

NEW THINKING ABOUT THINKING

| SPRING 2025 |

**POWER
OF LOVE**

GALA
2.22.25

BENEFITING
CLEVELAND CLINIC LOU RUVO CENTER FOR BRAIN HEALTH



DIRECTOR'S MESSAGE

During our first 15 years, we have introduced many first-in-the-nation neurological programs, and in 2025 we will expand Cleveland Clinic's footprint in Nevada beyond brain medicine (see page 5).

In September 2024, our Cleveland Clinic team contributed to the publication of new criteria for diagnosing multiple sclerosis (MS), opening the door for doctors around the world to know sooner and with certainty how to treat MS in the unique individual in front of them. Now, MS can be diagnosed even in asymptomatic patients (see page 7).

With disease-modifying therapies available and more on the horizon, there's a real opportunity to slow the progress of neurological disease, but diagnostic precision is more important than ever before since newer treatments have narrowly focused targets (see page 13).

Accurate, nuanced diagnosis also presents an opportunity to participate in research alongside other "citizen scientists" who collaborate with us to learn more about the brain (see page 11).

As a physician, I encourage my patients and colleagues alike to avoid "doctor-centricity"—the mistaken belief that a doctor is the answer to everything that ails you. In fact, in the minutes a year I spend with each patient, I can't single-handedly give that person — or their care partners — all the support they need to sustain their plan of care year-round.

That's why Cleveland Clinic Lou Ruvo Center for Brain Health has an array of professionals who work together to help families achieve their goals for maximizing quality of life: a neurorehabilitation team (see page 21), our Angie Ruvo Endowed Caregiving Chair (see page 15), the multidisciplinary team in our ataxia comprehensive clinic (see page 27), and health education professionals who can share strategies for reducing risk (see page 20) and warning signs to watch out for (see page 28).

As a nonprofit, much of what we're able to do for patients and their care partners is made possible by philanthropy. Sometimes, it goes full-circle, with grateful individuals giving in honor of the care they or a loved one have received (see page 17). Others will join us at our Power of Love® gala on February 22, 2025.

With your help, we will disrupt neurological diseases, saving and changing lives for generations to come.

Thank you.

DYLAN WINT, MD, FAAN

Medical Director

*Camille and Larry Ruvo
Chair for Brain Health*

Director, Education

*Las Vegas Legacy
Chair for Neuroscience
Education*

Cleveland Clinic Nevada



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NEW THINKING ABOUT THINKING



702.483.6000 | clevelandclinic.org/Nevada

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

- | | | |
|-------------------------|--------------------------|---------------------|
| ALZHEIMER’S DISEASE | HUNTINGTON’S DISEASE | MULTIPLE SCLEROSIS |
| FRONTOTEMPORAL DEMENTIA | PARKINSON’S DISEASE | AND NEUROIMMUNOLOGY |
| LEWY BODY DEMENTIA | ATAXIA AND | |
| AND OTHER DEMENTIAS | OTHER MOVEMENT DISORDERS | |

JOIN US for a Powerful Night for Patients

On Saturday, February 22, 2025, friends old and new will gather at the MGM Grand in Las Vegas for the 28th annual Power of Love® gala. We encourage you to join us! Funds raised at this one-of-a-kind dining and entertainment experience will benefit ongoing research, care partner education and patient care at Cleveland Clinic Lou Ruvo Center for Brain Health.

POWERFUL PERFORMANCES, PURPOSEFUL PURCHASES

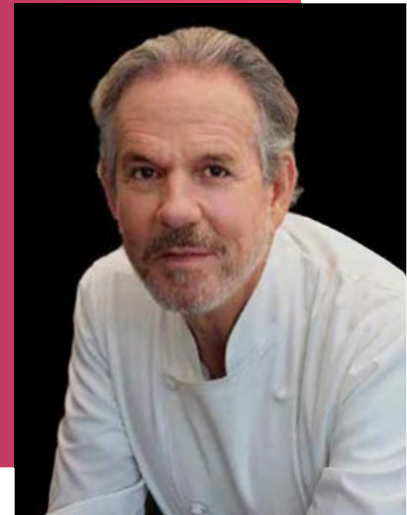
Our highly anticipated evening of friendship and philanthropy will feature performances from notable artists, as well as live and silent auctions with truly priceless products and experiences, many of which are available only at the Power of Love.

CULINARY CRESCENDO

Our friends Chef Wolfgang Puck of the famed Spago and Chef Thomas Keller of the French Laundry will take your palate on an unforgettable culinary journey. Each course will be expertly paired with wines chosen by master sommeliers from Southern Glazer's Wine, Spirits and Beer of Nevada. To top off this extraordinary dining experience, the MGM Grand pastry team will prepare Instagram-worthy desserts.



^ Chef Wolfgang Puck



^ Chef Thomas Keller

FEATURING 2025 POWER OF LOVE GALA HONOREE

Jimmy Kimmel, Emmy® Award-winning late-night talk show host and Las Vegas' own

PRESENTING LOVEE AND BOB ARUM WITH THE KEEP MEMORY ALIVE COMMUNITY LEADERSHIP AWARD

The Arums' Top Rank, Inc. is a family affair and has been the architect of boxing's global growth by staging high-profile events in landmark settings around the world. "Top Rank" also aptly describes the stature of Lovee and Bob Arum as champions in our community (see page 25).



^ Jimmy Kimmel



^ Bob and Lovee Arum

POWER OF LOVE

GALA

SUPPORTING
KEEP MEMORY ALIVE



&

 Cleveland Clinic

JOIN US ON
SATURDAY, FEBRUARY 22

You are the power behind our promise to families and to our community.

We encourage you to buy a seat, table or ad in our event program, as well as bid on auction items. Every investment makes a big impact on our ability to sustain the Lou Ruvo Center for Brain Health's important work. The not-to-be-missed Power of Love will sell out.

Get your tickets today:
keepmemoryalive.org/POLnt
or 702.263.9797

If you're not receiving our monthly events update via email, sign up at clevelandclinic.org/NVnews.

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SOUTHERN GLAZER'S
WINE, SPIRITS & BEER
OF NEVADA

∨ Quincy Jones (left) with Sir Michael Caine



SUPPORTING THE BRAIN WITH ALL HIS HEART: Remembering Quincy Jones, Our 2013 Honoree

"Celestial twins" born minutes apart on March 14, 1933 — Quincy Jones in Chicago and Sir Michael Caine in London — the pair celebrated their 80th birthday in legendary Vegas style at our April 13, 2013 Power of Love® gala.

The stars came out that night, with memorable moments including Bono belting out a Frank Sinatra tune and Whoopi Goldberg sharing nostalgic remarks about the guests of honor. To close the festivities, Stevie Wonder led attendees in singing "Happy Birthday" followed by an awe-inspiring performance of "We Are the World" from the entire celebrity lineup.

Quincy Jones' career encompassed the roles of composer, record producer, artist, film producer, arranger, conductor, instrumentalist, television producer, record company executive, magazine founder and multimedia entrepreneur. Named by *Time* magazine as one of the most influential jazz musicians of the 20th century, Jones began creating magic in the mid-1950s and continued to revolutionize the music industry and entertainment world until his death on November 3, 2024.

Not only was Jones an artistic and creative force who contributed talent and attended the Power of Love for years after the big birthday bash, but his commitment to Cleveland Clinic Lou Ruvo Center for Brain Health was heartfelt.

"Maybe it's because Camille and I first met Quincy Jones while on our honeymoon on the Amalfi Coast, but love was a shared theme, and he really loved our mission and inspired his connections throughout the music world to support the Power of Love gala year after year," says Larry Ruvo, Co-Founder and Chairman, Keep Memory Alive.



^ Bono with Quincy Jones at the 2013 Power of Love

Expanding Healthcare IN NEVADA

On October 21, 2024, Larry Ruvo, co-founder and chairman of Keep Memory Alive, welcomed Cleveland Clinic Lou Ruvo Center for Brain Health supporters to a “two act play. I’ll share the opening act. I’ll tell you our history, what we’ve achieved since opening in 2009, and Dr. Mihaljevic will tell you where we’re going.”

Ruvo explained that Cleveland Clinic came to Las Vegas to help fulfill a vision he and his wife, Camille, had to build a multidisciplinary center focused on the research, treatment and education of brain diseases so that Nevadans would no longer have to leave the state for medical answers or ongoing care and support.

“Now, 15 years later, I could never have imagined the impact the Lou Ruvo Center for Brain Health would have in bringing several first-of-its-kind programs not just to Nevada, but the nation,” he said.

Among those programs:

- Partnering with Maria Shriver to open The Women’s Alzheimer’s Movement Prevention and Research Center.
- Enrolling more than 900 active and retired athletes into the Professional Athletes Brain Health Study examining the effects of repetitive head impacts.
- Tailoring support programming for unpaid family caregivers through the Angie Ruvo Endowed Caregiving Chair.

Then, Tom Mihaljevic, MD, Cleveland Clinic CEO and President and Morton L. Mandel CEO Chair of Cleveland Clinic, shared a long-awaited announcement: plans to expand care in Nevada through the addition of concierge medicine in

late 2025 and executive health practices in 2026 (see sidebar).

Cleveland Clinic is a globally integrated healthcare system that cares for patients at nearly 300 locations on three continents. “As one of the world’s top hospitals, it is our moral obligation to grow, to extend Cleveland Clinic care to as many people as possible,” said Dr. Mihaljevic. “Our success as an organization is measured by the number of lives we touch and the amount of suffering we relieve.”



^ Dr. Tom Mihaljevic congratulates Larry Ruvo on the center’s first 15 years

ABOUT CONCIERGE MEDICINE AND EXECUTIVE HEALTH

Cleveland Clinic concierge medicine offers a highly personalized health assessment and ongoing primary care, notably:

- Physician communication available 24 hours a day, including personalized support during medical emergencies.
- More focused time with physicians than traditional primary care appointments.
- Personalized treatment plans based on medical history and lifestyle.
- Connection to top specialists in the Las Vegas community and throughout the Cleveland Clinic health system, with coordinated care managed by a concierge primary care physician.

Cleveland Clinic executive health combines world-class medical, wellness and preventive services through a comprehensive assessment. Its aim is to:

- Discover potential health problems.
- Target, reduce and eliminate medical risk factors.
- Promote wellness.

This integrated and collaborative head-to-toe evaluation includes a

✓ A rendering of the lobby inside Cleveland Clinic's concierge medicine practice inside Evora in the southwest part of the Las Vegas Valley. Image credit: Bostwick Design Partnership

physician, nurse, dietitian, exercise physiologist and psychologist. Patients leave the full-day appointment with an understanding of the status of their overall health and a personalized health report with recommendations to lead a healthier life.

Membership for concierge medicine and appointments for executive health are not yet available. Those interested in learning more or being added to the wait list can email ConciergeMedicineNV@ccf.org.



LARRY RUVO: THE KEY TO EXPANDING HEALTHCARE IN HIS HOMETOWN

On October 2, 2024, Larry Ruvo was honored by Las Vegas Mayor Carolyn Goodman during a Las Vegas City Council meeting. She proclaimed it Larry W. Ruvo Day and presented him with a key to the city of Las Vegas.

Later that day, United States Senator Jacky Rosen (Nevada) stopped by the Lou Ruvo Center for Brain Health to recognize Larry Ruvo. “Thank you for your immense efforts in Nevada,” said Sen. Rosen. “Your long history of philanthropy, particularly bringing Cleveland Clinic Lou Ruvo Center for Brain Health to downtown Las Vegas, has significantly impacted Nevada and the world. I commend your dedication to finding solutions for those with brain disease and supporting their families.”



REVISION TO MULTIPLE SCLEROSIS CRITERIA Will Accelerate Accurate Diagnosis

According to the National Multiple Sclerosis Society, nearly 1 million people in the United States are living with multiple sclerosis (MS), an autoimmune disease impacting the central nervous system.

MS can be challenging to diagnose due to its varied presentations and similarity to other neurological conditions. On average, it takes about two years from the onset of symptoms for an individual to receive a diagnosis, and misdiagnosis occurs in approximately 20% of cases.

“This delay in accurate diagnosis has negative implications as research shows that early use of a highly effective treatment reduces overall risk of disability and improves clinical outcomes,” says Daniel Ontaneda, MD, PhD, a neurologist with Cleveland Clinic’s Mellen Center for Multiple Sclerosis Treatment and Research in Cleveland. “MS specialists want treatment to begin as soon as possible and are constantly looking for ways to improve our ability to diagnose early and accurately.”

In individuals with MS, the immune system mistakenly attacks specific cells in the brain and spinal cord, which causes damage that interrupts messages sent throughout the body to perform functions such as vision, sensation and movement. As a result, MS symptoms can include muscle weakness, vision changes, numbness and memory issues.

The McDonald criteria — the current gold standard for diagnosing MS — has historically relied on evaluation of clinical symptoms alongside imaging and other tests (eye imaging, spinal fluid analysis, electrical studies). However, it had limitations in its ability to render an accurate and timely diagnosis.

DIAGNOSING MS IN ASYMPTOMATIC INDIVIDUALS

To make the diagnosis of MS simpler and more accurate, clinicians from around the world collaborated to revise the criteria, and at the 40th Congress of the European Committee for Treatment and Research of Multiple Sclerosis (ECTRIMS) in Copenhagen, Denmark, in September 2024, they announced the first significant revision to the McDonald criteria since 2017.

Previously, individuals who did not have symptoms but had white matter lesions present on their brain — a hallmark of MS — were diagnosed with radiologically-isolated syndrome, thought to be an early form of the disease, but typically did not start treatment. Now, with the new criteria, MS can be diagnosed in asymptomatic individuals.



^ Dr. Daniel Ontaneda

“Essentially, the new criteria say that if certain conditions are present, we no longer have to wait for clinical symptoms to occur or for new MRI lesions to be present to confirm it is MS, effectively moving up the timeline for diagnosis. This is a significant advancement and will change the way we treat MS,”

– Daniel Ontaneda, MD, PhD

[Continue the story online: clevelandclinic.org/MScriteriaNTAT](https://clevelandclinic.org/MScriteriaNTAT)



HOW AN EARLIER DIAGNOSIS IMPACTS TREATMENT

The ability to diagnose asymptomatic individuals raises questions about whether the use of medications already approved for the treatment of MS should now be used in this patient population. While these individuals have not been studied across all the medications currently approved, regulators will have to decide whether to now include them or not.

It will take time to determine this potential change in treatment and for clinicians to adopt the revised criteria in clinical practice, but it represents an important step forward in MS care.

There are more than 20 disease-modifying therapies approved to manage symptoms and slow disease progression, and this update will potentially help those living with MS get access to them sooner.

Request an appointment at the Mellen Program for MS in Las Vegas: clevelandclinic.org/NevadaMS or 702.483.6000.

OTHER INTERVENTIONS YOU CAN DO AT HOME

To further improve overall health and wellness in MS, drug treatments can be complemented by non-pharmacological interventions including nutrition, exercise and management of mental health.

+ Continue the story online: health.clevelandclinic.org/multiple-sclerosis-diet

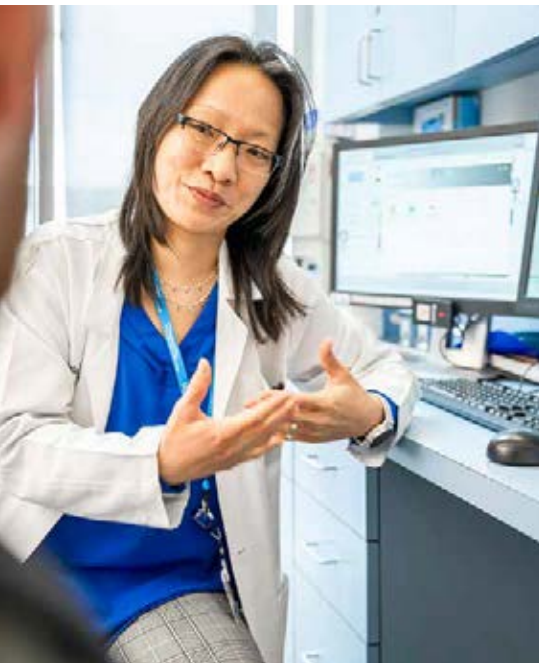
WHAT HAPPENS IN VEGAS IMPACTS MS CARE WORLDWIDE

Specialists from the Lou Ruvo Center Share Expertise in Publications and at Conferences

Multiple sclerosis specialists at Cleveland Clinic Lou Ruvo Center for Brain Health in Las Vegas continue to shape thought leadership that impacts patient care and research. Recently, two physicians and a nurse practitioner imparted insight on diagnosing and categorizing multiple sclerosis patients, as well as understanding brain health in the disease, in peer-reviewed journals and at an international conference.

PROVIDING GUIDANCE ON DIAGNOSING MS IN PATIENTS UNDER 18 AND OVER 50

Approximately 85% of cases of multiple sclerosis (MS) initially present in patients between 18 and 50 years old. Guidelines for diagnosis and management have been designed primarily for this age range, and little has been published on patients who fall outside it: pediatric patients (about 2%-10% of cases) and individuals older than 50 (about 5% of cases).



^ Dr. Le Hua

Le Hua, MD, Director of the MS Program at Cleveland Clinic Lou Ruvo Center for Brain Health in Las Vegas, led an international committee to provide guidance on diagnosing MS in pediatric and older populations. The committee's findings were recently published in *JAMA Neurology*.

"It's critical to diagnose MS accurately for individuals of all ages, but this is especially true for these groups," she says.

For children, delaying an MS diagnosis can lead to a missed opportunity to address the disease early with disease-modifying therapies (DMTs) to help postpone disability progression from overt inflammatory activity. For older patients, adverse side effects of MS drugs may outweigh the benefits even if the diagnosis is accurate. Therefore, it's particularly important not to prescribe the medications inappropriately, especially as DMTs have not been shown to be efficacious in nonrelapsing progression, which is reflective of the changing biological processes with age that become more prominent after age 50.

"Helping clinicians in the community establish an accurate diagnosis drove the efforts of our committee," says Dr. Hua.

∨ Dr. Carrie Hersh



CATEGORIZING MS BY UNDERLYING DISEASE MECHANISMS CAN ADVANCE RESEARCH AND CARE

Carrie M. Hersh, DO, MSc, Neuroimmunologist and Director of the MS Health and Wellness Program in Las Vegas, recently published a call to rethink how MS is described, advocating for a focus on intrinsic biology rather than the phenotypic or clinically observable types

 Continue the story online: clevelandclinic.org/consultQD1850

of MS. The review appeared in *Current Opinion in Neurology* and was presented to an international audience at the September 2024 ECTRIMS meeting in Copenhagen, Denmark.

“It is clear we need to move to a personalized medicine approach in which we target therapy to a patient’s specific underlying disease processes, what we term their ‘ground truth,’” Dr. Hersh says.

The review explains that MS is a disease continuum and understanding the underlying pathology and clinical composition of the disease will help drive personalized treatment and future neurotherapeutics. This nuanced understanding of MS will better serve patients compared to thinking of the disease simply through their observable descriptors, such as relapsing-remitting MS or secondary progressive MS.

According to Dr. Hersh, “These descriptors have traditionally been used for clinical trial enrollment, regulatory approval of drugs and communication to patients and care partners when describing their disease course. While they have their role, there are deeper pathologies driving disease that deserve our consideration when thinking about and treating MS. My hope is that this paper will inspire more focus on the drivers of disability progression and delivery of individualized care for people with MS around the world.”

SPREADING EVIDENCE OF THE IMPACT OF BRAIN HEALTH IN MS

“By building an understanding of brain health in multiple sclerosis, nurses can provide a more comprehensive care approach, educating and empowering patients to take an active role in managing their condition,” says Erin Wilkinson, MSN, APRN, FNP-BC, MSCN, a nurse practitioner on the multiple sclerosis (MS) care team at Cleveland Clinic Lou Ruvo Center for Brain Health.

Wilkinson was the only presenter from the United States to deliver a workshop alongside five other nurse practitioners from around the world with the International Organization of Multiple Sclerosis Nurses at the ECTRIMS conference in September 2024. She focused on cognitive reserve and cognitive function, neuroplasticity, cognitive function, screening tools used in MS and healthy lifestyle.

“As front-line caregivers, nurses are uniquely positioned to directly influence patient outcomes by providing strategies to promote a brain-healthy lifestyle, including managing co-morbidities to enhance overall quality of life,” she says. “It was such an honor to contribute to the evolving landscape in MS.”

∨ Erin Wilkinson presenting at ECTRIMS



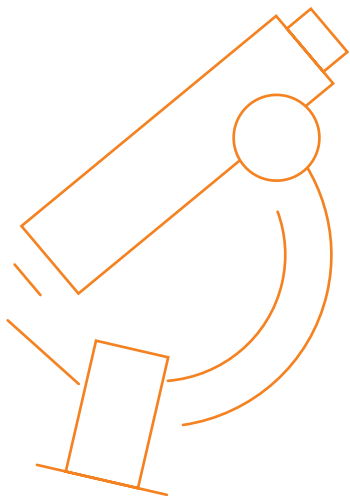
+ Continue the story online: clevelandclinic.org/consultQDcategorizingMS

MOVEMENT SPECIALISTS INFLUENCE APPROACHES TO CARE, Expand Knowledge via Research

Fellowship trained movement disorders specialists like those at Cleveland Clinic are considering ways to supplement the shortage of specialized neurologists nationwide. One approach is offering practical tools for patient care that can be used by general neurologists and medical providers from urban cores to rural neurology deserts.



^ Dr. Zoltan Mari



Learn more about research at clevelandclinic.org/NevadaResearch or 702.701.7944. Information on movement disorders we treat is at clevelandclinic.org/NevadaMovement.

NEW ALGORITHM EXTENDS SPECIALTY EXPERTISE

The Cleveland Clinic Nevada team contributed to development of a new diagnostic algorithm for general neurologists that can help them distinguish among atypical parkinsonian disorders (APDs).

The practical and easy-to-use tool is described in a consensus statement from the CurePSP Center of Care Network that was published in *Neurology Clinical Practice* in August 2024.

“Among the more than 64 APDs, the focus of the tools is on progressive supranuclear palsy and Lewy body dementia, because they’re the two most common APDs, easiest to diagnose and we don’t want clinicians to miss them,” says Zoltan Mari, MD, director of the movement disorders program at Cleveland Clinic Nevada.

Cleveland Clinic Nevada is a Parkinson’s Foundation Center of Excellence and one of only 32 centers in the United States to have earned the CurePSP Center of Care designation. CurePSP is a nonprofit organization dedicated to state-of-the-art care for progressive supranuclear palsy (PSP), corticobasal degeneration (CBD) and multiple system atrophy (MSA).

ASSESSING THE NEED



The need for the algorithm was underscored by an online community survey that CurePSP conducted in 2022. The respondents — 234 patients and care partners with APDs — said they believed the two most important barriers to high-quality care were clinician lack of familiarity with the disorders and delays in diagnosis.

“Many patients with APDs have symptoms for years before their specific disorder is identified,” says Dr. Mari, “and these conditions progress rapidly, so getting an accurate diagnosis and appropriate treatment early is crucial to better outcomes.”

In addition, there are no diagnostic criteria for some APDs, subspecialty experience often is needed to implement the criteria that do exist and competing diagnoses must be ruled out with little guidance about how to do that.

EXPERT INTERVENTION

The new algorithm is based on criteria commonly employed in research studies of APDs and used in practice at Cleveland Clinic. It emphasizes the iterative nature of diagnosis. At any point in using the tool, the work group encourages general neurologists to make referrals to a specialized movement disorders center if they believe that would be in a patient’s best interests.

-  Continue the story online: clevelandclinic.org/consultQDatpd
-  Listen in: clevelandclinic.org/podcastATPD

Specialized neurologists drive new approaches to patient care by serving as principal investigators of study sites for clinical research, but they need help from “citizen scientists” to help advance understanding of the brain.

LEARNS OBSERVATIONAL STUDY FOR PARKINSON’S

“Care needs don’t emerge in six-month intervals when patients are in front of us,” says Dr. Mari, principal investigator of LEARNS, an observational study that aims to help movement disorders specialists learn more about Parkinson’s disease (PD) not just in the moment when the patient is with them but by collecting data over a 13-month period. “Changes can be captured on a daily basis.”

LEARNS participants receive a special smart watch that monitors physical activity and vital signs over time, uploading data to a smart phone and tablet that will be aggregated with data

collected from study participants across the country. Additionally, each participant uses the devices provided by the study to complete questionnaires from the comfort of home.

Ongoing monitoring via technology is supplemented by seven study visits, during which participants will help scientists learn about their brain via a physical exam, walking, balance and cognitive assessments, and lab work. Additionally, there is a sleep study.

There is no drug treatment intervention.

Terrilee Pickens says she chose to participate in LEARNS to “help others so we can all live better with

Parkinson’s disease.” A retired elementary school physical education teacher, Pickens, who exercises daily and maintains a healthy diet, says she hopes the study “might help me with ways to manage Parkinson’s beyond exercise and nutrition.”

“We’ve never done such an in-depth, real-world study,” says Dr. Mari. “Through studies such as LEARNS, we hope to show patients and providers alike that technology can enhance care by providing ongoing evidence of subtle changes in an individual’s condition and enhanced compliance with their plan of care.”

ORION STUDY FOR PSP

Odinachi Oguh, MD, serves as principal investigator of the ORION study, which is looking for individuals who began experiencing symptoms from progressive supranuclear palsy (PSP) within the last five years.

PSP affects nerve cells in the brain and spinal cord, causing loss of muscle control and neurological issues. To date, there are no approved treatments for PSP. The purpose of the ORION study is to determine how safe, tolerable and effective the investigational drug AMX0035 is for the treatment of PSP and to determine if it can slow disease progression.

In addition to receiving the investigational oral medicine, study participants will receive a neurological exam, blood draw, lumbar puncture, MRI and electrocardiogram (ECG).

Dr. Oguh explains that the drug is currently used to treat ALS, which has a similar pathology to PSP. “We’re hoping that during the 52-week duration of the study, we may observe this repurposed drug treatment reduce both the progression of PSP and also some of the symptomatic effects such as falls and postural instability, or perhaps speech and swallowing challenges.”



^ Dr. Odinachi Oguh

ALZHEIMER'S DISEASE RESEARCH: STARTing to Diversify Approaches to Amyloid

Recreational pilots Susan and Bill Newton met at an airport near home in Pennsylvania and have spent as much time as possible in the air. Since retiring, when not traveling they have divided their time between “the great flying weather” in Palm Springs, California, and Las Vegas, where they enjoy yardwork and nature walks at nearby state and national parks.

“We eat clean and keep an eye on our health,” says Susan, so when she noticed Bill was starting to forget things, they investigated and found out he has two copies of the APOE-4 gene, a hallmark of Alzheimer’s disease (AD), the type of dementia the couple suspect his mom had. They had read about Cleveland Clinic Lou Ruvo Center for Brain Health and decided that clinical trials might be a good way to learn more about Bill’s memory changes.

In September 2024, Bill enrolled in the Synaptic Therapy Alzheimer’s Research Trial (START), a Phase 2 study in early Alzheimer’s disease in collaboration with the Alzheimer’s Clinical Trials Consortium and Cognition Therapeutics. The study is testing an investigational treatment to see if it can help slow memory loss caused by AD.

Charles Bernick, MD, principal investigator at the Lou Ruvo Center for Brain Health, says, “Alzheimer’s is a complicated disease, and it’s unlikely one strategy will be the answer. We need multiple targets or mechanisms of action and START is an important step in that direction.”

“To date, the most successful studies have been those that remove amyloid from the brain; there is, however, a potential for adverse reactions such as brain swelling or leaking blood vessels with these agents. Because not everyone is a candidate for anti-amyloid therapy, START takes a different approach,” Dr. Bernick says. “The experimental



^ Susan and Bill Newton

oral treatment hopes to protect cells by keeping amyloid, a destructive protein, from attaching to them in the first place, rather than removing it after the fact as anti-amyloid treatments strive to do.”

Notably, START Study participants can continue anti-amyloid therapy (donanemab or lecanemab), or symptom management treatments such as memantine, or cholinesterase inhibitors such as donepezil or rivastigmine.

START participants receive a PET scan to assess the presence of amyloid, a biomarker of AD. Study visits include blood tests, memory assessments and a neurological exam.

With a family history of Alzheimer’s, Bill has witnessed the impact of the disease and hopes that by participating in START he can “help scientists come up with some solutions to combat it.”

“You’re doing something for humanity,” Susan says. “They’re obviously gathering data to use for good. It creates hope for the future. This drives us to participate.”

You can help us learn more about the difference between normal and abnormal brain aging. Learn more about research participation at clevelandclinic.org/NevadaResearch or contact us at 702.701.7944.

Chronic stress, asymptomatic disease affect brains differently

BRAIN RESEARCH FINDS NOTABLE DIFFERENCES IN CHANGES BASED ON SEX AND RACE

Jessica Caldwell, PhD, E. L. Wiegand Chair and Director of the Women's Alzheimer's Movement (WAM) Prevention and Research Center at Cleveland Clinic Lou Ruvo Center for Brain Health, led a team that presented two pieces of research at the 2024 Alzheimer's Association International Conference in July. Their work analyzed data from the Health & Aging Brain Study — Health Disparities, a comprehensive study of Alzheimer's among diverse communities.



^ Dr. Jessica Caldwell



^ Dr. Taylor Levine

An overwhelming majority of research on Alzheimer's to date has been done in non-Hispanic white populations. The Health & Aging Brain Study — Health Disparities, as well as the two studies conducted by the WAM Prevention and Research Center using its data, highlight the need for a fuller understanding of how race and sex influence the condition.

Here is a look at one of the center's analyses.

HIPPOCAMPAL VOLUME AND CORTICAL THICKNESS ALONG THE ALZHEIMER'S CONTINUUM

Previous research including mainly white cohorts suggests a female-specific, time-limited resilience in cortical

thickness and possibly hippocampal volume in the presence of amyloid plaque, a biomarker or indicator of Alzheimer's disease.

The purpose of the new analysis was to incorporate ethnic diversity across Hispanic, non-Hispanic white and African American men and women.

Why is maintaining hippocampal volume important?

The hippocampus is the region of the brain responsible for learning and memory. Those tasks are compromised when disease causes shrinkage or atrophy.

Taylor Levine, PhD, a neuropsychology fellow at the Lou Ruvo Center for Brain Health, says her group expected to see brain resilience among the cognitively normal women across the racial groups and atrophy among the men regardless of disease stage.

"In the non-Hispanic white female cohort, we did replicate previous findings of hippocampal volume reserve that we've seen in these other samples," says Dr. Levine. "But when we looked at hippocampal volume in the African American sample, we saw the opposite effect, where men had reserve, but women didn't. So, the sex effect was completely opposite of what we expected."

Dr. Levine adds that the results reinforce that "we don't exist in a vacuum, and that there are a lot of other things that might affect brain volume. This highlights the work that needs to be done to provide the best care for the broad population that comes into our clinics."

RESEARCH + CLINICAL PROGRAMS = GREATER UNDERSTANDING OF WOMEN

Women and gender diverse individuals who are patients at the WAM Prevention and Research Center at Cleveland Clinic in Las Vegas can choose to participate in research to help enhance understanding of sex- and race-based differences in Alzheimer's disease. Learn more: clevelandclinic.org/WAMprevention.



+ Continue the story online: For more information on both studies conducted by the WAM Prevention and Research Center, visit clevelandclinic.org/consultQDLevCald

GIFTING THE CAREGIVER

How Family and Friends Can Use Their Time, Skills or Purchasing Power to Help Reduce Caregiver Burden

According to data from Cleveland Clinic and Parade Media, 36% of family caregivers suffer from depression and anxiety. In addition, 56% of caregivers say it's unrealistic for them to take a day off — even though 70% agree they need regular mental and emotional health breaks.

Family and friends often tell caregivers, “Let me know if you need help.” But some people are uncomfortable asking for assistance — or aren't even sure what to ask for.

“It can be difficult to ask for help. Yet research shows we enjoy helping other people so much that it's believed to be a hardwired desire in all of us,” says Lucille Carriere, PhD, Angie Ruvo Endowed Caregiving Chair at Cleveland Clinic Lou Ruvo Center for Brain Health in Las Vegas.

∨ Roundtable brainstorm with family caregivers



INTRODUCING THE CAREGIVER GIFT GUIDE:

Real gift ideas from real caregivers

We've created a Caregiver Gift Guide with more than 50 ideas for tangible gifts, as well as gifts of skills and time, to help alleviate caregiver stress.

The ideas were generated during a roundtable session, where caregivers to people living with degenerative neurological conditions discussed gifts they have received to help reduce the burden of caregiving — as well as those they've wished for.

Consider sharing this guide with friends and family when they ask, “How can I help?” The ideas make great gifts for birthdays, holidays and “just because.”

Download a free copy of the guide:
clevelandclinic.org/CaregiverGuide

MAKE YOUR LIST

If you're a caregiver, it's time to put your wish list down on paper. Next time someone offers to lend a hand, you'll be ready with specific ways to take them up on that well-intentioned offer.



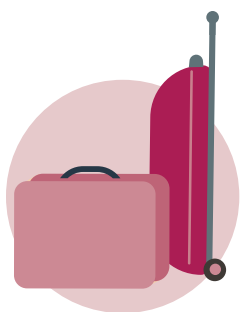
WHAT'S IN THE GUIDE?

You'll find gift ideas addressing the following:



SELF-CARE

"I often find that caregivers have to give themselves permission to take time for self-care activities," says Dr. Carriere. "It takes practice, but with time becomes more comfortable and part of their daily routines."



RESPIRE

How do you know when it's time to take a break? Aside from feeling physical exhaustion, there's also mental exhaustion or brain fog. "If you find your patience is wearing thin, your tolerance for stress lower than usual and you're having trouble focusing on simple tasks, it's time to finagle a little time away from your care recipient," says Dr. Carriere. "And that break is called respite."



PLANNING THAT BREAK

As a caregiver, your ability to take time off hinges upon identifying a safe, acceptable plan of care for your loved one while you're enjoying your break.

"Yet," says Dr. Carriere, "the greatest barriers to friends and family stepping in to care for your loved one can be their fear they will 'do something wrong' that would agitate or harm the care recipient, or simply just not knowing how to interact with the person in their current condition."



HELP WITH HOUSEHOLD CHORES

"Caregivers talk about wanting to spend less time doing the mundane, day-to-day tasks of caregiving and more time doing what really matters — making the most of their remaining time with the care recipient by engaging in enriching, meaningful activities," says Dr. Carriere. "I find myself continually brainstorming with caregivers on the best ways to achieve this and promote creative connections with their loved ones."

THE BOTTOM LINE

"Hearing 'Don't worry. I've got this' from a friend or family member is music to a caregiver's ears and can put some pep back in a caregiver's step as they strive to meet the day-to-day demands of their 24/7 unpaid avocation," says Dr. Carriere.

"As the primary caregiver to my mother who had Lewy body dementia, I remember wishing friends and family would step in and help more frequently, and in more meaningful ways. I'm hoping our gift to support caregiver programming will provide resources to lessen the burden for others."

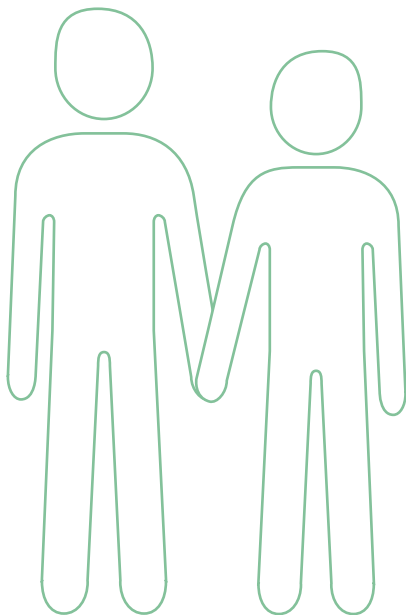
— Sonya Newton

Past Grand Matron, on behalf of the Order of the Eastern Star

GIVING IN HONOR OF CARE

Several Individuals Share Why They Decided to Give

Each donor has a personal reason for supporting Cleveland Clinic Lou Ruvo Center for Brain Health, and many are motivated by the life-changing care they or a loved one received. As a nonprofit healthcare organization, Cleveland Clinic invests gifts of all sizes in providing compassionate care, conducting lifesaving research and educating patients, their families and our community. Contact us to discuss what we can do together: 702.263.9797 or DonateNevada@ccf.org.



✓ Music therapist Julie Renato (right) thanks Alexandra for her gift



AN HOUR OF JOY IN THE MIDST OF LOSS

“Alzheimer’s is such a sorrowful disease. My father knows he’s losing his mind,” says Alexandra, who wishes her donation to remain anonymous. “People ask if he remembers me. The question should be, ‘Does he still smile?’”

Alexandra, who lives in New England, plans her visits to Las Vegas around her father’s music therapy. “Anytime he’s present with us is a joy. And that happens in music therapy,” she says. Alexandra is grateful for the empathy and care provided by music therapist Julie Renato.

During a recent visit, Alexandra watched in wonder as her dad banged drums loudly and another woman started beating back. “He’s a World War II survivor from Germany, and he’s working something out,” Alexandra observed. “And everyone is allowing him to be loud.”

Alexandra supports the music therapy program at the Lou Ruvo Center for Brain Health. “Dad always gave to music in the community,” she says. “You might wonder why a large nonprofit like Cleveland Clinic needs donor support for its music program. But who wouldn’t want to give an hour of joy in the midst of all the loss associated with dementia?”

✓ Jane Harker-Gersten (left) with Nancy Harker



HONORING GRIT AND COURAGE

Nancy Harker has had secondary progressive multiple sclerosis (MS) for more than 25 years. When she moved to Las Vegas in 2019 to be near family, her priority was finding medical care. “The Lou Ruvo Center for Brain Health and Dr. Le Hua were the answer to Nancy’s prayers,” says her sister, Jane Harker-Gersten, who helps coordinate Nancy’s round-the-clock care.

“We appreciate the physical therapists who have been so key in the fight to slow the disease progress, the excellent MS education events and especially Dr. Le Hua, who provides the best care Nancy has ever received.”

When accompanying Nancy to Cleveland Clinic, Jane focused on getting her sister in the door and to her appointment on time. “One day, I noticed the plaques we’d been rushing by and it struck me that Nancy’s name should be among them.”

To recognize Nancy’s courage in living with MS, Jane purchased a plaque on the center’s honor wall in 2022 and presented it to Nancy as a Christmas gift. “Nancy burst into tears when she opened the note, and we all joined her.”

“Our family hopes our gift will enable Dr. Hua to continue to offer special educational programs to benefit patients and families,” she says.

∨ Carole Wightman with Dr. Charles Bernick



ON THE CUTTING EDGE OF THE FUTURE OF MEDICINE

Shortly after Carole Wightman and her late husband, Bert Holleb, moved to Las Vegas, he traveled to Cleveland Clinic's main campus in Ohio for heart surgery.

"The entire experience and level of excellence was what I hoped my hospitals would deliver but never quite achieved," says Carole Wightman, a retired CEO of a California hospital. "When you hear about Cleveland Clinic's research, innovation and respected medical personnel, the choice of facilities is easy."

So when Carole's mother, Pearl Gayeski, was diagnosed with Alzheimer's disease in the Chicago area, it was an easy decision to turn to Cleveland Clinic. Pearl moved to Las Vegas, and Carole transferred her mother's care to Charles Bernick, MD, at the Lou Ruvo Center for Brain Health.

"Among all the physicians I have encountered during my career, Dr. Bernick is the most personable, caring and capable" says Carole. "With his calm manner, he listens to what the patient and caregivers relate to him and is knowledgeable of the latest developments in his specialty."

She has earmarked her gift for Dr. Bernick's Professional Athletes Brain Health Study, and her husband had supported Cleveland Clinic's research in cardiac robotic surgery.

∨ Lynn Parker Gustin



TOP-NOTCH CARE FOR NEUROLOGICAL DISEASES

"When I come to the Cleveland Clinic, I feel as if I'm coming home," says Lynn Parker Gustin, a resident of Las Vegas since 1958. "Cleveland Clinic puts the patient first, and I get answers to my concerns."

Lynn has dystonia and receives a dozen Botox® injections in her neck and shoulders every three months to manage the neurologic disorder. "Dr. Zoltan Mari is so precise and so gentle with that needle," says Lynn. "It's unbelievable."

Despite posture and balance honed during years with Martha Graham's dance company, Lynn, who is now 86 years old and has Parkinson's disease, has fallen many times, resulting in a broken neck. In addition, she watched her sister succumb to amyotrophic lateral sclerosis (ALS). So, contributing to the Lou Ruvo Center's movement disorders program — even with small gifts — is important to Lynn.

"Giving is important, no matter what one can afford, because these neurological diseases are insidious and everyone deserves top-notch care," she says. "Cleveland Clinic is a godsend."

∨ L to R: Jessica and Geoffrey Goodman with Ronnie Goodman



SUPPORTING A TEAM THAT CARES

Ronnie Goodman was diagnosed with Parkinson's disease more than a decade ago, and it's been a journey that requires a team to navigate, says her son Geoffrey Goodman. "Dr. Zoltan Mari, Nurse Practitioner Jenny Nguyen and Nurse Stephanie Giuffre have become an extension of our family's team."

When Ronnie first came to the Lou Ruvo Center for Brain Health, her care team introduced her to newer treatments that have made a greater impact. The team has continued to adjust their approach, educating the Goodman family about the progression of Parkinson's disease and treating Ronnie as a whole person.

"As the population lives longer, the prevalence of Parkinson's disease is on the rise," says Geoffrey. "In Las Vegas, a growing city where healthcare supply hasn't caught up to demand, we need to collaborate to maximize the resources of Cleveland Clinic's Parkinson's Foundation Center of Excellence."

That's why Geoffrey and his wife, Jessica, made a gift to support the team's community education and outreach efforts, particularly in senior communities.

Presenting a Case for Training the Next Generation OF BEHAVIORAL NEUROLOGISTS

Compared to Alzheimer's disease, the most common type of dementia in those over 65, a newer type of dementia characterized in 2024, limbic-predominant amnesic neurodegenerative syndrome (LANS) "has been described as a slowly progressing dementia that presents in older adults with an amnesic symptomology."

Thus began a case report submitted by trainee Barinder Singh, MD, a behavioral neurology and neuropsychiatry fellow at Cleveland Clinic Lou Ruvo Center for Brain Health, and her mentor, Dylan Wint, MD, Las Vegas Legacy Chair for Neuroscience Education. The duo will present the case at the American Neuropsychiatric Association's annual meeting in March 2025.

Here's a preview of this real-world case of LANS.

In 2014, a woman experiencing memory loss and occasional confusion came to the Lou Ruvo Center for Brain Health, where she was diagnosed with Alzheimer's disease (AD). The neurology team anticipated her rapid and progressive decline.

In 2024, the patient, now 86, was still living alone, managing her medications with the assistance of family and a pill box with alarms; cooking using a microwave; and doing laundry and all the basic activities of daily living on her own. With the support of her daughter, the patient has been actively engaging in physical and occupational therapy to achieve her goal of living independently.

Given the preservation of functional ability and unexpectedly slow progression of memory loss 10 years in, Drs. Singh and Wint revised the woman's diagnosis to LANS.

INDIVIDUALIZED IMPACT

"This case highlights the value of ongoing symptom surveillance, therapeutic flexibility, patient education and caregiver support in helping families achieve their goals of care," says Dr. Wint, who notes Dr. Singh is the center's first fellow to author a case report.

Dr. Singh was struck by how her mentor "stepped out of the classic doctor role of making a diagnosis, writing a prescription

and sending the patient on her way. Instead, he took a more holistic view."

Dr. Singh is one of five trainees to have participated over the past 14 years in the behavioral neurology and neuropsychiatry fellowship — a one or two year specialized, capstone training after residency — at the Lou Ruvo Center for Brain Health, with an additional 12 fellows in other disciplines.

Training as a fellow alongside Dr. Wint and his colleagues at a center dedicated to brain health is an invaluable experience, says Dr. Singh. "In this case, I witnessed the impact on a family of a highly personalized, differential or revised diagnosis made with care after teasing out LANS, a newly described type of dementia less likely to be recognized elsewhere," says Dr. Singh. "The Lou Ruvo Center is THE place for brain health."

Investing in the next generation

"Dr. Dylan Wint took compassionate care of my mother as our family navigated the journey of dementia. My wife Diana and I are proud to invest in training the next generation of specialized neurology providers, extending the Lou Ruvo Center for Brain Health's expertise more broadly in our community and helping other families get nuanced diagnoses and management."

— Rick Chapman

To learn more about supporting education and training, contact us at 702.263.9797 or DonateNevada@ccf.org.



^ Dr. Barinder Singh works with Dr. Dylan Wint

6 Ways to Build Your Brain Health:

A WORKSHOP FOR REDUCING YOUR RISK FOR DEMENTIA

Dementia affects millions of people across the United States. It is the umbrella term for the impairment in people's thinking, memory and behavior caused by Alzheimer's and many other diseases.

About one in 16 people over the age of 65 have dementia with around half of people 85 years or older having some form of it. Alzheimer's disease is the fifth leading cause of death in Americans aged 65 and older. Disease processes may start 10 years or more before patients show symptoms.

Kate Ingalsby, MEd, Program Manager, Cleveland Clinic Lou Ruvo Center for Brain Health, says there is fear and even embarrassment around the diseases and most people don't talk about them. After receiving a Cleveland Clinic Catalyst Grant, Ingalsby and her colleague, Katurah Hartley, BS Pharm, designed a community-based course to teach people about brain health.

Catalyst Grants are funded by thousands of gifts of all sizes from donors annually. The competitive grants are awarded to Cleveland Clinic employees or caregivers with ideas to improve the lives of patients, the organization or communities around the world.

Their six-week program, 6 Ways to Build Your Brain Health: A Workshop for Reducing Your Risk for Dementia, focuses on a different topic each week, including exercise, nutrition, medical health, sleep and relaxation, mental fitness and social interaction. Evidence shows that simple lifestyle modifications can help reduce the risks of memory and cognitive decline.

The workshop was born from a classroom assignment while Ingalsby was in the Master of Education in Health Professions Education (MEHPE) degree program, a collaboration between Cleveland State University and Cleveland Clinic.



^ Katurah Hartley, BS Pharm (left), and Kate Ingalsby, MEd, address the stigma surrounding dementia and educating patients on how to take care of neurodegenerative diseases before they start.

The women, who have received a Certificate of Recognition from Cleveland Clinic's Chief Research & Academic Officer, have facilitated two evidence-informed pilot workshops so far and impacted 34 participants from both rural and urban communities. They have also developed participant guides, leader manuals and measurable assessments. Their passion for educating patients and care partners about dementia is unwavering but additional philanthropy is needed to continue their efforts. "Educating people and putting that positive spin on the word dementia has been really helpful for our patients," Ingalsby says.

To support ongoing innovation at the Lou Ruvo Center for Brain Health, contact our philanthropy team at 702.263.9797 or DonateNevada@ccf.org.

6 Pillars of Brain Health



GET MOVING.

Get into strength training. Work on flexibility & balance.



EAT SMART.

Enjoy a Mediterranean diet. Cook fresh. Savor the taste.



CONTROL RISKS.

Keep medical conditions in check. Quit smoking.



REST WELL.

Get at least six hours of sleep. Stay positive. Relax.



KEEP SHARP.

Build your brain reserve. Use it or lose it. Play, learn and study.



STAY CONNECTED.

Treasure your loved ones. Be social. Have purpose in life.

DON'T MISS OUT ON FREE EDUCATIONAL PROGRAMS



Learn more about upcoming sessions of the 6 Ways to Build Your Brain Health workshop: clevelandclinic.org/NevadaEvents.

Subscribe to our e-newsletter and receive our calendar of monthly programs in your inbox: clevelandclinic.org/NVnews.

Neurorehabilitation Professionals Foster A LEGACY OF LEARNING

Helping people with neurodegenerative disorders continue doing activities that matter most to them matters a lot to occupational therapist Shaina Meyer, OTR/L, too. Formerly head of neurorehabilitation at Cleveland Clinic Lou Ruvo Center for Brain Health, Meyer now teaches at University of Arkansas/University of Arkansas for Medical Sciences, where she uses case examples from her time at Cleveland Clinic to train the next generation of occupational therapists. A few of her favorites? Collaborating with a physical therapist colleague to help a patient ride a bike, coaching an individual with advanced tremors to use exercises and adaptations to gain the strength and control to return to painting, and guiding a person with hand coordination challenges through writing a poem about their journey with dementia.



^ Shaina Meyer (left) and Kaylie Mahar

“It takes rehabilitation professionals specialized in neurological care, communication across disciplines and targeted one-on-one therapy sessions to deliver these meaningful interventions,” says Meyer. “The Lou Ruvo Center for Brain Health’s integrated approach benefits patients and trainees alike.”

FINDING A NEW CALLING

One of Meyer’s University of Arkansas students, Kaylie Mahar, had her sights set on medical school until her mother developed multiple sclerosis (MS). When Mahar accompanied her to an occupational therapy appointment, she knew she’d found her calling. Today, under Meyer’s guidance, Mahar is completing a capstone project in MS as part of her occupational therapy degree. “There’s been a lot of research showing how skilled therapeutic interventions can maintain or even rebuild neural connections in the brain,” Mahar says.

That’s why when Meyer has a student interested in neurological rehabilitation, she recommends the Lou Ruvo Center for Brain Health for further training. In October 2024, Mahar accompanied Meyer to Las Vegas for a national committee meeting with the Multiple Sclerosis Society of America, where she learned about advocating for individuals with MS and spoke with neurological specialists at the Lou Ruvo Center for Brain Health.

A HOMECOMING

Another former manager of the center’s rehabilitation team, physical therapist Jennifer Nash, PT, DPT, NCS, is now associate professor at University of Nevada, Las Vegas (UNLV) School of Integrated Health Sciences. She has a

∨ Dr. Kayla Kotake and Julieanne Roser



long history of referring trainees to the Lou Ruvo Center for Brain Health, including former student, Kayla Kotake, PT, DPT, who now serves as a clinical instructor for Dr. Nash’s current student, Julieanne Roser, during her internship at the Lou Ruvo Center for Brain Health.

Dr. Kotake, who also interned at the center, pursued a full-time position here after graduation because “this is one of the few interdisciplinary outpatient clinics in Nevada or Southern California exclusively dedicated to one-on-one neurological care.”

Serving as a clinical instructor or mentor not only benefits future rehabilitation professionals, it helps Dr. Kotake, too: “I need to practice at the top of my license every day to set that example for Julianne. It’s a great

∨ Madisen Mendez



way to give back to the next generation of students while contributing to quality patient care today.”

AN EXPONENTIAL IMPACT ON PATIENT CARE

Leaving the Lou Ruvo Center for Brain Health, where she enjoyed providing day-to-day patient care, was bittersweet for Dr. Nash. However, she believed that teaching in a doctor of physical therapy program would allow her to exponentially impact the future of patient care by conducting her own research and training the next generation of therapists.

“Nothing makes me happier than hearing from a former Cleveland Clinic patient

that the bright spot during a stay in the hospital or rehab facility was the nuanced understanding of their neurological condition and quality care delivered by one of my graduates,” says Dr. Nash.

Madisen Mendez, OTR/L, the current manager of neurorehabilitation at the Lou Ruvo Center for Brain Health, says that’s precisely the continuity of neurological care she wishes all patients could experience when they need rehabilitation out in the community. “Anecdotes like that fuel my passion and commitment to our training programs and appreciation for the role an academic health center like ours can play in patient care for today and tomorrow,” says Mendez.

Dr. C. Craig Karrasch and Mark Knobel, trustees of the Thelma B. & Thomas P. Hart Foundation, are excited to be making a difference in the health of Nevadans.

“The Lou Ruvo Center for Brain Health neurorehabilitation team uses evidence-based research and specialized skills to resonate with individuals with degenerative brain disease. We chose to fund equipment to ensure the therapists were never lacking for technology.”

– Mark Knobel



Endowment Contributions Improve Brain Health **FOR GENERATIONS TO COME**

“My grandfather achieved so much with just a third-grade education and hard work, holding down two jobs and caring for both his and his siblings’ families until Alzheimer’s disease took that all away,” says Don Steiner, a new member of Keep Memory Alive’s Board of Directors, a group that supports the growth of Cleveland Clinic Lou Ruvo Center for Brain Health through leadership and fundraising.

Steiner says he and his wife, Rose Paguirigan-Steiner, come from humble backgrounds and a culture of giving back. “Our teenage son calls us cheap, but we’d like to think of it as frugal,” Steiner laughs. “We believe wealth is not measured by your personal possessions, but by how you help make a difference in people’s lives. That’s how we raise our family, and it’s also the culture of my company.”

Steiner, CEO of Profit Recovery Partners, has saved \$10 billion for corporate clients by helping them cut administrated expenses to facilitate growth and save jobs. His personal hope for the future? Improve brain health for other families. That’s why he is giving his time to serve on the board and has pledged to support the Lou Ruvo Center for Brain Health’s endowment over the next five years.

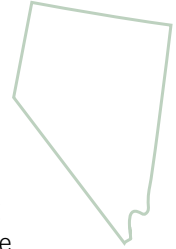
Steiner, who is impressed by the impact the center has made in its first 15 years by participating in research, expanding into conditions beyond Alzheimer’s disease, and increasing the number of patients and families in its care, says an endowment “helps people today, but also in perpetuity.”



^ Don Steiner

“As we get older, my wife and I want to give back through nonprofit organizations that are fully committed and focus on results and make a major impact as much as my own company does,” says Steiner.

**You, too,
can be part
of innovating
for better
brain health**



Cleveland Clinic is committed to growing Nevada’s neuroscience landscape with support from a \$100 million endowment campaign to fund innovation.

We’re currently 43% of the way to our endowment goal. With your help, we will disrupt neurological diseases, saving and changing lives for generations to come.

Contact us to discuss your gift:
DonateNevada@ccf.org or
702.263.9797.



Sharing Your Gift Intentions:

TOP 5 MYTHS BUSTED



Making a legacy gift to Cleveland Clinic is a meaningful and accessible way to leave a lasting impact, but you may have heard several myths about doing so. Here are our top five myth busters explaining why sharing your wishes early on can help our team fulfill your gift intentions in the most impactful way.

MYTH #1

Legacy Gifts are Complicated and Time-Consuming to Arrange.

BUSTED! A bequest, the most common form of legacy gift, is quite simple. It involves naming Cleveland Clinic in your will or trust or as a beneficiary on assets like life insurance policies or retirement accounts. With the help of your attorney or tax advisor, this process can be straightforward and customized to your wishes.

MYTH #2:

I need to Donate a Considerable Sum to Make a Difference.

BUSTED! You can leave any amount through a bequest, whether it is a specific dollar amount, a percentage of your estate or the remainder after other bequests. Every gift, regardless of size, contributes to supporting vital programs and initiatives at Cleveland Clinic.

MYTH #3:

I Must Choose Between Providing For My Family and Making a Charitable Gift.

BUSTED! You can do both. Many people choose to make specific or percentage bequests to their loved ones and then designate Cleveland Clinic as the recipient of any remaining assets. This ensures your family is cared for while supporting a cause that is important to you.

MYTH #4:

I Do Not Need to Inform Cleveland Clinic About My Bequest.

BUSTED! Sharing your intentions with Cleveland Clinic is beneficial. It allows us to understand and honor your wishes and gives you recognition during your lifetime. Additionally, it opens a line of communication that can help you stay informed about new developments and align your gift with emerging priorities.

MYTH #5:

My Personal Information Will Not Be Kept Confidential.

BUSTED! Cleveland Clinic takes confidentiality seriously. Any information you share regarding your gift intentions is kept strictly confidential and is not shared with other institutions, ensuring your privacy is protected.



QUESTIONS ABOUT DESIGNATING CLEVELAND CLINIC AS A BENEFICIARY?

Check with your legal or financial advisor or contact us at 702.263.9797 or DonateNevada@ccf.org.

We can connect you with Cleveland Clinic's gift planning team to see if a legacy gift is the right way for you and your family to support our mission to care for life, research for health and educate those who serve.

Packing a Philanthropic Punch

DONORS GO THE DISTANCE IN FIGHT AGAINST COGNITIVE DISORDERS

In 2012, Camille and Larry Ruvo set an ambitious goal for the Power of Love® gala. They aimed to surpass the 15 preceding galas in terms of celebrity supporters in attendance, national reach and impact on Keep Memory Alive's fundraising in support of Cleveland Clinic Lou Ruvo Center for Brain Health.

When Larry heard that decorated boxer Muhammad Ali's 70th birthday was forthcoming, he contacted longtime friend and boxing promoter Bob Arum, CEO of Top Rank, Inc. Arum and his wife, Lovee Arum, founding board member of Keep Memory Alive, reached out to friends throughout the boxing community to create a knockout evening that extended beyond the 1,700-plus guests in attendance at MGM Grand Garden Arena in February 2012. Shortly thereafter, "Ali 70th from Las Vegas," a two-hour special, aired on ABC and ESPN2.

A family endeavor for the Arums, Top Rank has architected boxing's global growth by staging high-profile events in landmark settings around the world. Bob, a 1999 International Boxing Hall of Fame inductee, has overseen the careers of many renowned boxers, including Ali, George Foreman, Oscar De La Hoya and Manny Pacquiao.

The Arums and Top Rank were among the founding donors to the Lou Ruvo Center for Brain Health's Professional Athletes Brain Health Study and continue to support the most extensive longitudinal study of repeated head impact (clevelandclinic.org/PABHS).

"Top Rank and its president, Todd duBoef, Lovee's son, have been extremely supportive and interested in our research, contributing funds and referring athletes to the study since its inception in 2011," says Charles Bernick, MD, the study's principal investigator. "They're all in for improved safety in professional sports."

For the Arums, the decision to support the Lou Ruvo Center for Brain Health is deeply personal. Lovee's father, Morris A. Hazan, was diagnosed with Alzheimer's disease and passed away in 2004. What most defined Hazan was his commitment to helping those in need. Inspired by his legacy, the family formed the Morris A. Hazan Family Foundation, which Lovee chairs. Lovee also served on the Keep Memory Alive board of directors. She was part of the group that flew to Cleveland and were instrumental in Larry Ruvo's decision to select Cleveland Clinic to operate the center that bears his family name. Currently, Lovee's daughter, Dena duBoef-Roth, participates in the Women's Alzheimer's Movement Prevention and Research Center at Cleveland Clinic, where she has received a personalized plan for risk reduction (clevelandclinic.org/WAMprevention).

In 2012, the Arums were inducted into the 1921 Society, Cleveland Clinic's most prestigious donor recognition group. The group includes individuals and organizations whose cumulative lifetime giving to Cleveland Clinic totals more than \$1 million. Named for the year the healthcare system was founded, membership in the 1921 Society reflects heartfelt generosity, compassion, volunteer service, and dedication to improving lives at Cleveland Clinic and around the world.

Contact our philanthropy team today to start the journey towards your 1921 Society membership: 702.263.9797 or DonateNevada@ccf.org.



^ Todd duBoef



^ Dena duBoef-Roth with her mom, Lovee Arum, in 2024



^ Lovee and Bob Arum in 2012

We'll honor the Arums at our Power of Love gala on February 22, 2025 (see page 3).



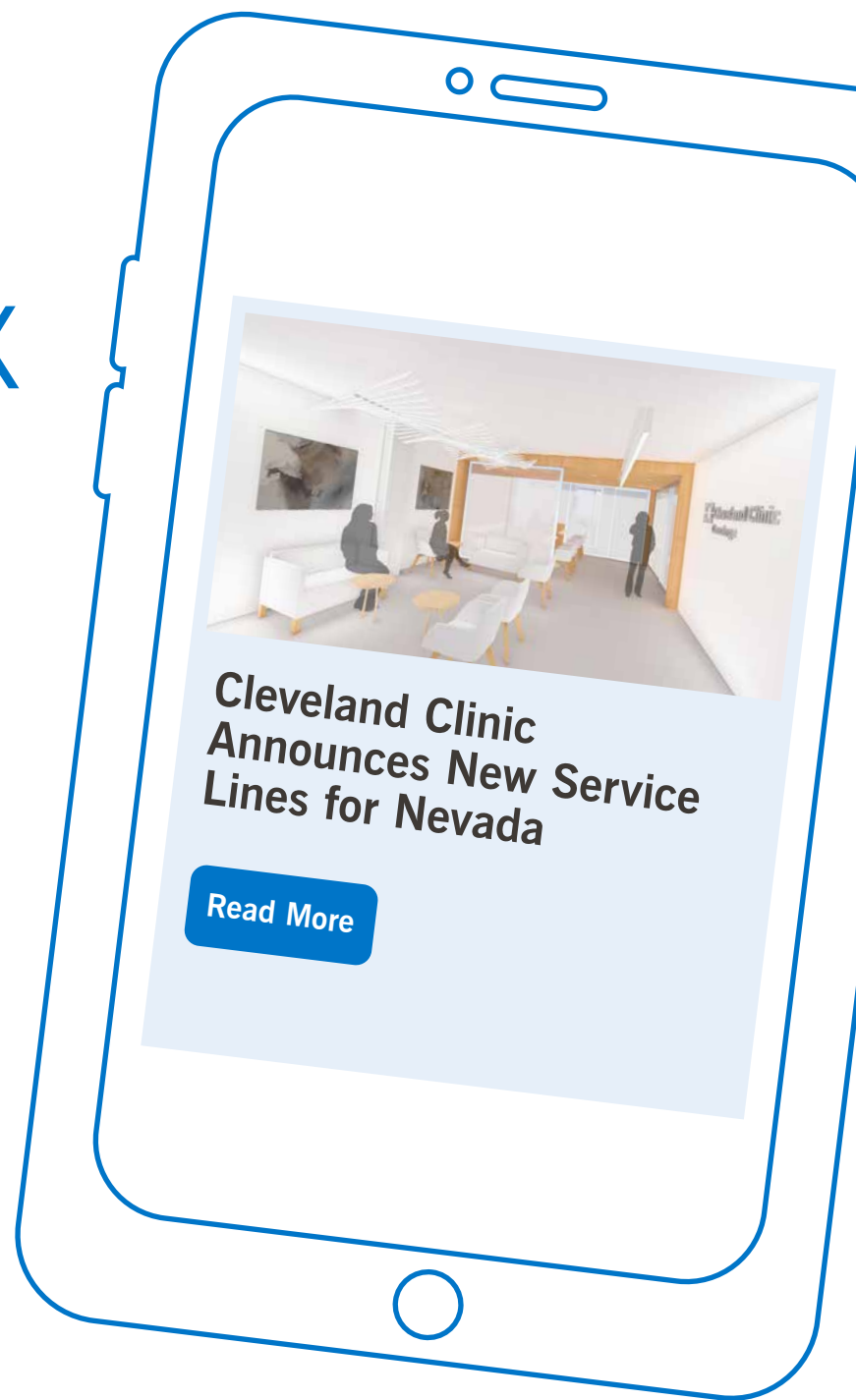
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TRUSTED SOURCE**

Get the latest information on free online and in-person educational programs, new research, and tips for a healthy brain span to match your lifespan.

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from Cleveland Clinic Nevada.**

clevelandclinic.org/NVnews



Wraparound Care

HELPS WOMAN WITH ATAXIA MOVE IN A NEW WAY

For nearly two decades, Marja Marting danced in big production shows in Nice, France, at Paris' iconic Lido and in Las Vegas.

"It was fun to travel the world, be on stage and get paid to exercise," says Marting, now 75. About five years ago, the active adult began noticing changes.

"I was trying to run after a grandchild but couldn't move well. My daughter noticed my speech had become distorted and suggested maybe it was a stroke," says Marting. "A doctor near my home in Reno, Nevada, suggested maybe the years of dancing, tennis and skiing were impacting my back."

A friend recommended that Marting travel to Las Vegas for a second opinion at Cleveland Clinic Lou Ruvo Center for Brain Health. Odinachi Oguh, MD, a movement disorders specialist, suggested genetic counseling and testing, and used MRI to identify brain atrophy, diagnosing spinocerebellar ataxia.

Ataxia is a degenerative neurological condition that causes people to move in an uncertain, awkward or clumsy way. The National Ataxia Foundation estimates that 15,000 to 20,000 Americans have the dominant inherited form, spinocerebellar ataxia (SCA). Tens of thousands more are affected by recessive, sporadic and yet-unknown forms of ataxia.

Cleveland Clinic Lou Ruvo Center for Brain Health's ataxia comprehensive clinic can help, facilitating convenient, same-day visits with an array of multidisciplinary specialists who address physical, emotional, cognitive and behavioral needs.

"There is no FDA approved drug treatment for ataxia. But with wraparound care,


we're able to help individuals live their best lives," says Dr. Oguh. "While they may lose coordination and the ability to do small tasks, we can provide support through social work, physical and occupational therapy, and specialized neurological care."

Now, Marting sees her Cleveland Clinic neurologist twice yearly, alternating between virtual visits during which her husband holds the camera so Dr. Oguh can watch her walk and in-person visits to the ataxia comprehensive clinic where she has seen a speech therapist and met a counselor, with whom she conducts online visits.

"You have everything in one location and the support is so much better than anywhere else," says Marting. "In Reno, you must go to different places, which is difficult for people with a movement disorder."

Marting has replaced tennis with chair yoga, swimming and using a stationary bike or treadmill. She shares an inspirational message with others diagnosed with Ataxia or other neurological conditions: "Don't think of a diagnosis as the end. Continue the things you enjoy doing, even if you need to make modifications."

For an appointment for genetic testing or with our ataxia comprehensive clinic, call 702.483.6000 or learn more at clevelandclinic.org/NevadaMovement.

 **Continue the story online:**
clevelandclinic.org/scaNTAT



^ Then: Marja Marting dancing in the "Casino de Paris" show at The Dunes Hotel and Casino in Las Vegas (1978)



^ Now: Marja Marting with her grandchild (2020)

Suspecting Sepsis?

ACT QUICKLY

More than 1.7 million people in the United States receive a diagnosis of sepsis each year. Sepsis is more common among older adults, with incidence increasing each year after the age of 65 years old.



^ Dr. Lakeshia Gibson

Sepsis is a life-threatening medical emergency caused by your body's overwhelming response to an infection. Without urgent treatment, it can lead to tissue damage, organ failure and death. Septic shock can cause death in as little as 12 hours. If you survive sepsis, you'll more than likely need rehabilitation before returning home. If you have any symptoms of sepsis, visit the emergency room immediately.

SEPSIS AND DEMENTIA

"If confusion, disorientation or agitation are an individual's baseline or they have difficulty expressing themselves verbally, teasing out symptoms of sepsis can be difficult even for family or caregivers who know the person well," says neuropsychiatrist Lakeshia Gibson, MD, a member of Cleveland Clinic Lou Ruvo Center for Brain Health's cognitive disorders team.

Particularly common in older adults, delirium is a neurological complication of

sepsis that aggravates the clinical course. Delirium can cause confusion with fluctuating disturbances in attention and cognition as well as other neuropsychiatric symptoms that mimic dementia. Delirium can be described as *hyperactive* (agitation, restlessness), *hypoactive* (lethargy, reduced motor activity), or mixed. Individuals often become uncooperative with care, which can lead to prolonged hospitalization.

"It's important to stay vigilant for non-verbal symptoms such as elevated heart rate, low blood pressure, shortness of breath or unusually high or low temperature," Dr. Gibson says.

The most important concern in sepsis protocol is a quick diagnosis and prompt treatment. There are no strict criteria to diagnose sepsis; providers use a combination of findings — from a physical exam, blood tests and urinalysis, X-rays and other tests — to identify the infection (blood cultures).

Urinary tract infection is one of the most common sources of infection among people with dementia and the elderly, particularly women. However, people with any kind of infection are at an elevated risk for sepsis.

Others at high risk include:

- People older than 65 years old, newborns and infants, and pregnant people.
- People with medical conditions such as diabetes, obesity, cancer and kidney disease.
- People with weakened immune systems.
- People who are in the hospital for other medical reasons.

You can spread the infections that can cause sepsis, but sepsis itself isn't contagious. Common sites and types of infections that can lead to sepsis include:

- Urinary tract system.
- Infections involving your lungs, such as pneumonia.
- Central nervous system (brain and spinal cord).
- Bacteria that enters your skin through wounds, inflammation or openings made with catheters and IVs.

Steps you can take to prevent sepsis include:

- Practicing good hygiene, including handwashing.
- Keeping cuts and other wounds clean and keeping them covered until healed.
- Staying up to date on recommended vaccines.
- Getting routine medical care for chronic conditions.

If you delay treatment, a simple infection could lead to a deadly condition. If you have an infection that isn't getting better or seems to be getting worse, seek medical care right away.

Symptoms of Sepsis

<p>Fast heart rate.</p>	<p>Low blood pressure.</p>	<p>Fever or hypothermia.</p>	<p>Shortness of breath.</p>	<p>Sepsis rash.</p>
<p>Shaking or chills.</p>	<p>Warm or clammy/sweaty skin.</p>	<p>Confusion or disorientation.</p>	<p>Extreme pain or discomfort.</p>	<p>If you have a combination of these symptoms, seek medical treatment immediately.</p>

Neuropsychology Need to Know:

WHAT TO DO AND SAY WHEN MEMORY BECOMES A CONCERN



^ Dr. Shehroo Pudumjee

Thinking and memory change as we age. On the positive side, we gain wisdom and knowledge. On the flip side, some things slow down, such as the ability with which we can learn new information and the speed at which our brain works.

“Different cognitive abilities peak at different points in our lives, and then, we tend to decline slowly,” says Shehroo Pudumjee, PhD, Director of Neuropsychology at Cleveland Clinic Lou Ruvo Center for Brain Health.

A caregiver to her mother who was a patient at the Lou Ruvo Center for Brain Health, when Bri’ Godfrey began having concerns about her own memory, she spoke with her mom’s neurologist. “Initially, my cognitive assessment was extremely emotional, and I often wept over the loss. It was hard to find out there was something wrong, yet knowing has helped me learn how to move forward strategically with this new brain that I have,” she says. “I feel heard, and I have tools to address my weaknesses and the courage to advocate for my brain health.”

However, getting support within her community has been more difficult. “When I tell friends and family about changes that I have been experiencing, they often respond dismissively, sharing vignettes of lost car keys or forgotten names. I know they mean well, but I keep finding myself saying, ‘You don’t understand. What’s happening to my brain is different,’” says Bri’.

HOW YOU CAN HELP

Forgetfulness can be impacted by many factors (see sidebar), and when someone shares their concerns, it’s important to

listen, which itself can sometimes be more helpful than trying to reassure them. “While it may not seem like a big deal to you, slips in memory can be very stressful to the person experiencing them,” says Dr. Pudumjee. “So, it’s important to validate the concern.”

Offer phrases like, “I understand how scary and frustrating that can be.” Consider: “How about having a conversation with your primary care doctor about that? If everything turns out OK, that’s great, you’ve got reassurance and possibly a baseline. If meaningful changes are occurring, you can identify the cause now rather than waiting.”

The bottom line, Dr. Pudumjee says, is let them know you support and

even encourage them to advocate for themselves by asking for a referral to an expert.

To make an appointment at Cleveland Clinic, call 702.483.6000 or learn more at clevelandclinic.org/NevadaCognitive.

No “one size fits all” for brains.

It’s easy to say, “My friend had X symptom and got a diagnosis of Y. I’m experiencing that same symptom, therefore I, too, must have the same condition as my friend.”

But Dr. Pudumjee says there’s no one-size-fits-all for brains. For instance, take the symptom of concentration difficulties which can be due to a variety of causes, such as:

- ADHD.
- Anxiety.
- Depression.
- Stress.
- Chronic pain.
- Lack of sleep.
- Distraction attributable to adjacent conversations, environmental factors.
- Operating on “autopilot”.
- Neurological conditions.



^ Bri’ Godfrey



WHEN IT COMES TO FORGETFULNESS, CONSIDER SEVERITY AND FREQUENCY

THE CHALLENGE	Likely Normal <i>(infrequent errors that do not have a significant impact)</i>	Concerning <i>(more often, more important items, more severe consequences)</i>
Where did I park my car?	Not being able to find your car that time you parked in one of the mall’s many large garages.	Forgetting where you parked your car with every errand you run and having to reach out to others for help.
Word/Name finding during conversations	<p>Occasionally forgetting words you want to use, but finding they come back to you rather quickly if you hold onto the thought.</p> <p>Forgetting the name of an acquaintance you haven’t seen in several months but having a rough idea how you know them.</p>	<p>Unable to remember words multiple times a day such that you and the listener become frustrated.</p> <p>Not recognizing family and close friends, forgetting the names of children or siblings.</p>
Forgetting to do routine things	Occasionally forgetting to take a medication, if the medication isn’t life-sustaining.	<p>Forgetting important things frequently, such as doctor appointments, fasting before lab work or picking up grandkids at school.</p> <p>Forgetting is becoming problematic, affecting day-to-day life.</p>

 Continue the story online: clevelandclinic.org/10DementiaSigns

Going All In for Brain Health

On November 8, 2024, casino industry legend Jack Binion and seven-time World Series of Poker bracelet winner Daniel “Kid Poker” Negreanu hosted a charity poker tournament in the Keep Memory Alive Event Center to benefit Cleveland Clinic Lou Ruvo Center for Brain Health.

Billed as an “old school, Vegas-style” Texas Hold ‘em tournament, the event rekindled fond memories for seasoned players and created new ones for the rookies.



^ Jack Binion and Larry Ruvo



^ Recreational player and Keep Memory Alive supporter Greg Bruce, center, pictured here with Larry and Camille Ruvo, didn't sit with any pros, but proudly took home the grand prize with an unassuming, “I can't believe I won!”

Gaming for brain health

Lou Ruvo Center for Brain Health doctors are frequently asked about tactics for keeping the brain active. Thanks to the challenges involved in learning and playing them well, games such as chess and bridge — and yes, perhaps poker, too — can be useful tools for maintaining brain health.

“Find things you are interested in learning and engaging with that challenge you, such as word games or crossword puzzles and various gaming apps for your phone,” says neuropsychologist Jessica Caldwell, PhD, Director, Women’s Alzheimer’s Movement Prevention and Research Center at Cleveland Clinic. “Importantly, choose an activity that you can stick with and that remains challenging over time.”

The drawback with apps and games that you can download on your phone, she says, is they typically focus on improvement in one area, such as getting faster, remembering more things or learning more math. “It’s difficult to find one game that will improve all areas of your thinking.”

Dr. Caldwell’s top recommendation for flexing your brain muscle is learning a language or a musical instrument — challenges that involve several cognitive functions coming together, “which might explain why they are so good for the brain,” she says.

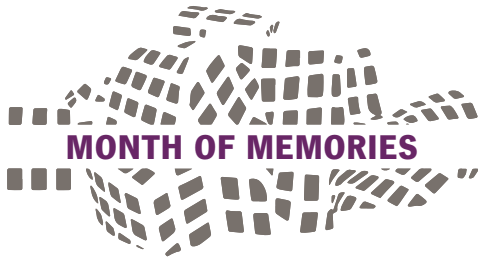
Learn more about reducing your risk for dementia at clevelandclinic.org/WAMprevention.



THANK YOU TO OUR EVENT SPONSORS



Fueling Brain Research TO KEEP MEMORY ALIVE



Month of Memories is an annual opportunity for our community to support Cleveland Clinic Lou Ruvo Center for Brain Health while shopping and dining at local businesses throughout November.

Together, we shine an important light on National Alzheimer's Disease and Family Caregiver Awareness Month while raising funds for the center to provide educational, therapeutic and support programming at no cost to Las Vegas families. keepmemoryalive.org/MoM



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 - Mama Chai's
 - Macy's at Galleria Mall
 - ONE Steakhouse
 - STK Las Vegas
 - Starburst Parlor
 - Trattoria Reggiano Italian Restaurant at Downtown Summerlin
 - Urth Caffé at UnCommons

MOSH: YOUR MIND. OUR MISSION.

After seeing a loved one's battle with Alzheimer's disease, Maria Shriver and son Patrick Schwarzenegger created MOSH, The Brain Brand®, with the vision to inspire and educate people to proactively maintain brain health. A portion of the proceeds from MOSH fund Alzheimer's research at Cleveland Clinic and beyond (moshlife.com/pages/mission).

Maria Shriver serves as Founder of the Women's Alzheimer's Movement (WAM) Prevention and Research Center at Cleveland Clinic and Chief Visionary and Strategic Advisor, Cleveland Clinic Women's Comprehensive Health and Research Center.


The relationship with Cleveland Clinic started in 2016 when WAM began funding research into women and Alzheimer's disease. It expanded in 2020, when the Women's Alzheimer's Movement Prevention and Research

Center at Cleveland Clinic (clevelandclinic.org/WAMprevention) opened on our Las Vegas campus as the first and only center in the nation dedicated to providing women sustainable approaches for healthy lifestyle modification. The center embraces peer-reviewed science, which indicates that up to 45% of Alzheimer's cases might be preventable through risk reduction.

In April 2024, what began as an "only in Vegas" collaboration with Shriver has grown into a formal partnership. On its main campus in Cleveland, Ohio, Cleveland Clinic launched its Women's Comprehensive Health and Research Center (clevelandclinic.org/caringforwomen).



^ Patrick Schwarzenegger and Maria Shriver

 **Have a clever idea to support Cleveland Clinic Lou Ruvo Center for Brain Health?**
Contact us at DonateNevada@ccf.org or 702.263.9797.

Recognized for Excellence

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

We celebrate their accomplishments.



MacKenzie Ruta, APR

President
(Public Relations Society of America, Las Vegas Valley Chapter, January 2025)
MacKenzie Ruta, APR



ChaKhan Dews

Community Health Worker II
(Nevada Certification Board, October 2024)
ChaKhan Dews



Dylan Wint, MD

Elected a Fellow
(American Academy of Neurology, October 2024)
Dylan Wint, MD, FAAN



Carrie M. Hersh, DO, MSc, FAAN

Career Leadership Development Subcommittee
(American Academy of Neurology, August 2024)
Carrie M. Hersh, DO, MSc, FAAN

PARKINSON'S FOUNDATION CENTER OF EXCELLENCE TEAM TRAINING

(Parkinson's Foundation, October 2024)

- Kaitlin Adams, MSN, RN**
- Tawnya Caldwell, LMSW, CDP**
- Kameron Jacobson, PT, DPT, NCS**
- Madisen Mendez, OTR/L**
- Michelle Pester LSW, ACHP-SW**



Kaitlin Adams, MSN, RN



Tawnya Caldwell, LMSW, CDP



Kameron Jacobson, PT, DPT, NCS



Madisen Mendez, OTR/L



Michelle Pester LSW, ACHP-SW



Taylor Levine, PhD

2024 Alzheimer's Association Interdisciplinary Summer Research Institute Fellow
(Alzheimer's Association, June 2024)
Taylor Levine, PhD



Kayla Kotake, PT, DPT

Elected as a delegate
(Nevada Chapter, American Physical Therapy Association, January 2024 – December 2026)
Kayla Kotake, PT, DPT

Selected for the Leadership Scholar Program
(American Physical Therapy Association, January 2024 – December 2024)
Kayla Kotake, PT, DPT

THE *gratitude* SESSIONS



THE SERENDIPITY OF A SPEECH CHANGES THE WAY MEMORIES ARE KEPT ALIVE

Andrea and Dan Harrington were living in California when he was diagnosed with Alzheimer's disease. Then a commencement address at their daughter's graduation ceremony ignited opportunity.

Now, after moving to Las Vegas for care, Dan and Andrea meet that commencement speaker for the first time and share with Camille and Larry Ruvo how Cleveland Clinic Lou Ruvo Center for Brain Health — and a new treatment for Alzheimer's disease — have brought renewed hope to their lives.

Watch now at cle.clinic/GratitudeSessions

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Moët Hennessy USA



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Jimmy Kimmel

Recognizing **Lovee and Bob Arum** with the Keep Memory Alive Community Leadership Award



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