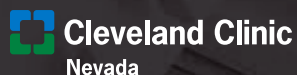


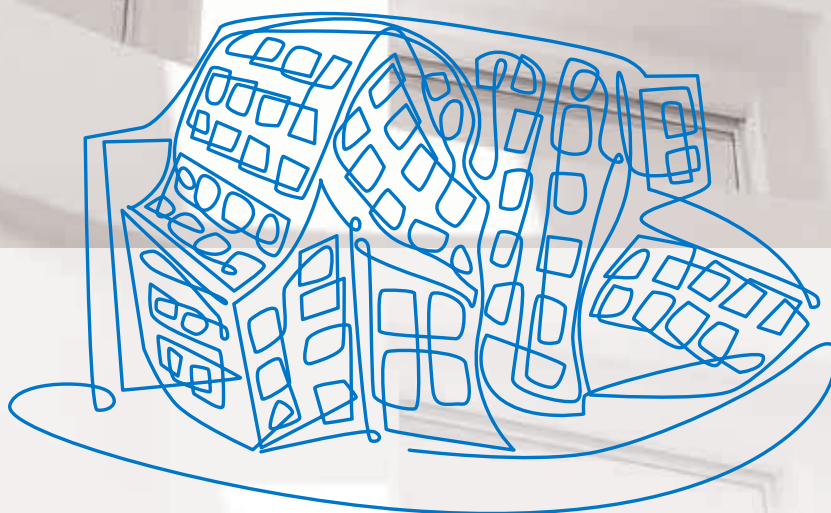
New Thinking

ABOUT THINKING

A Publication by
Cleveland Clinic Lou Ruvo
Center for Brain Health
FALL 2019



KEEP MEMORY ALIVE
— — — — —



10 years. 1 mission.
FIND A CURE.

CELEBRATING
10
YEARS
2009-2019



Research, treatment and education for patients and families living with brain disorders

ALZHEIMER'S • HUNTINGTON'S • PARKINSON'S • FRONTOTEMPORAL DEMENTIA • LEWY BODY DEMENTIA • MULTIPLE SCLEROSIS • MULTIPLE SYSTEM ATROPHY

Make no mistake: My audacious goal is for our center to find a cure for Alzheimer's disease and in doing so, put myself and my colleagues out of a job. This has been my goal for years, but it has never seemed more of a possibility than in 2019 — the tenth anniversary of Cleveland Clinic Lou Ruvo Center for Brain Health.

What if our center were part of the programs that lead to the first approved treatment for Alzheimer's

disease since 2003? In fact, it's my expectation, and we have been actively testing new drugs for treating Alzheimer's disease at different stages.

Currently, we're engaged in using a new tracer, GE180, to image inflammation in the brain of a living person for the first time. Seeing inflammation in the brains of individuals with Alzheimer's or Parkinson's disease could lead to better understanding of the link

between inflammation and neurodegeneration (see page 17).

I'm actively focused on growing the national prominence of our center. We are already a "Partner in Care" for the National Multiple Sclerosis Society, a CurePSP Center of Care, a Parkinson's Foundation Center of Excellence and a Lewy Body Dementia Association Research Center of Excellence (see page 12). I want us to earn many more such designations, which signal state-of-the-art care for patients and families.

STRATEGIC PLAN: 2019-2029

To make our ambitious vision a reality, we need your support. We are fundraising for a \$100 million endowment that would sustain the center in perpetuity.


Endowed funds (see page 30) would be used to achieve the center's goals for the future: superior patient outcomes, excellence in education, research that advances care — and one day soon — a cure for degenerative brain disease.

Thank you for sharing our vision for a future without brain disease.

Marwan N. Sabbagh, MD

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

*Camille and Larry Ruvo
Endowed Chair for Brain Health*



"At Cleveland Clinic Lou Ruvo Center for Brain Health, we want to do for the brain what Cleveland Clinic has done for the heart."

— MARWAN SABBAGH, MD

Photo: Jérôme Brunet

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New Thinking

ABOUT THINKING

Semi-Annual Publication
FALL 2019

Cleveland Clinic Lou Ruvo Center for Brain Health

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Newly On Board

2009-2019: A Milestone for the Brain

We opened our doors in 2009 with a focus on the treatment and research of Alzheimer's disease, but we have expanded to add other dementias (Lewy body, frontotemporal), movement disorders (Huntington's, Parkinson's, multiple system atrophy and more), and multiple sclerosis.

10 Years Ago...

Scanning individuals to see brain changes occurred only in research.

Now, MRI and PET/CT are approved for clinical use, and we deploy these technologies daily to offer greater clarity of diagnosis.

Prevention was a "far out" idea.

Today, right here at the Lou Ruvo Center for Brain Health, we're already conducting prevention trials for people at risk for brain disease.

The idea of "brain health" didn't exist.

Now, we're offering programs around risk reduction such as HealthyBrains.org, where more than 20,000 global visitors have signed up to receive a free, online brain health self-assessment. A prevention clinic is a real possibility.

No one cared for the caregiver.

Now, the community has enjoyed more than 41,000 visits to our evidence-based education and support programs to arm family caregivers for success, and we have established the Angie Ruvo Endowed Caregiving Chair to pioneer research.

Removing amyloid — perhaps a hallmark plaque of Alzheimer's disease — was merely a wild wish.

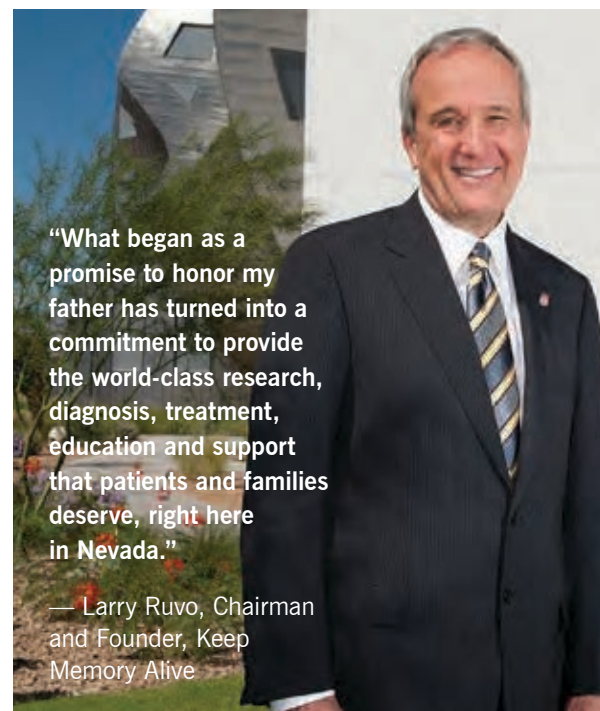
Now, it's being studied in our clinical research.

The Lou Ruvo Center for Brain Health had conducted no clinical trials.

To date, we have completed more than 70 studies involving more than 2,500 participants spanning cognitive disorders, movement disorders and multiple sclerosis.

10 years ago... Cleveland Clinic was not in the Alzheimer's space.

Today, we are among the world leaders.



"What began as a promise to honor my father has turned into a commitment to provide the world-class research, diagnosis, treatment, education and support that patients and families deserve, right here in Nevada."

— Larry Ruvo, Chairman and Founder, Keep Memory Alive

Be Part of Our MISS10N YEARS

Built on the power of one family's promise, Keep Memory Alive, through Cleveland Clinic Lou Ruvo Center for Brain Health, aims to find, fund and facilitate the most effective and innovative research and caregiver programming for patients and families affected by brain disorders.

Supporters like you can ensure we achieve these goals and more.

Engage with us: DonateNevada@ccf.org or 702.263.9797. Or make a gift in honor of our anniversary: give.ccf.org/NV10th.



As Dr. Sabbagh told attendees and the media, "If the answers to these diseases are going to happen, they're going to happen here in Las Vegas because of you, because of the support from the community."



A MEMORABLE 10 YEARS

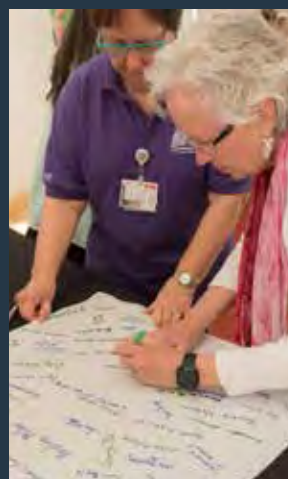
On July 11, elected officials and community collaborators joined Cleveland Clinic Lou Ruvo Center for Brain Health patients, care partners, employees and volunteers to celebrate the center's tenth anniversary with a memorable time capsule ceremony.

The lively community event featured a special presentation from Marwan Sabbagh, MD, Director of the Lou Ruvo Center for Brain Health, on the future of neurodegenerative disease as well as a celebration of the ground-breaking milestones achieved over the past decade. There were heartwarming first-hand accounts from 10 year volunteer Jean Georges, whose husband, Leonard, had been a patient at the center, and Tina Dortch, who is currently living with multiple sclerosis.

The nearly 300 attendees participated in marking the momentous occasion by offering up messages for inclusion in a time capsule, which was then sealed for opening 10 years from now. Within a week, media coverage for the event included 18 pieces, reaching an estimated audience of more than 4 million.



L - R – Mayor Oscar Goodman flanked by his ubiquitous showgirls, Jean Georges, Tina Dortch, Mark Davis, Dr. Marwan Sabbagh and event emcee John Katsilometes



2009 - 2019

10 MILESTONES IN

2011



EXPANSION OF SERVICE LINES

Expansion to study and treat brain diseases beyond Alzheimer's, incorporating multiple sclerosis, Parkinson's disease and movement disorders programs, as well as chronic traumatic encephalopathy (CTE) with Professional Fighters Brain Health Study.

2012



INTRODUCTION OF NOVEL IMAGING

You can't treat what you can't see. Installation of PET imaging and launch of brain imaging research allows Lou Ruvo Center for Brain Health researchers to look at the brain like never before, visualizing the structure of the brain to observe changes at a cellular level.

2015



INVESTIGATOR-INITIATED RESEARCH

The center and UNLV receive an \$11.1 million COBRE grant from the National Institutes of Health (NIH) to collaborate on the study of Parkinson's and Alzheimer's disease, including important research looking at sex-based differences.

LAUNCH HEALTHYBRAINS.ORG

Cleveland Clinic Nevada rolled out HealthyBrains.org, an online community where anyone can join the 20,000 people who have completed a free brain health self-assessment, receive personalized reports and keep up-to-date on brain health news.



2016



PIPELINE PAPER PUBLISHES

By publishing the annual Alzheimer's Disease: Drug Development Pipeline paper, researchers call attention to a 99.7% drug failure rate, yet identify reasons for optimism in drug development.

CELEBRATING
10
YEARS
2009-2019

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

BRAIN DISEASE

2017



FDA APPROVAL OF OCREVUS TO TREAT MS

The FDA's approval of Ocrevus for clinical use is a testament to the center's research program where the experimental drug was tested as part of a commitment to offer patients access to the newest possible therapies.

2018



CENTERS OF EXCELLENCE DESIGNATIONS

The Lou Ruvo Center for Brain Health is recognized for its leadership in research, treatment and advocacy by the Parkinson's Foundation, Lewy Body Dementia Association and CurePSP, building upon other designations of excellence in multiple sclerosis and Huntington's disease.



GE-180 INFLAMMATION TRACER

The center is the first and only to utilize an experimental diagnostic imaging tool to detect inflammation in the brains of those with Parkinson's and Alzheimer's disease, paving the way for new treatments targeting cognitive decline due to inflammation.

2019



FROM BENCH TO BEDSIDE

The launch of a Translational Neurodegeneration Research Lab elevates research capabilities and broadens the scope of the Lou Ruvo Center for Brain Health's research program, which has already conducted more than 70 clinical trials in more than 2,500 human patients.



ANGIE RUVO ENDOWED CAREGIVING CHAIR

A new academic Chair whose holder will establish evidence-based approaches to educating and supporting the family caregiver and expanding the no-cost caregiving programs that to date have received 41,000 visits.

Dedicated To Our
MISSION
YEARS

10 Years of Accomplishments. 10 Years of Anticipation.

The physicians at Cleveland Clinic Lou Ruvo Center for Brain Health are fellowship-trained specialists who have devoted their careers to studying the mysteries of the brain, focusing on their respective niche of neurology spanning cognitive disorders, movement disorders and multiple sclerosis.

Yet one cross-cutting theme appears: While many prominent innovations have shaped the past 10 years of brain science, each physician believes the field is on the cusp of important discoveries predicted to explode over the next 10 years.

What a great time change our frame of mind from one of brain disease to brain health!

Hear from our neurologists in their own words:



CARRIE M. HERSH, DO, MSC

Staff Neurologist, Cleveland Clinic Mellen Program for MS at the Lou Ruvo Center for Brain Health, Las Vegas

Assistant Director, MS Wellness Program



LE HUA, MD

Director, Cleveland Clinic Mellen Program for MS at the Lou Ruvo Center for Brain Health, Las Vegas

Sheila and Eric Samson Chair for Multiple Sclerosis Research



ZOLTAN MARI, MD

*Director, Parkinson's and Movement Disorders Program
Ruvo Family Chair*

What is the single most exciting development in your field over the last 10 years?

The increased use of technology, notably the ability to image biomarkers via MRI (observe size, shrinkage, brain atrophy) and use an iPad for consistent, objective assessments of patient function.

The number of new therapies approved, two of which, Ocrevus and Mayzent, were studied right here at Cleveland Clinic.

The advancement of genetics, notably the discovery of mutations associated with Parkinson's disease and other movement disorders.

What will be the most exciting development over the next 10 years?

Disease-modifying therapies that truly reverse the progress of disease, effectively rolling back the clock to improve patient health.

We'll have tangible biomarkers to predict treatment response immediately and through a simple blood test will know which patient is going to progress and who is not.

In our everyday clinical setting, we will be able to slow the progression of Parkinson's disease through disease-modifying treatments.

10



AARON RITTER, MD

*Director,
Clinical Trials Program*



MARWAN SABBAGH, MD

*Director, Lou Ruvo Center
for Brain Health
Camille and Larry Ruvo Chair
for Brain Health*



DYLAN WINT, MD

*Staff Neurologist,
Cognitive Disorders Team
Director of Clinical Operations
NV Energy Foundation Chair
for Brain Health Education*

Society's genuine interest in exploring out-of-the-box thinking in how we target Alzheimer's disease supported by increased funding from both public and private entities.

Prevention had been a "far out" idea, and yet we're now on the cusp of opening the first prevention clinic for women.

The clinical availability of tests for amyloid plaque deposition and tau tangle formation. Today, we can definitively diagnose Alzheimer's disease before death and correctly classify individuals for entry into clinical trials directed at disease modification.

We will develop a more refined approach to Alzheimer's disease treatment, effectively tailoring a plan to each patient based on their individual characteristics. It's like going from a one-size-fits-all T-shirt to a custom-fitted shirt that's the most flattering to your unique body type.

Reducing Alzheimer's from a terminal disease to simply a chronic condition that could be managed, just like diabetes or high blood pressure.

The development of methods for improving brain resiliency. Instead of pursuing treatments aimed at individual disease pathologies, increased resiliency could reduce the risk of all neurodegenerative disorders by increasing our brains' resistance to the effects of any pathologies on brain function.

23rd Annual Gala Has the Power to Dazzle



Shania Twain
and Lionel Richie

In a spectacular night of philanthropy, Keep Memory Alive's 23rd annual Power of Love® gala at the MGM Grand Garden Arena on March 16, brought top artists and cultural icons **Shania Twain, Snoop Dogg, Anthony Anderson, NE-YO, Anthony Mackie, Miguel, Leona Lewis, Bernie Williams, John O'Hurley, Pedro Capó, Greg Phillinganes, Peta Murgatroyd**, and more together to honor music legend **Lionel Richie** and raise crucial funds and awareness for Cleveland Clinic Lou Ruvo Center for Brain Health.

Siegfried Fischbacher presented **Lonnie Ali**, wife of the late great Muhammad Ali, with the Keep Memory Alive Caregiver Hero award. As she accepted, Ms. Ali

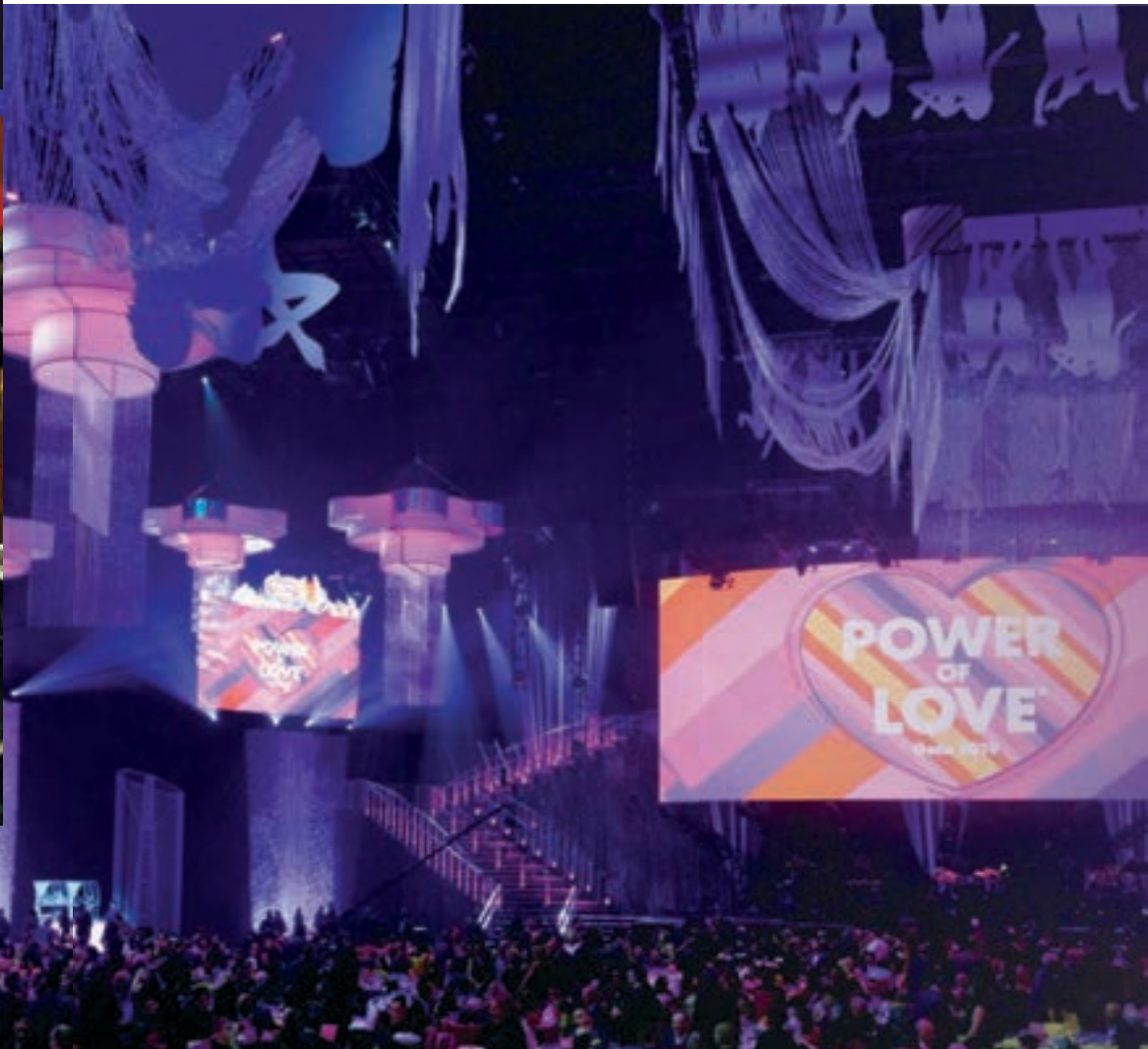
said, "This is the first time I have ever heard of anyone honoring a caregiver and elevating their status to 'hero.'"

Shania Twain presented **Lionel Richie** with an award in honor of his impactful musical contributions to the world and his support of Keep Memory Alive. He told the crowd, "What you all are doing tonight is helping mankind and actually making a difference in the world. I'm so proud to be here tonight to share this award."

The creations of celebrity chefs **Wolfgang Puck** and **Daniel Humm** were paired with wines from Southern Glazer's Wine & Spirits. The MGM Grand pastry team created an illuminated, revolving



Snoop Dogg



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WINE AND SPIRITS

dessert showpiece to end the night on a sweet note.

The stars gathered to pay tribute to Richie's iconic music:

- **Leona Lewis** and **Miguel** performed together for the first time with a powerful rendition of "Endless Love"
- **Pedro Capó** sang "Running with the Night"
- **Bernie Williams** sang "Lady You Bring Me Up" before NE-YO joined him on stage for a duet of "Easy"
- **NE-YO** and **Snoop Dogg** delivered a rousing rendition of "Brick House"

Lionel Richie brought down the house with hits "Hello" and "Dancing on the Ceiling." The stars, including Bar Rescue's **Jon Taffer**, joined him for the "All Night Long" finale.

The evening generated the majority of annual revenue for the Lou Ruvo Center for Brain Health to provide service, care and resources for patients and their caregivers in the fight against cognitive diseases including Alzheimer's, Parkinson's, Huntington's, multiple system atrophy, frontotemporal dementia and related disorders, multiple sclerosis and more.

INTERESTED IN OUR EVENTS?

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.

Follow Keep Memory Alive on Facebook, Twitter or Instagram for up-to-the-minute event details.



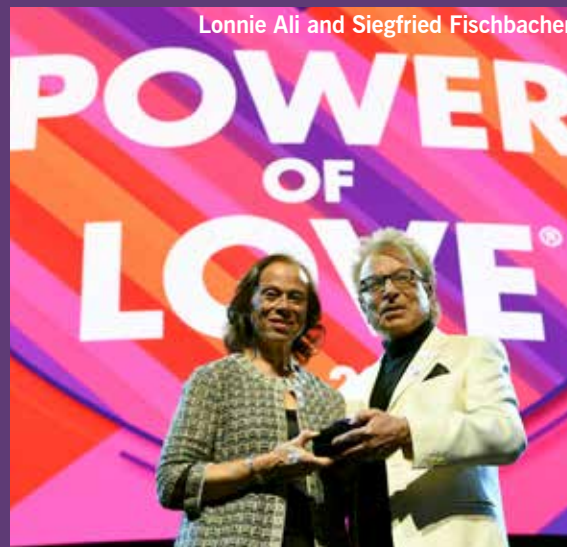
NE-YO engaging the crowd



Power of Love
chocolate dessert



Lionel Richie performing



Lonnie Ali and Siegfried Fischbacher

SAVE THE DATE



THE 24TH ANNUAL
POWER OF LOVE® GALA
SATURDAY, MARCH 7, 2020

Photos: Denise Truscello/Getty Images for Keep Memory Alive

Lewy Body Dementia Conference Brings Together Researchers, Patients and Caregivers

Unique family program gives hope to those affected by the disease

Leading experts from around the world gathered at Caesars Palace in Las Vegas June 24-26 for the International Lewy Body Dementia Conference, hosted by the Cleveland Clinic Lou Ruvo Center for Brain Health. At the landmark event, researchers shared the latest research findings with healthcare professionals and affected individuals and caregivers, who had a unique track designed for them with educational sessions and a support program.

“Patients and care partners were excited to learn how much work is being done to understand and treat Lewy body dementia. It gave them hope,” says conference director James Leverenz, MD, Director of the Cleveland, Ohio site of the Lou Ruvo Center for Brain Health.

Jason Longhurst, PT, DPT, NCS, presented research conducted at the Lou Ruvo Center for Brain Health illustrating the positive impact of physical therapy on gait, balance and cognition in individuals with Lewy body dementia (LBD).

Representing the caregiver perspective was keynote speaker Susan Schneider Williams, wife of the late actor Robin Williams, who had LBD. She spoke of his struggles with the devastating effects of the disease, especially the fear, anxiety, paranoia and hallucinations. Patients and caregivers also heard from Laura Turner Seydel, Chairperson of The Captain Planet Foundation and daughter of CNN founder Ted Turner, who revealed in September 2018 that he has LBD.

A conference highlight was Improv for Caregivers, a first-of-its-kind program developed by Second City, the Chicago-based improv troupe, and Caring Across Generations, a caregiver advocacy group,



Brandis and Jon Deitelbaum at the Donor Wall at Cleveland Clinic Lou Ruvo Center for Brain Health

in collaboration with the Lou Ruvo Center for Brain Health. Led by Ruth Almén, LCSW, Clinical Manager, Social Work Services at the center, caregivers performed improv exercises designed to help them connect with their loved one with LBD. And they had fun in the process: In one improv exercise, participants told a story by building on what the person before them said.

“There was so much joy and laughter,” says Ms. Almén. “The exercise helped caregivers to engage with their loved one by learning to listen and create something together in the moment. People just want to have more good times with their loved one.” For example, when a person with

LBD describes a hallucination, such as, in one instance, seeing squirrels driving tractors, their caregiver could ask: “What type of tractor?”

Overall, the conference “helped caregivers and loved ones to connect with others and feel less isolated and more empowered,” says Ms. Almén.

Thanks to philanthropic support, Cleveland Clinic was able to create such a forum for connection across the Lewy body dementia community. Key drivers were Brandis and Jon Deitelbaum, who say, “We are always supportive of Cleveland Clinic and the efforts of Dr. Leverenz.”

Joining Forces to Target Lewy Body Dementia

Cleveland Clinic Lou Ruvo Center for Brain Health involved in major research initiative in Ohio and Nevada

Many people have never heard of Lewy body dementia (LBD) but they have heard of three notable people diagnosed with the disease — the late actor Robin Williams, CNN founder Ted Turner and the late Major League Baseball Hall of Famer Bill Buckner. Despite these high-profile cases, LBD, the second most common form of dementia in the elderly, is underdiagnosed and not well understood.

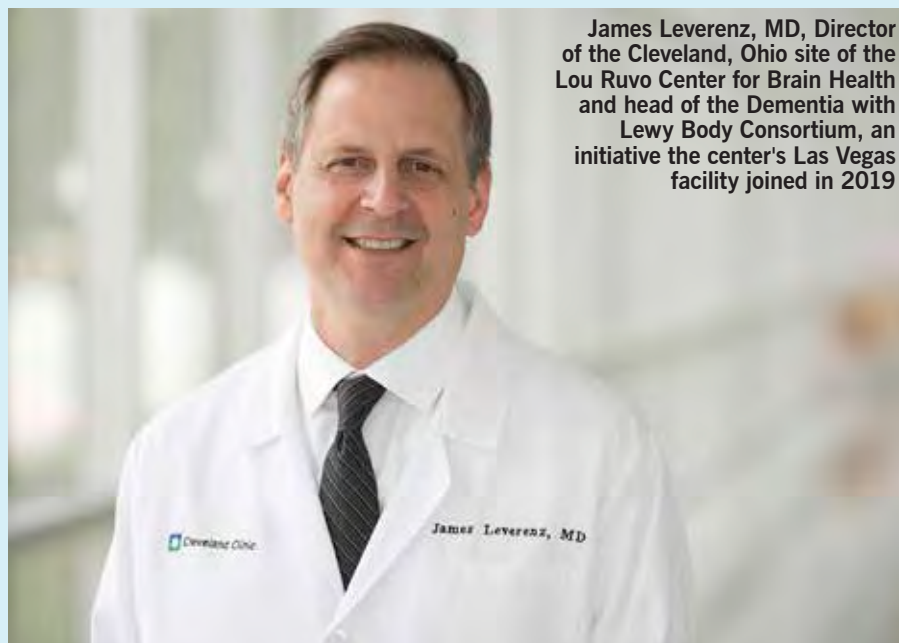
Estimated to affect 1.4 million people in the United States, LBD is caused by a buildup of abnormal protein deposits, called Lewy bodies, in brain cells. With symptoms similar to Alzheimer's and Parkinson's disease, LBD is difficult to diagnose and has received far less attention and research dollars than the diseases it resembles. Currently, there are no medications approved that treat the symptoms or offer meaningful hope for a cure.

Cleveland Clinic Lou Ruvo Center for Brain Health is working to change this as a member of the Dementia with Lewy

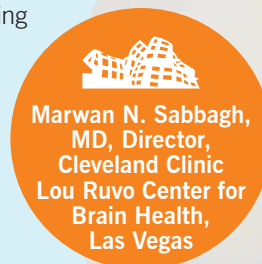
Body Consortium (DLBC) — a national research initiative dedicated to improving the diagnosis and treatment of LBD established by Cleveland Clinic with a grant from the National Institutes of Health.

The major focus of the DLBC is collecting clinical information — brain imaging studies and body fluids — from more than 200 individuals diagnosed with LBD, the largest group yet studied. This information is essential to understanding the biology of LBD and identifying biomarkers that can assist with diagnosis, detect disease progression and measure response to treatment.

The Lou Ruvo Center for Brain Health is also one of 24 U.S. academic medical centers designated as an LBD Research Center of Excellence (RCOE), a partnership led by the Lewy Body Dementia Association. RCOEs are working together to facilitate the clinical trial process. The Lou Ruvo Center for Brain Health in Las Vegas is gearing up for its first LBD clinical trial.



James Leverenz, MD, Director of the Cleveland, Ohio site of the Lou Ruvo Center for Brain Health and head of the Dementia with Lewy Body Consortium, an initiative the center's Las Vegas facility joined in 2019



Marwan N. Sabbagh, MD, Director, Cleveland Clinic Lou Ruvo Center for Brain Health, Las Vegas

“We now have the resources to thoroughly investigate Lewy body dementia. We are optimistic that these initiatives can lead to better diagnosis and treatments for our patients with this devastating disease,” says Marwan Sabbagh, MD, Director, Lou Ruvo Center for Brain Health and principal investigator for LBD research at the center's Las Vegas location.

As part of its commitment to LBD, in June the Lou Ruvo Center for Brain Health hosted the International Lewy Body Dementia Conference, a landmark event which brought together experts from around the world to set a new agenda for tackling the disease (see *page 11*).

View a complete list of trials online at clevelandclinic.org/brainhealthtrials or contact us at 855.LOU.RUVO or healthybrains@ccf.org for information.

Getting Down to Basics with Boris Decourt, PhD

In January, Cleveland Clinic Lou Ruvo Center for Brain Health welcomed Boris Decourt, PhD, to spearhead our first Translational Neurodegeneration Research Lab.

Dr. Decourt, a neurobiologist, brings 15 years of experience to the center's robust research program, most recently serving as an assistant research professor at Arizona State University. Through his work in fundamental science — a branch of science that provides a foundation of knowledge essential for applying discoveries to patient care — the Lou Ruvo Center for Brain Health will now be able to broaden the scope of our clinical trials program.

The addition of this new research capability cultivates an environment for translational research, which builds on basic scientific research to create new therapies, medical procedures or diagnostics. This will allow physicians to readily apply what is learned in the research lab to clinical care, helping to improve overall patient outcomes.

"The ultimate goal of my research is to slow down or cure neurodegenerative diseases with early treatment interventions, and I can't think of a better place to continue my work than here in Las Vegas, where the Lou Ruvo Center for Brain Health is taking a very proactive approach to the research of neurodegenerative disease," says Dr. Decourt.

Why the Brain?

"When I was a kid in France," Dr. Decourt remembers, "there was a cartoon on TV that explained how cells work, and it inspired me to learn about biology. When I was in middle school, my father had a heart attack, so I learned a lot about disease treatment, but through it all, the brain has always fascinated me most."



**Boris Decourt, PhD,
neurobiologist and
researcher**



What is basic science?

Basic science is the study of biology and diseases in humans and other organisms — be it in animals plants, bacteria or individual cells — using computers (brain imaging of people or animals) or microbiome studies for neurological disease, such as in our center's collaboration with UNLV.

What is a translational lab?

Translational research is the process of transferring information collected in basic science for use in treating human disease. It can also involve collecting samples in humans to determine what is different during disease versus non-disease, or after therapeutic intervention, or from one disease versus another, or

from one type of disease to another, which is useful in personalized medicine.

Lost in translation

Dr. Decourt says scientists are discovering new things every day, yet still don't know enough to cure brain diseases. "People are often surprised to hear that no new Alzheimer's drug treatment has been approved for use in humans in 15 years, yet we have 40 to 50 drugs that cure Alzheimer's in mice. We don't yet have a cure for use in humans because these drug therapies aren't translating from one species to another as we had hoped."

Some of his work involves following what his fellow researchers are doing in his own and in other fields. Translational researchers read a lot of scientific papers, trying to tease out successes elsewhere that might prove useful in their own field. One such example is Lenalidomide, a therapy

approved for reducing inflammation in cancer. "We're embarking on a study to see if this cancer treatment might also reduce the inflammation associated with Alzheimer's." (see page 18)

A fulfilling career path

Dr. Decourt received his doctorate in neuroscience and pharmacology from the University of Bordeaux in France. He has since conducted nine influential research projects, specifically targeting early treatment options for Alzheimer's disease in association with the Arizona Alzheimer's Research Consortium and through an Alzheimer's Association Research Fellowship, among others. At the Lou Ruvo Center for Brain Health, he is working in conjunction with physicians on a variety of research projects out of the Translational Neurodegeneration Research Lab located at Roseman University on the west side of Las Vegas.

When asked why someone should pursue a career in translational research, Dr. Decourt replies enthusiastically, "If you're passionate about biology, like to discover new things daily, and you have ambition to help humankind, consider basic research. Physicians see patients every day so they don't have the luxury of time to do the research we biologists do."

"Cleveland Clinic is committed to innovation and Dr. Decourt's expertise and ability to conduct fundamental research will be instrumental in exploring new treatment options for Alzheimer's disease in humans," says Marwan Sabbagh, MD, Director, Lou Ruvo Center for Brain Health.

If you would like to support our science, please contact 702.263.9797 or DonateNevada@ccf.org



"Although I've made a career in gaming, science has always fascinated me. I'm proud to say it runs in the family, as my grandson Jalen is a member of one of the pioneering classes at UNLV's new medical school. Visiting Dr. Decourt's lab opened my eyes to the great possibilities for discovery that lie ahead, right here in our community."

— BILL PAULOS,
CLEVELAND CLINIC
NEVADA SUPPORTER

L - R – Dr. Decourt, Bill Paulos and Marwan Sabbagh, MD

Why Join Clinical Trials: Three Participants Share Their Experiences

No drug or medical treatment can be approved by the Food and Drug Administration without rigorous clinical trials that determine if they are safe and effective. And no trial is possible without the people who volunteer to be participants. Their participation in clinical trials has enabled the development of drugs that save lives and discoveries that advance medical science. Participants may benefit from being the first to try a new treatment and undergo comprehensive testing at no charge; others simply enjoy knowing they're helping scientists understand the mysteries of the brain.

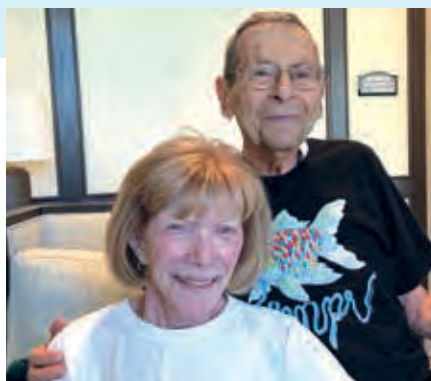
Learn more about being in a Cleveland Clinic Lou Ruvo Center for Brain Health clinical trial from these participants:



CALLIE FRONCZAK
MS trial

Soon after being diagnosed with multiple sclerosis (MS) in February, Callie Fronczak joined DELIVER-MS, a trial comparing two different approaches to treating early-stage relapsing-remitting MS. "It just felt right to help research that is trying to determine the best approach to treat people when they are first diagnosed," she says.

Being a participant "fits perfectly with my lifestyle. It gives me a sense of purpose as I deal with the ups and downs of MS. I hope the trial helps all of us to have a better quality of life and future," says Ms. Fronczak.



SHEILA STRUSSER
Alzheimer's disease trials

After participating in two Lou Ruvo Center for Brain Health clinical trials testing potential Alzheimer's disease treatments, Sheila Strusser tried to join a third. But she did too well on a memory test to qualify: "I couldn't believe it! I was thrilled," says Mrs. Strusser.

Whenever she visited the center during the trials, "I was always very relaxed and felt that I was doing the right thing. I hope more people get involved in trials."



PATRICIA FAGAN
Movement disorder trial

At their first visit to the Lou Ruvo Center for Brain Health, Arthur Fagan, who has progressive supranuclear palsy (PSP), an uncommon movement disorder related to Parkinson's disease, and his wife, Patricia, signed up for a major clinical trial evaluating a medication for the disease.

Over the past two years, they have looked forward to their visits to the center: "It's a psychological comfort every time we come. The medical and support staff are so supportive and welcoming, you feel like you're with friends, people who care."

"When you are dealing with a complex, progressive disease like PSP, it makes you feel that you have some control and are doing something worthwhile," says Mrs. Fagan, Arthur's study partner.

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GENERATION OR A FUTURE GENERATION?**



Consider participation in a clinical research study. Learn how you can join:
855.LOU.RUVO or healthybrains@ccf.org.

Imaging Study Builds Understanding Around Alzheimer's

Rajan Parekh, of Las Vegas, is one of thousands of people participating in an ongoing clinical trial and making a significant contribution to Alzheimer's disease research.

The Alzheimer's Disease Neuroimaging Initiative (ADNI) is the largest study ever organized to understand the progression of Alzheimer's disease. Mr. Parekh learned about it when he saw his doctor after experiencing some short-term memory issues (e.g., remembering names and directions). He has been enrolled in the study, which is now in its third phase (ADNI3), since late 2018.

"Alzheimer's is an absolutely a deadly disease," Mr. Parekh says. "I would hate to put a burden on my family or my kids. Anything I can do to alleviate the devastation from this disease is good."

Propelling Alzheimer's Research Forward

ADNI began in 2004 and is funded by the National Institutes of Health. So far, more than 1,500 people have participated at 57 sites throughout the United States and Canada. Now in its third phase, ADNI is one of the most important longitudinal studies in all of Alzheimer's disease (AD) research. ADNI participants range from healthy to having mild memory problems to having dementia due to AD.

"This study has informed most of the data we know about early Alzheimer's disease," says Aaron Ritter, MD, one of the investigators for the study at Cleveland Clinic Lou Ruvo Center for Brain Health. "It has really changed the course of how we think about the disease."

Dr. Ritter says the original concept of the study was to understand how Alzheimer's changes over time, how quickly the disease progresses and its symptoms



Aaron Ritter, MD,
Director of
Clinical Trials

along the way — information that would be useful in designing clinical trials. Researchers also have learned from the study more about the proteins building up in the brain before symptoms even begin and the order in which they appear.

Participants undergo annual brain scans (MRI and PET), lumbar punctures (spinal taps) and blood tests, along with periodic memory testing over a five-year span. No experimental medications are administered during the trial.

Currently Seeking Participants

If you are interested in being a part of this landmark study, Dr. Ritter says it continues to enroll people who are 55 or older and have mild cognitive impairment.

"The ADNI study has been so important in teaching us about Alzheimer's

disease," he says. "Participants in ADNI will make a lasting contribution to this urgent public health issue. Anyone who plans to live over the age of 65 is at risk for Alzheimer's disease, whether or not they have a family history."

BE A PART OF RESEARCH

For more information on this and other research studies: healthybrains@ccf.org or 855.LOU.RUVO. A full list of studies is available online at clevelandclinic.org/brainhealthtrials.



Tracing Neuroinflammation as a Possible Cause of Neurodegenerative Diseases

Lou Ruvo Center for Brain Health first in the nation to study new imaging technique

Inflammation is proven to play a role in both kidney and heart disease. Could it also be a factor in neurodegenerative diseases, such as Alzheimer's and Parkinson's? Researchers are increasingly reporting that neuroinflammation — or over-activation of immune cells in the brain — appears to be an important element of these brain diseases.

Cleveland Clinic Lou Ruvo Center for Brain Health is one of the first in the United States to investigate this possible link using the GE180 radioactive tracer — an experimental diagnostic imaging tool used to detect neuroinflammation in the brain.

"We know that there is some connection between inflammation in the blood and neurodegenerative disease, but we haven't been able to measure it in a living human brain," says Aaron Ritter, MD, Director of Clinical Trials, who received U.S. Food and Drug Administration approval to use GE180 with positron emission tomography (PET) imaging to study neuroinflammation in the brain. "The GE180 tracer binds to over-activated immune cells in the brain and allows us a window into the immune response."

Over the two-year trial, study participants who have Alzheimer's and Parkinson's disease or are cognitively normal for comparison will have two PET scans with GE180: one at the start of the study and one a year later to monitor any progression in inflammation. Participants are drawn from the Lou Ruvo Center for Brain Health COBRE (Center of Biomedical Research Excellence) initiative, which supports Alzheimer's and Parkinson's disease research.



Pam Shields, who is participating in clinical research, and mom, Betty Bradford

Unlike clinical trials, which test new medications, observational studies like the COBRE study examine each participant closely, looking for evidence as to why some people develop diseases and others remain resistant. "You take tests you wouldn't otherwise and learn more about the health of your brain," says Pam Shields, a GE180 study "normal control" who began volunteering for clinical trials after watching her mother struggle with Alzheimer's disease.

"I am going to do everything I can to stop Alzheimer's disease."

If the study does show a link between neuroinflammation and neurodegeneration, "it could lead to new treatments that specifically target cognitive decline," says Dr. Ritter.

Consider joining this important study. To volunteer, contact: healthybrains@ccf.org or 855.LOU.RUVO.

Two Novel Studies to Test Anti-Cancer Drug for Alzheimer's Disease

Can an anti-cancer drug be repurposed to treat people with early symptoms of Alzheimer's disease (AD)? Marwan N. Sabbagh, MD, Director of Cleveland Clinic Lou Ruvo Center for Brain Health, thinks it's possible — and his innovative proposal garnered two grants to test the hypothesis.

Recruitment will start soon for two separate but complementary clinical trials of lenalidomide, which is approved to treat multiple myeloma and certain lymphomas. As Dr. Sabbagh explains, "These studies are siblings of sorts. One, funded by the National Institute on Aging (NIA), will examine long-term use of lenalidomide, defined as one year, with a focus on safety, cognition and the drug's effects on amyloid deposits in the brain.

"The other study, funded by the Alzheimer's Drug Discovery Foundation (ADDF), will investigate short-term use, defined as six months, with a focus on safety and inflammatory biomarkers in cerebrospinal fluid and blood."

Boris Decourt, PhD, Director, Translational Neurodegenerative Research Lab (see page 13), will receive and analyze blood samples for inflammation markers. Dr. Sabbagh will serve as co-principal investigator for both studies. The NIA trial will recruit 30 subjects with amnesic mild cognitive impairment (aMCI), of whom 15 will receive the medication and 15 will get a placebo. In the ADDF study, 45 individuals with aMCI will be recruited, with 30 receiving the drug and 15

getting a placebo. Mild cognitive impairment can progress to AD.

Fighting Inflammation


Lenalidomide lowers the expression of anti-inflammatory agents in the body, and chronic inflammation is prominent in many neurological disorders. It occurs in the brains of Alzheimer's disease patients as a reaction to, rather than the cause of, the presence of amyloid proteins, which accumulate in the brains of AD patients, according to Dr. Sabbagh.

"For the first time, we are using this medication to treat Alzheimer's disease at an early stage," he says. "Lenalidomide is already on the market, so we know a great deal about it. If it proves safe and effective in this repurposed role, we should see a lowering of inflammatory biomarkers and an improvement in cognitive performance. These studies have enormous potential."

The lenalidomide grants follow several other notable awards, including an \$11.1 million federal grant to establish Southern Nevada's first Center of Biomedical Research Excellence (COBRE). With this funding, researchers from the Lou Ruvo Center for Brain Health and the University of Nevada, Las Vegas (UNLV) are studying the progression of Alzheimer's and Parkinson's diseases.

You can get more information on our clinical trials by contacting us: 855.LOU.RUVO or healthybrains@ccf.org.




Marwan N. Sabbagh,
MD, Director,
Cleveland Clinic
Lou Ruvo Center for
Brain Health

Bienvenidos! Healthy Brains Day 2019: Making Multicultural Memories

What do Mariachi bands, chair exercises and learning languages have in common? Healthy Brains Day 2019.



On May 13, to celebrate the launch of the new look of HealthyBrains.org and its Spanish translation, 130 members of the Las Vegas community came together for a memorable and fun evening of learning about brain health. They joined the more than 900,000 who have visited the website and app since the initial launch in 2015.

Don't miss an educational event. Visit HealthyBrains.org to join our mailing list or get a free, online brain health self-assessment.

CONNECTING TO COMMUNITY

Guests picked random puzzle pieces with the aim of connecting their piece while meeting someone new — a fun way to enjoy social interaction, a key pillar of brain health.



Mariachi, Kat Hartley, HealthyBrains Captain Cortex, Cassandra Munoz (from Rep. Dina Titus' office)

GRATITUDE. TOGETHER WE CAN DO MORE

Marwan Sabbagh, MD, Director, Cleveland Clinic Lou Ruvo Center for Brain Health, kicked off the evening thanking sponsors Caesars Entertainment, COX Communications, Southern Glazer's Wine & Spirits and Eureka Casino for their generosity in helping us bring brain health education to our Las Vegas community and to people around the world.



Cleveland Clinic Drs. Marwan Sabbagh and Jeffrey Cummings flank Lora Picini



Dr. Sabbagh demonstrates the Spanish app

NO EXCUSES! EXERCISE

With a lively demonstration of chair exercises, Christy Ross, PT, DPT, GCS, from the Lou Ruvo Center for Brain Health physical therapy team, convinced the audience there's no excuse not to exercise. Marching, flutter kicks, boxing — all while seated — proved to elevate heart rates, and laughter, too!



Christian Bato (Sen. Cortez-Masto's office), April LaLone (Sen. Jacky Rosen's office) and City Councilman Cedric Crear with Dr. Christy Ross

WISE WOMEN SPEAK

Representing the rich cultural diversity of our Southern Nevada community and serving as a reminder that women are at the epicenter of the Alzheimer's crisis, six women challenged the audience with a foreign language exercise.

Learning words and phrases in six languages — Spanish, Tagalog, Hindi, Indian, Swahili and Mandarin Chinese — proved to be a challenging and sometimes humorous tongue-twisting exercise.



Joyce Jones, Dorothy Domingo, Rita Vaswani, Ravijot Singh, Cassandra Munoz, Kate Zhong

OUR SEARCH FOR CURES INCLUDES YOU

Everyone is a vital piece of the puzzle in the discovery of cures and treatments for dementia. Aaron Ritter, MD, Director of Clinical Research, educated the audience on the vital importance of research participants reflecting the diversity of our entire community.



Members of our Community Advisory Board who are helping us better understand the cultural barriers and sensitivities to participation in aging research.

Dr. Aaron Ritter, Kat Hartley, Alonzo Thorton, Jessy Liddell, Rowena Trim, Barbara Payne, Lianne Nishida-Costello, LeeAnn Luna, Tina Dortch, Doris Bauer, Dr. Marwan Sabbagh. Not pictured: Irma Prettenhoffer and Cassandra Cotton

HOW HEALTHY IS YOUR BRAIN? QUE TAN SALUDABLES ES SU CEREBRO?

With the help of Caesars SMART HEROS volunteers, 120 guests assessed their lifestyle habits with a brain health check-up — some in Spanish!

We appreciate all the dedication and efforts of our community volunteers.



HealthyBrains booth



Imaging Services

Not Just for Brains

Twisted a knee? Wrenched your shoulder or back?
We image nearly every part of the body.

We offer great clarity of MRI, CT and PET images,
which are made in Las Vegas and interpreted by
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Research Indicates Music Therapy Strikes a Chord with Patients and Care Partners

Music therapy is an approach utilizing music to accomplish the goals of our patients. Here at Cleveland Clinic Lou Ruvo Center for Brain Health, a board certified, neurologic music therapist leads weekly groups open to people in the community living with memory loss.

The mission of Music Therapy Respite is to provide an opportunity for those with memory loss to engage in a safe and therapeutic group intervention while creating an opportunity for their care partners to attend support groups or have time for themselves. Since launching with only four participants in February 2017, Music Therapy Respite has expanded to two sessions per week and continues to grow.

Research Findings

To determine the impact of Music Therapy Respite, a survey of care partners was conducted over three months in 2018.

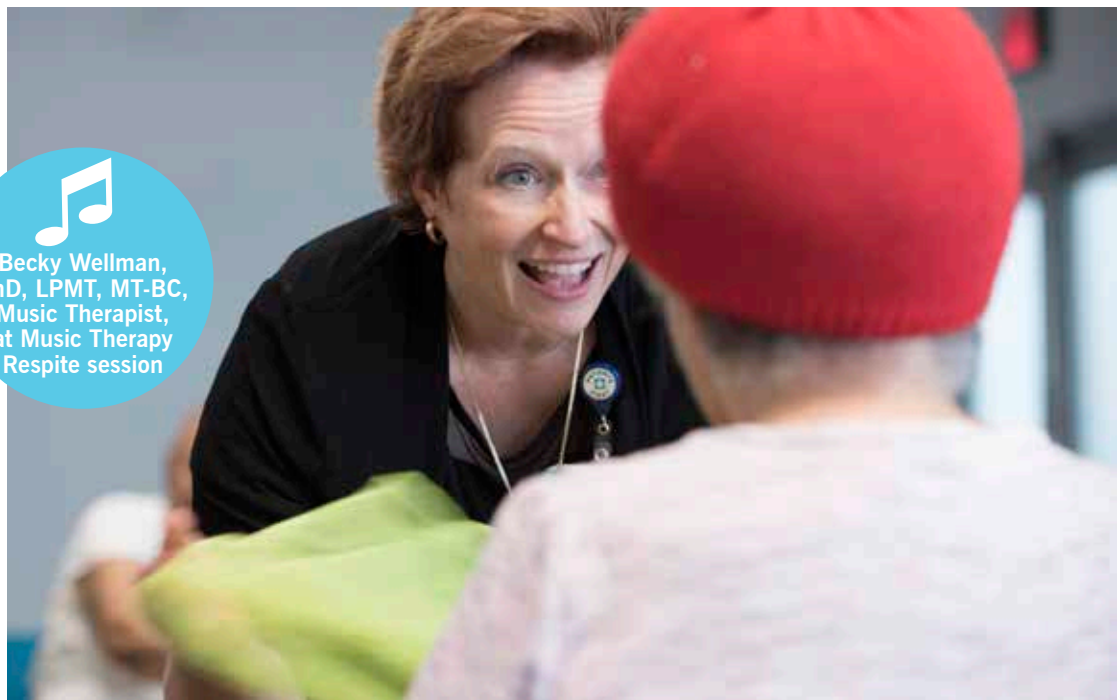
Care partners reported the following about their loved ones, the participants in group music therapy:

- Improved relaxation
- Increased scores on memory tests and post-group interactions with loved ones

Caregivers reported in themselves, the beneficiaries of the respite:

- Decreased stress
- Increased sense of support and peer interactions
- Improved connection with their loved one with memory loss

Survey results also indicated a significant reduction of care partner and patient stress and anxiety, as well as improved mood for both groups. Over time, while facilitating the group, music therapist Becky Wellman,



PhD, LPMT, MT-BC, observed increased participation on the part of individuals, as well as increased peer interaction.

Music Therapy continues to grow

Groups pairing music therapy with physical therapy and Huntington's disease support groups are also available and open to the community at no cost thanks to support from grants and donations.

By referral from a physician, individual sessions may be appropriate for current patients at the Lou Ruvo Center for Brain Health with specific needs or goals that cannot be addressed in a group setting.

For more information or to schedule an appointment, please contact Becky Wellman, PhD, at wellmar@ccf.org or 702.701.7895

SPECIFIC GOALS OF MUSIC THERAPY RESPITE

For participants:

- Reduce feelings of stress and anxiety
- Increase social interaction
- Elevate perceived mood
- Expand cognitive stimulation

For care partners:

- Reduce feelings of stress and anxiety
- Create opportunities to connect with other caregivers
- Elevate perceived mood
- Decrease perceived sense of burden



Memory Problems: What is Normal Aging and What is Not?

Memory and aging

Memory is the power or process of reproducing or recalling what has been learned. Our ability to remember and to recall our past is what links us to our families, our friends and our community.

As we age, subtle changes in memory occur naturally as part of the aging process. However, sometimes these changes can occur earlier or progress more quickly than anticipated. These changes often go unnoticed, but at other times can be disturbing to ourselves or others.

A number of factors can cause problems with memory, or exacerbate normal age-related changes, such as:

- a medication side effect
- an existing or developing health problem (depression, anxiety, sleep problems, heart disease, blood clots, head injury, thyroid disease, dehydration or vitamin deficiency)

In such cases, identifying and treating the condition can improve memory.

However, when memory loss prevents us from performing daily tasks and our accustomed roles in life — whether observed in ourselves or by a loved one — it becomes a health concern that needs further evaluation by healthcare professionals.

What memory problems are an expected part of normal aging?

Simple forgetfulness (the “missing keys”) and delay or slowing in recalling names, dates, and events can be part of the normal aging process.

What memory problems are not considered a part of normal aging?

Memory problems that begin to interfere with normal daily life and activities are not considered normal aging. Forgetting

MEMORY PROBLEMS THAT ARE NOT PART OF NORMAL AGING

MILD COGNITIVE IMPAIRMENT Memory Problems

- Forgets recent events, repeats the same questions and the same stories, sometimes forgets the names of close friends and family members, frequently forgets appointments or planned events, forgets conversations, misplaces items often.
- Has trouble coming up with the desired words. Has difficulty understanding written or verbal (spoken to) information.
- Loses focus. Is easily distracted. Needs to write reminders to do things or else will forget.
- May struggle, but can complete complex tasks such as paying bills, taking medication, shopping, cooking, household cleaning, driving.
- Has many important memory impairments but can still function independently.

where you put your glasses is simply a sign of forgetfulness, disorganization or normal aging; however, forgetting what your glasses are used for is not a normal memory problem.

The memory loss and thinking problems seen in mild cognitive impairment (MCI) or dementia are not normal aging. Researchers now believe that mild cognitive impairment is a point along the pathway to dementia for some individuals. But not all individuals diagnosed with mild cognitive impairment will develop dementia.

Can memory be preserved during the aging process?

Although there is no certainty that doing any of the following will help slow memory and thinking skill decline, these are general recommendations for maintaining good health:

- Maintain good blood pressure, cholesterol levels, and blood glucose levels

DEMENTIA Memory Problems

Has many of the same symptoms of MCI plus as dementia progresses:

- Is unable to perform complex daily tasks (for example, paying bills, taking medications, shopping, driving).
- Loses insight or awareness of memory loss.
- Displays poor judgment.
- Declines in rational thinking and ability to problems solve.
- Memory, language, and cognition become so impaired that self-care tasks can no longer be performed without assistance from another person.

LEARN MORE

Visit Cleveland Clinic's interactive community, HealthyBrains.org, to sign up for a free brain health newsletter and take a free, online brain health self-assessment.



- Stop smoking and avoid excess drinking
- Eat a healthy diet
- Maintain appropriate weight
- Reduce stress
- Get an adequate amount of sleep
- Exercise your brain (do puzzles, play a new instrument, etc.)
- Engage in social activities

While none of these recommended approaches has been irrefutably proven, mounting evidence suggests the single best thing you can do to maintain your brain health is to exercise (particularly aerobic exercise) twice a week.

Rethinking Clinical Assessment: Using Technology to Complete the Patient Picture

Some medical conditions can be clearly identified with medical tests: a blood test for anemia, an X-ray for a broken bone. But diagnosing and monitoring diseases that affect the brain is not always so straightforward. Traditional clinical assessments of neurodegenerative diseases often rely on subjective observation, which can vary greatly among clinicians.

People with diseases such as Parkinson's and multiple sclerosis (MS) have symptoms that change in type and intensity from day to day. Evaluating patients in an office environment may not provide a complete, representative picture of their condition in everyday life. More objective and cost-effective assessment methods could revolutionize clinical practice and clinical trials.

In recent years, neurologists have been rethinking clinical assessment and integrating computer-based tools to provide more in-depth and objective information about patient functioning. Here is an update of new developments in assessment at Cleveland Clinic Lou Ruvo for Brain Health's three practice areas.

Multiple sclerosis

The standard MS assessment test, the Expanded Disability Status Scale (EDSS), is useful for evaluating a patient's degree of disability, but since it relies on walking as the main measure of disability, it is less useful for monitoring a patient's progression over time with other tasks.

To provide a more comprehensive view of MS patients' functioning, Cleveland Clinic developed the Multiple Sclerosis Performance Test (MSPT), a suite of iPad apps that assesses key areas such as



Carrie Hersh, DO, MSc

cognition, visual acuity, manual dexterity and walking speed. Patients take the assessments on their own and the program sends the results directly into their electronic medical record.

"MSPT captures the patient's neurological quality of life and how they feel in their daily lives. It also captures various aspects of neurological performance in important MS functional domains. Instead of spending time with patients collecting data, together we have

more time to discuss patients' concerns and how well they are being managed on their disease-modifying therapy in a shared decision-making approach," says Carrie Hersh, DO, MSc, Assistant Program Director, MS Health and Wellness Initiative.

MSPT is currently being used at nine other comprehensive MS centers and Cleveland Clinic plans to implement it at additional centers. "This is the future of how we will monitor and take care of our patients," says Dr. Hersh.

To make an appointment with a Cleveland Clinic neurology provider, please call 702.483.6000.



Movement disorders

Considered the “gold standard” for Parkinson’s disease assessment, the Movement Disorder Society’s Unified Parkinson’s Disease Rating Scale (MDS-UPDRS) rates patient functioning in areas such as thinking, mood, mobility and speech. “You can’t deal with Parkinson’s disease without using the UPDRS, but I call it the bronze standard because it is a subjective test and results can vary depending on who is administering it,” says Zoltan Mari, MD, Director, Parkinson’s Disease and Movement Disorders Program.

Someday, Parkinson’s patients may wear a device similar to a fitness tracker that measures major functions from walking speed to tremors. The Lou Ruvo Center for Brain Health is participating in the first academic study evaluating the device. “Objective measuring tests are a natural choice for assessing the abnormal movements that characterize movement disorders like Parkinson’s disease. Replacing subjective clinician-performed tests with objective measurements could make tracking and measuring movement disorders far more accurate, realistic and cost-effective,” says Dr. Mari.

Cognitive disorders

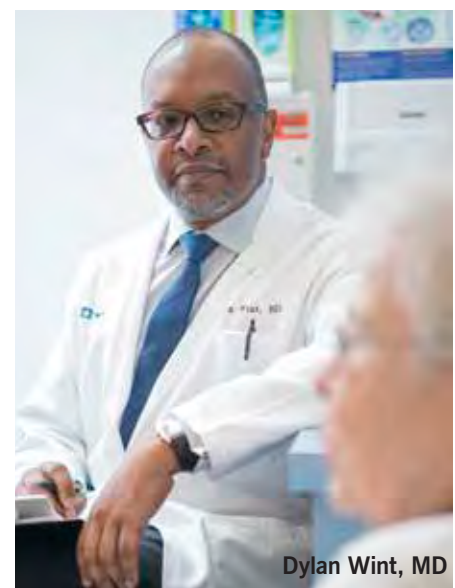
Many Lou Ruvo Center for Brain Health patients take the Montreal Cognitive Assessment (MoCA) screening test which evaluates short-term memory, executive function, visuospatial function and attention. “We use the MoCA to give us an idea of whether cognition is impaired, what parts of the brain are affected and what disease processes may be contributing,” says Dylan Wint, MD, NV Energy Foundation Chair for Brain Health Education.



Zoltan Mari, MD

However, MOCA has its limitations: It is unreliable for tracking progression in moderate stages of dementia and clinical assessment and is only 75 to 80 percent accurate in predicting early stages of Alzheimer’s disease. “That isn’t accurate enough to evaluate treatments that affect the disease process,” says Dr. Wint.

To that end, Lou Ruvo Center for Brain Health neuropsychologists are helping to test a tablet-based version of MOCA that could pick up additional information about how the patient is performing the test, such as the time and effort involved. Patients could potentially take the test on their own and discuss the results with their physician.



Dylan Wint, MD

How to Take Care of the Care Partner

By Ruth Almén, LCSW, Clinical Manager,
Social Work Services

and Dylan Wint, MD, NV Energy Foundation
Chair for Brain Health Education

“It takes a village” is a phrase that couldn’t be truer when it comes to caring for a loved one living with a brain disease. It’s one that we reiterate often to care partners, as far too frequently we see many taking on too much and forgetting to take care of themselves.

When a spouse, family member or friend is diagnosed with a brain disorder, loved ones may not think twice about helping in such a time of need — and may not even consider themselves as caregivers. Yet, adapting to the physical, emotional, social and economic changes can have a profound impact on the life of the care partner, and is something they’ll likely need help with.

While the type of support varies based on the capacity of the person living with the brain disease, the health of the care partner and the geographic distance between the two, for the most part, caregivers take on a variety of additional everyday activities such as:

- Meal preparation, bathing, dressing and grooming
- Housekeeping and laundry
- Yard and home maintenance
- Scheduling and driving to medical and other appointments
- Shopping for groceries, clothing and supplies
- Managing medications and daily dosage schedule
- Handling finances, insurance and legal matters
- Planning social and recreational activities



Linda Morris, left, with Cleveland Clinic's Verla Niebuhr

“The Marlon Family Foundation is proud to support Lunch & Learn. This weekly educational event presents valuable topics to patients and caregivers,” says Tony Marlon, MD, of the Marlon Foundation.

Below are some challenges care partners may face, along with coping strategies to assist in finding a new sense of balance while increasing their ability to provide the best care possible to a loved one.

1. CAREGIVING RESPONSIBILITIES

Care partners may feel like they need to do it all, yet they shouldn't take on too much too quickly. Instead, they should set realistic and obtainable goals for both their loved one and themselves, while knowing some days these goals won't be achieved, and that's okay. Ask friends and family members and engage community organizations and social service agencies to assist with daily tasks and disease-related issues. Also, try and learn as much as possible about the disease a loved one is living with and its anticipated progression to better understand the road ahead.



2. PHYSICAL HEALTH

It's essential for care partners to take care of their own health needs. This includes maintaining standing medical appointments, living a healthy lifestyle and alerting a medical professional about any new health concerns. It's okay to have someone stay at home with their loved one if need be.



3. EMOTIONAL HEALTH

Emotional wellness is just as important as physical health as care partners experience stress, anxiety, worry, depression or even frustration as a result of their new responsibilities. Talking to a counselor or joining a support group is a great way to help with coping and allows the caregiver to hear from others in similar situations and find new ways to solve challenging problems. Additionally, exercise, meditation and journaling have also proven to be stress reducers. The most important thing is for care partners to find what works best for them, and then do it.



4. WELL-BEING

Being a caregiver is a 24/7 responsibility, so those in this role should be sure to build breaks into their caregiving schedules. This respite care can be provided by family, friends, volunteers, daycares or skilled-care facilities, and will allow caregivers the time they need to rejuvenate their mind and body. It's also important to avoid isolation — strength, solace and creativity are positive outcomes of interacting with others.



5. LEGAL AND FINANCIAL RESPONSIBILITIES

Be sure to talk with loved ones early in their disease to discuss legal and financial issues and address any necessary changes while they still have the capacity to make these decisions. As the disease progresses, it's the responsibility of the caregiver to ensure their loved one's wishes are carried out.



The most effective care partners are those who are well-informed and enlist help and support from all available resources to ensure they don't sacrifice their own well-being.

To learn more about assistance available at Cleveland Clinic Lou Ruvo Center for Brain Health, including a variety of programs at no cost to caregivers thanks to generous philanthropic support, call 702.778.6702 or visit keepmemoryalive.org/caregivers-community.



Meet Your Support Network

Cleveland Clinic Lou Ruvo Center for Brain Health social workers are trained to help individuals make the best care decisions for themselves or their loved one by providing information about available resources and tools that can help reduce stress.

In an average year, the four full-time members of Cleveland Clinic Lou Ruvo Center for Brain Health's social work

team provide more than 5,000 hours of one-on-one support in addition to almost 50 support group sessions.

We understand that recognizing you need help with caregiving and asking for it is never easy, but we encourage you to take the first step. **To learn more about these services, contact FamilyServicesNV@ccf.org or 702.483.6000.**

OFFERED AT NO COST, THANKS TO DONORS

Thanks to generous philanthropic support, all services provided by the social work team are available at no cost. With the exception of counseling and transportation, services are open to the entire community.

To support our mission of supporting patients, families and our entire community, contact 702.263.9797 or DonateNevada@ccf.org.



RUTH ALMÉN, LCSW

Manager, Clinical Social Work

Ruth Almén oversees the social work department and serves as a liaison with the community. With her zest for meeting new people and facilitating new experiences, Ms. Almén is the passion behind Improv for Care, a class that helps caregivers cope and connect with their loved ones. She started the class at the Lou Ruvo Center for Brain Health in collaboration with Second City, the Chicago improv troupe, and Caring Across Generations, a caregiver advocacy organization, after meeting them at the Aspen Ideas Festival.

Ms. Almén relishes every opportunity to interact with patients and families, from a counseling session to a support group to a chance meeting in the tranquility room. She hopes those she helps feel that she always treats them with respect. “I get the rare opportunity to see patients and families as whole people with great personalities and interesting lives, rather than just talking about the disease,” she says.

SANDY CHAPMAN, LSW

Case Manager

Thanks to funding from Gloria and Emilio Estefan, Sandy Chapman offers dedicated support to patients and families living with multiple sclerosis, the disease that claimed the life of Major José Fajardo, Gloria’s father. Ms. Chapman provides case management services to those with MS, including resource referrals; arranges no-cost transportation to and from Cleveland Clinic; assists with workplace concerns such as the FMLA process; and helps patients with accommodations in the community. She also coordinates the weekly Yoga for MS group.

Colleagues appreciate Ms. Chapman, a Michigan native, who balances a commitment to fitness — jogging regularly and encouraging coworkers to take the stairs — with caring for her grandson and attending political events. Ms. Chapman says she has always been proud of her work as a social worker but has never been more proud of her workplace than she is of Cleveland Clinic.

MICHELLE PESTER, LSW

Case Manager

Michelle Pester provides case management services, including identifying and facilitating community resource referrals, and linking patients and families with personal care agencies and memory care and assisted living facilities. She specializes in assisting those affected by cognitive or movement disorders.

Ms. Pester left her native Brazil in 1999 and identifies as a global citizen, living in London and Hawaii before settling in Las Vegas. Colleagues say she is a passionate follower of current events around the globe, and is close to her family and her three dogs. Ms. Pester says that she loves the close collaboration of the social work team at the Lou Ruvo Center for Brain Health.

ALYSSON THEWES, LCSW

Clinical Social Worker

Alysson Thewes provides therapy to Lou Ruvo Center for Brain Health patients and their care partners and families, most often using the cognitive behavioral therapy model.

Ms. Thewes was born in Las Vegas, started college full-time at age 15, and completed her undergraduate and graduate degrees at UNLV. An avid horse rider since age five, she also practiced equine assisted psychotherapy for several years in Oregon. At Cleveland Clinic, Ms. Thewes values the diversity of the individuals with whom she has the gift of working. Her colleagues are grateful for her willingness to jump in to any project, her kindness and sense of humor.

Giving Thanks Through the Expression of the Arts

JOIN US WEDNESDAY, NOVEMBER 13!

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 13!

Made possible through generous support from the Engelstad and Brenden Mann Foundations



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 30-60 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

Planning for Our Future

After a decade of neurological achievements, this summer, Cleveland Clinic Lou Ruvo Center for Brain Health launched a \$100 million endowment campaign to support long-term sustainability and serve our mission to deliver world-class treatment and research of brain disease.

In conjunction with our milestone 10th anniversary, funds raised will support our center's continued growth to meet the ever-changing landscape of neurological care, including:


- Flexibility to **advance clinical programs** for those impacted by brain disease
- Capacity to **pursue cutting-edge research and clinical trials**
- Resources to **attract the world's top clinicians and scientists**
- Ability to **offer ongoing community education and patient and caregiver support services at no cost**
- Infrastructure to **train neurological leaders of the future**

"A decade of Cleveland Clinic Lou Ruvo Center for Brain Health was made possible through generous donors who believed in our mission, and now we are calling on them again to help us set our sights on long-term sustainability," says Larry Ruvo, Chairman and Founder of Keep Memory Alive.

He explains, "Insurance reimbursement rates do not fully support the amount and quality of care we provide, so we are fueled by the power of philanthropy. We truly believe that what happens in Las Vegas will change the world and ask the community to be a part of it by donating to our cause."

Since partnering with Cleveland Clinic in 2009, the Lou Ruvo Center for Brain Health, supported by philanthropy from Keep Memory Alive, has earned a global reputation for diagnosing and treating devastating brain diseases while




Marwan N. Sabbagh,
 MD, Director,
 Cleveland Clinic
 Lou Ruvo Center for
 Brain Health

integrating research and education at every level. To date, it has:

- Facilitated more than **165,000 patient visits**
- Conducted **70 clinical trials** to advance new therapies toward FDA approval
- Published **525 scientific papers** advancing neurological research
- Spent **55,000 hours training** the next generation of medical professionals
- Provided **41,000 education and support service visits to patients and families at no cost** (program information at KeepMemoryAlive.org/caregivers-community)

"We've made great strides in both the research and treatment of brain disease that have changed the medical

landscape in Las Vegas and beyond. While we are immensely proud of what we have accomplished thus far, we are hopeful of what we can do in the future and will use this endowment to turn our vision into a reality," says Marwan Sabbagh, MD, Director, Lou Ruvo Center for Brain Health.

WHAT WILL THE FUTURE LOOK LIKE?

You can help pave the way. Gifts of all sizes make a meaningful impact for patients and families. Contact us to discuss your gift: DonateNevada@ccf.org or 702.263.9797.

Committed Since 2009: Celebrating the 10th Anniversary of Our First Cohort of Volunteers

If you were offered a meaningful “job” whose primary benefit was personal fulfillment, how long would you choose to serve? For six volunteers at Cleveland Clinic Lou Ruvo Center for Brain Health, the answer is 10 years.

On behalf of patients, families and all guests who benefit from their warm smiles, kind words and passion for caring, we thank them for their commitment to world class care. Now let’s hear from them, in their own words.



BARBARA BRISCOE

The Lou Ruvo Center for Brain Health offers so many more activities now than when it opened in 2009, and people are traveling across town throughout the week for music therapy, exercise groups and the free educational programs. It touches our guests when we acknowledge their visit with a flower — it’s unexpected and appreciated.

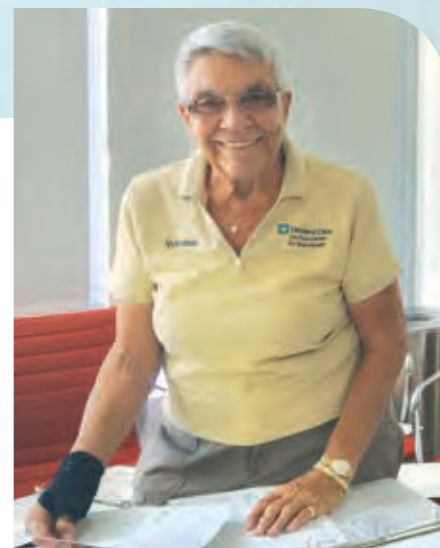
I’ve been a registered nurse for more than 50 years. I thought I was ready to retire, but when you’ve been in a profession of caring for people your whole life, you can’t sit home and not give. I love coming here and feeling useful. It’s part of my nature to take care of other people.



JEAN GEORGES

Since 2009, we have grown bigger — more doctors, more diseases treated, more programs — but we haven’t grown any better. This center was the best when we opened, and we’re still the best, because we don’t just treat the disease who has the person, we treat the person who has the disease.

I will be here as long as I can stand on two feet because I want to repay the Lou Ruvo Center for Brain Health for the care they have given me and my husband, Leonard. If I have any worries in the world, they disappear when I walk through the center’s front door; so many families have much worse problems than I have.



JUDI HANSON

Since 2009, my role has continued to expand, spanning event registration, photography and administrative work. I’m most proud of the two projects I developed from the ground up: new patient binders (I’ve single-handedly created more than 9,000 since 2013) and issuing library cards to all new patients.

It’s encouraging to see residents in my own community, Sun City Aliante, taking advantage of the services offered here at the Lou Ruvo Center for Brain Health, doing physical therapy and changing their lifestyles.

Both of my parents’ death certificates identified dementia as the cause of death. I’m scared I might get it, so I have to stay busy volunteering here, serving on boards and traveling.



DONNA PERKINS

Our physical therapists are the most miraculous people in the world. I remember a young woman who came in, bent over in a wheelchair, looking as if she just wasn't functioning. Over the weeks, they got her out of the chair, and I saw her whole personality change. She went from 'I'll be in this chair for the rest of my life...' to 'I don't think I'll need this chair again!'

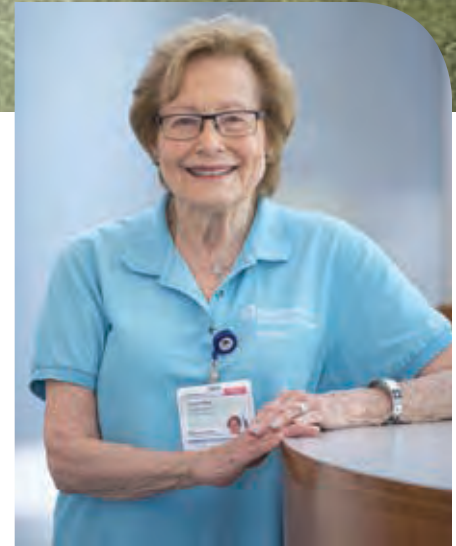
I feel privileged to give just a little bit to people who are going through a very difficult part of their lives, be it as patients or caregivers. I get more than I give. At the end of each shift, I wonder, 'Where did the time go?'



KITTY WELLMAN

People who have been recently diagnosed need eye contact, smiles and the personal attention they don't get during most doctors' visits. When I have to go to the doctor, no one bothers to look at me, so I try to make it different here. People really appreciate that.

I'm convinced brain research will solve a lot of humanity's problems, since everything from Alzheimer's to drug addiction is a brain malfunction. I'm delighted to be a part of it in my own small way, even though I'm not a researcher.



LINDA WHITE

I'm always amazed by the staff who are so nice and appreciative of the role we volunteers play. I'm inspired by the appreciation of the patients, who are always thanking us for the flowers, the water, and for the courtesy and care we show them. I think the Lou Ruvo Center for Brain Health is the best place in Vegas to volunteer: You're appreciated most and you know it!

All volunteers have a most memorable patient encounter. A celebrity patient arrived, and of course we're supposed to respect all patients' privacy, so I didn't greet him by name. But when I simply smiled at him, he came over and hugged me. He knew I was a fan of his, and I'm glad he's a fan of Cleveland Clinic.

**Interested in joining our team of committed volunteers?
Contact volunteer services at 702.331.7046.**



POWER OF LOVE®

Gala 2019

THANK YOU

TO OUR 2019 GALA SPONSORS



SAVE THE DATE: MARCH 7, 2020

KEEPMEMORYALIVE.ORG



CLEVELANDCLINIC.ORG/BRAINHEALTH

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



HOST YOUR EVENT

IN AN ARCHITECTURAL AND CULTURAL LANDMARK



From the mind of world-renowned architect Frank Gehry, the iconic Keep Memory Alive Event Center is a sculptural masterpiece, designed for guests who have an uncompromising eye for the exquisite and extraordinary.

Nestled in the cultural campus of Symphony Park and the Downtown Las Vegas Arts District, the ambitious steel structure brings together sumptuous cuisine from the likes of Wolfgang Puck, Four Seasons, Emeril Lagasse and Cut & Taste, paired with incomparable attention to detail, and advanced technology, to create a truly elevated and exclusive guest experience.

For corporate, incentive, and social events, receptions, meetings or galas, the stunning complex accommodates 450 guests seated and up to 700 standing. Consider extending into the breezeway and Gehry-designed courtyard for a reception for up to 1,500+ guests.

By choosing to host your event at Keep Memory Alive Event Center, you help support the research, treatment and prevention of brain disorders at Cleveland Clinic Lou Ruvo Center for Brain Health.

Thank you for your consideration in hosting an unforgettable event, and in return, helping others to remember.



KEEP MEMORY ALIVE
EVENT CENTER

702.263.9797 • kmaeventcenterlasvegas.com
888 W. Bonneville Avenue • Las Vegas, NV 89106

For information about date availability or
to schedule a site visit, please contact:

Special Events at **702.331.7043** or
email eventcenter@keepmemoryalive.org

Events Benefit Keep Memory Alive

At Keep Memory Alive, every contribution is key to our mission, and there are a variety of ways to get involved. From corporate sponsorships, to charity partnerships, to third-party events and individual donations, your generous support will continue to fund new research, education and support programming to help patients and their families.

OSCAR'S 80TH

With ticket sales benefiting Keep Memory Alive, on July 18 Las Vegas celebrated the 80th birthday of the iconic, three term, martini-toting Mayor Oscar Goodman. Accompanied by his classic pair of showgirls, the former mayor and guests watched as 80 bartenders mixed 80 martinis for an incomparable 80 martini salute.

You don't have to be a mayor to host a birthday party, wedding or other memorable event as a fundraiser for Keep Memory Alive. In fact, we have an easy do-it-yourself toolkit at keepmemoryalive.org/donatenow, and, of course, we're always available to discuss your event idea: 702.263.9797.



Mayor Oscar Goodman's 80 martini birthday salute

HAKKASAN GROUP ANNIVERSARY WEEKEND GOLF INVITATIONAL

In collaboration with the company's philanthropy sector, Hakkasan Group Inspires, the company's employees and guests joined forces on May 6 at Las Vegas' Spanish Trail Golf Course for Hakkasan Group's Third Annual Golf Invitational. Raising funds in support of Keep Memory Alive, the highly anticipated tournament has yielded an increase in participation and donations each year, raising more than \$100,000 in 2019.

The sold-out golf event created buzz among its 150 guests at each of the 18 holes, including a \$1 million hole-in-one contest, hole-in-one car giveaway, cocktails, food, dunk tanks, a mechanical bull, and more. Funds raised will create even more buzz among patients and families, who benefit from no-cost education and support services thanks to generous donors such as Hakkasan.



L - R – Larry Ruvo, Chairman & Founder, Keep Memory Alive; Derek Silberstein, Executive Vice President of Nightlife, Joe Haro, Executive Director of Corporate Partnerships, and Michael Southern, CFO, from Hakkasan Group; Ian Staller, Southern Glazier's Wine & Spirits, and Rich Kenny, Vice President of VIP Marketing and Customer Development at Hakkasan Group

SMITH & WOLLENSKY LAS VEGAS REOPENS AMIDST UNWAVERING SUPPORT

Returning to the Las Vegas Strip as the newest steakhouse in the city, on May 16 Smith & Wollensky celebrated its long-awaited return with a special grand opening celebration complete with a ceremonial ribeye cutting that delighted guests, reminding them of the quality and showmanship they had been missing during the restaurant's Las Vegas hiatus.

While the location inside the Grand Canal Shoppes at The Venetian® Resort Las Vegas is new, Smith & Wollensky's commitment to supporting Keep Memory Alive remains unchanged. We thank you for always remembering us, and for your understanding that support from key partners like you helps us preserve memory for patients and families.



Michael Feighery and
Keep Memory Alive Board
Member Michael Severino

Photo Credit: Smith & Wollensky Las Vegas

MONTH OF MEMORIES

November is National Alzheimer's Disease Awareness Month, so designated by President Reagan. Each November, Keep Memory Alive leverages this recognition to raise awareness and funds for the devastating disease that affects so many patients and families who come through our doors at Cleveland Clinic Lou Ruvo Center for Brain Health.

Throughout the month, Las Vegas businesses engage clientele in a variety of opportunities to support Keep Memory Alive from specialty cocktails to "round up" promotions at cash registers.

If you know a business that would like to be one of our community collaborators this November, please contact our development team at 702.263.9797 or DonateNevada@ccf.org.

Saddling Up to Support Brain Health

On July 26-27, Keep Memory Alive hosted its annual Summer Social and Rodeo at Shakespeare Ranch, a private Lake Tahoe estate, to raise money to support the work of Cleveland Clinic Lou Ruvo Center for Brain Health.

On Friday afternoon, guests enjoyed a classic American rodeo complete with bull and bronco riding, barrel racing, ribbon roping and entertainment from rodeo clowns, followed by a barbecue with all the fixings, along with specialty cocktails and mocktails from **Southern Glazer's Wine & Spirits** and artisanal gelato from **Chef Luciano Pellegrini**.

Champion auctioneer Joseph Mast called out exciting live auction packages including an appearance on "Bar Rescue" with Jon Taffer, a trip to Montage Los Cabos resort, an autographed guitar from Sammy Hagar, a Las Vegas package with Lionel Richie tickets, a trip to New Orleans for Lagasse's Boudin, Bourbon & Beer celebration and a luxurious private yacht adventure.

The rodeo winners were presented with custom championship belt buckles before guests two-stepped all night long to an energetic performance from country artist tribute band **Left Of Centre**.

The next evening, guests returned to the picturesque estate for a gourmet dinner prepared by Chef Emeril Lagasse served under the Tahoe stars and a performance from rock legends **Little River Band**, singing hits such as "Help Is On Its Way" and "Reminiscing."

After showing an emotional video demonstrating the difficult role caregivers have in providing for their loved ones, Keep Memory Alive Co-Founders Larry and Camille Ruvo addressed the crowd, sharing first-hand experience of watching Larry's father pass away from Alzheimer's and the devastating effect it had on his mother.

"We are on the cutting edge of a lot of great things," said Camille Ruvo. "But until that actually happens, these caregivers play a crucial role in the lives of those who are burdened with these neurological diseases. You may not know somebody with Alzheimer's or Parkinson's or MS, but many of you will have a loved one who may fall ill or you have to take care of, so we are all in this together."

Actress, writer and producer Nicollete Sheridan was spotted enjoying the evening with a friend



Camille Ruvo addresses the crowd



Don't miss the fun and fundraising: Keep Memory Alive hosts events throughout the year. Visit our website, keepmemoryalive.org, or contact us anytime at 702.263.9797 or events@keepmemoryalive.org for more information or to subscribe to our monthly events email updates.

Watermelon eating contest



Larry Ruvo speaks with guests

Chef Emeril joined the band on stage, showing off his drumming skills



THANKS TO OUR 2019 SPONSORS

The Abel Family
 Nancy Albertini & Steve Metzger
 Gina & Ken Ambrose
 Beau Joie
 The Beelar Family
 Tamra & Ray Brown
 The Carano Family
 Cleveland Clinic
 Brandis & Jon Deitelbaum
 Tammy & Michael Dermody
 Eldorado Hotel & Casino
 Emeril's
 The Emeril Lagasse Foundation
 Kathie & Al Faccinto, Jr
 Ferrari - Carano Vineyards & Winery
 The Frank Family
 Philip Griffith

Sandy & Steve Hardie
 Hard Rock Hotel & Casino Lake Tahoe
 Lana & Steve Hardy
 The Harrell Family
 The Holcomb Family
 The Hulburd Family
 Brice C. Jones
 The Kaitz Family
 Kimo Sabe Mezcal
 The King Family
 The Lagasse Family
 Debbie & Kirk Ledbetter
 Susie & Bill Lurtz
 Stacie & Chuck Mathewson
 The Milken Family Foundation
 Morgan Stanley Lake Tahoe
 Oliver Luxury Real Estate

The Pettit Family
 Rochelle & Wayne Prim
 Professional Bull Riders, Inc.
 Anne & Tom Rackerby
 Camille & Larry Ruvo
 The Ruvo Family
 Kern Schumacher
 Scott Sibley
 Southern Glazer's
 Wine & Spirits of Nevada
 The Steiner Family
 Nicole & Jon Taffer
 Toast Spirits
 Amy & John Underwood
 The Wiegand Foundation
 Karen & Rick Wolford



L - R – Larisa Martinez, Andrea Bocelli, Giada Valenti join together to sing *Con Te Partiro*

Intimate Concert at a Private Estate Makes Memories for Guests

On June 20, Keep Memory Alive hosted "An Extraordinary Evening with Andrea Bocelli," an intimate concert experience at Shakespeare Ranch, a private Lake Tahoe estate in Glenbrook, Nevada.

Guests explored the grounds with glasses of Dom Pérignon before entering the beautifully decorated barn to enjoy a one-of-a-kind culinary experience prepared by Wolfgang Puck Fine Dining paired with exquisite wines and cocktails from Bocelli Family Wines and Southern Glazer's Wine & Spirits.

Andrea Bocelli then took to the stage, accompanied by piano and a string quartet, as he sang hits including "Can't Help Falling in Love." Joined by talented

soprano Larisa Martinez, he sang "O Soave Fanciulla" from "La Bohème," and "Libiamo Ne'lieti Calici" from "La Traviata." To close the evening, award-winning Venetian vocalist Giada Valenti and Ms. Martinez joined him to sing his best-selling single "Con Te Partiro."

Following the performance, Andrea Bocelli surprised guests by picking up his guitar and playing "Il Vecchio e il Bambino." Afterward, he and his wife, Veronica Berti, posed for photos and mingled with guests, and he received a proclamation from Governor Steve Sisolak. On a whim of serendipity, Andrea Bocelli mounted one of the horses on the property, took a short ride and posed for a few additional photos.

Andrea Bocelli receives a proclamation from Governor Steve Sisolak and his wife, Kathy Ong



Guest fill Shakespeare Ranch for *An Extraordinary Evening with Andrea Bocelli*

DON'T MISS OUT

Leveraging its connections with entertainment and food and beverage superstars, Keep Memory Alive hosts fundraising events year-round. For event updates, visit keepmemoryalive.org or follow us on social media: Instagram @keepmemoryalive, Twitter @keepmemoryalive and facebook.com/keepmemoryalive.

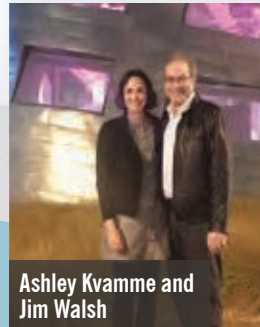
Visitor Photo Gallery



Marwan Sabbagh, MD,
and Jon Bon Jovi



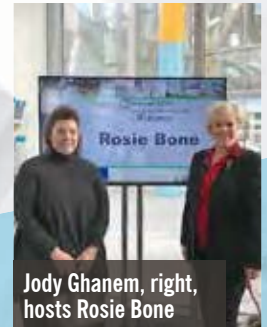
Ann & Charlie
Johnson



Ashley Kvamme and
Jim Walsh



Steve Wallace and
Alfred Tesson



Jody Ghanem, right,
hosts Rosie Bone



Clifton Hayes and
CJ Anderson



Dr. Wint, Ainsley Barrow
and Family



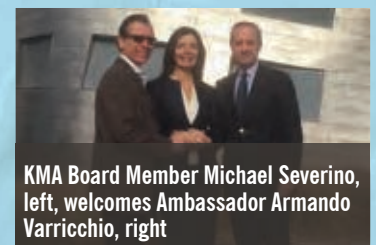
Work at Home
Vintage Experts



The
Tursi Family



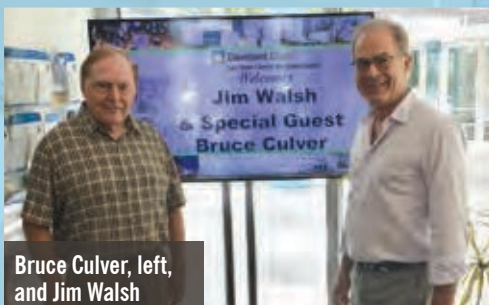
Larry Ruvo, center, and Zoltan Mari,
right, welcome Imagine Dragons



KMA Board Member Michael Severino,
left, welcomes Ambassador Armando
Varricchio, right



Joseph Grzymiski, PhD



Bruce Culver, left,
and Jim Walsh



Gayle Anderson, Jody Ghanem,
Sanjay Panda and Minati Panda

SENATOR CATHERINE CORTEZ MASTO

On May 29, U.S. Senator Catherine Cortez Masto (D-Nev.) toured Cleveland Clinic Lou Ruvo Center for Brain Health and met those on the front lines of brain research. She discussed her legislative efforts, including the **BOLD Infrastructure for Alzheimer's Act** that was signed into law in 2018 to improve treatment options and support services for patients with Alzheimer's and their caregivers.



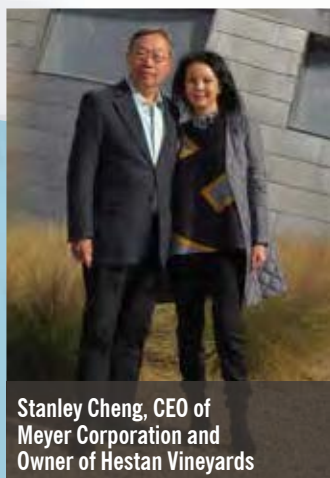
Marwan Sabbagh, MD, and
Senator Catherine Cortez Masto

"The doctors and staff at the Lou Ruvo Center for Brain Health are doing vital work to improve treatment options and prognoses for those with cognitive disorders, while also offering essential support and education services to family members and caregivers. I'm incredibly grateful for the resources the Lou Ruvo Center provides to the Las Vegas area."

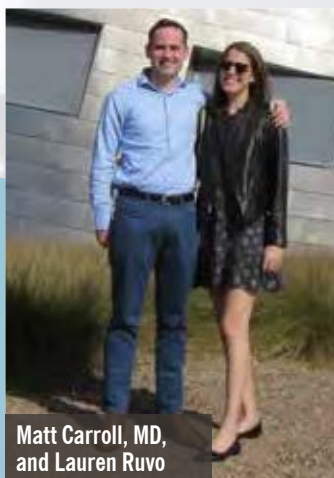
Visitor Photo Gallery *continued*



Karl Malone of the Utah Jazz with Marwan Sabbagh, MD



Stanley Cheng, CEO of Meyer Corporation and Owner of Hestan Vineyards



Matt Carroll, MD, and Lauren Ruvo



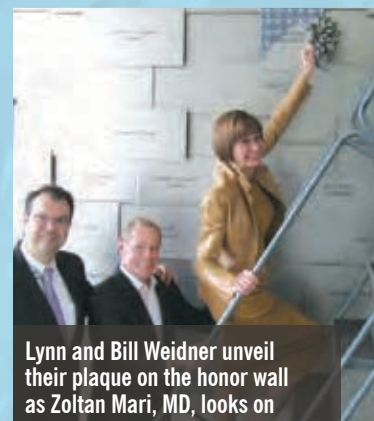
Mary Jane and David Kates toast the unveiling of their plaque on the Honor Wall



Mayor Kwon Young-jin of Daegu City with Mindy and Bob Rich (second and third from right)



Ron Bererian, Ron Rabin, Dr. Marwan Sabbagh, Bill Goldring



Lynn and Bill Weidner unveil their plaque on the honor wall as Zoltan Mari, MD, looks on



Randi Rahm



Bishop George Leo Thomas



Chase Rankin



Gayle Anderson and the Consul of the Republic of Lithuania



L - R: Ari Steinberg, Adam Kaplan, Nathan Rosemann



Jody Ghanem and Charles Bernick, MD, welcome Kevin Camper of the Las Vegas Motor Speedway

NEWLY ON BOARD

In spring 2019, two key community leaders joined the Keep Memory Alive Board of Directors.

MARK DAVIS, Keep Memory Alive Board Member & Owner, Raiders NFL Franchise

One of Mark Davis' first activities as a newly elected member of the Keep Memory Alive Board of Directors was addressing the crowd of 300 community members who assembled on July 11 to mark Cleveland Clinic Lou Ruvo Center for Brain Health's 10th anniversary (see page 3).

"Listening today to the work that takes place inside this building and seeing how the Las Vegas community has embraced its mission from the very beginning is absolutely

incredible," said Mr. Davis. "As a new member of the community, I may not have been here for Cleveland Clinic's first decade in Nevada, but I'm thrilled to be here for the next. Serving on the Keep Memory Alive Board of Directors is one of the greatest honors of my life."

Mark Davis surprised guests and Lou Ruvo Center for Brain Health leadership alike by bringing to the stage a donation in honor of the center's 10th anniversary.



Mark Davis addresses the crowd

SHERYL GOLDSTEIN, Keep Memory Alive Board Member

Sheryl Goldstein makes it clear she loves Las Vegas, her home since 1995. In 2010, Mrs. Goldstein and her husband Rob, who is the president and COO of Las Vegas Sands, were recognized by Opportunity Village for their contributions to the community. Mrs. Goldstein has served on a variety of boards and fundraising committees, and is currently a member of the Nevada Ballet Theatre Board of Trustees and the Nevada Women's Philanthropy organization. She previously served on the Clark County Public Education Foundation Board of Directors and has been actively involved with the Nathan Adelson Hospice, the Meadows School and Jewish Nevada.

The manager of a Bloomingdale's store outside of Philadelphia at the age of 23, Mrs. Goldstein leveraged her decades of connections in the retail industry and in early 2019, introduced executives from Prada (pictured here) to Cleveland Clinic Lou Ruvo Center for Brain Health, resulting in the donation of auction items for the center's Power of Love® gala.

Mrs. Goldstein lost a grandmother to Alzheimer's and is passionate about being involved in any effort that leads to the cure of this horrible disease.



Sheryl Goldstein, second from left, with guests from Prada



Jim Thomas



Sun City Summerlin Women's Club



L - R: Renae Delucia, Justin Miller, PhD, Phyllis Feinberg and Jody Ghanem



Jody Ghanem hosts Consul General Chiave



Brian Zamora, center, of Gehry Partners, welcomes the American Institute of Architects to our masterpiece - AIA Tour

10 years. 1 mission. **FIND A CURE.**

Thanks to you, we have made great strides in the treatment and awareness of brain diseases. Over the last 10 years, we have conducted more than 70 research studies to find new drug therapies and provided no-cost education and social services support to caregivers. As we look back with gratitude, we realize so much lies ahead. With your help, we will not stop until a cure is found.

CELEBRATING



2009-2019



Cleveland Clinic

Lou Ruvo Center for Brain Health

**ALZHEIMER'S | HUNTINGTON'S | MULTIPLE SYSTEM ATROPHY
PARKINSON'S | MULTIPLE SCLEROSIS | LEWY BODY DEMENTIA**

ClevelandClinic.org/Nevada

Making Our Community More Dementia Friendly, One Encounter at a Time

Randy Bolsinger and his wife, Martie, had a favorite restaurant. It wasn't the food or décor that kept them coming back. It was the warm welcome and caring service the staff offered, particularly as Martie's Alzheimer's disease progressed.

Mr. Bolsinger now shares his experience with other businesses as a master trainer for a new initiative, Dementia Friendly Southern Nevada - Community Awareness Training (CAT). The key message of CAT training is that individuals with dementia should comfortably continue to live, shop, worship, travel, volunteer, and engage with their communities over the course of an illness that can span a decade.

CAT presentations are designed with modules for employees and volunteers at businesses, faith-based communities and social service/civic organizations. The one-hour training offers practical tips and strategies to provide better service and support for persons with dementia and caregivers. The goal is to increase awareness of dementia and highlight communication techniques, physical space considerations and the importance of support for caregivers.

Mr. Bolsinger acknowledges how continuing to go to a restaurant benefited him by getting out of the house, interacting with others, as well as getting a night off from cooking: "The staff learned how to make Martie feel special and make her smile by saying simple things like 'that is a great choice' or 'that is one of my favorites, too.' That made me smile as her husband and caregiver."

As part of the dementia friendly training, attendees receive a participant guide, which helps organizations follow up on areas important to them. For example, McCarran Airport participants expressed



an interest in understanding how to better serve the thousands of passengers with dementia who use the airport annually.

Following a presentation at New Song Lutheran Church, Optics Senior Ministry is exploring how to create a more friendly physical space for congregants with dementia. They also hosted an education session to learn about normal aging, dementia and actions to improve brain health.

Patty Duffey, Ministry Leader at New Song, explains, "A large number of seniors attend our church, and we know there are some who have been diagnosed with dementia. We appreciate the partnership with the Cleveland Clinic Lou Ruvo Center for Brain Health so we can keep our doors open to all who want to nourish their souls."



Community Awareness Training is free of charge through Dementia Friendly Southern Nevada, an education and advocacy group convened by the Lou Ruvo Center for Brain Health. Trainers will come to your location. To schedule a presentation, contact Susan Hirsch, LCSW: hirschs@ccf.org or 702.701.7940.

Recognized for Excellence

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

We celebrate these accomplishments.

Magna Cum Laude

Merit Award - Oral Presentation

(The International Society for Magnetic Resonance in Medicine, June 2019)

Xiaowei Zhuang

Health Advocate Award -

Community Citizen Category

(Community Partners for Better Health, May 2019)

Kat Hartley

Employee of the Year

(Cleveland Clinic Lou Ruvo Center for Brain Health, April 2019)

Shaina Meyer, OTR/L

Neurologic Music Therapy Fellow

(Robert F. Unkafer Academy for Neurologic Music Therapy, March 2019)

Becky Wellman, PhD

Annual Fund Grant for research:

The Influence of Amyloid on Cognition

(Cleveland Clinic Philanthropy Institute, January 2019)

Aaron Ritter, MD

Gold Telly Award for Best

Original Documentary

(Telly Awards, 2019)

The Power of Love: The Story of Lou Ruvo and Cleveland Clinic Lou Ruvo Center for Brain Health
(produced by Vegas PBS)

President-Elect

(Western Region of the American Music Therapy Association, 2019)

Becky Wellman, PhD

Co-Chair, Abstract Review Committee;

Member, Board of Governors

(Consortium of Multiple Sclerosis Centers, 2019)

Carrie Hersh, DO, MSc

Healthcare Provider Council

(National Multiple Sclerosis Society, 2019)

Carrie Hersh, DO, MSc, Chair

Shaina Meyer, OTR/L, MSCS, Member



2019 Health Care Headliners – Research/Science category

(VegasINC, April 2019)

Jessica ZK Caldwell, PhD, ABPP/CN

Board Certification earned

(American Academy of Clinical Neuropsychology, April 2019)

Jessica ZK Caldwell, PhD, ABPP/CN



Karthik Sreenivasan



Zhengshi Yang

2019 KEEP MEMORY ALIVE SCHOLARS

The 2019 Keep Memory Alive Scholar grant application garnered several submissions representing the breadth of disciplines studied at the Lou Ruvo Center for Brain Health. After rigorous peer review, awards were made to **Karthik Sreenivasan** (*Project: Novel Imaging Biomarker for MS using Multi-Modal MRI*) and **Zhengshi Yang** (*Project: Detecting memory activation difference in hippocampal subfields between subjects at risk for Alzheimer's disease and normal controls*).

The Keep Memory Alive Scholar program is funded through generous support from donors. If you would like to support the advancement of science at our center, contact DonateNevada@ccf.org or 702.263.9797.



2019-20 U.S. NEWS & WORLD REPORT BEST HOSPITALS RANKINGS

Cleveland Clinic heart care is ranked No. 1 for the 25th consecutive year — a remarkable accomplishment.

For the past 21 years, Cleveland Clinic has been ranked among the top five hospitals in the nation. This year we're ranked No. 4 on the Honor Roll.

Specialty rank (out of 4,500 hospitals nationally):

- Cardiology & Heart Surgery - No. 1
- Rheumatology - No. 2
- Gynecology - No. 3
- Gastroenterology & GI Surgery - No. 4
- Nephrology - No. 4
- Urology - No. 4 (Tie)
- Cancer - No. 6
- Pulmonology & Lung Surgery - No. 7
- Geriatrics - No. 8
- **Neurology & Neurosurgery - No. 10**
- Ophthalmology - No. 10
- Psychiatry - No. 11
- Diabetes & Endocrinology - No. 13
- Orthopedics - No. 17
- Ear, Nose & Throat - No. 27

"We're grateful for the confidence placed in our care and the generous support invested in our work. As we look to the future, our goal for Cleveland Clinic is simple. We will be the best place for healthcare anywhere and the best place to work," says Tomislav Mihaljevic, MD, CEO and President, Cleveland Clinic.

More information about the 2019-20 rankings is online at clevelandclinic.org/usnews



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



Cleveland Clinic
Nevada

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Two Great Ways to Toast to Better Brain Health

**WOLFGANG PUCK AND DIANE KEATON
WINES BENEFIT KEEP MEMORY ALIVE**

Actress Diane Keaton and Chef Wolfgang Puck know firsthand what it's like for family members of those suffering from the brain diseases treated at Cleveland Clinic Lou Ruvo Center for Brain Health. So, when each launched a wine collection, donating a portion of the proceeds to Keep Memory Alive was a brain-wise, heartfelt decision.

- Look for The Keaton and Wolfgang Puck wines at your local wine retailer, and thank you for your support.



Keep Memory
Alive Chairman
& Founder
Larry Ruvo with
Wolfgang Puck