

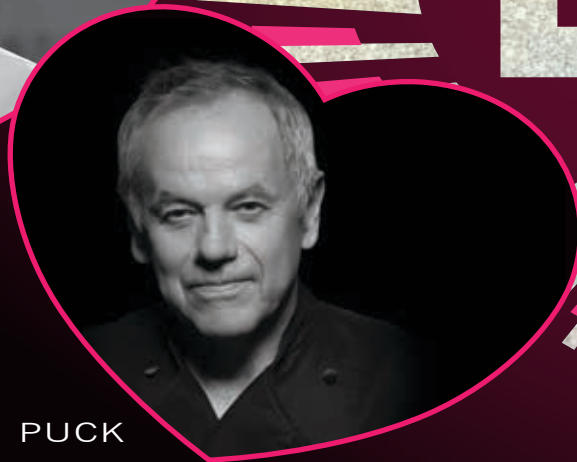
SPRING 2023
New Thinking
ABOUT THINKING

JOHN PAUL DEJORIA

DAVID HUMM



TAL RONNEN



WOLFGANG PUCK

THE POWER OF
LOVE
GALA 2023

DIRECTOR'S MESSAGE



Dylan Wint, MD

Center Director

*Camille and Larry Ruvo
Chair for Brain Health*

Director, Education

*Las Vegas Legacy
Chair for Neuroscience
Education*

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

Since opening in 2009, Cleveland Clinic Lou Ruvo Center for Brain Health has facilitated more than 246,000 patient appointments with our providers. More than 5,565 lives are currently in our care, representing a total of more than 26,000 visits in 2021 as we await the final tally for 2022.

The number of families we've served is impressive, but their importance lies not in that number; rather, it is in the extraordinarily deep knowledge we have been able to gain about what brain degeneration means.

Yes, we have gained insight into proteins, inflammation and neuroimaging (see page 9). More fundamentally, we are developing a better understanding of how the biology of disease and its related symptoms impact interpersonal relationships, particularly family dynamics (see page 25). For example we have assembled a team of experts to help families consider the benefits and burdens of testing for the hereditary condition Huntington's disease (see page 15).

Our team continues to stretch their own brains in pursuit of advanced specialization (see page 13). We are actively pursuing deeper understanding of how social determinants in communities outside Nevada's urban cores affect the prevalence and impact of dementia

(see page 11). Our aim is to understand our patients and the sources of their suffering, and to integrate compassionate transdisciplinary treatment and research to improve the lives of today's patients while we prepare trainees to care for tomorrow's patients, and drive research to hasten the day when there are no more patients (see page 21).

In 2023, we celebrate our 26th annual Power of Love® gala. This year will be different without our original caregiver, Angie Ruvo, who spurred her son Larry to turn pain into purpose, raising millions to relieve the suffering of other families. On February 18, the anniversary of the death of her husband, Lou — the eponymous inspiration for a "one-stop shop" to reduce the burden on other families — we kick off the next quarter-century of fundraising. We will present our Community Leadership Award to John Paul DeJoria, the man who serendipitously handed the very first check to Larry to "do something about Alzheimer's disease in Lou's honor" (see page 3).

Please join me and 25 years of supporters at our Power of Love gala and build upon the legacy of Angie and Lou Ruvo, sustaining the family's dream of a future without brain degeneration.

See you on Saturday, February 18.

SPRING 2023

New Thinking

ABOUT THINKING

Cleveland Clinic Nevada

702.483.6000 | clevelandclinic.org/Nevada

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

ALZHEIMER'S DISEASE
FRONTOTEMPORAL DEMENTIA
LEWY BODY DEMENTIA
HUNTINGTON'S DISEASE

PARKINSON'S DISEASE
MULTIPLE SYSTEM ATROPHY
MULTIPLE SCLEROSIS

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The Ruvo family arrives
in Las Vegas



Serving Up a Recipe for Better Neurological Care

So an energetic maître d' and a chef walk into a neurology desert... But make no mistake: This isn't the beginning of one of "those" jokes. Rather, it was the beginning of one family's legacy that has impacted a city of more than 2 million. *And we're deadly serious.*

When Angie and Lou Ruvo relocated from Buffalo, New York, to Las Vegas in 1955 with their son, Larry, age 9, they opened the Venetian Ristorante. It was the "see and be seen" dining experience in town, attracting celebrities and locals alike. Angie was widely regarded as Las Vegas' first celebrity chef. Lou never forgot a face, and would greet guests with a question about a mutual friend or the continuation of a previous conversation.

Alzheimer's: An Uninvited Guest

Fast forward to 1991 and changes in Lou's memory had become undeniable. The desert town that had been a great venue for growing a business and raising a son didn't have the healthcare resources the Ruvo family needed.

After visiting numerous doctors in search of an explanation for the changes friends and family had noticed in Lou, Angie Ruvo met Leon Thal, MD, in San Diego. The renowned researcher put his hand on her shoulder and said, "Mrs. Ruvo, you have a 24-hour-a-day job here. Lou has Alzheimer's."

Less than three years later, on February 18, 1994, Angie found Lou dead on their bedroom floor from a heart attack.

THE MOST WELCOME OF GUESTS: Enter John Paul DeJoria

"It was February 1995 and I was hosting a dinner at Spago for my company during a hair convention," John Paul DeJoria recalls. "When I arrived, the maître d' said, 'JP, did you know your friend Larry Ruvo is here holding a dinner in memory of his dad?'"

About 35 people had gathered at Chef Wolfgang Puck's flagship Las Vegas restaurant, Spago, on what is now an historic night to pay tribute to Lou.

"In appreciation of our friendship, I wrote Larry a check for \$5,000 and said, 'Put this toward something to change Alzheimer's.'"

Larry never envisioned the memorial dinner would become a fundraising event but, when he announced to guests that John Paul had

given a check, others began opening their wallets; \$35,000 had been raised by evening's end. Camille and Larry Ruvo went home that night with a new family mission: They would continue to keep Lou Ruvo's memory alive by doing something to change the trajectory of Alzheimer's disease.

A self-made man who emerged from homelessness to co-found John Paul Mitchell Systems and Patron Tequila, John Paul lives by the motto "Success unshared is failure." If he hadn't shared his success with us, the Lou Ruvo Center for Brain Health wouldn't exist. And so, we're presenting John Paul with the Community Leadership Award at the 26th annual Power of Love® gala (see page 5).



John Paul DeJoria takes the microphone at the gala in 2012

The Rise of Ruvo: World-Class Neurology Care Emerges from the Desert Dust

Camille and Larry Ruvo set about to deliver to Nevada families living with Alzheimer's disease the reassurance that a firm diagnosis and ongoing education and support can offer. In 2007 they broke ground on a Frank Gehry-designed structure in downtown Las Vegas. On July 13, 2009, Cleveland Clinic Lou Ruvo Center for Brain Health welcomed its first patient.

Since that time, the center has hosted more than 246,000 patient visits, and expanded to treat and research additional neurodegenerative diseases. In the process, it has become the Nevada's first and only to earn these designations for its research and care:

- **CurePSP Centers of Care**
- **Parkinson's Foundation Center of Excellence**
- **Exploratory Alzheimer's Disease Research Center** from the NIH
- **"Partners in Care"** from the **National Multiple Sclerosis Society** (only program in Southern Nevada)

A NEUROLOGY DESERT Not just Alzheimer's: The need is far-reaching

Yet, despite these accomplishments, there's still not enough access to accommodate the oncoming neurological tsunami. Declaring Nevada a "neurology desert," the Alzheimer's Association's *2022 Alzheimer's Disease Facts & Figures* report projects that by 2025, the state will have fewer than 10 neurologists per 10,000 residents with dementia — despite ranking third nationwide for anticipated growth of Alzheimer's disease.

Factor in the impact of Huntington's, Parkinson's and the other movement disorders we treat, as well as that of



Larry Ruvo, with his mother, Angie, at the 2019 gala

multiple sclerosis, and it is clear Nevada is facing an unprecedented need.

Turning Pain into Purpose: Our first Power of Love without Angie

On May 12, 2022, Angie Ruvo died peacefully in her sleep at age 98. The wife of Lou Ruvo, namesake of our center, and mother of Larry Ruvo, Angie was the matriarch of our Cleveland Clinic Lou Ruvo Center for Brain Health family, and looked forward each year to attending the Power of Love.

The burden of Angie's caregiving journey — one that more than 11 million Americans experience today — served as the catalyst

for the Lou Ruvo Center for Brain Health and our commitment to caregivers through no-cost educational, therapeutic and support services (clevelandclinic.org/NevadaEvents).

These programs are part of Angie's remarkable legacy, as is our Angie Ruvo Endowed Caregiving Chair, funded by Larry and Camille. A caregiver in every sense of the word — wife, mother, grandmother and great-grandmother — Angie undeniably impacted our center and our community.

We will Keep her Memory Alive forever.

We hope you can celebrate her legacy with us at this year's Power of Love.

JOIN US TO KICK OFF THE NEXT 25 YEARS OF FUNDRAISING
Cleveland Clinic is committed to growing Nevada's neuroscience landscape, and you can help.

Displaying a spirit of warmth and giving, Angie never said no to a charity and as Co-Owner of the Venetian, routinely donated dinners at the restaurant for fundraising events.

It's this spirit of philanthropy and hospitality that she instilled in her son. Larry and his wife, Camille, serve as Co-Founders and Vice Chairs of Keep Memory Alive, and have raised millions for healthcare in Nevada.

Fittingly, on February 18, 2023, the anniversary of the very day Lou Ruvo died, we're celebrating our 26th annual Power of Love® gala (see page 5).

Join us to celebrate the impact of the entire Ruvo family on their adopted hometown, Las Vegas.

Tickets at keepmemoryalive.org/POLnt or 702.263.9797.



25 YEARS OF IMPACTFUL GIVING: Celebrating the Power of Love®

On Saturday, February 18, 2023, the anniversary of the very day our namesake, Lou Ruvo, died, we'll kick off the next 25 years of fundraising to benefit Cleveland Clinic Lou Ruvo Center for Brain Health.

The highly anticipated evening of friendship and philanthropy will showcase performances from a list of notable artists, as well as live and silent auctions featuring an array of truly priceless products and experiences that you've come to expect at the Power of Love gala. Celebrity Chefs Wolfgang Puck and Tal Ronnen will take your palate on a culinary journey with distinctive dishes made especially for the Power of Love gala. And you could be there.



Community Leadership Award Recipient John Paul DeJoria

Ask Larry Ruvo for a memorable moment from the first 25 years of the Power of Love and he'll cite the 1996 gala when he ran out of auction items, and John Paul grabbed the mic to say, "I have an additional auction item. It's from your heart. I want to auction off absolutely nothing." After an enthusiastic bidder snatched up "nothing" for \$25,000, the duo — encouraged by the audience — repeated the feat twice more, and the concept of giving from the heart became forever synonymous with the Power of Love.

And so, Keep Memory Alive will present its 2023 Community Leadership Award to John Paul DeJoria, Co-Founder of John Paul Mitchell Systems and Patron Tequila. See page 3 for more about our friend, John Paul, who wrote the first check to keep Lou Ruvo's memory alive.



Remembering David Humm



Pay tribute to a Las Vegas native and the original Las Vegas Raider, the late David Humm, to shine a light on multiple sclerosis and the innovative clinical care and research being done at Cleveland Clinic Lou Ruvo Center for Brain Health. (See page 7.)

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

JOIN US ON
SATURDAY,
FEBRUARY 18, 2023
at the MGM Grand in Las Vegas

TO SUPPORT

KEEP MEMORY ALIVE



Chef Wolfgang Puck

Combining classic French techniques with California and Asian influences, Wolfgang Puck has changed the face of dining in cities throughout the nation and across the world. Starting in Los Angeles, then in Las Vegas, where he was the first celebrity chef to create a contemporary fine dining restaurant, he paved the way for the city's metamorphosis into an acclaimed dining destination.



We encourage you to buy a seat, table or ad. 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.

This not-to-be-missed event will sell out. Get your tickets today: keepmemoryalive.org/POLnt or 702.263.9797

If you're not receiving our event updates in your inbox, go to clevelandclinic.org/NVnews to get on the list.

Chef Tal Ronnen



The founder and chef of Crossroads Kitchen in Los Angeles' West Hollywood neighborhood, with recent openings in Calabasas + Resorts World in Las Vegas, Tal Ronnen first became known nationwide as the chef who prepared the meals for Oprah Winfrey's 21-day vegan cleanse. He's a *New York Times* best-selling cookbook author and conducts master vegetarian workshops for students and staff at Le Cordon Bleu College.

SPONSORED BY:



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Remembering David Humm, the Original Las Vegas Raider

At the peak of his professional football career, with a physique likened to Adonis, David Humm was a product of six to seven hours of daily workouts and nutritious eating, punctuated by the beer and fellowship he enjoyed with friends, family and teammates.

Retired Dallas Cowboy and fellow Nevada native Glenn Carano recalls speaking on the phone from Reno with his friend after David's retirement. When David "didn't sound like himself," Glenn knew just what to do: "I rallied our friends Conrad Dobler of the Buffalo Bills and Phil Villapiano of the Raiders and we flew to David's home with pizza and beer. We hung out and reminisced, because that's the kind of thing we'd do for each other."

Respected for his successes on the field and for his vivacious spirit that inspired those around him, David was fun and family focused, remembers his brother, Tom Humm, one year his junior: "David never took his fame seriously. He just wanted to play golf with me and looked forward to our family Thanksgiving celebrations. I wear David's Super Bowl ring that he gave me on our dad's birthday.

"Growing up, for David and me, everything revolved around the sports he and I played together," says Tom. "Our sisters, Cathy and Lori, were in the background. Yet, they have been the guiding light, the stability, the kindness that Mom and Dad loved about our family. People stand in galas and talk about David, but his essence came from our parents and our sisters."

Raider for life

In 1986, after retiring from the NFL, David received a diagnosis of multiple sclerosis (MS). He was in a wheelchair by the time his daughter, Courtney, was 8. Yet, she says, her father was a willing accomplice in her school show and tells, sharing football stories and memorabilia, and giving her classmates rides in his wheelchair.

"I played every sport and by my graduation, he had only missed two of my games, and we all gave him good-natured crap for those two," recalls Courtney.

DAVID HUMM

An All-American quarterback at Bishop Gorman High School, David Humm was among the most heavily recruited prospects to ever come out of Nevada. He won two Super Bowl rings with the Raiders, and was so beloved by former owner Al Davis that he remained on the team's payroll — appearing on Raider radio broadcasts and helping sell suites — decades after his playing career ended.

The Las Vegas native and lifelong Southern Nevada resident is recognized as "The Original Las Vegas Raider," even though the team was not based in Las Vegas during his playing days. In 2022, the David Humm Broadcast Booth was unveiled at Allegiant Stadium, the team's new home in Las Vegas.

Humm was the first inductee into the Southern Nevada Sports Hall of Fame in 1997. He was inducted into the Nebraska Sports Hall of Fame in 1985 and, in 1999, the *Las Vegas Review-Journal* sports staff voted him the No. 9 local athlete of the 20th century.

Tom once asked Raiders owner Al Davis why their family loved David so much. The reply? David's relentless commitment to excellence and his pride and poise on the field, in the broadcast booth and in life.

The Raiders' support — and David's tenacity — lasted to the end. When David was very ill, Al's son and Raiders owner today, Mark Davis, spent time in David's hospital room. The pair had great respect for each other, says Lori.

A family affair

Courtney, the primary caregiver for her father, says he almost died when she was 12 and again when she was 21: "He was crazy tough. Mentally, he never faltered. Physically, he was really good until he just wasn't."

Even from his wheelchair, David would say, "MS is not going to beat me."

Yet, he opted never to have treatments for his MS. Ultimately, David realized you can't eat or exercise your way out of this disease, says Tom: "That was a big departure because in high school football in our era, you didn't get hurt. You played through."

It was his sister, Lori's, MS diagnosis in 2005 that opened David's eyes to the benefits of disease-modifying therapies (DMTs).

"He saw me doing so well and couldn't deny the difference," says Lori, who walks without assistance and frequently hears, "What? You have MS? But you look so good!"

David died in 2018 at age 65; Courtney was 28.



David playing college ball for the Nebraska Cornhuskers



David Humm with daughter, Courtney, circa 2002

"Our father, Clair, always said the only thing you're born and die with is your name. The 2023 Power of Love® gala is honoring David's name. Even though he was exceedingly humble and deflected attention, David would be proud to know he's lending his name to help shine a light on multiple sclerosis in collaboration with Cleveland Clinic, a world-renowned treatment and research center right here in his beloved Las Vegas."

— Tom Humm

L-R: Tom, Cathy, Lori and David Humm



A disease that doesn't kill, but shortens lifespan

Affecting nearly 1 million Americans, MS is one of the leading causes of non-traumatic disability in young adults.

"MS is an autoimmune demyelinating disease of the central nervous system, meaning immune cells target your own body, destroying the myelin, a protective cover on the nerves," explains Le Hua, MD, Director, Neuroimmunology and Multiple Sclerosis Program at Cleveland Clinic Lou Ruvo Center for Brain Health.

The first therapy for MS was approved in 1993, and there has been an explosion of therapies in the last 10 years.

"Even today, a lot of people still aren't getting the treatment they need," says

Dr. Hua. "DMTs reduce the frequency and severity of MS attacks. All current research indicates that individuals will be less disabled if on a treatment. Even a five-year delay from diagnosis to treatment has a significant negative impact in wellbeing."

Team MS

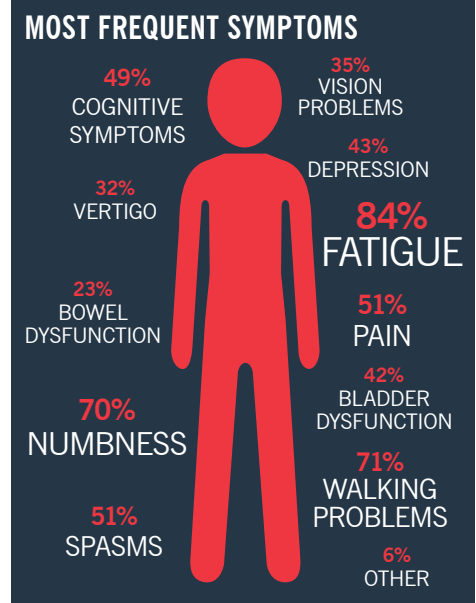
In addition to DMTs, today's standard of MS care dictates a multidisciplinary team approach to address symptom and lifestyle management, including a specialized MS neurology provider and experts in neurorehabilitation, behavioral health and more, with a shared goal to improve quality of life.

What's next in MS? Dr. Hua predicts:

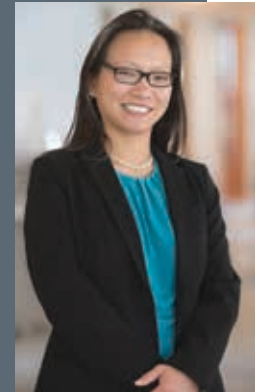
- **Improved biomarkers** – treatment response, early predictors of progression
- **Better interventions** for disabling, invisible symptoms, such as numbness and eyesight
- **Evidence to guide treatment approaches**
- **New treatment targets** (reparative/restorative; neuroprotective)

► **To make an appointment at Southern Nevada's only National Multiple Sclerosis Society Partner in Care, please call 702.483.6000 or learn more at clevelandclinic.org/NevadaMS.**

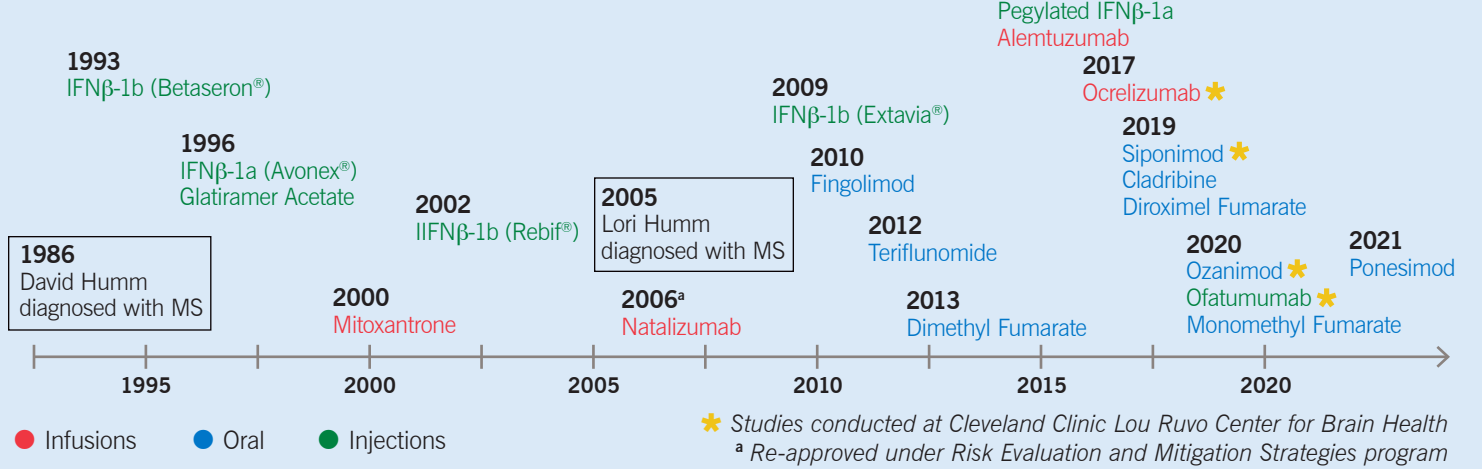
► **To support our MS program, contact us at DonateNevada@ccf.org or 702.263.9797.**



"As a neurologist, I'd like to increase general awareness of the varied symptoms of MS, in hopes the public will seek medical care so an early diagnosis can be made and treatment started as soon as possible, which presents the opportunity to reduce disability and disease progression," says Dr. Le Hua.



MS DISEASE MODIFYING THERAPY APPROVAL TIMELINE



Research Studies Drive Advances in Quest to Unlock the Mystery of AD

It's been more than 100 years since Alois Alzheimer identified "an unusual disease of the cerebral cortex" that now bears his name. We now know that this "unusual" disease is in the brains of more than 6 million Americans, and it is a condition whose effects extend far beyond an individual's cortex. Yet there is still no cure for this devastating malady.

However, since opening our doors in 2009, Cleveland Clinic Lou Ruvo Center for Brain

Health has contributed to numerous research studies in Alzheimer's disease (AD), driving significant progress in clinician-scientists' understanding of the disease.

Highlights include:

- Conducting trials of the first FDA-approved medication in the past 20 years (aducanumab), along with other promising treatments (e.g., lecanemab)
- Imaging and laboratory tests for major

proteins in the brain associated with Alzheimer's disease (tau and amyloid)

- Gaining understanding of how biological markers such as inflammation and brain shrinkage contribute to cognitive decline
- Studying the potential for monoclonal antibodies to delay or prevent cognitive decline

Here's a small portion of the research we've conducted that makes it all possible.

The Painstaking Path to Understanding Alzheimer's Disease

CATEGORY OF STUDY	THE STUDIES	WHAT WE LEARNED	WHY IT MATTERS
<p>Biomarker Studies</p> <p>What can we learn about the natural course and biological changes that occur in AD?</p>	<p>ADNI</p> <p>ADRC</p>	<p>Biological changes in AD occur decades before symptoms emerge. We can identify these changes in the brain.</p>	<p>Understanding the biological changes is invaluable. Biomarker studies have led to more sophisticated drug trials that take our understanding of AD to the next level.</p>
<p>Repurposed Agents</p> <p>Can medications currently used for some other condition be helpful in AD?</p>	<p>BEAT AD (<i>bexarotene</i>)</p> <p>TOMMOROW (<i>pioglitazone</i>)</p> <p>RASAGILINE RESCUE (<i>rasagiline</i>)</p> <p>MCLENA (<i>lenalidomide</i>)</p>	<p>Although some of these studies showed benefits, none of these medications seemed powerful enough to have a meaningful effect on AD.</p>	<p>Repurposing agents is faster because these medications are already available. The future of AD therapies will likely combine treatments of various medications, including repurposed agents.</p>
<p>Monoclonal Antibodies</p> <p>Can designer antibodies activate the body's immune system to remove toxic molecules from the brain? These antibodies are designed to "flag" amyloid for removal.</p>	<p>EMBARK, EMERGE (<i>aducanumab</i>)</p> <p>AHEAD</p> <p>CLARITY (<i>lecanemab</i>)</p> <p>A4 EXPEDITION (<i>solanuzemab</i>)</p> <p>GRADUATE (<i>gantenerumab</i>)</p> <p>CREAD (<i>Crenezumab</i>)</p> <p>TANGO (<i>Gosuranemab</i>)</p>	<p>Although these monoclonal antibodies all target amyloid, they operate at different steps in plaque formation.</p>	<p>Amyloid is a major contributor to the risk for cognitive decline, especially from Alzheimer's disease. They clearly are effective at removing amyloid but their clinical benefit is still uncertain.</p>
<p>Small molecule studies</p> <p>Can new medications targeting biological processes other than plaque formation disrupt the biology of AD?</p>	<p>GENERATION (<i>umibecestat</i>)</p> <p>MISSION AD (<i>elenbecestat</i>)</p> <p>NOBLE (<i>edonerpic</i>)</p>	<p>So far, small molecules have not stopped the progression of disease. In some instances studies were stopped before completion. Nevertheless, even a "failed" study teaches us about targets that are not worth further investigation.</p>	<p>The biochemical reactions that lead to AD are numerous and probably not the same in everyone. Molecules that worked in animal studies did not succeed in people. But, like other drugs, small molecules may turn out to be important in combination therapies.</p>

What's on the horizon?

Locally, our research represents and supports the rich diversity of our Nevada communities. Our research follows strict scientific standards that protect patients and produce reliable, repeatable results.

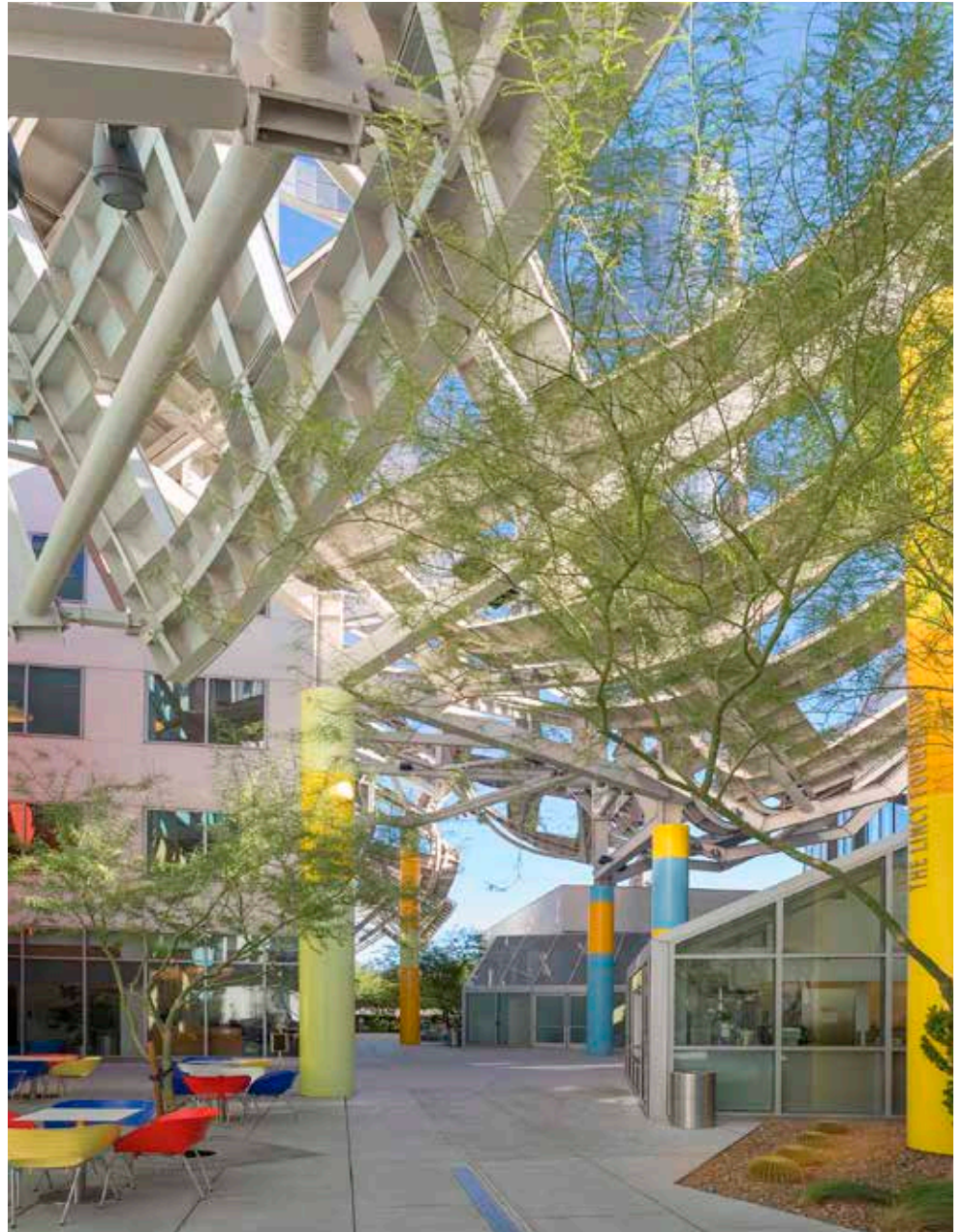
Each and every study visit is a chance for us to learn, then apply that new knowledge. Each participant's role in our research is a gift to future generations.

"We've established a critical mass of outstanding investigators in Las Vegas to pursue funding and conduct the research," says Dylan Wint, MD, Director, the Lou Ruvo Center for Brain Health. "We can't operate research without funding, and we can't make new discoveries without study participants." (See page 23.)

Our goal? We will help to discover more effective and accessible treatments, diagnostic methods, and processes that can be developed and moved to the market quickly.

We're striving to:

- Better understand and treat Alzheimer's disease and related dementias
- Develop therapies and combinations that target specific disease processes
- Include individuals across socioeconomic, geographic, racial and ethnic backgrounds to capture all aspects of disease and individualize interventions



YOU AND YOUR BRAIN CAN HELP

Together as collaborators, we can advance scientific knowledge, investigate new treatments and potential cures, and discover new ways to maximize brain health to prevent disease right here in our community.

Learn more at clevelandclinic.org/NevadaResearchNT or contact us at healthybrains@ccf.org or 702.701.7944.



In Rural Nevada, an Urgent Need to Reduce Dementia Disparities

Health disparities in Alzheimer's disease (AD) and related dementias are particularly striking in rural communities, where residents often go undiagnosed or are misdiagnosed due to lack of access to dementia specialists. More specifically:

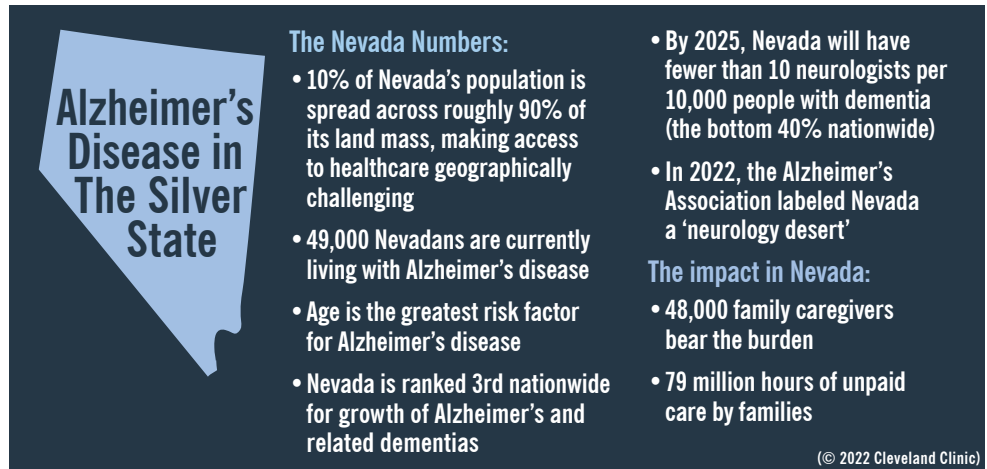
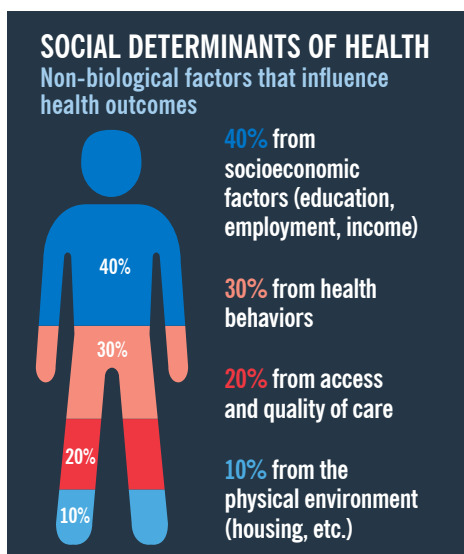
- The relative risk for dementia is 80% higher for those living in rural communities
- Survival following diagnosis is often shorter compared with those in urban communities

Ten percent of Nevada's population is spread across roughly 90% of its land mass, making access to healthcare challenging for individuals living outside the urban cores of Reno and Las Vegas. An unfavorably low ratio of providers to population throughout the state further compounds access issues.

Enlisting patients to fill research gaps

What's more, those living and aging in rural communities are severely underrepresented in research.

"The literature on people with dementia in rural areas is scarce and usually includes only a small number of non-diverse individuals with limited sets of biomedical data, largely derived from retrospective healthcare claims data," says Justin B. Miller, PhD, Director, Nevada exploratory Alzheimer's Disease Research Center (NveADRC).



This gap in care and lack of reliable data for rural patients is the driving motivator for the NveADRC, awarded to Cleveland Clinic Nevada in 2020 and supported by \$3.3 million in funding from the National Institute on Aging at the National Institutes of Health (see page 24).

The NveADRC is developing novel methodologies and technology to establish a cohort of rural-dwelling older adults and collect high-quality data to share with the broader scientific community. The goal is to better understand aging in rural America, including geographic disparities and the determinants of health that may increase risk for developing Alzheimer's and other dementias in our rural communities.

Where you live matters

Rural living presents a complex set of environmental exposures, some of which promote healthy aging and longevity, such as reduced air and noise pollution, stronger sense of community, greater access to outdoor recreation and green space, and reduced stress.

On the other hand, neighborhood disadvantage (ND) — as measured by a 17-factor Area Deprivation Index spanning population age, income, housing costs, residents per bedroom and more — is higher in most rural communities throughout the United States. However, Dr. Miller notes, "Most of the literature on ND has focused on small pockets of disadvantage within urban communities. These findings may not apply to rural communities."

Lower education, access to quality health care, and social connectedness can also influence the risk of developing Alzheimer's and other dementias and have also been found to differ between urban and rural communities. Collectively, these and other social determinants of health account for upwards of 40% of health outcomes, and addressing them is a key step toward eliminating health disparities.

Out and about: a mission for the mind

To date, the NveADRC has enrolled more than 70 individuals from the communities of Mesquite, Pahrump and Laughlin, Nevada and neighboring communities in northwestern Arizona and southwestern Utah.

The goal is to identify individual risk factors for atypical brain aging and to intervene when and where possible to maximize everyone's chances for successful, healthy aging.

We are seeking research volunteers at least 55 years old who live elsewhere in Nevada than Las Vegas or Reno and are interested in participating in an observational study. We need individuals without memory issues as well as people with mild memory problems. A stipend will be provided as a courtesy for participation. Together, we can learn more about Alzheimer's disease and how we can improve brain health for you and your neighbors.

Learn more at

nveadrc.org/NewThinking or contact our recruitment specialist at 702.701.7944.

Retired Fighters Gain Improvement in Cognitive Function, Study Shows

Repetitive hits to the head increase the risk of long-term neurologic conditions like chronic traumatic encephalopathy (CTE), cognitive and behavior problems, and parkinsonism. However, clinician-scientists haven't known what happens to people who have been exposed to head blows that then stop. Until now.

Boxers and mixed martial arts (MMA) fighters may see some recovery in their thinking and memory skills as well as brain structure after they stop fighting, according to a Cleveland Clinic Lou Ruvo Center for Brain Health study published online in Neurology in September.

"The results of this study suggest a recovery of cognitive functioning in fighters who are no longer exposed to repetitive hits to the head," says Aaron Ritter, MD, who has served since 2018 as principal investigator of the Professional Athletes Brain Health Study (PABHS).

Encouraging Results

All fighters had fought professionally within a year of the study's start. Retired fighters

then went two years without fights while active fighters continued to fight. Over three years, all fighters had brain scans. They completed tests of how well their brains were working at the beginning and the end of the study.

In the areas of verbal memory, motor speed and processing speed, the retired fighters saw improvements in their scores over time, while the active fighters' scores were stable or showed subtle declines.

For verbal memory, Dr. Ritter and co-author Charles Bernick, MD, used scores from an FDA-approved thinking and behavior test, with higher scores indicating better memory. They found that over time, retired fighters on average had an increase of three points whereas active fighters had an average decrease of two points.

Increasing awareness

Dr. Ritter notes that since his own youth football days, most play has turned to flag football until high school. In mixed martial arts, too, "there is broader awareness of how much sparring fighters should do, and sports

governing bodies are educating individuals around the number of rounds they should fight," he says.

Adds Dr. Bernick, "Future research is needed to determine if there is a time in a fighter's career where recovery is less likely to happen, or to identify factors that might indicate greater risk for developing a neurodegenerative condition."

PHILANTHROPY PACKS A PUNCH

The Professional Athletes Brain Health study has received funding from the Department of Defense, Lincy Foundation, Ultimate Fighting Championship Company (UFC), Top Rank Promotions, Haymon Boxing and the August Rapone Family Foundation.

Interested in funding novel research at the Lou Ruvo Center for Brain Health? Contact our philanthropy team at 702.263.9797 or DonateNevada@ccf.org.



BERNICK IS BACK!

Charles Bernick, MD, MPH, has been involved in Alzheimer's disease research and treatment for more than 30 years. He moved to Las Vegas in 1994 to join the University of Nevada School of Medicine and directed the development of a statewide network of Alzheimer's disease care.

Dr. Bernick joined the Lou Ruvo Center for Brain Health upon its opening in 2009 and, in 2011, launched the PABHS. With more than 900 participants, it is the largest longitudinal study of repeated head injury in professional athletes.

While relocating his clinical practice to the University of Washington in 2018 to be closer to family, Dr. Bernick remained involved in the PABHS. In October 2022, he returned full time to the Lou Ruvo Center for Brain Health. Although Dr. Ritter's clinical practice has now moved out of state, the pair continue to collaborate in their study of professional athletes at Cleveland Clinic.

Specialty Certifications Affirm Center's Exceptionalism

Patients often say, "I knew something was changing in my health, but I wasn't sure what to do." Navigating care can be challenging. That's why consumers and referring providers — such as internists, geriatricians and general neurologists — look to centers of excellence and other designations for consistent, evidence-based specialty care.

The most informative designations are conferred by third parties, such as disease associations or the National Institutes of Health — entities that understand nuanced health conditions, have established standards for research and treatment, and have surveyed the national landscape,

conferring their designations only on those who meet the criteria that will produce the best possible results for patients.

Since opening in 2009, Cleveland Clinic Lou Ruvo Center for Brain Health has received an array of such designations.

INDIVIDUAL PROVIDER CERTIFICATIONS

Our care teams have achieved additional, optional specialty certifications unique to their respective professions.

"We believe this targeted training positively impacts patients and their families through more nuanced diagnoses and treatment plans," says Dylan Wint, MD, Director, Lou Ruvo Center for Brain Health. "This is reinforced each time a family tells me how a member of our care team was able to 'get through to their loved one when no one else could' or a patient thanks us for the 'reassurance of a firm diagnosis after a long quest for an explanation.'"

Neurology

Not to be confused with trainees (see *sidebar on fellowships*), "Fellow" status with the American Academy of Neurology (AAN) recognizes exemplary work and achievements in the neurosciences and the clinical practice of neurology. In addition to meeting the requisite criteria, applicants must be endorsed by more seasoned neurologists. Three of our neurologists have achieved this honor.

Neuropsychology

According to the American Board of Clinical Neuropsychology (ABCN), its certification process is designed to assess scientific knowledge and clinical skill, and to provide external evidence of competence in the practice of neuropsychology. In 2022, 40% of those who had obtained this optional certification and practiced in Nevada were employed at our center.

Neurorehabilitation *(physical, occupational and speech therapy)*

As of October 2022, 100% of our physical and occupational therapists had become PWR!Moves® certified therapists. The Parkinson Wellness Recovery program addresses specific exercise types to trigger brain health and repair mechanisms in individuals with Parkinson's disease (pwr4life.org/moves).

The American Physical Therapy Association (APTA) offers optional opportunities for therapists to prove knowledge in focused areas of practice. Our PTs have earned the Board-Certified Clinical Specialist designation in Neurologic Physical Therapy and Geriatric Physical Therapy and the Certificate in Vestibular Rehabilitation.

To find specialized PT near your home, visit apta.org.

CERTIFICATIONS ACROSS DISCIPLINES

Multiple sclerosis

The Consortium of Multiple Sclerosis Centers supports a voluntary certification process, the Multiple Sclerosis Certified Specialist (MSCS) examination, which formally recognizes a specialized body of knowledge believed necessary to provide optimal care to individuals and families living with MS. At the Lou Ruvo Center for Brain Health, a team of PTs, occupational therapists and social work professionals has earned this certification.

Certified Dementia Practitioner (CDP)

CDP certification complements the professional credentials and training already obtained in one's chosen healthcare profession. A CDP certification reflects a deep personal commitment, inspiring confidence in a professional's knowledge of quality care for individuals with dementia.



Only top-10
neurology
program in
Nevada



Exploratory
Alzheimer's Disease
Research Center
from the NIH
(Nevada's first
and only)



Parkinson's
Foundation
Center of Excellence
(Nevada's first
and only)



CurePSP
Centers of Care
(among the first five in
the United States)



"Partners in Care"
from the National
Multiple Sclerosis
Society
(only program in
Southern Nevada)

New in 2022: Parkinson's Foundation Center of Excellence

We were honored to have been part of the Parkinson's Foundation Center of Excellence (PF COE) awarded to Cleveland Clinic in 2018. In 2022, the Lou Ruvo Center for Brain Health in Las Vegas was named a standalone COE — one of only 51 sites globally.

"While a Center of Excellence is a source of pride to all recipients, more importantly, it's an indication to prospective collaborators — be they patients, researchers or healthcare professionals — of an organization's aptitude and approach to patient care," says Zoltan Mari, MD, director of our Parkinson's Foundation COE, with support from Jenny Nguyen, APRN, and Stephanie Giuffre, RN. "We are proud to expand upon our work as Nevada's first and only Parkinson's Foundation COE."

This sought-after COE identifies hospitals and academic medical centers with specialized teams — neurologists; movement disorders specialists; physical, occupational and music therapists; and behavioral health professionals — at the leading edge of the latest medications, therapies and innovations in Parkinson's disease. As a team and individually, they meet the PF's rigorous qualification requirements.

In October, our transdisciplinary team traveled to Kansas for the Parkinson's Foundation's Team

Training, which is designed to increase knowledge and build capacity for comprehensive, inter-professional care in the treatment of Parkinson's disease, focusing on:

- Challenges in managing medication and its side effects
- Non-pharmacologic management strategies for non-motor symptoms
- Support for people with PD and their families in self-management
- The unique and complementary role of each discipline on the COE care team

Next up for our PF COE? Expand research, infrastructure, patient support, community outreach and educational programming here in Nevada.

To make an appointment with the neurology team at our Parkinson's Foundation Center of Excellence, call 702.483.6000.

L to R: Janet Nacua-Peck; Jenny Nguyen, DNP; Lucille Carriere, PhD; Justina Selim; Angela Cesena; Becky Wellman, PhD; Jessica Grocott; Shehroo Pudumjee, PhD and Zoltan Mari, MD



FELLOWSHIP FOR SPECIALIZED CARE

Medical school followed by four years of residency in neurology prepares a general neurologist to care for patients across an array of conditions, from epilepsy to spine to stroke to sleep to dementia to neuroimmunology and more.

At the Lou Ruvo Center for Brain Health, all of our neurologists have achieved additional specialization through a year or two of fellowship.

As an academic health center, we contribute to training the next generation of neurologists. Ours are the only fellowship programs for these specialties in Nevada:

- **Behavioral Neurology and Neuropsychiatry (BNNP)**

Accredited in 2012, we have trained three fellows for careers in cognitive disorders to date, with another currently on campus.

- **Clinical Neuropsychology Postdoctoral**

The neuropsychology fellowship boasts six graduates and two trainees. (See page 21.)

- **Clinical Neuroimmunology and Multiple Sclerosis**

Our first fellow completed his training in June 2022; our second is actively training with us.

In Families With Huntington's Disease, an Agonizing Decision for Every Member

Huntington's disease (HD) is a devastating genetic disease passed down from one generation to the next, with notable symptoms including uncontrollable twitching of arms, legs or face. If one parent has the disease, you have a 50% chance of inheriting the gene; if you have the gene, you have a 100% chance of developing HD.

Genetic testing for HD has a 99.9% accuracy rate, so a simple blood test will reveal your status. Yet, the decision to test is not a simple one.

"We hope no one will take the test without the proper support network," says Cleveland Clinic Lou Ruvo Center for Brain Health movement disorders neurologist Odinachi Oguh, MD. "Anyone can get testing at a lab with an order from a primary care provider but, in the aftermath, if it turns out the individual is positive, psychological grief typically arises from the diagnosis."

And among those who are negative, she has seen the downstream effects first hand: relief, certainly, but often survivor's guilt. Dr. Oguh explains: "You have relatives testing positive, but you didn't. You've been spared because you were randomly selected at birth to have a negative gene. Your good news may leave you or others in your family feeling badly."

Support for HD families

The estimated 300 individuals living with HD in Nevada have family members who need to decide whether to test. That's where the multidisciplinary Huntington's Disease Predictive Genetic Testing Clinic,



with the coordinated expertise of three clinicians, can help.

Cleveland Clinic team members work in concert to address key components with those considering testing:

- **Movement disorders neurologist:** Discusses family history and evaluates for any subtle symptoms of HD
- **Health psychologist:** Reviews patient's emotional health, family situation and readiness for testing, and addresses the psychosocial aspects of receiving test results
- **Genetics counselor:** Provides HD genetics information and covers the benefits, limitations and risks of testing,

spanning genetic discrimination, workplace issues, insurance and more

"Our clinic will walk you through the pros and cons of seeking testing, from the practical financial considerations, such as purchasing enhanced insurance policies, to the psychosocial, notably the impact in learning test results – whether negative or positive," says Lucille Carriere, PhD, Behavioral Health Director and Angie Ruvo Endowed Caregiving Chair at the Lou Ruvo Center for Brain Health in Las Vegas. She collaborates with genetics counselor Amy Shealy, MS, CGC, located at Cleveland Clinic's main campus in Ohio, and the pair together present the results to the patient.

If the test is positive...

Your movement disorders team will discuss best approaches for disease management.

"Our goal is to arm individuals with the information they need in time to make important life decisions based on knowledge of their health status," says Dr. Carriere.

MAKE AN APPOINTMENT

To make an appointment with our movement disorders team for the Huntington's Disease Predictive Genetic Testing Clinic or the affiliated Huntington's Disease Comprehensive Clinic, call 702.483.6000. Learn more at clevelandclinic.org/NevadaMovement.



Wondering About Wandering?

A new environment can be disorienting to anyone. For people with dementia, even a place where they've lived for years can seem unfamiliar, frightening or disturbing. In such an uncomfortable situation, it's human nature to want to return to familiar places and people.

With dementia, that quest for comfort may manifest in a behavior known as wandering.

A fairly broad concept, wandering doesn't refer just to individuals straying from home or walking off on their own in public. Wandering can also happen within the home, in the form of repetitive actions, pacing or expressing the need to "go home" when already there.

Individuals may also have difficulty locating familiar and essential places such as the bathroom. They may inquire about the whereabouts of long-deceased loved ones and past friends, or get nervous in crowds, new settings, or even familiar but forgotten locations.

Partnering With OT

Occupational therapy can help. Priscilla Flores, OTD, MSOTR/L, an occupational therapist (OT) at Cleveland Clinic Lou Ruvo Center for Brain Health, explains: "OTs can provide recommendations to decrease unsafe behaviors, support safety, and teach family, friends or caregivers to stop unsafe wandering in its tracks. OT's also assist with de-escalating unwanted behaviors when needed."

Caregivers can learn "to understand the signs of discomfort and make sure that the patient's basic needs — such as being fed, using the bathroom and pain relief — are being met," says Ms. Flores. "Caregivers can also explore meaningful activities to reduce the risk of boredom for the patient, such as encouraging walking or exercise programs, music, meaningful occupations or hobbies, social experience and purposeful tasks around the home."

An underreported concern

While around 20% of community-dwelling individuals with dementia and 60% of those living in institutionalized settings are reported to wander, "Wandering is underreported and not addressed as frequently as it should be," says Ms. Flores, who adds that the risk of wandering increases with severity of cognitive impairment, and that individuals who wander multiple times a week almost always have at least moderate dementia.

Wondering if OT can help with wandering that you've observed? Contact our neurorehabilitation team at 702.483.6032.

TIP

See something, say something

Anyone would try to assist a lone wandering 3-year-old child; but what about a senior sitting on a bus bench for hours? Or walking slowly, seemingly without purpose? Consider notifying your local police department. Your tip may help reunite a missing person with loved ones.

— *Detective Richard Tennant, Missing Persons Detail, Las Vegas Metropolitan Police Department*

TIP

Invest in a Medic Alert Foundation ID bracelet (medicalert.org/alz)

The Alzheimer's Association, in collaboration with MedicAlert® Foundation, provides nationwide membership plans with 24/7 wandering support. The Association also has a 24/7 Helpline (800.272.3900) available in more than 200 languages. It is staffed with clinicians who provide additional assistance for families living with Alzheimer's and other dementias.

— *Caroline Baumis, MSW, Alzheimer's Association*



Priscilla Flores, OTD, MSOTR/L

HOW TO REDUCE WANDERING RISKS

Family and caregivers can consider:

- Redirecting or reducing access through camouflage; for example, by placing a mirror in front of exit doors, covering doorknobs or installing latches out of the individual's reach or line of sight.
- Installing interior alarms that alert to departure from a safe zone.
- Disabling or locking up keys to vehicles.
- Using GPS trackers on smart devices, or alert systems outside the home.



Can You “Dual Task”?

Physical and Cognitive Tasks Work Body and Brain

Alone at the gym or in a physical therapy (PT) appointment, we all want to use our workout time as efficiently as possible, working different areas of the body in different sessions and multitasking, where possible, to get an exercise “two-fer.”



“In PT, we refer to working the body and the brain simultaneously as ‘dual-tasking,’” says Christy Ross, PT, DPT, a board-certified Geriatric Clinical Specialist. “We

may ask our patients to walk on the treadmill while naming places they’ve traveled or as many animals as possible. In individuals with some level of cognitive impairment, this approach not only maximizes our hour together, but simulates what happens out in the ‘real world,’ such as the distraction of being interrupted with a question while walking through the grocery store and searching for an item.”

Distractions in the real world may not only make everyday activities more

challenging and cause the task to be less efficient; they can also lead to falls. Skill building across the four physical and six cognitive domains can help. (See *callout box*.)

Mix it up vs. pick it and stick with it

With patients experiencing cognitive decline, PTs sometimes use an exercise approach known as variable practice, which loops back to previous tasks after introducing new ones.

Research supports the impact that variable practice can make on retention of a new skill, “either because it trains the body for different strategies to improve a given task, or because the task needs to be reconstructed in the brain each time it is performed in a new context,” says Michael Gevertzman, PT, DPT, a board-certified Neurologic Clinical Specialist. “Alternating tasks increases engagement and challenges the brain anew with each performance.”



For example, explains Dr. Gevertzman, he might guide a patient to practice standing from a chair, then repeat the exercise using a chair that is higher or lower, then adding a dual-task component. Then, the PT might change the environment or add other goals to the task so that each set is unique.

Yet, variable practice isn’t for everyone, which is why specialized physical therapy comes in handy.

“For those with a significant degree of cognitive dysfunction, ‘blocked practice’ — where tasks are performed multiple times in a row in the same way — can be more effective than variable practice, creating more carryover benefit when performing the same task again in the future,” says Dr. Gevertzman.

Our specialized physical therapists are proficient in every approach (see *page 13*).

Wondering if targeted neurological physical therapy can help you? Call our neurorehabilitation team at 702.483.6032.

PHYSICAL DOMAINS

Balance
Strengthening
Stretching
Aerobic



NEUROCOGNITIVE DOMAINS

Perceptual motor function
(visual perception, perceptual motor coordination)

Language
(word finding, fluency, grammar and syntax)

Learning and memory
(recall, recognition memory)

Social cognition
(insight, contextually appropriate emotional reaction)

Complex attention
(processing speed, divided attention)

Executive function
(planning, decision making, flexibility, inhibition)



“Microhabits” Yield Macro Results in Personal Health

We all have great ambitions to live healthier. However, if we don't set our goals realistically, we may set ourselves up for failure, which leads to self-blame and decreased self-confidence. That's where micro-habits, a term that has worked its way into the vernacular, can help.

“Implementing small, everyday actions to improve your health is a great way to start,” says Dylan Wint, MD, Director, Cleveland Clinic Lou Ruvo Center for Brain Health. “Our advance practice providers, with their rich background in primary care and ongoing commitment to furthering their own health education, are astute advisers on practical habits.”

Let's see how they practice what they preach.



Jenny Nguyen, DNP, APRN, FNP-C

Nurse Practitioner, Movement Disorders Team

Without an adequate amount of sleep, mental and physical health can suffer. Not getting enough sleep can also impact memory, work performance and interpersonal relationships. Good sleep tonight is the foundation for a good tomorrow.

I strive to do what I advise my patients: Get as close to eight hours of sleep as possible.



Simrit Kaur Saraon, DNP, APRN

Nurse Practitioner, Cognitive Disorders Team

Learn something new. It could be as simple as brushing your teeth with your non-dominant hand. There is a growing body of evidence that learning new information helps with neurogenesis.

I'm currently challenging myself to learn to use a sewing machine, which is indeed a challenge!



Maileen Ulep-Reed, PhD, APRN, FNP-BC

Nurse Practitioner, Cognitive Disorders Team

It's okay to take that time for self-care. Scheduled breaks are much needed to prevent burnout. None of us finds it easy.

I try to dedicate at least 30 minutes each day to sitting and enjoying my backyard. On the weekends, I garden.



Erin Wilkinson, MSN, APRN, FNP-C

Nurse Practitioner, Multiple Sclerosis Team

Exercise and physical activity can improve brain health, assist in managing depression and anxiety, improve mood, boost energy, promote better sleep, prevent falls, strengthen bones and muscles, and reduce certain health risks.

I enjoy riding my bike outdoors when the weather permits, as well as walking around outdoor craft fairs or farmers' markets for a few hours on weekends.

WHAT IS A NURSE PRACTITIONER?

At the Lou Ruvo Center for Brain Health, we address brain disease through two important steps: accurate diagnosis provided by our physicians, and expert disease management. Each component requires unique neurological specialization.

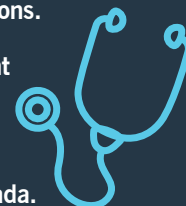
As our experts in ongoing disease management, the team's advanced practice providers — nurse practitioners

and physician assistants — are trained to detect subtle changes in condition and adjust treatment plans accordingly.

Nurse practitioners (NPs) have advanced degrees and are board certified; NPs at our center have published research in peer-reviewed journals, have earned or are completing doctorate degrees and are licensed as family nurse practitioners who specialize in neurology. They can

prescribe drugs and order and interpret diagnostic tests, and are astute overseers and strong communicators on the relationship between overall health and neurological conditions.

To make an appointment with our neurology team, contact us at 702.483.6000 or clevelandclinic.org/Nevada.



Dementia: It's Time to Talk

Families and community providers alike ask us what's the point of pursuing a referral to a cognitive disorders neurologist when there's no cure for dementia. On the surface, that's a reasonable question.

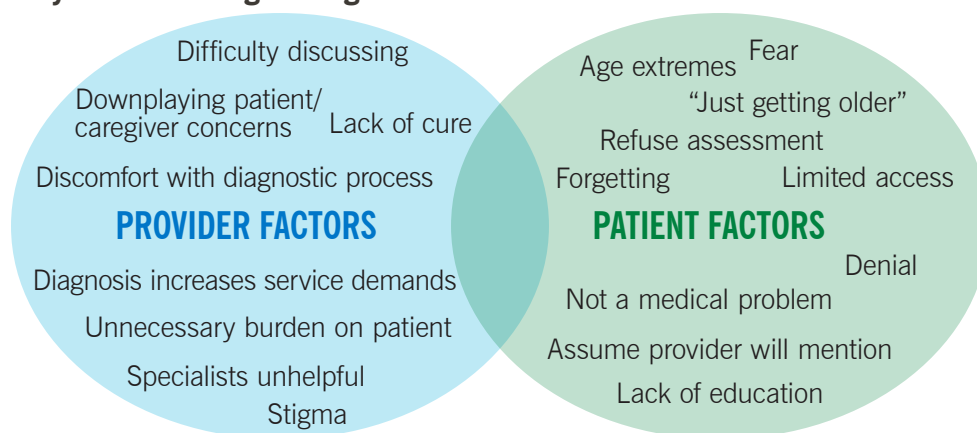
Here's how neuropsychiatrist Dylan Wint, MD, Director, Cleveland Clinic Lou Ruvo Center for Brain Health, responds: "There's no cure for diabetes; yet, it would be ridiculous for a patient or their doctor to skip checking blood sugar because 'we can't fix it.'"

Research indicates that "not talking about it" is the approach many providers take with dementia — even though, like diabetes, symptoms of Alzheimer's disease (AD) and related dementias can be managed. The goal of treating chronic, incurable conditions is to forestall or prevent complications. For diabetes, those risks include heart and kidney disease, nerve problems and strokes. For degenerative brain diseases, complications can include car accidents, nursing home placement and medication errors.

Forty-nine percent of elderly patients with suspected dementia are not told about it. This concealment is disturbing notes Dr. Wint, because research from the Harvard School of Public Health (2011) and others supports patients' desire to know their condition:

- 75-80% say they'd want to know if their doctor had information suggesting they had a dementing disorder
- 80% with symptoms would go to doctor
- 65% with no symptoms would take a hypothetical test that could predict whether they would get AD

Why Are We Failing to Diagnose?



Bradford et al 2009. Alz Dis Assoc Disord

Provider discomfort is real

While research shows that providers have no difficulty discussing cancer and other potentially fatal diagnoses, stigma remains around AD.

Consider the reasons — real or perceived — to avoid the conversation.

"These perceptions are not all wrong, but they're not medical reasons to avoid delivering a diagnosis," says Dr. Wint.

Conversely, there are solid medical reasons to discuss and investigate: medications can slow the loss of function and delay nursing home placement up to two years. Rehabilitative interventions can preserve independence.

"Given that symptoms of varied dementias start to converge later in the disease process, earlier diagnosis enables us to offer more precisely targeted interventions and support to individuals and their care partners," explains Dr. Wint.

Threats of inaction are real

Those who know they have dementia are more likely to take appropriate safety precautions, while individuals who are unaware may inadvertently harm themselves or others through unassisted caregiving (perhaps for a grandchild), preparing hot meals alone, driving, or mismanaging personal finances.

During an August event, Dr. Wint shared with community providers research measuring patient mood before and after a diagnosis: "We actually relieve depression and anxiety by delivering a diagnosis, helping patients and families move on to living well with dementia."

Looking ahead: the future of dementia care

The progression of neuroscience makes it even more likely providers can deliver accurate diagnoses.

"Images generated today by MRI have given us clear evidence of changes in the brain to share with patients, and blood tests are on the horizon to provide low-cost, minimally invasive confirmation of disease right in our lab," says Dr. Wint. "As more disease-modifying therapies become available, we will be empowered to change the trajectory of disease once we've identified its presence, which heightens the importance of preventing complications now."

Wondering if you or someone you know can benefit from learning more about brain changes? Make an appointment with our neurology team: 702.483.6000.

BENEFITS OF KNOWING

PREPARATION:

- Evaluate career status
- Make financial plans
- Consider medical decisions
- Establish advance directives

QUALITY OF LIFE:

- Optimize safety
- Connect with resources early on
- Make important decisions: downsize home, relocate closer to family
- Enjoy "bucket list" items sooner

OPTIMAL CARE:

- Earlier treatment produces better outcomes
- Participation in research studies of potential new treatments
- Prevention of medical errors (avoid medications that may contribute to cognitive decline)

New Research Highlights Women's Cognitive Health Risks

In 2022, the Women's Alzheimer's Movement (WAM) at Cleveland Clinic released the results of a comprehensive survey on the state of women's health, revealing that American women are largely unaware of crucial and pressing health issues that can impact their lives and long-term health.

The findings were presented by Maria Shriver, founder of WAM and strategic partner for women's health and Alzheimer's disease at Cleveland Clinic, and Beri Ridgeway, MD, Cleveland Clinic's chief of staff, at the Aspen Ideas: Health Festival on June 24.

Among the more startling facts: 82% of women do not know they are at increased risk for Alzheimer's disease, though two-thirds of cases are women. Also, the majority of women have not spoken with their healthcare providers about critical areas of health that can put them at risk for the disease.

An alarming 73% of women have not discussed their cognitive health with providers, and 62% of women have not discussed menopause or perimenopause — transitional phases in a woman's reproductive life — that are critical to monitor closely to reduce the risk for Alzheimer's disease.

One positive survey finding revealed that when educated on lifestyle factors, women are highly motivated to prioritize them to reduce their risk:

Risk reduction: a flagship clinical program

Built on peer-reviewed science indicating that up to 40% of all Alzheimer's cases might be preventable through risk reduction strategies, the Women's Alzheimer's Prevention Center is the nation's first women-specific medical clinic for Alzheimer's disease prevention, research and caregiving support.

The Women's Alzheimer's Prevention Center, located at Cleveland Clinic Nevada, combines the latest science on prevention with a woman's medical history, biological risks, habits, mood and memory to create a personalized, sustainable plan for lifestyle modifications that can reduce the risk of Alzheimer's disease.

Whittling the wait list

Since the center opened in 2020, the greatest barrier has been access. Until now. Thanks to a significant grant in September 2022 from a private

foundation, we're expanding infrastructure and staff to increase the number of new patients served by the Women's Alzheimer's Prevention Center. Our goal is to eliminate the wait list, which had stretched to more than a year.

You can support the programs, patient education resources and infrastructure in our Women's Alzheimer's Prevention Center. Contact us at 702.263.9797 or DonateNevada@ccf.org. Learn more at clevelandclinic.org/WAM.

WHAT IS WAM AT CLEVELAND CLINIC?

In 2022, the Women's Alzheimer's Movement (WAM), founded by Maria Shriver, and Cleveland Clinic formalized a partnership. WAM at Cleveland Clinic combines educational, advocacy and fundraising experience with medical and research expertise.

WAM at Cleveland Clinic explores the connection between female biology and health experiences, and how these factors affect women's risk for developing neurological diseases. While expanding its mission beyond dementia, WAM at Cleveland Clinic maintains its focus on the growth of its core clinical program, the Women's Alzheimer's Movement Prevention Center at Cleveland Clinic.



Women are highly motivated to make lifestyle changes to reduce their chances of developing Alzheimer's disease.

82%
would work to stay mentally active

71%
would maintain a healthy weight

67%
would get better sleep

66%
would exercise regularly



An Approach That Serves Patients and Providers Well

Sonakshi Arora, PhD

Patients seek the most specialized care they can reasonably access to improve their health outcomes. Similarly, trainees — the next generation of providers — seek a robust, targeted experience as the capstone on their education. In an academic health center such as Cleveland Clinic Lou Ruvo Center for Brain Health, these shared goals benefit both parties.

Such is the case for Sonakshi Arora, PhD, who joined the center in 2021 for a two-year fellowship in neuropsychology, a discipline focused on assessing thinking and memory, which can aid in making a diagnosis and in tracking changes over time.

“The Lou Ruvo Center for Brain Health is a ‘one-stop shop’ where we’re able to coordinate care for our patients, rather than their having to piece together notes from assorted providers in the community,” says Dr. Arora. She has seen the impact of this transdisciplinary approach on patient care — and on her approach as a newly minted neuropsychologist. *(See sidebar.)*

Thinking in real-world terms

For example, Parkinson’s disease affects movement, but can also impact cognition. While a movement disorders neurologist can see a picture of the brain via MRI, or gain insight into its function through a neurological exam, neuropsychology plays a critical role in understanding how cognitive changes manifest in daily life, says Dr. Arora.

She cites an individual contemplating deep brain stimulation surgery (DBS).

“This person mistakenly inferred that their cognitive complaints could be completely reversed through DBS, and that’s not necessarily the case,” says Dr. Arora. “As neuropsychologists, once we teased out the patient’s thought process, we were able to go back to the referring neurology provider, who was able to revisit with the patient the pros and cons of surgery.”

In another instance, the family of a person with early mild cognitive impairment was beginning to question the merits of the individual living alone. Through an understanding of the influence of occupational therapy (OT) developed during her fellowship, Dr. Arora referred the patient to OT for an evaluation on critical activities such as bill paying, cooking and safety in the home.

“I anticipated this would be a great working environment with a supportive, transdisciplinary team who care about training fellows, but the Lou Ruvo Center for Brain Health has exceeded my expectations by providing experiences beyond clinical and research,” says Dr. Arora, who has represented the center at the Las Vegas PRIDE Festival and has presented to colleagues at case conferences and to the community at Lunch & Learns.



WHAT ARE INTERDISCIPLINARY AND TRANSDISCIPLINARY CARE?

“Interdisciplinary” means that each discipline — such as physical or occupational therapy or neurology — contributes its perspective to patient care in a way that is visible to other disciplines.

“Transdisciplinary” suggests that different disciplines collaborate to develop a shared framework of care, with each member contributing expertise and influencing the others toward an agreed-upon holistic goal for the patient.

	INTERDISCIPLINARY NOTES	TRANSDISCIPLINARY EXCHANGE
Physical Therapy (PT)	“This patient has stopped coming to appointments. Advised him that these appointments are important to improve his balance.”	“This patient has stopped coming to appointments. He knows it’s important. OT, how can we match his actions to his intentions?”
Occupational Therapy (OT)	“This patient has stopped going to physical therapy because he gets up too late. I recommended an alarm clock and scheduling appointments later in the day.”	“He says he’s waking up too late for PT. Perhaps we can schedule later appointments for him. But I wonder, doctor, is this new behavior part of his condition?”
Neurology Provider (doctor, nurse practitioner)	“This patient reports that he is sleeping very well. The new medication is working”	“I started a medication for insomnia during his last visit. He’s sleeping through the night, but it sounds like he is sleepier and less motivated in the morning? I’ll reduce the dose and you let me know if he starts going back to PT.”

2.0: Volunteer Program Gets a Reboot

Ask our volunteers why they donate their time and talents and you'll receive an array of inspired responses. Some give in honor of care that loved ones with brain disorders have received at Cleveland Clinic Lou Ruvo Center for Brain Health; others serve while currently in our care. Some are drawn to our center after retiring from healthcare careers; at the other end of the spectrum, we have students gaining volunteer experience towards a future career.

Many simply enjoy being part of the vibrant environment at our center and making an impact on the community we share. Those who are or have been caregivers develop friendships rooted in the common ground they have traveled.

But when COVID-19 struck, Cleveland Clinic put the program on hiatus in March 2020.

Welcome back!

In early summer 2022, with masks added to their uniforms, our volunteers started to return. Here's what we've heard.



Judy Ariola

Prior to COVID, Judy Ariola dedicated most of her volunteer time to the Lou Ruvo Center for Brain Health's special events and community-facing programs and participated as a normal control in our research studies. Currently, she's serving as a greeter in our lobby.

"Even through their masks, we see the smiling eyes and the gratitude from employees who appreciate us volunteering," says Judy, whose relationship with our staff dates back 10 years.

GET INSPIRED AND BE INSPIRING

We're always on the lookout for upbeat, enthusiastic and passionate individuals committed to enhancing the wellbeing of Southern Nevadans.



Do you love meeting and greeting, and serving as an ambassador for better brain health?
Be a lobby volunteer.



Do you love books and want to help people learn?
Be a volunteer librarian.



Do you like being active and want to help our therapists and patients?
Be a physical or occupational therapy volunteer.



Do you love music and want to help as we use it to connect with our patients?
Be a music therapy volunteer.



Looking for something else?
We have opportunities to implement outreach programs in the community, teach classes at our center or help with administrative tasks.



Ed Ort

Ed Ort has volunteered alongside our physical therapists for nearly eight years, and currently helps set up and clean equipment, greet patients and stands by with an extra set of eyes on individuals at risk for falls.

He used to make appointment reminder calls, and remembers fondly how one patient's mother would "instantly recognize my voice and say she was happy to hear from me. I felt I made a really positive connection with both of them."

"I've had the good fortune to meet so many wonderful patients who have been willing to tell me about themselves and their interests. And I've marveled at the competence, dedication and genuine warmth of the physical therapists," says Ed. "During the time away from volunteering, I really missed those folks."

Dylan Wint, MD, our center director, frequently noted pre-COVID that when patients arrived in his office, most were calm and chatty, having been put at ease by cheerful volunteer greeters: "The change in my clinic was palpable during the volunteer hiatus, and I'm beyond delighted they've now returned to positively impact our patients."

INTERESTED? Contact volunteer services at 702.701.7940 or volunteerlv@ccf.org. More information, including a volunteer application, is available at clevelandclinic.org/NVvolunteerNT.

Public-Private Funding Changes Nevada's Neuroscience Landscape

At Cleveland Clinic Lou Ruvo Center for Brain Health, public and private donors support a range of expenses, such as salaries, therapeutic equipment, and conferences where scientists exchange ideas that inspire new research.

Notably, philanthropy funds investigator-led science and, in doing so, accelerates the pace of discovery, enabling researchers to leverage data collected during donor-funded studies to apply for larger public grants.

“We invest in our young scientists with the hope and expectation that important, life-changing discoveries will evolve,” says Dylan Wint, MD, Director, the Lou Ruvo Center for Brain Health.

A track record of prestigious grant awards

The Lou Ruvo Center for Brain Health enlarged its research infrastructure during a five-year Centers of Biomedical Research Excellence (COBRE) grant — southern Nevada's first — secured in collaboration with UNLV in 2014. In late 2021, the National Institutes of Health (NIH) awarded our center a second grant to continue growing the COBRE. This award came on the heels of four NIH grants in the preceding two years to:

- Develop statistical models for using fMRI data to predict individuals at risk for Alzheimer's disease
- Address disparities faced by individuals with dementia in rural settings (see page 11)
- Better understand mechanisms of Alzheimer's disease risk and identify appropriate risk reduction approaches to benefit women (R01 grant) (see page 20)
- Use biomarkers to predict dementia among individuals with Parkinson's disease (R01 grant)

Awarded to fewer than 20% of applicants, exceedingly competitive R01 grants, which are peer reviewed by top-level scientists, represent the NIH's confidence in individual investigators and their institutions. Historically, a scientist's ability to secure an R01 grant has been an indicator of the individual's future success, and we trust this will play out among our clinician-scientists.

Unique to Las Vegas

The Lou Ruvo Center for Brain Health has taken advantage of its location to pioneer research into two interesting aspects of brain health.

Only in Las Vegas is there a sufficient population of sommeliers — and of curious donors — to recruit 12 wine experts to participate in a research study to determine if the brain can change in response to one's job. Indeed, several regions of the sommeliers' brains were greater in size and activation than the study's normal control participants.

The UFC, headquartered in Las Vegas, has been a valued supporter of the Professional Athletes Brain Health Study since 2011 (see page 12), offering strategic guidance on the sport of mixed martial arts (MMA), referring its athletes for participation and providing funding. In February 2016, UFC became the largest financial contributor to this study of repeated head injury and, in 2021, it marked the study's 10th anniversary by reinforcing its commitment to brain health with another five-year donation.

“We are good stewards of donor funds because we share their ambition to grow neuroscience in Nevada,” says Dr. Wint, who notes that grantor impact stretches beyond research to educational, therapeutic and support programs for patients and families (see facing page reflecting a snapshot of the impact of our state's support during a two-year period).

**Want to make a difference in the state?
Contact our philanthropy team at
702.263.9797 or DonateNevada@ccf.org.**



STATE SUPPORT IMPACTS NEVADANS

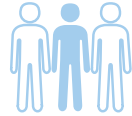
JOINING WITH OTHER FUNDERS TO ENHANCE COMMUNITY SERVICES

SOCIAL WORK



COUNSELING | THERAPY PROGRAMMING

SUPPORT GROUPS
3,086 VISITS



Learn from peers traveling the same journey

CASE MANAGEMENT
7,364 ENCOUNTERS



Receive guidance on community resources

MUSIC THERAPY
5,471 ENCOUNTERS



Engage in creative coping with a board-certified music therapist

IMPROV FOR CARE®
239 VISITS

Care partners learn new methods for caring for a loved one

YOGA
917 CLASS VISITS

Classes are tailored to the needs of participants with neurodegenerative disorders

RHYTHMIC REMINISCENCE™
292 CLASS VISITS

Individuals with dementia enjoy a fusion of music therapy and physical therapy

RESEARCH



CLINICAL RESEARCH STUDIES

> Added 20 new clinical research studies and conducted 3,114 study visits

NEVADA EXPLORATORY ALZHEIMER'S DISEASE RESEARCH CENTER (NVEADRC)

Recognizing the need to understand why Alzheimer's disease has a disproportionate impact in rural communities, this observational study seeks to identify and ameliorate risk factors specific to Nevadans living on the 80% of our state's land classified as rural and frontier.

Cleveland Clinic is the only in Nevada to achieve this recognition for its comprehensive care spanning research, treatment and education:

- CurePSP Center of Care
- Parkinson's Foundation Center of Excellence
- Huntington's Disease Comprehensive Clinic
- "Partners in Care" designation from the National Multiple Sclerosis Society (only program in Southern Nevada)
- NIA/NIH Alzheimer's Disease Research Center (NVEADRC)



SCHOLARLY ARTICLES

Published 301 papers advancing the science of Alzheimer's, Parkinson's, multiple sclerosis, neuropsychology and repetitive head trauma.



HEALTHYBRAINS.ORG

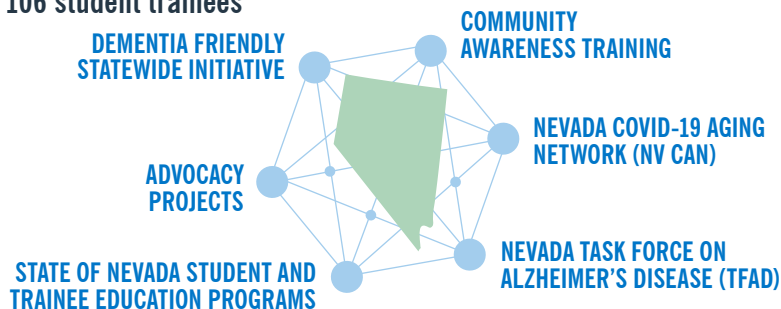
The Healthy Brains initiative utilizes email, e-newsletters, and community outreach to recruit and engage people interested in participating in clinical trials. To date, the website has more than 1.4 million page views and 19,817 people have completed a free brain health assessment.

EDUCATION



EDUCATIONAL PROGRAMMING

> Conducted 5,860 hours of post graduate fellowship training; hosted 106 student trainees



A snapshot: 2019-2021

Guilt: A Constant Companion in Care Relationships

By Nicole Wolf, Director of Marketing & Communication

While compiling this article, I experienced guilt for calling my mom's residential facility to report concern about her care. Was it guilt for burdening them anew with more requests, or that familiar guilt bubbling up yet again about moving her there so I could focus on my "day job"?

Caregiver guilt is complicated and often has many emotional layers. As the caregiving journey becomes more demanding, it's common for caregivers to question their own decision-making and the quality of care provided for their care recipient, notes Lucille Carriere, PhD, Behavioral Health Director and Angie Ruvo Endowed Caregiving Chair at Cleveland Clinic Lou Ruvo Center for Brain Health.

She says, "I frequently remind caregivers that care recipients do not expect perfection in their caregiving roles. More often, I hear care recipients commending their family members' caregiving efforts and encouraging more time for self-care."

Care recipients struggle with their own guilt. Dr. Carriere says sharing these feelings can be healthy and constructive for both sides, be it together in dialogue or with peers in a support group.

"You'll find you're not the only one," she says. "While sharing can't erase the guilt, it can normalize your experience and help you accept that you're doing the best you can in a challenging situation."

Thank you to those who voiced their thoughts on guilt here, affirming that none of us is alone with our feelings, whether we choose to express them publicly or not.

Looking to learn more or meet others walking the same journey? Try our free programs, offered online daily: clevelandclinic.org/NevadaEvents.

CARE RECIPIENT

Despair is not the answer

I feel guilty about getting a disease that is a burden to my family. Yet, no one is doing anything for me that I wouldn't do for them.

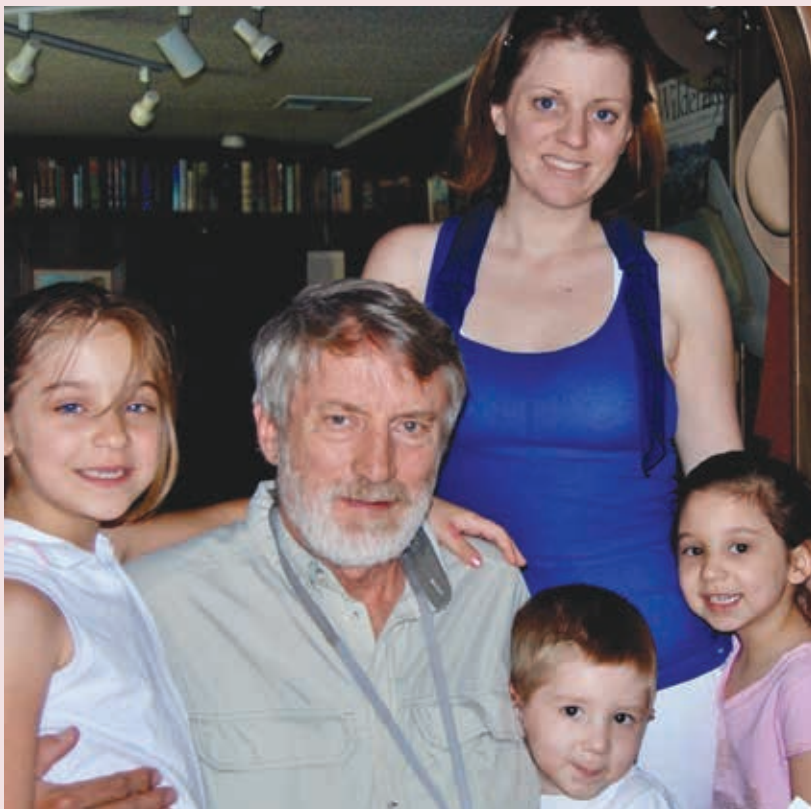
I feel guilty that I may die early after being a burden for years, and my family would be relieved rather than devastated.

I try to remind myself I can only visit that dark place, be sad, have all the feelings that come along with guilt and maybe even cry for a moment. I cannot set up camp and live there.

— **Alison Lopez**, diagnosed with MS in 2019. Her son, Tylor, 14, is her primary caregiver.



CARE RECIPIENT



"I knew I was going to lose my drivers license, so in 2007, two years after my diagnosis, I drove home for Father's Day for the final time," says Shoshannah, standing.

Stronger and smarter

I have enough guilt for myself and some to spare: guilt that my kids were so young when I got sick that only my oldest had a "normal" mom for a few years; guilt that, had I known about my multiple sclerosis years earlier, they might not exist.

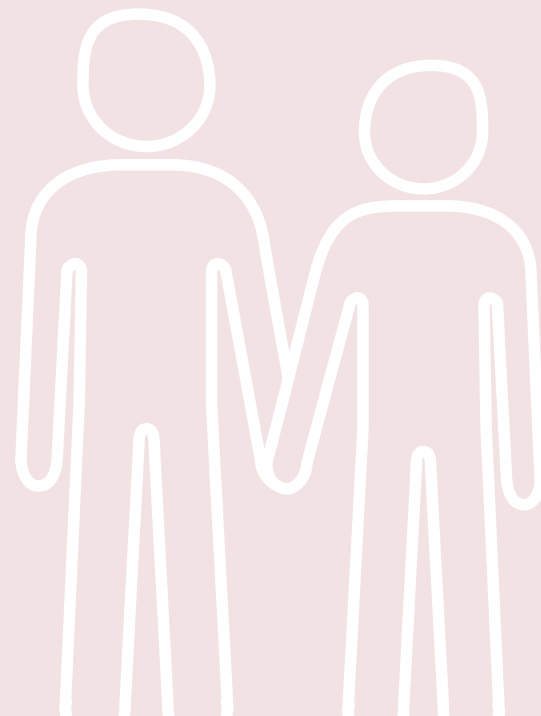
My children have become my caregivers when I should be theirs. They say that they appreciate the way they grew up, that it has made them more compassionate, stronger, smarter and harder workers.

Once, when my daughter was about 13, she spent the night at a friend's house. Her friend's mom also has MS, and was experiencing an MS flare that night. While the daughter was with her mother, my daughter jumped in and spent the night doing the dishes, laundry and cleaning for their family. My guilt turned into pride.

— **Shoshannah "Ginny" Baca,**
diagnosed with MS in 2005



Shoshannah, in 2020, surrounded by her children



Guilt: A Constant Companion in Care Relationships *(continued)*

CARE PARTNERS

Decisions in a vacuum

Looking back on my three years caring for my father in my home, most of my guilt was due to a lack of understanding of his vascular dementia. I resented how the burden of care affected my teenage children as well as my own work, volunteer activities and friendships.

The oldest of five children, I felt guilt about having to make most of the hard decisions about my father's care when we had never discussed how he wanted to spend his final days. I had to place him in a nursing home for the last five months of his life, when his physical limitations resulting from a couple of strokes became too difficult to manage.

What made me feel better during this time was prayer and meditation, and people caring enough to ask how my father was doing.

— **Judy Ariola**, a caregiver to her father, **Ernie Gabardy**, after her mother, **Millie's**, death. The trio is pictured here at Judy's wedding in 1967.



Education relieves frustration

My life changed 26 years ago when my wife was diagnosed with multiple sclerosis. As I watched her rapid physical decline, I began to wonder: Should I have acted more quickly? Would she still be able to walk? I equate guilt with frustration.

Recently, I have begun to utilize additional respite care help, which allows me to leave my worries behind temporarily and, more importantly, concentrate on my own health and wellbeing.

Through caregiving classes at Cleveland Clinic, I've discovered I'm not alone in my experience, and have relieved some of my own frustration by sharing with others. Most importantly, I try to avoid creating situations that trigger guilt.

— **Ivan Lambert**, caregiver to his wife, **Marcia**

CARE PARTNERS

A family's solution

My mom and I were in the car when she sheepishly mentioned being a burden to me; my husband, West; and our adult daughter, Jeffie. I felt so guilty for making her feel this way and, of course, told her she was not a burden.

But knowing that people tend to ruminate over and over with these perceived concerns, I wrote her a letter. All three of us signed it, framed it and presented it as a gift to her. She read it with tears of joy, and the subject was never brought up again. The framed letter remained on her dresser until her death.

— **Judi Penna (right)**, caregiver to her mother, Mary, who passed from dementia in 2020, and her husband, who recently developed early signs of dementia



A sense of relief

My mother moved in with me soon after my dad died, and I felt guilty about my impatience with her memory lapses. I was working full time (my escape) and riding a motorized scooter due to a diagnosis of multiple sclerosis years earlier. When my mom officially received her diagnosis of Alzheimer's, I felt increasingly burdened — and increasingly guilty for feeling that way.

When she fell, broke a hip and became wheelchair bound, I placed her in a facility, where she lived for two more years. I still feel guilty that I didn't feel too sad when she died in 2017, but I knew she had suffered and I was relieved for her — I guess for both of us.

— **Terri Thorn**, a caregiver to her mother, Alta Marilyn Albright, with whom she is pictured here

When everything isn't enough

While my husband was alive, every time someone told me I was a good caregiver and was doing everything I could for him, I felt guilt.

Since my husband passed away, every time someone tells me I was a good caregiver and I did everything I could, I feel guilt.

The guilt will never leave me because, in my mind, I will always believe I could have done so much more for Craig.

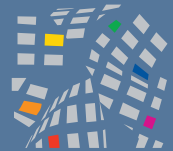
— **Diane Meireis**, whose husband died of Parkinson's disease in 2019



HOST YOUR EVENT IN AN ARCHITECTURAL AND CULTURAL LANDMARK



KEEP MEMORY ALIVE EVENT CENTER



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, and Cut & Taste, paired with incomparable attention to detail, and advanced technology, to create a truly elevated and exclusive 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.

MENTION THIS AD FOR OUR CURRENT PROMOTIONS



For information about date availability or to schedule a site visit, please contact
KEEP MEMORY ALIVE EVENTS TEAM
702.263.9797 or email eventcenter@keepmemoryalive.org

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

All In for Brain Health

Historically, the Keep Memory Alive Charity Poker Tournament has been a lucky event for the Binion family. At her first-ever poker tournament, Phyllis Binion, wife of casino legend Jack Binion, placed second at the 2019 event, bested only by her grandson, Daniel Fehser, who took home the evening's spoils.

At the November 2022 tournament, the legend himself won, amidst poker illuminati Jack McClelland, Barry Shulman, Allyn Shulman, David Williams and Ryan Riess.

Yet, all eyes were on the rookie, Kristen Routh-Silveman, the first-time player who made it to the final table and whose unabashed joy resonated with every pro and wannabe alike who had ever dreamed of such a lucky streak.

"She didn't even look at her cards. She would laugh and go all in, and she'd win!" gushed an observer. The recipient of enthusiastic hugs and high-fives, Kristen was the underdog for whom everyone was rooting, including the charity itself.

When the purpose of play is fundraising, the "fun" is a key component. It certainly was on November 4 in the Keep Memory Alive Event Center.

Other highlights from the evening included musical stylings by Michael Shulman and specialty bites donated by Clique Hospitality.

“ She didn't even look at her cards. She would laugh and go all in, and she'd win! ”



Kristen Routh-Silveman



L - R: Larry Ruvo, Jack Binion, and Camille Ruvo

Visitor Photo Gallery



On August 4, 2022 — the day that could have been Lou Ruvo’s 100th birthday had he not been stricken with Alzheimer’s (see page 3) — staff at the eponymous Lou Ruvo Center for Brain Health enjoyed a celebration hosted by Keep Memory Alive Board Member Michael Severino. Michael, who had stepped in during Lou’s illness as maître d’ at The Venetian, the Ruvo family’s iconic Las Vegas restaurant, shared a remembrance of his friend.



An invitation-only network of some of the most accomplished women in the world, the International Women’s Forum (IWF) hosted its World Leadership Conference in Las Vegas in November. A subset of attendees elected to travel from the conference venue to Cleveland Clinic Nevada, where they received an overview from Le Hua, MD, advice from Kat

Hartley on how to join an online community of more than 2 million to learn more about their brain health, and insight from Jessica Caldwell, PhD, on our Women’s Alzheimer’s Movement Prevention Center that offers women customized risk-reduction approaches that might prevent up to 40% of cases of Alzheimer’s. (See page 21.)

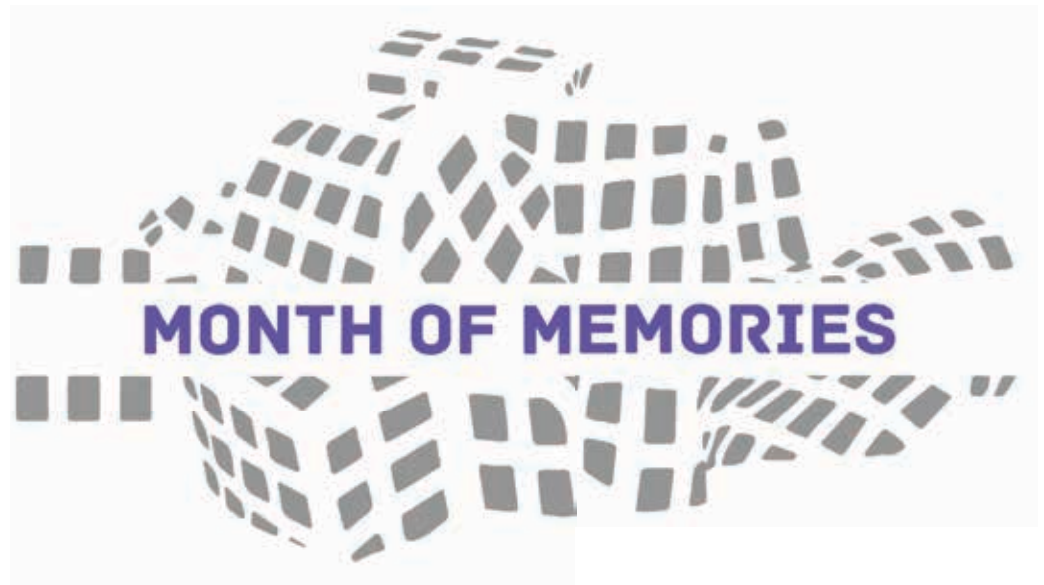


Blair Bigelow May

Month of Memories

Month of Memories is our annual community-focused fundraiser that gives Las Vegans the opportunity to shop, dine and support local businesses throughout the month of November — while also supporting Cleveland Clinic Lou Ruvo Center for Brain Health.

Together, we shine an important light on National Alzheimer's Disease Awareness and Family Caregiver Awareness Month as we raise funds for no-cost educational, therapeutic, and support programming for caregivers and patients.



PARTNERS IN GENEROSITY

The 2022 Month of Memories spanned a record 96 participating locations.

A few highlights?



- **100% of proceeds** from specialty drinks at PKWY Tavern



- A **special flower arrangement** at Miss Daisy Floral



- **\$5 on each** new *Las Vegas Review-Journal* subscription



- **25 cents from each** serving of Modelo Especial at all of Golden Gaming's locations

THANK YOU TO PARTICIPATING BUSINESSES:

- Atomic Liquors
- Bin 702
- Bonanno's New York Pizza Kitchen
- Bottiglia Cucina & Enoteca
- Carson Kitchen
- Delmonico Steakhouse
- Ellis Island Casino
- Emeril's New Orleans Fish House
- Greek Chicken
- Jake's on the Lake (Lake Tahoe)
- La Neta Cocina y Lounge
- Las Vegas Review-Journal
- Le Thai Vegas
- Lotus of Siam
- Marche Bacchus
- Miss Daisy Floral
- PT's Taverns | Sierra Gold
- PKWY Tavern
- StarBase
- Stoney's Rockin' Country
- The Golden Tiki
- Therapy
- Trattoria Reggiano Italian Restaurant at Downtown Summerlin
- Wally's Wine & Spirits
- Yellow Tail Wines

Creative Collaborators Host Events to Support Brain Health



Lynn Ledwith and Joe Clark

SHOOTOUT TO END ALZHEIMER'S

Leveraging personal and business connections, in 2001, Joe Clark, and wife Lynn Ledwith, launched the Extended Board of Directors (EBOD). Rooted in the philosophy that everyone needs a personal advisory group — people who inspire, challenge and motivate you to be the best you possible — they soon saw the potential to help others.

The EBOD Foundation emerged as a nonprofit supported by members who want to live with passion, give back and have fun.

Having seen the face of Alzheimer's and related dementias in parents and grandparents, the couple hope to spare other families similar heartbreak. In September 2022, the group held its sixth annual EBOD Shootout to End Alzheimer's Charity Golf Classic to support research and treatment at the Lou Ruvo Center for Brain Health. Over the last six years, the organization has donated more than \$180,000 to the center.

"We strive to leave this world a better place than we found it, and inspire others to do the same," explains Joe.

ARMANI SHOPPING BENEFITTING KEEP MEMORY ALIVE

On November 9, Keep Memory Alive Ambassador Jody Ghanem hosted a shopping event at Giorgio Armani at The Shops at Crystals. Long-time supporters turned out, bringing along friends and community members whom they introduced to Keep Memory Alive.

Thanks to Giorgio Armani for presenting a door prize of \$1,500 in store credit to the lucky winner Sue Lowden, and for donating 10% of purchases made that evening to Keep Memory Alive.

L - R: Rosa Litchfield, Chase and Rene Tyler, and a member of the Armani team



Carol Russell and Jody Ghanem



L - R: Gloria Fine, Susan Graves, Nick Manghum, Sue Lowden, Jody Ghanem and Debi Miles



L - R: Anna Robins, Jody Ghanem, Lisa Johnson, Cheryl Irwin

HELP SUPPORT US

Looking to turn your next community event or celebration into a fundraiser? Contact us at specialevents@keepmemoryalive.org or 702.263.9797



Recognized for Excellence

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

We celebrate their accomplishments.

Caregiver Catalyst Grant

(Cleveland Clinic Philanthropy Institute, January 2023)

For Healthy Brains workshop

Kate Ingalsby

Caregiver Catalyst Grant

(Cleveland Clinic Philanthropy Institute, January 2023)

For A New Platform to Provide Community Support and Brain Health Resources to Alzheimer's Caregivers

Jessica Caldwell, PhD

Pinnacle Award, Best in Show, Tactic Category

(Public Relations Society of America, Las Vegas Chapter, November 2022)

MacKenzie Ruta, APR

Nicole Wolf, APR

Selected to the National Medical Advisory Committee

(National MS Society, September 2022)

Carrie Hersh, DO, MSc, FAAN

Women Leading In Neurology

(American Academy of Neurology, 2022)

Carrie Hersh, DO, MSc, FAAN

Chair, Motor Features Working Group

(The Parkinson Study Group, 2022)

Zoltan Mari, MD, FAAN

Parkinson's Foundation Center of Excellence (see page 14)

(Parkinson's Foundation, 2022)

Cleveland Clinic Lou Ruvo Center for Brain Health

PWR!Moves® Certified Therapist (see page 13)

(Parkinson Wellness Recovery, October 2022)



Priscilla Flores, OTD, MSOTR/L



Michael Gevertzman, PT, DPT, NCS



Jessica Grocott, PT, DPT



Matthew Plourde, PTA



Christy Ross, PT, DPT, GCS



Justina Selim, OTD, OTR/L



Kelly Winkel, PT, DPT, NCS

Top Doctors

(KNPR's *Desert Companion*, August 2022)



Le Hua, MD, FAAN



Zoltan Mari, MD, FAAN



Dylan Wint, MD

888 W. Bonneville Ave.
Las Vegas, NV 89106
Office 702.483.6000

clevelandclinic.org/Nevada

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FEBRUARY 18, 2023

MGM Grand Garden Arena - Las Vegas, NV

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LOVE
GALA 2023

Presenting
John Paul DeJoria
with the Community
Leadership Award

Cuisine by
Wolfgang Puck
&
Tal Ronnen

Paying tribute
to the original
Las Vegas Raider,
the late
David Humm

Power of Love®
is a one-of-a-kind
food, wine, spirits,
and entertainment
experience that raises
funds and awareness
for Cleveland Clinic
Lou Ruvo Center for
Brain Health

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