memory tasks using MRI data’ at the International Society for Magnetic Resonance in Medicine Conference in Singapore. It was an honor to spread knowledge gained at the Lou Ruvo Center for Brain Health worldwide.”

Generous donors have contributed to help Cleveland Clinic Lou Ruvo Center for Brain Health upgrade its imaging capabilities with the purchase of a new, state-of-the-art clinical magnetic resonance imaging (MRI) scanner that advances our scientific leadership.

That’s good news for patients and for the Lou Ruvo Center for Brain Health, according to Dietmar Cordes, PhD, Director of the Brain Imaging Research Program. For patients undergoing MRI, it should will a quicker, more comfortable experience. For the center, the scanner’s updated software will bolster exceptional clinical and research capabilities.

Better Images in Less Time

“Fundamentally, all MRI scanners have similar capabilities,” Dr. Cordes explains. “But this one performs to a higher standard. It’s a little like the difference between Windows 7 and Windows 10.”



VIRENDRA R MISHRA, PHD, MRI RESEARCH ENGINEER

“We, as research scientists, are always in need of top quality data that can be obtained only through state-of-the-art research technology. Our team has presented at international conferences, with some of our work currently under review for journal publications. Through awards won at these conferences, we have put the Lou Ruvo Center for Brain Health on the map for achieving the highest quality, cutting-edge scientific breakthroughs. The new scanner will further bolster our research capabilities in Alzheimer’s disease, Parkinson’s disease and multiple sclerosis, enabling us to look at the degenerative brain in microscopic detail. We thank everyone whose donation made this happen.”

In this case, “Windows 10” is Siemens’ Magnetom Skyra MRI scanner.

Dr. Cordes anticipates superior-contrast imaging, which should result in improved image quality. Better images will increase the accuracy of diagnoses, open a wider window on disease progression and response to treatment, and enhance researchers’ understanding of how the brain functions.

Dr. Cordes also looks forward to acquiring better images with no increase

in scan time: “We’re limited now; to obtain a significant amount of data required for functional MRI research, we may need to scan a patient for a long time. With advanced technology, we should acquire optimal amounts of functional MRI data in less time compared to the current scanner.”

Philanthropy Steps Up Again

Reduced time in the scanner is a welcome advantage for patients. While they will still be told to remain as motionless as possible during imaging,

(L to R) Chris Bird, Xiaowei Zhuang, Virendra Mishra, PhD, Dietmar Cordes, PhD, Zhengshi Yang and Karthik Sreenivasan



My excitement over our new MRI machine is surpassed only by my pride in this outstanding, world class neuroimaging research team.

Larry Ruvo, Chairman & Founder, Keep Memory Alive

KARTHIK R SREENIVASAN, MS, RESEARCH ENGINEER

“Thus far in 2016, our team has already received several merit awards in recognition for research findings presented at international conferences in Florida, Singapore and Switzerland. The new scanner will further enhance our world class research and I just can’t wait to show everyone what all of us here at the Lou Ruvo Center for Brain Health can do with state-of-the-art technology. I would also like to thank all the donors, without whom this would not be possible.”

ZHENGSHI YANG, MS, RESEARCH ENGINEER

“Here at the Lou Ruvo Center for Brain Health, we use data acquired on the MR for both clinical and research purposes. I’m working on developing advanced algorithms with MR data. I’m very excited about the new MR scanner as it will enable us to provide even better patient care and augment our research abilities.”

the scanner will compensate for “a little bit of movement,” Dr. Cordes says. Another plus: It will be quieter than earlier models, he notes.

“Brain imaging is our passport to explore every disease we treat here,” says Director Jeffrey L. Cummings, MD, ScD. “With the support of philanthropy, we continue to invest in the scientists and technologies that are penetrating the secrets of the brain. Our donors are essential partners as we move closer every day to understanding the seat of the mind.”



Moving the scanner



Sarah Banks, PhD, ABPP/CN
and Ryan R Walsh, MD, PhD

COBRE: A NEW APPROACH TO UNDERSTANDING TWO RELATED DISEASES

The pathologies of Alzheimer's disease and Parkinson's disease differ markedly. The two disorders impact different areas of the brain, yet both affect cognition, and they follow similar mechanisms of spreading damage throughout the brain.

If we compare these similarities and differences in patients, we should develop a better understanding of how each disease progresses, how damage to various brain pathways leads to cognitive impairment and how we can effectively respond to the impact.

That premise underlies three research projects funded by an \$11.1 million federal grant to Cleveland Clinic Lou Ruvo Center for Brain Health and the University of Nevada, Las Vegas (UNLV). The five-year grant, announced last winter, establishes a Center of Biomedical Research Excellence

(COBRE), the first in southern Nevada. The COBRE grant supports the Center for Neurodegeneration and Translational Neuroscience comprises three projects to be tackled by teams at UNLV and the Lou Ruvo Center for Brain Health.

Collaboration Is Key

Ryan R. Walsh, MD, PhD, will use structural MRI, which maps brain anatomy, and functional MRI (fMRI), which measures brain activity, as well as neuropsychological tests to advance understanding of Parkinson's disease and related cognitive impairment.

"We hope this multimodal study will improve our diagnosis of Parkinson's disease, our understanding of the brain's response to treatment and our ability to predict the course of the disease," says Dr. Walsh, Director of the Parkinson's Disease and Movement Disorders Program.

Sarah Banks, PhD, ABPP/CN, will use neuropsychological tests and fMRI to assess the health of neural networks in the brains of patients with Alzheimer's disease while engaged in a computerized task and at rest. She will use PET imaging to scan for inflammation, a marker for injury, in the brain cells of both patients with Alzheimer's and those with Parkinson's.

"We treat many pathologies under one roof here," says Dr. Banks, Head of Neuropsychology. "With this cross-disciplinary research, we hope to gain a high-level understanding of brain function and cognition that we can apply across the various diseases."

Jefferson W. Kinney, PhD, of UNLV, will focus on assessing novel models of Alzheimer's and the immune system.

NEXT STEPS

Patient recruitment for the projects is ongoing; roughly 140 participants, all from the Lou Ruvo Center for Brain Health, will be involved.

"This research has so much potential," says Dr. Banks. "We are working with some amazing people. It's a big step forward for science."

Dr. Walsh believes the approach is unique: "We don't often see direct comparisons between Alzheimer's and

Parkinson's diseases. It's a different lens for understanding cognitive impairment, and we expect much more science to emerge from these initial and novel cross-disciplinary investigations."

If you'd like to be a part of our science, call 702.483.6000 to make an appointment with a neurologist or learn more about participating in research studies.

EMERGE DRUG TRIAL TAKES AIM AT EARLY ALZHEIMER'S DISEASE

When Vicki Bukovick was advised that she would be a good candidate for a drug trial that could improve her symptoms of early-onset Alzheimer's disease (AD), she jumped at the opportunity. It had been two years since the 66-year-old from Las Vegas had first sought treatment for memory loss at Cleveland Clinic Lou Ruvo Center for Brain Health.

"When a diagnosis like (AD) happens to you, you're grasping for anything that can help," she says.

By participating in the worldwide EMERGE treatment trial at the Lou Ruvo Center for Brain Health, Ms. Bukovick is helping researchers learn whether a promising new drug therapy can slow the progression of symptoms in early Alzheimer's disease, including declining memory and cognitive skills.

EMERGE is one of several clinical trials being conducted by drug manufacturer



Biogen at medical centers around the world — including the Lou Ruvo Center for Brain Health in both Las Vegas and at Cleveland Clinic's main campus in Cleveland — to test the safety and efficacy of aducanumab (B11B037).

"We would like to find a treatment for AD that can slow its progression, and we are thrilled to be part of this important national study," says Charles Bernick, MD, MPH, principal investigator on the EMERGE trial for the Las Vegas location.

Participants in the trial are men and women like Mrs. Bukovick who are 50 to 85 years old and experiencing mild cognitive impairment due to early-stage Alzheimer's disease. To be eligible for the trial, participants must have scored a 0.5 on the Clinical Dementia Rating — a global scale developed to clinically indicate the presence of Alzheimer's and

stage its severity — and they must have a positive amyloid PET scan.

During the 78-week trial, participants receive monthly intravenous infusions of aducanumab. Investigators closely monitor participants' health through interviews, physical exams and scans, measuring changes in their functional and cognitive impairment in order to evaluate the drug's ability to slow the progression of Alzheimer's disease.

Mrs. Bukovick was the first patient enrolled in the study in Las Vegas. She has been receiving treatments since March.

"I initially wanted to enroll in the trial because, frankly, I was scared about what was happening to my memory," she says. "But I'm relieved already. I'm really, really hopeful and anticipating more success with the treatment."

SEEKING RESEARCH PARTICIPANTS

The Lou Ruvo Center for Brain Health is accepting enrollment in the EMERGE trial. The study is randomized, double-blind and placebo-controlled, meaning some participants will receive the medication and some will not, and neither the participant nor the investigator will know.

For more information about the EMERGE trial, including enrollment, call 855.LOU.RUVO. For more information about the center's other research studies, visit ClevelandClinic.org/BrainHealthTrials.

PHYSICAL THERAPY TEAM CONDUCTS FALLS RESEARCH

Alzheimer's disease is most commonly associated with memory loss and cognitive deficits, but it also causes challenges with movement, such as walking and balance difficulties.

“Motor impairment is a very common but not well-recognized symptom that appears early in Alzheimer's disease. There hasn't been much research conducted on motor impairments, so there is limited understanding of the extent of the problem,” says Jennifer Nash, PT, DPT, NCS, Manager of Neurorehabilitation Services at Cleveland Clinic Lou Ruvo Center for Brain Health.

To learn more about the relationship of cognitive and motor impairments in Alzheimer's disease, the Lou Ruvo Center for Brain Health conducted a study in collaboration with the University of Nevada Las Vegas (UNLV) Physical Therapy Department. The study looked at 140 Lou Ruvo Center for Brain Health patients diagnosed with Alzheimer's disease who had received physical therapy evaluations at the center.

The researchers analyzed and compared the patients' performance on assessments of cognitive and physical functioning. The study found that walking and balance deficits are present at all stages of Alzheimer's disease and are most advanced in patients with severe cognitive impairment.

“Cognitive impairment and difficulties with balance and walking go hand in hand,” says Dr. Nash. “People with Alzheimer's disease are vulnerable to falling, which can undermine quality of life.”

While currently available treatments for memory loss and other cognitive impairments associated with Alzheimer's disease have limited benefits, motor impairments can “significantly improve with physical therapy, which helps prevent falls and



Jennifer Nash, PT, DPT, NCS, conducts a balance assessment

enables patients to maintain their independence and be cared for at home,” says Dr. Nash. Assessing motor impairments could also aid in earlier diagnosis of Alzheimer's disease.

Dr. Nash and the UNLV researchers are planning a follow-up study of cognitive and motor impairments in patients with mild cognitive impairment, which can develop into Alzheimer's disease.



Healthy Brains

What is HealthyBrains.org?

It's a tool designed to engage, educate and empower all who are eager to maximize brain health, minimize risk of brain disorders and participate in the discovery of new treatments for Alzheimer's disease, Parkinson's disease and multiple sclerosis



On the HealthyBrains.org website or app, you can:

- ✔ Take a free self-administered brain checkup
- ✔ Get your Brain Health Index (BHI) score and report
- ✔ Use your personal dashboard to track progress and get tips
- ✔ Test your memory as often as you'd like
- ✔ Elect to receive news trends in brain health
- ✔ Choose to learn about possible clinical trials participation

Get a **FREE**
Brain Checkup
HealthyBrains.org/NTAT



855.LOU.RUVO (855.568.7886)
healthybrains@ccf.org



MAKING WELLNESS A PRIORITY IN MULTIPLE SCLEROSIS

By Carrie M. Hersh, DO, MS



Carrie Hersh, DO, MS

Wellness is the process of attaining optimal health. It is a journey involving education, planning and action. Recent studies have shown that individuals with multiple sclerosis (MS) who maintain a healthy weight and appropriate level of activity retain a higher level of physical ability as their disease evolves.

Making a plan for wellness while living with MS

While such general wellness advice may seem like common sense, the practical challenge most individuals with MS express is that they're not sure exactly how to tailor wellness initiatives to fit their disease state. The Cleveland Clinic Mellen Program for Multiple Sclerosis at Cleveland Clinic Lou Ruvo Center for Brain Health, Las Vegas, is helping.

In 2016, I began offering wellness consultations, which are supplemental to a visit with a Cleveland Clinic MS neurology provider. While core neurology visits focus on changes in a patient's disease and an optimized treatment plan, wellness consultations address general well-being in relation to MS. Rather than a typical neurological exam, wellness consultations are "talking" visits with the physician.

Want to take a step toward wellness while living with MS?

Wellness consultations are available exclusively by referral from our MS neurology care team. To schedule your wellness consultation with me, please call 702.483.6000.

You can also visit HealthyBrains.org, a unique interactive website designed by the Lou Ruvo Center for Brain Health, for a free online brain health and wellness assessment. Those who register online will receive personalized reports and up-to-date brain health news.

ABOUT THE AUTHOR

Carrie M. Hersh, DO, MS, completed a neuroimmunology fellowship program at Cleveland Clinic Mellen Center and a Master of Science in clinical research at Case Western Reserve University. She earned her Bachelor of Science at the University of Florida *summa cum laude*, graduated with honors from Nova Southeastern University College of Osteopathic Medicine and completed an adult neurology residency program at Cleveland Clinic. Now Assistant Director, MS Wellness, Dr. Hersh is particularly interested in wellness initiatives and outcomes research, and is involved in clinical trials.

WHAT IS ADDRESSED IN A WELLNESS CONSULTATION?

Health maintenance

- Vascular disease risk reduction
- Osteoporosis risk reduction
- Age-related health screens
- Mental fitness

Nutrition

- Whole foods
- Anti-inflammatory diet
- Vitamins
- Herbals
- Supplements

Exercise

Fatigue and sleep

Complementary medicine

- Meditation
- Yoga
- Guided imagery
- Reiki
- Acupuncture

Lifestyle choices

- Smoking and alcohol

Emotional wellness

- Social connection with family and friends
- Spirituality
- Relaxation and stress reduction
- Cleveland Clinic resources for psychiatry and counseling

Pain

- Options for non-medicinal means of relieving pain

MS SPECIALIST TEAM ENHANCES TREATMENT BY FELLOWSHIP-TRAINED NEUROLOGISTS

People living with multiple sclerosis (MS) know that it is a lifelong neurological disease with far-reaching and variable implications.



Four physical therapists, one occupational therapist and one social worker are now certified "MS Specialists." The credential illustrates the commitment of the Cleveland Clinic Mellen Program for Multiple Sclerosis at the Lou Ruvo Center for Brain Health, Las Vegas, to offer an interdisciplinary approach to MS care and treatment for the more than 2,500 people living with MS in southern Nevada.

(L to R)

Robert McVey, LSW, MSW

Christy Ross, PT, DPT, GCS, MSCS

Trevor Mahoney, PT, DPT, MSCS

Jason Longhurst, PT, DPT, NCS, MSCS

Jen Nash, PT, DPT, NCS, MSCS

Shaina Meyer, OTR/L, MSCS

Treatment paths vary among patients, and doctors strive to meet the ever-changing needs of those affected by the disease. That's why the Consortium of Multiple Sclerosis Centers (CMSC) developed an "MS Specialist" certification program.

Six providers at Cleveland Clinic Lou Ruvo Center for Brain Health recently obtained certification from CMSC, which reflects knowledge in the specialization of MS care. The goal of the certification process is to provide high-quality, consistent treatment to those living with MS.

The Lou Ruvo Center for Brain Health's Carrie Hersh, DO, MS, and Le Hua, MD, are the only fellowship-trained MS neurologists in the state of Nevada, having each received two years of training in MS beyond their neurology residencies for more specialized patient care. Moreover, the Lou Ruvo Center for Brain Health is the only site in Nevada to receive the "Partners in Care" designation from the National Multiple Sclerosis Society.

Each patient requires a unique treatment path and a cadre of specialized health-care providers. We're proud of our MS care team's commitment to achieving this training.

SUPPORTING OUR PATIENTS AND FAMILIES

A \$1.35 million grant from the Conrad N. Hilton Foundation has fueled rapid expansion of the Mellen Program for MS at the Lou Ruvo Center for Brain Health.

To help patients get the services they need to live a fuller life, in 2014 the center added the Major José M. Fajardo Patient Services Program. The Fajardo Program is funded by a generous gift from Grammy Award-winning singer Gloria Estefan and her husband, songwriter and producer Emilio Estefan, in honor of Gloria Estefan's father, who suffered from MS that he developed during his service in Vietnam.

The program is designed to reduce stress by increasing knowledge, coping skills and a sense of well-being among patients, family members and caregivers managing an array of new and ongoing challenges.

To schedule a consultation with the Major José M. Fajardo Patient Services Program, call 702.483.6000 and ask for Robert McVey, LSW, MSW. To make an appointment with a neurologist, call the same number and follow the phone menu prompt.

PSP PATIENTS NEED CARE AND A CURE

By Brent Bluett, DO

Progressive Supranuclear Palsy (PSP) is a relentless, rapidly progressive neurodegenerative disorder. Although rare in the general population (approximately six in 100,000 people are affected), it is the most common form of parkinsonism aside from Parkinson's disease.

PSP has gained recent attention as a research model for potential therapeutic agents in the most common neurodegenerative disorder: Alzheimer's disease. Both disorders are due to an abnormal accumulation of a normal protein in the brain called tau, and are therefore classified as "tauopathies." While PSP may offer insight on a cure for a more common disorder, those suffering from this disorder need care now.

Unfortunately for individuals with PSP, many go years before receiving a correct diagnosis or the care they need. Identifying PSP is more difficult early in the course of the disease, when the classic signs and symptoms may not be pronounced or even present. What ultimately distinguishes PSP from other parkinsonian disorders is the inability to look up or down, combined with severe postural instability leading to unexplained falls — usually backward — within the first year of symptom onset.

Although antiparkinsonian medications such as levodopa may improve the slowness, stiffness and imbalance in some patients with PSP, the effect is usually temporary and not nearly as effective as in Parkinson's disease. The combination of falls and difficulty



Brent Bluett, DO

swallowing leads to significant morbidity, and mortality usually occurs within a decade of the onset of symptoms.

However, many symptomatic therapies can significantly improve one's quality of life:

- Individualized rehabilitation programs can improve balance and gait.
- Botulinum toxin ("Botox") injections have proved effective.
- Oral medications can improve manifestations such as depression, apathy, and inappropriate laughter or crying.
- Melatonin can reduce sleep disorders.

Speech therapy can improve talking and swallowing. In later stages of the disorder, feeding through a PEG tube placed in the stomach can eliminate risk of choking, the most common cause of morbidity in PSP.

In our movement disorders clinic at Cleveland Clinic Lou Ruvo Center for Brain Health, we strive to provide optimal care to patients suffering from PSP and their loved ones, while continuing to search for a cure. Please call 702.438.6000 if you'd like to consult with one of our specialized neurology providers.

ABOUT THE AUTHOR

Brent Bluett, DO, is a board-certified neurologist and fellowship-trained movement disorders specialist at the Lou Ruvo Center for Brain Health. He specializes in the diagnosis and treatment of movement disorders such as Parkinson's disease, dystonia, PSP, atypical parkinsonism, tremor, ataxia and chorea.

OCCUPATIONAL THERAPY HELPS RESTORE FUNCTION, BUILD SELF-ESTEEM

In Marcia Lambert's opinion, "So many people with multiple sclerosis do not realize how important therapy is." She would know. After two years of occupational therapy (OT) coupled with physical therapy (PT) at Cleveland Clinic Lou Ruvo Center for Brain Health, Mrs. Lambert has reached her physical and functional goals and is no longer taking medication for her secondary progressive multiple sclerosis (MS).

"I have considerably more good days than bad days," Mrs. Lambert says. "I know my limits now, thanks to therapy, and I am able to work around them."

Mrs. Lambert, 71, began dealing with the physical symptoms of MS when she was in her 20s and had trouble buttoning her clothes. She was not diagnosed with MS, however, until 15 years ago. The Las Vegas resident has gone through rehabilitative services at several places, and had been under the care of a neurologist who was a long distance away in Scottsdale, Arizona.

In 2011, Mrs. Lambert read in the newspaper about the Lou Ruvo Center for Brain Health. She has been a patient ever since. She was thrilled when the addition of PT and OT services coincided with a worsening of her illness, which resulted in her falling multiple times.

The occupational therapists at the Lou Ruvo Center for Brain Health help patients with brain disorders who have

symptoms arising from cognitive issues, fatigue or physical impairment that make it difficult for them to perform activities of daily living, home management tasks (preparing meals, managing medication) or work-related tasks (such as typing). They have helped Mrs. Lambert build strength in her arms and legs, allowing her to safely transfer herself from her power wheelchair without falling.

This past spring, Mrs. Lambert went on a cruise — the first time she has traveled in six years. Before, even the thought of packing for a trip felt overwhelming. She credits her occupational therapists with giving her not only physical strength but confidence, by helping her improve her ability to perform everyday activities with greater ease and independence.

"My self-esteem has been given a big boost," she says. "That's what many people don't know. Your self-confidence suffers when you can't do all the things you used to do."



► To make an appointment for physical or occupational therapy, please ask your Lou Ruvo Center for Brain Health neurology provider to make a referral, and then call 702.483.6000.

MURLIN HAMPTON: A LIFELONG HISTORY OF CAREGIVING

As Cleveland Clinic Lou Ruvo Center for Brain Health's first volunteer, Murlin Hampton was on duty at the lobby desk on Monday, July 13, 2009, when the first patient arrived. Keep Memory Alive Chairman and Founder Larry Ruvo and Las Vegas Mayor Oscar Goodman joined her in welcoming and escorting the patient up in the elevator to see the doctor. When the patient completed his appointment, Mrs. Hampton presented him with a flower and thanked him for visiting — a tradition that hasn't changed.

Mrs. Hampton says many things haven't changed since day one, including positive feedback from patients and families on the building's unique architecture. Nor has her own commitment to brain health wavered. She remains a vocal advocate for staying physically and mentally active and socially engaged.

A licensed practical nurse from 1955 to 2006, Mrs. Hampton spent the last 26 years of her career at University Medical Center in Las Vegas, working with patients who had experienced strokes and brain and spine injuries. Following retirement, she began volunteering three times a week at Valley Hospital, again helping those with brain injury, as well as lending her nursing skills to the Southern Nevada Health District as a volunteer for health screening events. In addition, she volunteered at the Lou Ruvo Center for Brain Health.

"I like making patients smile by talking about something that relates to their generation and might jog their memory," says Mrs. Hampton.



Murlin Hampton welcomes the late Muhammad Ali, one of the Lou Ruvo Center for Brain Health's more famous visitors.

A Jamaican native who immigrated to New York at age eight, Mrs. Hampton developed this gift and passion at a young age, spending her summers as a live-in babysitter starting at age 11.

"I would take the train by myself from New York City to Connecticut, where I spent six summers caring for the children of Flash Gordon's creator, cartoonist Alex Raymond," she explains. She loved the challenge of taking care of people and thought nursing would be a good next step.

More recently, as the live-in caregiver for her sister, who had Parkinson's disease, Mrs. Hampton had direct family experi-

ence with what happens when brain health declines, and how the Lou Ruvo Center for Brain Health can help. Her sister was under the care of the center's movement disorders team until she passed away on Christmas Day 2015.

At 82, Mrs. Hampton is going strong: "Staying active through volunteering keeps me abreast of developments in brain health. I want to know more about what will help people."

► **If you're interested in volunteering at the Lou Ruvo Center for Brain Health, contact Karen Mariano at 702.331.7046.**

Murlin Hampton attends Keep Memory Alive's 2016 Power of Love® gala with her daughter, Devonne Pascascio: "I wanted to see Tony Bennett. He's from the old school, and everything about him is classy. What a great way to support brain health!"

DEPRESSION IN NEURODEGENERATION: A THREAT TO PATIENTS AND CAREGIVERS

By Dylan Wint, MD

What is depression?

Major depressive disorder is a syndrome with symptoms that can include sadness, loss of pleasure, decreased energy, feelings of guilt or worthlessness, impaired concentration, changes in sleep and appetite patterns, and excessive thoughts about death.

Depression is associated with a number of physical conditions, particularly diseases that cause biological changes in the structure, function and chemistry of the brain. Depression is common in the general population, with at least 10 percent of people experiencing an episode at some point during their lives. Having a brain disease increases that risk to more than 30 percent.

Depression can:

- worsen the symptoms and course of neurodegenerative diseases
- increase the risk of getting dementia
- make dementia progress more rapidly
- increase the suffering caused by other illnesses, including heart disease, stroke, pain syndromes and diabetes
- deeply affect relationships with spouses, children and friends

How do we diagnose depression?

Depression is not always obvious to the person who has it, to friends and family, or even to medical professionals. Identifying depression in individuals with cognitive problems can be even harder because they might not be able to remember or express how they feel. In addition, symptoms of many brain diseases overlap with those of depression.

Similarly, depression in caregivers often goes undetected. Caregivers sometimes disregard their own health status as they look after a loved one, and caregivers naturally assume that changes in mood,



Dylan Wint, MD

sleep cycles and energy levels are simply “part of the job.” Yet, experts estimate from 25 percent to 50 percent of caregivers have major depression.

It is critical for us all to be aware of how vulnerable neurologic patients and their caregivers are to depression. If we aren't actively thinking about depression, there is a good chance we will miss it.

What can we do about it?

Depression does not have to be tolerated. Carefully selected treatments such as medications and therapy are safe and usually effective. Non-medical methods to improve mood include exercise, proper sleep habits, stress reduction and participation in leisure activities.

ABOUT THE AUTHOR

Dylan Wint, MD, NV Energy Chair for Brain Health Education, is board certified in both psychiatry and neurology and he has focused his career on diagnosing and treating neurobehavioral disorders. Dr. Wint is committed to training the next generation of physicians, and leads the professional education programs at the Lou Ruvo Center for Brain Health. He recently served as Assistant Professor and Director, Program in Neurologic Psychiatry, at Emory University Medical School.

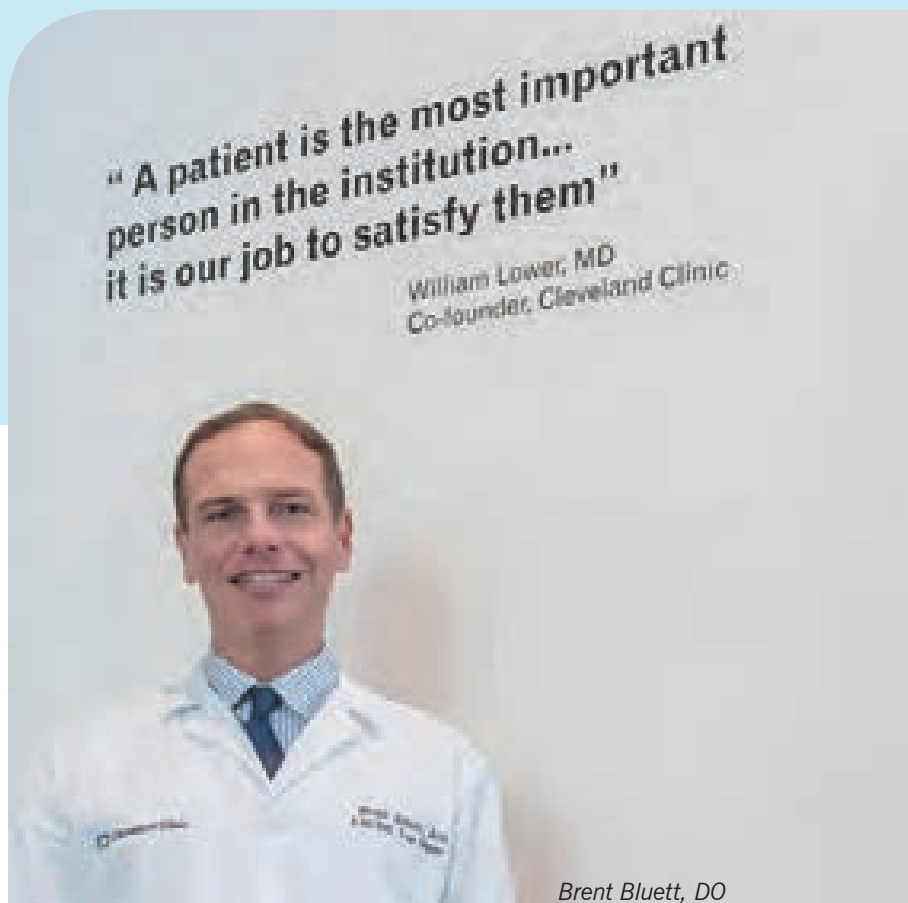
AVAILABLE RESOURCES

If you are concerned about depression, consider these patient and caregiver resources at Cleveland Clinic Lou Ruvo Center for Brain Health:

- Call 702.483.6000 to make an appointment with a neurology provider who can address your concerns.
- Attend a support group with others in a similar patient/caregiver situation. Information is at keepmemoryalive.org/socialservices.
- Visit our library or browse the online collection at keepmemoryalive.org/library.

LEARNING TOGETHER: SHARED MEDICAL APPOINTMENTS EMPOWER PATIENTS

A group of Cleveland Clinic Lou Ruvo Center for Brain Health patients with Parkinson's disease (PD) has been engaging in lively discussions with center medical professionals about how to prevent falls. They are participating in a growing trend in healthcare: shared medical appointments, which allow providers to accommodate more patients while patients, in turn, spend more time with providers.



Brent Bluett, DO

The main campus of Cleveland Clinic in Ohio introduced shared medical appointments a decade ago, one of the first major medical centers to do so. This year, the Movement Disorders Program in Las Vegas began offering shared medical appointments to patients with PD who have experienced frequent falls.

"Falls are an under-recognized problem in Parkinson's disease. As the disease progresses, people move more slowly, have postural instability and muscular rigidity, and fall constantly, which can cause severe disability," says Brent Bluett, DO, Movement Disorders Specialist, who has made falls the major focus of his research.

Prior to the group appointment, a pharmacist reviews patients' medications to see if any may increase risk of falls. The appointment is also preceded by an individual session in which patients see

their physician or nurse practitioner, who assesses whether they have medical conditions, such as weakness or visual problems, which are contributing to their falling. Then, a physical therapist provides one-on-one balance and endurance evaluations.

Afterward, about eight patients gather for a discussion with medical providers. First, Dr. Bluett explains how PD can make patients vulnerable to falling.

"Patients can't prevent falls if they don't understand why they are falling. We educate and empower them," says Dr. Bluett.

The pharmacist then discusses medications, such as the most common PD medication, Sinemet, and blood pressure medications that can cause lightheadedness, a risk factor for falls. The physical

therapist explains how to prevent falls in the home, such as by installing handrails in the bathroom.

Patients ask questions and share their own tips for dealing with mobility issues and preventing falls.

"People with Parkinson's can feel isolated. They love sharing ideas with one another; I learn a lot from them. The patients who attended the first shared appointment haven't had as many falls as before," says Dr. Bluett. He hopes to conduct research on the impact of shared medical appointments on fall prevention and to expand the discussions to cover other common PD symptoms, such as sleep problems.

► **If you'd like to make an appointment with our neurology team, please call 702.483.6000.**

UROLOGIST CONTINUES TO PIONEER IMPRESSIVE “FIRSTS” IN ROBOTIC SURGERY



Cleveland Clinic Urology, Las Vegas, has been a major innovator in robotic surgery, the first to use this technology to perform more complex operations and provide better outcomes for patients.

Urologist Jay Krishnan, DO, was the first in Las Vegas and in the Cleveland Clinic Glickman Urological & Kidney Institute to use a robotic surgery system to perform a bilateral nephrectomy (the simultaneous removal of both kidneys; see article in spring 2016 *New Thinking About Thinking*) and, more recently, was first to perform two robotic surgeries to remove multiple organs.

“Robotic surgery makes it possible to perform surgery on different areas of the body without moving the patient or the robot, which saves a tremendous amount of time,” says Dr. Krishnan, who completed a fellowship in robotics and laparoscopy at the Glickman Institute on Cleveland Clinic’s main campus in Cleveland, Ohio.

Sitting at a computer console, the surgeon operates the thin robotic arms, which have small surgical tools attached to them, while viewing the body magnified in three dimensions on a computer screen. The robotic arms allow for the smallest possible incision and are steadier than a human arm. Robotic surgery is the most minimally invasive surgical technique available. The less invasive the surgery, the easier the recovery is.

When he sees patients with urological conditions requiring surgery, Dr. Krishnan says, his “first inclination is to use the robot if there’s a way to do it safely and with better outcomes. Each surgery is unique; there are so many different challenges that make it harder or easier.”

One of his patients was a 62-year-old man with bladder cancer and a non-functioning kidney. The usual treatment would be conventional open surgery or laparoscopic surgery. After removing both organs with robotic surgery with an excellent outcome, Dr. Krishnan used the technology for an even more challenging procedure: removing the bladder, kidney and prostate from a 67-year-old man who had primary cancers in all three organs, which is rare. Standard treatment would involve either multiple surgeries or one lengthy operation.

“It’s still a constant learning process using the robotic system for new

procedures. Every patient’s response is different, depending on their overall health and condition,” says Dr. Krishnan.

“Patients think it’s the wave of the future, and are very happy with the outcome,” he adds. “We plan to continue pushing the limits of robotic surgery and using it whenever possible to provide the best treatment.”

► For more information on Dr. Krishnan and our Las Vegas urology services, call 702.796.8669.



Jay Krishnan, DO

Jasmine Sligh, MPH

EMPLOYEE PROFILE: JASMINE SLIGH, MPH

Jasmine Sligh, MPH, is Program Manager of Caregiver and Community Education, yet she finds that the older people she interacts with at Cleveland Clinic Lou Ruvo Center for Brain Health have much to teach her.

Case in point: “Life is long but youth is short.” This insight has inspired Ms. Sligh’s playful approach to life, from roller skating, to travel (Carnival in Brazil, a long weekend in Costa Rica, a visit to Baja California and two weeks in Europe — all within a couple of years), to an appearance on “The Price is Right”, to a 2016 New Year’s resolution to try one new food each month (“The only thing not adventurous about me is my appetite!”).

At the Lou Ruvo Center for Brain Health, Ms. Sligh encourages patients and families to enjoy every moment, even if their disease dictates that they modify what “enjoyment” looks like: “Go out, be social, learn something new and meet new people. So many people fail to live life to the fullest because they’re scared of what others will think, how they’ll look or other things that don’t matter.”

What does matter is Ms. Sligh’s personal commitment to brain health, which is unwavering.

“It’s never too late to modify your lifestyle to improve your health.”

Ms. Sligh moved to Las Vegas in 2010 to follow her husband, Sean, who is stationed at Nellis Air Force Base. A quest for knowledge inspired her to obtain a master’s degree in public health. In 2014, she accepted a research coordinator position at the Lou Ruvo Center for Brain Health, where she

worked on TOMMORROW, the center’s first prevention trial that examined cognitively normal individuals with a genetic risk for Alzheimer’s disease.

Promoted to her present position in 2015, Ms. Sligh is overwhelmed by the generosity of those who share her commitment to identifying evidence-based activities that can improve a patient or caregiver’s ability to cope with disease.

Noting that NV Energy’s contribution supports the NV Energy Family Caregiver Engagement Program, she adds, “Caregiver burnout is a challenge, so we want to expand the support services to programs that include both the patient and the caregiver, thus facilitating the strengthening of the relationship beyond the core daily activities of the caregiver role.”



To Veronica and Andrea Bocelli, thank you for your contribution in support of musical programs,” Ms. Sligh says. “Music is a bridge to memory that can decrease agitation, reduce the use of antipsychotics, and help patients and families start conversations and have meaningful interaction as disease progresses.



Veronica and Andrea Bocelli

Giving Thanks Through the Expression of the Arts:

A SENSORY SPECTACULAR

JOIN US NOVEMBER 9!

Plan to attend our annual Giving Thanks event and celebrate the season with patients, their families, Cleveland Clinic employees and friends in the community. All of your senses will be stimulated as you:

- Enjoy exciting performances by artists in the community
- Savor delicious seasonal food

SAVE THE DATE FOR OUR PATIENT & FAMILY HOLIDAY PARTY ON WEDNESDAY, NOVEMBER 9!



Our Community Outreach Team is Available to Address Your Group

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

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

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



To Schedule an Outreach Speaker:

- Presentations run 20-30 minutes and are available any day, time or location in the greater Las Vegas area.
- No group is too small.
- There is no charge.
- Contact Caregiver and Community Education at LouRuvoSocialServ@ccf.org or 702.483.6055

GIVING NOW AND LATER: LANA AND JAY SCHWARTZ

If making smart choices about exercise, nutrition and social interaction can reduce or delay a decline in brain health, then Jay Schwartz and his wife of 50 years, Lana, have written themselves a prescription for better brain health.

Diagnosed with Parkinson's disease in 2011 in California, Mrs. Schwartz has been under the care of Cleveland Clinic Lou Ruvo Center for Brain Health's Ryan Walsh, MD, PhD, since moving to Las Vegas in 2013.

"He's very observant and on top of things, as is Nurse Practitioner Mary Gauthier," says Mr. Schwartz. "Together, they've stabilized her condition and life is good."

HOW A CHARITABLE GIFT ANNUITY MIGHT BENEFIT YOU

- Combines a gift with payments to you and/or loved ones
- Provides partly tax-free income
- Lowers income tax
- Reduces capital gains tax (if funded with stock)
- Supplements retirement income
- Provides potential estate tax savings
- Avoids management responsibilities
- Supports the Lou Ruvo Center for Brain Health

If you would like more information, please contact the Lou Ruvo Center for Brain Health philanthropy team at 702.701.7958.

In addition to hitting the gym together four days a week, the couple volunteers regularly. At the Lou Ruvo Center for Brain Health, Mr. Schwartz has helped in Physical Therapy and in the lobby, where he escorts patients. He was screened as a prospective participant in a prevention trial.

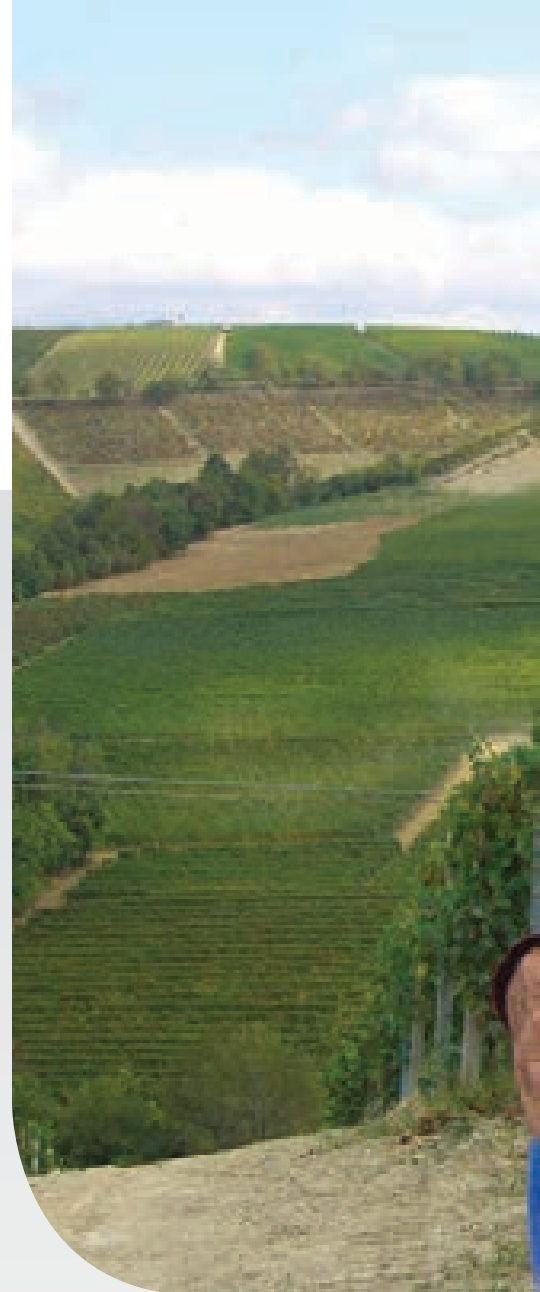
While volunteering, Mr. Schwartz sees the gratitude of patients who appreciate how helpful and hospitable the staff is. In the support group the Schwartzes regularly attend for patients and families of Parkinson's disease patients, "What I've observed of other caregivers is that most of their spouses have progressed more in their Parkinson's than Lana has," he says. "So I give thanks that she's where she is now, and I'm grateful that I'm gaining the knowledge to identify any changes in her condition." His wife shares that gratitude.

The Schwartzes also enjoy the enriching educational programs at the Lou Ruvo Center for Brain Health; Wednesday Lunch & Learns are particular favorites.

Although Mr. Schwartz took over meal preparation upon retirement in 1993, both he and his wife look forward to their 13th annual trip to cooking school in Italy, where they learn how to select the choicest fresh ingredients at the farmer's market, and to prepare delicious, nutritious meals.

The Schwartzes' shared commitment to the Lou Ruvo Center for Brain Health inspired them to make a financial gift to "help Cleveland Clinic keep growing, conducting research and, maybe, find a cure for some of the illnesses we're fighting today," Mr. Schwartz says. They chose to establish a charitable gift annuity (see sidebar).

Now that's sound planning for better brain health.





Lana and Jay Schwartz

MAKE A GIFT, RECEIVE INCOME FOR LIFE

A charitable gift annuity is a simple agreement in which the recipient, the Lou Ruvo Center for Brain Health, promises to pay the donor — you or you and your spouse — a lifetime income in exchange for the gift of an asset.

If you were to choose a charitable gift annuity, you would make a gift to the center and, in return, you would be guaranteed a payment, to be fixed at the time you establish

the gift. You would be paid monthly, quarterly, semi-annually or annually for the remainder of your life.

That income would be based on a payout rate specific to your age. Older beneficiaries enjoy a higher percentage than younger ones. Either way, the payout is typically much higher than with other popular income-producing investments such as CDs, money market funds and bank savings accounts.



FRIEND-RAISING AND FUNDRAISING: LET'S COLLABORATE



Over the past 20 years, Keep Memory Alive has raised more than \$250 million. But we haven't done it alone: Many individuals and organizations have approached us with ideas for creating and hosting events to benefit Keep Memory Alive. These events have spanned dinners, golf outings, store openings and cocktail parties as well as donations organized in lieu of gifts to commemorate important personal events, such as birthdays.

Large or small, such third-party events are important to our friend-raising and fundraising mission, offering Keep Memory Alive new venues in which to engage with people who might become ambassadors, donors or even participants in clinical research.

Often, these generous event organizers are personally connected with our mission, having been touched by brain disease through friends or family. For others, it's an opportunity to showcase

their companies' offerings while raising funds in a meaningful way.

Keep Memory Alive supports hosts in the community. In advance, we might spread the word to our constituents via email blasts and social media; the day of the event, we might provide brochures, promotional items or a speaker to thank attendees and say a few words about the research being conducted at Cleveland Lou Ruvo Center for Brain Health.

HOW YOU CAN HELP

If you would like to host an event to benefit Keep Memory Alive, we would like to hear from you at 702.263.9797 or events@keepmemoryalive.org. If you are interested in attending an event, please view the "Upcoming Events" section of keepmemoryalive.org.

Here are two recent examples of events in the community that raised funds for Keep Memory Alive:

KEGS FOR KMA

PT's Entertainment Group hosted this event in May. All of the PT's Gold, Sierra Gold and Sean Patrick's locations in southern Nevada donated a portion of proceeds from PT's Brewing Company draft beer sales. This event offered great exposure for a new product as well as for Keep Memory Alive.

In addition, a Sierra Gold location in Las Vegas hosted an event at which guests, for a separate donation, enjoyed unlimited pints of PT's Brewing Company draft beer, complimentary appetizers and entry in a raffle drawing.



PT'S ENTERTAINMENT GROUP

MOMS ROCK! AT THE DIANE SNYDER RUN TO REMEMBER

Despite unseasonably cold and rainy weather, on April 30 nearly 300 hardy souls showed up at the Lou Ruvo Center for Brain Health to walk and run for brain health.

Cynthia Ganey, founder of race management and coaching company Jus Run LLC, has built a year-round running/walking group that includes people of all ages, shapes, sizes, paces and endurance levels, who meet every week to train. She also organizes a number of annual races, but says, "This particular race was really special because it raised funds for a disease that took the life of my mom, Diane Snyder, and an organization on whose board my stepfather, Jerry, sits."

The Lou Ruvo Center for Brain Health's Manager of Neurorehabilitation, Jennifer Nash, PT, DPT, NCS, says, "It was really fun to participate in an event at which we could not only raise funds to support patients, but also set a great exercise example for them and for our own families. That's why I recruited my kids to run with me."

As the rain lifted, Keep Memory Alive took home the trophy for the largest team. Better yet, participants raised \$13,000 for brain health. We look forward to doing it again next year — under typically sunny Las Vegas skies.



Keep Memory Alive Board Member Jerry Snyder and stepdaughter Cynthia Ganey



Team Keep Memory Alive



Larry and Camille Ruvo with Anita and Toby Cosgrove

SADDLING UP FOR BRAIN HEALTH

For the 2016 Summer Social and Rodeo at Shakespeare Ranch, Keep Memory Alive invited friends and families to enjoy good food, fun and fundraising at Lake Tahoe on behalf of Cleveland Clinic Lou Ruvo Center for Brain Health.

The Glenbrook Rodeo began Friday, July 8 as Co-founders Camille and Larry Ruvo welcomed 600 guests clad in their best boots and cowboy garb. After a rowdy dose of bucking broncos and bulls, Emeril Lagasse and Camille Ruvo umpired a Summer Social and Rodeo favorite for ages adolescent to adult: the watermelon-eating contest.

Guests enjoyed a barbecue sponsored by Eldorado Reno Resort Casino and the Carano Family. For adults looking to “wet their whistle,” Southern Glazer Wine & Spirits’ hand-crafted specialty drinks like the Barnyard Old Fashion did not fail to delight. The barbecue was just the beginning as the band Left of Centre played favorites well into the night.

The following evening, Cleveland Clinic President and CEO Toby Cosgrove, MD, joined the festivities to help celebrate all the successes of the Lou Ruvo Center for Brain Health and to share the vision of the research the center conducts on brain disorders. Keep Memory Alive then

honored Lori and Michael Milken with a Frank Gehry-designed original gift, thanking them for their invaluable friendship and their contribution toward keeping memory alive. A great example is the “Fund a Scientist” challenge that Michael Milken issued at this year’s Summer Social, that will fund awards of \$75,000 a year for three years to support the “Young Scientists Program” at the Lou Ruvo Center for Brain Health.

Emeril and his team of chefs extraordinaire prepared a world-class meal featuring Emeril’s famous and favorite dishes from his various restaurants across the country. Each delicious course was complemented by exceptional wines and other sponsored spirits. Larry Ruvo and Michael Milken led the live auction, where guests enthusiastically bid on one-of-a-kind items and experiences. To wrap up the evening, Three Dog Night brought the barn down by playing their hits and special renditions of “Prayer of the Children” and “Jeremiah Was a Bullfrog.”



Three Dog Night



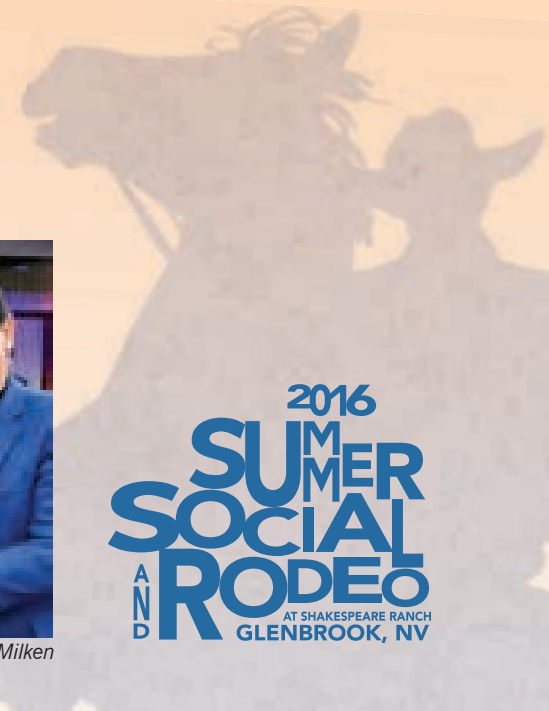
Chef Emeril on stage with Left of Centre



Emeril Lagasse and his team in the kitchen at Shakespeare Ranch



Larry and Camille Ruvo with Lori and Michael Milken



2016
**SUMMER
 SOCIAL
 AND RODEO**
 AT SHAKESPEARE RANCH
 GLENBROOK, NV

MANY THANKS TO OUR SPONSORS

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 Camille & Larry Ruvo

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 Spirits of Nevada
 Marilyn & Tom Spiegel
 Heidi & David Straus
 Denise & Jim Taylor
 Toast Spirits
 The Walsh Family
 Karen & Rick Wolford
 Yacht Club

VISITOR PHOTO GALLERY



NV ENERGY

Members of the NV Energy team join CEO Paul Caudill (right), in presenting a \$250,000 grant to Dylan Wint, MD, NV Energy Chair for Brain Health Education (second from left) and Jeffrey Cummings, MD, ScD (center) to support the NV Energy Family Caregiver Engagement Program, which will provide creative, satisfying, self-fulfilling and enriching activities for caregivers, spanning music and theater programs. Many such programs include both patient and caregiver, which helps strengthen the relationship outside of the caregiver role.



Dale Raggio at the unveiling of the plaque honoring her husband



The Weyer and Tao Huang families visit the Lou Ruvo Center for Brain health while in town for the Power of Love gala



The Ruvos celebrate alongside Dr. Miriam Adelson and Sheldon Adelson the unveiling of the couple's plaque on our Honor Wall of supporters

OUT IN THE COMMUNITY

At the request of Cleveland Clinic Lou Ruvo Center for Brain Health supporter Irwin Kishner (left), neurologist Gabriel Léger, MD, CM, FRCPC, (right), addressed the Las Vegas Rotary Club. If your community group would like a similar presentation, see page 30 for information on our outreach presentations.

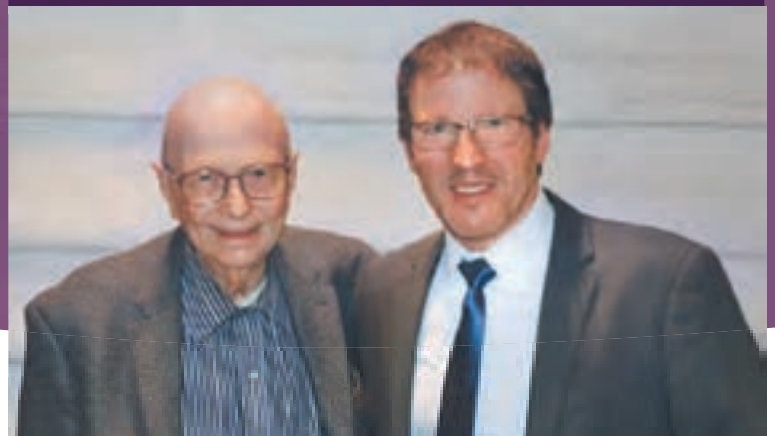


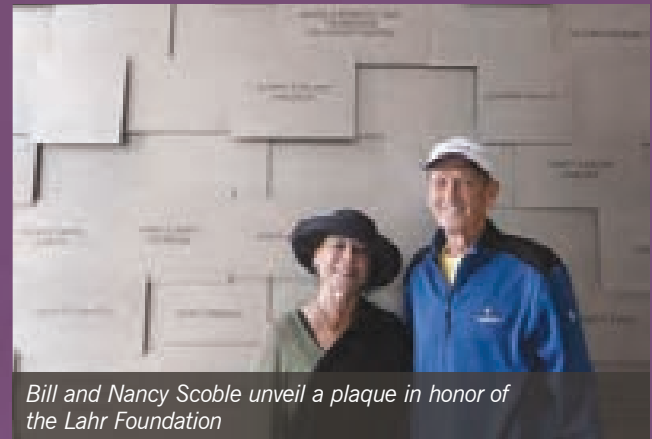


Photo Credit- Robin Leach

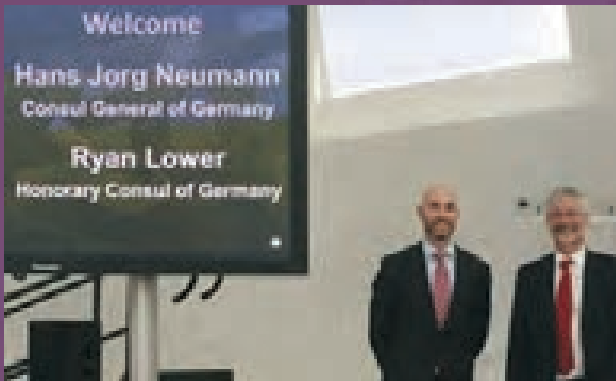
VEGAS UNNCORK'D AT CAESARS PALACE

Celebrity chef and long-time supporter Nobu Matsuhisa hosted an April 28 dinner that raised even more funds for Keep Memory Alive and featured a selection of omakase hand-crafted by Chef Matsuhisa and his team.

Nobu Matsuhisa, pictured here with a flute of champagne and surrounded by his team of chefs, is joined by celebrity journalist and Keep Memory Alive supporter Robin Leach (to his right) and Keep Memory Alive Board Member Michael Severino, who presented a Frank Gehry-designed thank you gift to Chef Matsuhisa in recognition of his many generous donations.



Bill and Nancy Scoble unveil a plaque in honor of the Lahr Foundation



Victoria Kilbury unveils her plaque on the honor wall



VISITOR PHOTO GALLERY



MSNBC's Chuck Todd does a sound check ...and then goes live



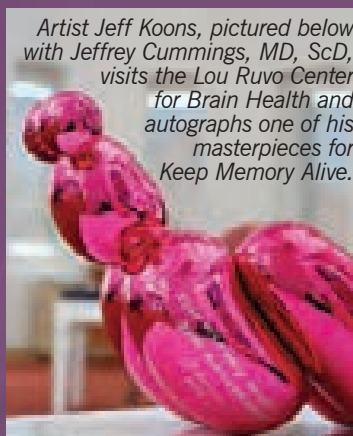
MSNBC TOWN HALL

MSNBC selected the Keep Memory Alive Event Center as the venue for the February 18 Democratic Town Hall, shining the national spotlight on Cleveland Clinic Lou Ruvo Center for Brain Health as viewers tuned in to watch presidential candidates Hillary Clinton and Bernie Sanders.

► If you'd like a memorable venue for your next event, from wedding to corporate party, visit KMAEventCenterLasVegas.com and party with a purpose, knowing a portion of your rental fee will support the Lou Ruvo Center for Brain Health.



Larry and Camille Ruvo join Diane Keaton in tasting her wine that benefits Keep Memory Alive



Artist Jeff Koons, pictured below with Jeffrey Cummings, MD, ScD, visits the Lou Ruvo Center for Brain Health and autographs one of his masterpieces for Keep Memory Alive.



Christie Brinkley admires the Keep Memory Alive Event Center

@myrnasuarezphoto



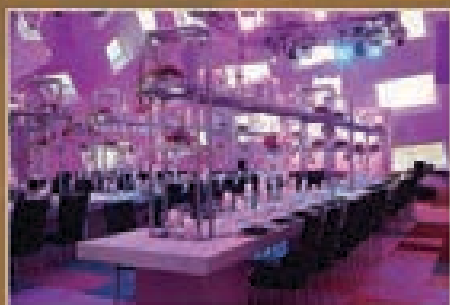
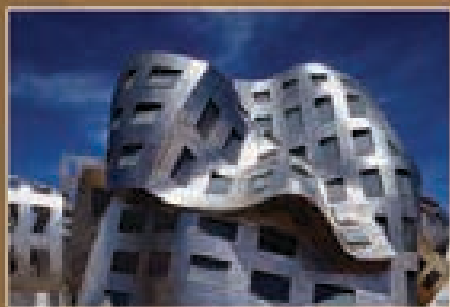
Marion and Bennett Glazer, with Barbara and Shelly Stein



Artist Sush Machida

KEEP MEMORY ALIVE EVENT CENTER

Frank Gehry Design



702.263.9797

eventcenter@keepmemoryalive.org

kmaeventcenterlasvegas.com

888 W. BONNEVILLE AVE. LAS VEGAS, NV 89106



photo: matthew carbone

MAKE YOUR HOLIDAY EVENT AN ENCHANTING EXPERIENCE

Celebrate the holidays at the Keep Memory Alive Event Center. Let us help plan your special event with all the joy and spirit of the holidays. We'll enchant you with world-class service and delectable dining options, leaving your guests wide eyed with the beauty of the event center. The holidays will soon be upon us.

Contact us today to plan your Holiday event!

HOST YOUR NEXT MEMORABLE CELEBRATION AT THE
KEEP MEMORY ALIVE EVENT CENTER AND HELP US
PRESERVE THE MEMORY OF OTHERS



KEEP MEMORY ALIVE
EVENT CENTER

EVENT PROCEEDS BENEFIT

KEEP MEMORY ALIVE SUPPORTING THE CLEVELAND
CLINIC LOU RUVO CENTER FOR BRAIN HEALTH

SHAPING A KINDER, GENTLER PLACE FOR PEOPLE WITH DEMENTIA

Since early 2016, members of the community have gathered with the shared purpose of making Las Vegas a more caring home for those affected by dementia.

Given that the Alzheimer's Association has ranked Nevada the third-fastest aging state in the country — age being the greatest risk factor for Alzheimer's disease and related dementias — it is imperative to consider how to accommodate this rapidly expanding population. That's especially true in Clark County, home to more than 280,000 people aged 65 and older who account for 53 percent of the state's total population in this age group.

Cleveland Clinic Lou Ruvo Center for Brain Health, the Alzheimer's Association and Dementia Friendly America have teamed up to make our city and state a kinder, more compassionate place for this vulnerable population. In an effort to tackle the problems that can confront individuals with dementia and their families or caregivers, Dementia Friendly Las Vegas, an affiliate of Dementia Friendly Nevada and Dementia Friendly America, has identified situations that may be awkward or even perilous for those with dementia.

For example, the Dementia Friendly Las Vegas workgroup includes caregivers who have dealt with the discomfort of public restrooms where it is difficult to assist an aging adult with toileting, as well as emergency first responders who field a growing number of calls from citizens with dementia. Volunteers and support group leaders who have been touched in some way by someone with dementia lend their voices, as do professional caregivers, government workers, adult day care advocates and



LeeAnn Mandarino, center, with Dementia Friendly Las Vegas

healthcare experts whose business it is to act as guardians of southern Nevada's cognitively insecure residents.

"The enthusiasm of Dementia Friendly Las Vegas is inspiring as members continue to join our monthly community planning meetings," says LeeAnn Mandarino, Program Manager at the Lou Ruvo Center for Brain Health and an organizer of Dementia Friendly Las Vegas. "At a recent meeting, we established sectors spanning community-based services, faith communities, healthcare, legal and financial services, business and local government, and residential settings. Sector members are now reaching out to

their respective contacts in the community to establish more support."

The primary goals of Dementia Friendly Las Vegas include raising awareness about dementia and transforming attitudes; increasing supportive options that foster quality of life; supporting caregivers and families; promoting meaningful participation in community life; and reaching those who are underserved.

► **If you are interested in participating in Dementia Friendly Las Vegas, contact Isaac Santa Ana at 702.685.7072 or santai@ccf.org.**

RECOGNIZED FOR EXCELLENCE

In recent months, Cleveland Clinic Lou Ruvo Center for Brain Health employees have been honored by their community, peers and professional associations for clinical excellence and leadership in their fields.

We celebrate their accomplishments.

Excellence in Teaching Award, 2015-2016 (Cleveland Clinic, July 2016)

Aaron Ritter, MD
Clinical Fellow, Behavioral Neurology and Neuropsychiatry

Certification Examination in Neurological Physical Therapy (American Board of Physical Therapy Specialties, American Physical Therapy Association, June 2016)

Jason Longhurst, PT, DPT, NCS

Leon Thal Memorial Lecture
(UC San Diego School of Medicine, June 2016)

Jeffrey Cummings, MD, ScD

Commencement Speaker
(University of Wyoming School of Health Sciences, June 2016)

Jeffrey Cummings, MD, ScD

Abstract Award

(The International Society for Magnetic Resonance in Medicine, May 2016)

Summa cum laude:
Xiaowei Zhuang (two awards)
Virendra Mishra, PhD

Magna cum laude:
Virendra Mishra, PhD



Xiaowei Zhuang, standing, with Virendra Mishra, PhD

Health Promotion Award
(Alpha Kappa Alpha sorority, April 2016)

Jasmine Sligh, MPH

Employee of the Year

(Lou Ruvo Center for Brain Health, April 2016)

Nicole Wolf, MBA



Nicole Wolf

Health Care Headliners
(Vegas/INC, April 2016)

Kate Zhong, MD

Health Advocate Award
(Community Partners in Better Health, April 2016)

Kate Zhong, MD

MS Specialist Certification

(Consortium of Multiple Sclerosis Centers, March 2016)

Jason Longhurst, PT, DPT, NCS, MSCS
Trevor Mahoney, PT, DPT, MSCS
Robert McVey, LSW, MSW
Shaina Meyer, OTR/L, MSCS
Jennifer Nash, PT, DPT, NCS, MSCS
Christy Ross, PT, DPT, GCS, MSCS

Top Docs Award

(Seven magazine, March 2016)

Charles Bernick, MD, MPH
Jeffrey Cummings, MD, ScD
Gabriel Léger, MD
Dylan Wint, MD

40 Under 40 (Vegas/INC, March 2016)

Brent Bluett, DO

Women to Watch

(Vegas/INC, February 2016)

Anna Robins



Jeffrey Cummings, MD, ScD, with Anna Robins

Master of Science in Clinical Research
(Case Western Reserve University, January 2016)

Carrie Hersh, DO, MS

2016-2017 U.S. NEWS AND WORLD REPORT RANKINGS

Cleveland Clinic has been named the No. 2 hospital in the United States by *U.S. News & World Report*. This is the health system's eighteenth consecutive year among the top 5 hospitals, with No. 2 being the highest ranking we have ever achieved.



The 2016-17 "Best Hospitals" rankings also named Cleveland Clinic the No. 1 heart hospital in the country for the 22nd consecutive year. We are nationally ranked in 14 specialties, including nine in the top 3 nationwide. Our full rankings are:

- Cardiology & Heart Surgery: No. 1
- Gastroenterology & GI Surgery: No. 2
- Nephrology: No. 2
- Urology: No. 2
- Diabetes & Endocrinology: No. 3
- Gynecology: No. 3
- Orthopedics: No. 3
- Pulmonology: No. 3
- Rheumatology: No. 3
- Neurology & Neurosurgery: No. 6
- Cancer: No. 8
- Geriatrics: No. 8
- Ophthalmology: No. 8
- Ear, Nose & Throat: No. 12

Two of these specialties have Las Vegas locations:

- Neurology & neurosurgery at the Lou Ruvo Center for Brain Health
- Urology at Cleveland Clinic Urology, Las Vegas.

► For more information or to make an appointment, go to clevelandclinic.org/Nevada.

KEEP MEMORY ALIVE

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



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"IT'S ABOUT RAISING AWARENESS AND GETTING INVOLVED TO HELP THE PATIENTS AND THEIR FAMILIES."
— STEVEN LAGOS