

FALL 2022

NewThinking

A B O U T T H I N K I N G

A Publication by Cleveland Clinic Lou Ruvo Center for Brain Health



KEEP MEMORY ALIVE

A horizontal line with several small, colorful squares (yellow, orange, red, pink, blue, green) spaced along it.

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



Remembering
Angie Ruvo, our first caregiver



Angie Ruvo serves the community with love at the Venetian, circa 1992

Remembering

Angie Ruvo: Our First Caregiver

It is with great sadness that we share news of the death of Angie Ruvo. On May 12, 2022, she 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 will be deeply missed.

Healthcare is hospitality with healing

Angie Ruvo, who co-owned the Venetian Ristorante with her husband, was widely regarded as Las Vegas' first celebrity chef. Displaying a spirit of warmth and giving, she never said no to a charity and routinely donated dinners at the restaurant for fundraising events. When Angie sold the restaurant, she made the new owner promise to keep all employees on the payroll if he wanted to use the "Venetian" name.

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.



Lou and Angie Ruvo with their Venetian team, circa 1990



Camille and Larry Ruvo at the Venetian, 1990

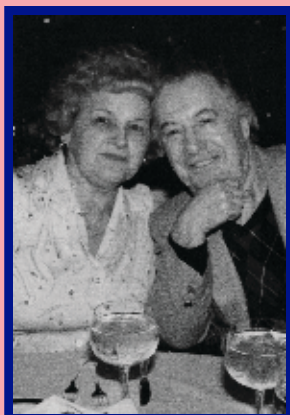
Alone, but not for long

Following Lou's diagnosis of Alzheimer's disease, Angie and her family encountered isolation, ignorance and impotence as they desperately sought help. This experience alerted the Ruvo family to the need for more awareness and better care for Alzheimer's disease. 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 (see page 23).

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.

Donations in memory of Angie Ruvo can be made at keepmemoryalive.org/DonateNow



Angie and Lou Ruvo

Angie Ruvo: Our Center's First Caregiver

In the mid-1950s, Angie Ruvo and husband, Lou, opened the first "see-and-be-seen" restaurant in Las Vegas: the Venetian. A favorite among locals and tourists alike, it attracted a loyal following of power players, politicians and families for nearly 40 years.

When Lou developed Alzheimer's disease, Angie navigated the challenges of caregiving, picking up tips and tricks "on the job" while juggling the demands of the restaurant. Exhausted, she shuttered the Venetian in 1995, a year after Lou's passing.

In honor of Angie, in 2018 Cleveland Clinic Lou Ruvo Center for Brain Health established the Angie Ruvo Endowed Caregiving Chair, supporting research into evidence-based programming for caregivers.

A reminder of the center's roots in hospitality and caregiving, a plaque honoring Angie Ruvo hangs on the second floor where patient care and research are conducted



Angie, Larry and Lou Ruvo, circa 1988

A Quickening Pace on the Road to Enlightenment

Presented as a timeline, the gap between the first observation of degenerative brain diseases hundreds of years ago and the flurry of recent discoveries is vast.

In 2022 — Cleveland Clinic Nevada's "lucky 13th" anniversary — we are optimistic about a better future, thanks to many recent wins in global understanding of the neurodegenerative diseases we treat.

Parkinson's Disease (PD)

Circa 1160

Andalusian polymath Ibn Rushd, also known as Averroes, describes the signs and symptoms of Parkinson's disease for the first time.

1817

Dr. James Parkinson is first to medically describe PD as a neurological syndrome.

1872

Dr. Jean-Martin Charcot refines the clinical spectrum of this disease, noting two types: the tremor and the rigid (akinetic) forms.

1892

Dr. Charcot observes a reduction in tremors following horseback or carriage rides; he develops a therapeutic vibrating chair to simulate the motion.

Multiple Sclerosis (MS)

1395

Lidwina the Virgin falls while skating, precipitating a personal history of varied illnesses, including the first reported case of suspected MS. In 1890, Pope Leo XIII canonizes St. Lidwina as the patron saint of figure skating and the chronically ill.

1822

Augustus D'Este, grandson of England's King George III, is the first person known to be diagnosed with MS. He is prescribed horseback riding as a therapy.

1866

Dr. Jean-Martin Charcot presents the first 3 cases of tremors and paralysis associated with plaques in the spinal cord, brainstem and brain; calls the disease "multiple sclerosis."

Huntington's Disease (HD)

1872

At age 22, New York's Dr. George Huntington publishes "On Chorea" in the *Medical and Surgical Reporter of Philadelphia*, describing a "medical curiosity" soon known as Huntington's chorea and, later, as Huntington's disease.

Alzheimer's Disease (AD)

1906

Dr. Alois Alzheimer identifies "senile dementia" as "what we can all look forward to" in old age.

1912

American psychiatrist Solomon Carter Fuller publishes the first comprehensive review of AD, including the first English translation of Dr. Alzheimer's original report.

New neurological knowledge...

If you haven't seen a neurologist in a while, it may be time to find out if any newer treatments might be a better fit than those discussed in your last visit. To make an appointment, contact us at [702.483.6000](tel:702.483.6000) or clevelandclinic.org/Nevada



... made possible by people like ... you!

Development of new approaches happens exclusively through research conducted by physician-scientists in collaboration with people who have brain disorders, as well as those who are cognitively normal. You can help: [702.701.7944](tel:702.701.7944) or clevelandclinic.org/NevadaResearch

1970

FDA approves levodopa (L-dopa), the first treatment to increase the available levels of dopamine in the brain. Levodopa remains the mainstay of PD therapy.

1987

Unified Parkinson's Disease Rating Scale (UPDRS) is established to evaluate the severity and progression of PD; it is still the benchmark for clinical use.

1991

Carbidopa/levodopa (Sinemet®) is approved for clinical use in individuals with PD.

1997

Deep brain stimulation (DBS) surgery is approved to treat PD tremor.

1950s

Clinician-scientists refine their thoughts on the cause of MS, suspecting a possible viral trigger that initiates ongoing immunological reaction in a genetically predisposed person.

1981

MS lesions, which previously could be seen only at autopsy, are identified for the first time with MRI.

1993

IFN β -1b (Betaseron®), the first disease modifying therapy (DMT) for MS, is approved.

1993

Dr. James Gusella and 58 co-authors on two continents publish in *Cell* their discovery of the Huntington gene (HTT or HD gene). Anyone who inherits a mutated HD gene will eventually develop HD symptoms.

1968

Quantitative relationship is established between Alzheimer's pathology and cognitive decline, regardless of age. Senile dementia = Alzheimer's disease.

1975

MMSE (Mini-Mental Status Exam) becomes the first standardized clinical assessment of cognitive function and is still widely used today, despite the 1996 introduction of the Montreal Cognitive Assessment.

1984

Dr. Zaven Khachaturian, later named Keep Memory Alive's first scientific advisor, collaborates with the NIH to establish the nation's first five Alzheimer's Disease Research Centers (ADRC) in an effort to pool data and speed discovery.

1993

APOE4 gene is recognized to increase risk for AD and decrease age of onset; gene is present in as many as 65% of cases

1999

Mayo Clinic's Dr. Ronald Petersen defines mild cognitive impairment (MCI), which often develops into AD.

ASPIRATIONS FOR THE NEAR FUTURE



Parkinson's disease: Targeted therapies to slow or stop disease progression



Multiple sclerosis: Biomarkers, neuroprotection, personalized medicine



Huntington's disease: Therapies to reduce the abnormal Huntington protein



Alzheimer's disease: Cost-effective method for identifying this disorder in life; successful disease-modifying therapy

A New Millennium for New Thinking About Neurodegenerative Disease

2001

McDonald Diagnostic Criteria are introduced, streamlining the diagnosis of MS via a single baseline MRI scan showing specified types of lesions. Through 4 revisions to the criteria from 2005 to today, McDonald remains the gold standard for diagnosis.

2013

Cleveland Clinic Nevada is named a National Multiple Sclerosis Society (NMSS) Partner in MS Care

2022

23 approved disease-modifying therapies provide patients with treatment choices, paving the way for personalized medicine.

2018

Cleveland Clinic Nevada is named among Cleveland Clinic locations of the Parkinson's Foundation Centers of Excellence.

2008

Tetrabenazine (Xenazine®) receives FDA approval for treatment of HD chorea.

2012

Cleveland Clinic Nevada establishes a Huntington's Disease Comprehensive Clinic and joins Enroll-HD, today the largest ongoing observational study of Huntington's disease families, with more than 20,000 participants worldwide.

2022

In collaboration with Cleveland Clinic's main campus in Ohio, Nevada's first multidisciplinary Huntington's disease predictive genetic testing clinic opens, ensuring those wishing to know their genetic status for HD are adequately prepared to receive their results.

2003

Memantine hydrochloride (NAMENDA®) receives FDA approval; it remains the most recent treatment for symptoms of AD.

2007

Biomarker amyloid, visible via PET imaging, is defined as first detectable indicator of change in cognition.

2020

Cleveland Clinic Nevada is named to an elite cohort of 30-some ADRCs and granted "exploratory" status as Nevada's first.

2020

Women's Alzheimer's Movement Prevention Center at Cleveland Clinic launches, based on a *Lancet* report that up to 40% of cases of AD might be prevented via risk reduction-oriented lifestyle approaches.



Dylan Wint, MD

DIRECTOR'S MESSAGE

Dylan Wint, MD

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

*Camille and Larry Ruvo
Chair for Brain Health*

*Las Vegas Legacy
Chair in Neuroscience
Education*

Director, Education

You don't have
to become
something you're
not to be better
than you were.

— Sidney Poitier,
The Measure of a Man

I have had the honor of serving patients and their care partners at Cleveland Clinic Lou Ruvo Center for Brain Health since May 2010. My reflection upon our center's accomplishments and its potential inspired me to accept the directorship in spring 2022.

In this capacity, I have been further inspired by comments from patients who, faced with the unfortunate circumstances of brain disease, say they're lucky to have the support of our center — a sentiment that resonated as our center commemorated its "lucky 13th" anniversary this July.

But what if we could spare families that suffering? That's why we continue to fundraise to expand access to our Women's Alzheimer's Movement Prevention Center, which is currently booked nearly a year out (see page 3).

Rather than diversifying the diseases we treat, I intend to expand upon the center's core strengths. Since opening in 2009, we've conducted more than 246,000 clinic appointments and 74,000 visits to our free educational, therapeutic and support programs (see page 23) by patients, friends and family members whose lives have been upended by brain disorders.

Yet, we must continually update our understanding of our community's needs, aim to predict future challenges, and respond both promptly and thoughtfully. Our mission, as I see it, is to aggressively fight back

against the "four I's" that confronted Lou Ruvo and his family: ignorance, indifference, isolation and impotence.

Until brain disease is cured or prevented, we invite — no, implore — you to participate in research to enhance quality of life, such as studies into the impact of exercise on cognition (see page 9) and personalized drug therapies for multiple sclerosis (see page 11), or movement disorders (see page 12). We encourage individuals to speak openly about their experiences because it recognizes brain disease in our society, while educating others and empowering people with brain diseases. (see page 19).

We're evaluating and enhancing our success by recognizing, celebrating, and optimizing the diversity of communities we serve through research and patient care, and the diversity of our workforce. For example, we are fortunate to have an eclectic group of women clinician-scientists leading with excellence and empathy (see page 5).

Our aim is to thoroughly understand our patients and the sources of their suffering and to integrate transdisciplinary therapeutic services and research to simultaneously improve the lives of today's patients and accelerate toward a tomorrow with no patients.

We cannot rest on our laurels, but they can fuel us.

FALL 2022 New Thinking ABOUT THINKING

Cleveland Clinic Lou Ruvo Center for Brain Health

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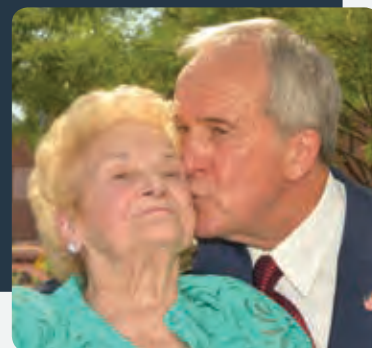
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About The Cover:

Angie Ruvo with son, Larry, at the fifth anniversary of the Lou Ruvo Center for Brain Health in 2014



Preventing Alzheimer's Disease: By Women, For Women

Almost two-thirds of the 6.5 million Americans currently diagnosed with Alzheimer's disease are women — a staggering 4.3 million women.

Why is it that Alzheimer's disease — the most common among the dementias — impacts women disproportionately?

Women want to know. And so does our team of researchers at the Women's Alzheimer's Movement Prevention Center at Cleveland Clinic, based right here in Nevada.

Las Vegas learning for national impact

In 2020, *Lancet Neurology* reported that up to 40 percent of all Alzheimer's cases might be preventable through healthy lifestyle modifications — *but which ones, and how might they differ for women?*

Clinical patients who opt into research can help our clinician-scientists expand their understanding. Data gathered at the nation's first Alzheimer's disease prevention clinic — designed specifically for women and staffed by them, too — could provide evidence that shapes best practices for clinical Alzheimer's disease prevention in women, and further explain why women are impacted more than men.

Learn more at womenpreventalz.org, where donations can be made via the "Donate Now" button.

Word of prevention "goes viral"

At present, the Women's Alzheimer's Movement Prevention Center at Cleveland Clinic — which received honorable mention in *Fast Company's* list of 2021 World Changing Ideas — is booked nearly a year out as we seek further philanthropic support for our quest to help more women change their brain health trajectory.

That's why on May 4, nearly 200 women gathered at a fundraising luncheon and Giorgio Armani fashion show co-hosted by Camille Ruvo, Co-founder and Vice Chairwoman of Keep Memory Alive, a fundraising arm of Cleveland Clinic Lou Ruvo Center for Brain Health.

She welcomed guests, saying, "The fashion industry got it right. They know what happens when we bring women together and share the latest and greatest in the world of fashion. Women will, in turn, talk about what we saw."



Above: Camille Ruvo encouraged all present: "Use it and share it. Forget the influencers of Instagram, Twitter and Facebook. We as women have been influencers long before social media. So please continue to influence society and spread the word of what you are about to learn, because this type of 'gossip' is a good thing!"



(L to R): A panel of experts comprised event co-host Maria Shriver, Women's Alzheimer's Movement Founder and Cleveland Clinic Strategic Advisor on Women's Health and Alzheimer's; Jessica Caldwell, PhD, Director, Women's Alzheimer's Movement Prevention Center at Cleveland Clinic; and Beri Ridgeway, MD, Chief of Staff, Cleveland Clinic. The trio shared recommendations on lifestyle changes to reduce the risk of Alzheimer's disease.

Meet a Few Members of Our Fundraising Advisory Board

Members of our Fundraising Advisory Board routinely attend Keep Memory Alive's events, rallying friends to join them.



"I'm doing this for the women — and men — in my family. By supporting the Alzheimer's prevention center, I'm hoping to be a part of making a difference in Las Vegas and beyond."

— Kimberly Thesman, right, with Julie Teel



"In 2020, I lost my mom, Elizabeth Kemp, to Alzheimer's. I'm here because educating women on their vulnerability to such a horrific disease is incredibly important if we're ever going to improve women's lives."

— Kathy Antonino



"There is a coming tsunami of memory diseases, and it's already affecting our friends and family. We'll do whatever we can to help the population globally. This center has really wide reach and we can make a difference."

— Paula Fouce, right, with sister Victoria Fouce Otter

Growing the commitment to women

Announced in February, the Women's Alzheimer's Movement at Cleveland Clinic is a partnership focused on advancing gender-based research, treatment, prevention and education concerning Alzheimer's disease and other conditions involving the nervous system in women. Why? Because one in two women will be diagnosed with a neurological disorder in her lifetime.

This partnership builds on the collaboration that established the Women's Alzheimer's Movement Prevention Center at Cleveland Clinic, which opened at the Lou Ruvo Center for Brain Health in June 2020.

"Having helped establish the fact that women are at the epicenter of Alzheimer's disease, we are now determined to understand why women are disproportionately impacted by this — and so many other — neurological diseases," says Maria Shriver.

Learn more at clevelandclinic.org/WAM



Leading By Example: Women in Academic Medicine

In 2020, the *New England Journal of Medicine* reported that over a 35-year period, women physicians in academic medical centers were less likely than men to be promoted to the rank of associate or full professor.

So, when Le Hua, MD, and Carrie Hersh, DO, became the only women physicians at Cleveland Clinic's Neurological Institute in 2022 — and the first ever at Cleveland Clinic Nevada — to be promoted to associate professor at Cleveland Clinic Lerner College of Medicine of Case Western Reserve University, it was cause for celebration.

"The promotion is not only a great mark of academic achievement for both of us, but I'm proud to be a part of the sea change in recognition for women physicians," says Dr. Hua.

"The promotion is a prestigious honor, and it reflects our national reputation as experts in the field of multiple sclerosis and neuroimmunology, says Dr. Hersh.

Enjoy the following reflections from Cleveland Clinic Nevada's women staff, spanning neurology, neuropsychology and behavioral health disciplines.



Jessica Caldwell, PhD, ABPP/CN

Director, Neuropsychology Training
Director, Women's Alzheimer's Movement
Prevention Center at Cleveland Clinic

Sex and gender biases in the workplace are real, and navigating expectations about what a woman doctor should look, speak and act like can eat up time and energy, especially in training and early career stages.

Women are not always taken seriously when they voice concerns in medical settings. I hear from my women patients that my being a woman and focusing on women's health helps them to have confidence they will be heard and more comfortable to discuss tough topics.



Lucille Carriere, PhD

Behavioral Health Director
and Angie Ruvo Endowed
Caregiving Chair

I was the first person in my family to graduate from college. Today, I encourage women to find a female mentor in your chosen profession and nurture the relationship for continued guidance and support. Balancing family and work responsibilities is my greatest challenge. I often think of the women in my family and ask myself, "How would my mother, grandmother or sister experience this?"



Carrie M. Hersh, DO, MSc, FAAN

Program Director, Multiple Sclerosis
Health and Wellness Initiative

Knowing that I am touching a human life, no matter how great or how small the impact, is what gives me joy in being a doctor.

I like to encourage the next generation of young women: Have faith in yourself, throw away the notion that you're not good enough, grow your allyship and lead bravely!



Le Hua, MD, FAAN

Director, Cleveland Clinic Mellen Program
for MS at the Lou Ruvo Center for
Brain Health, Las Vegas
Sheila and Eric Samson Chair
for Multiple Sclerosis Research

Patients have mentioned being more comfortable discussing more personal issues relating to family planning, breastfeeding, hormonal changes, sexual dysfunction, and balancing personal and professional responsibilities because they know as a woman, I can relate.

We are still uncovering the causes of brain diseases, and the role of biological sex is important to determine how to prognosticate and treat appropriately. Women can play an extraordinary role in personalized medicine.



Shehroo Pudumjee, PhD

Staff Neuropsychologist

I come from a family that strongly values serving the community and society in general. I am honored to continue that tradition at Cleveland Clinic where I have the opportunity to make even a small difference in the lives of my patients and their families.

Several neurological diseases/conditions manifest differently in women, which has an impact on treatment. We need to constantly re-evaluate whether our diagnostics and treatment recommendations differ by sex and/or gender, and tailor our approach to the individual's needs.



Odinachi Oguh, MD

Staff Neurologist,
Movement Disorders Team

As a young girl, my reason for wanting to become a doctor was rather ambitious and altruistic: to change the world. Given my background and life story, the best accomplishment remains the humblest of all: getting into and finishing medical school.

As a seasoned physician, today my greatest joy is sharing my patients' journeys of neurodegenerative disease: your ups and your downs, your sorrow and joys, your successes and your failures.



Christina Wong, PhD

Staff Neuropsychologist

Some female patients have expressed feeling more comfortable disclosing relationship problems and mental health concerns to a female provider.

I think many women working in these areas are particularly motivated to understand sex and gender differences, knowing we ourselves are at increased risk. I enjoy providing education about modifiable factors that support brain health, such as diet and exercise, and empowering patients to make lifestyle changes.

Flying High Despite Parkinson's Disease: One Man's Story

Shortly after retiring from a 34-year career with United Airlines, former pilot and Las Vegas resident Larry Austin landed in the office of Zoltan Mari, MD, Director of the Parkinson's Disease and Movement Disorders Program at Cleveland Clinic Lou Ruvo Center for Brain Health in Las Vegas. The diagnosis? Parkinson's disease, which explained the tremors that had bothered Larry for a few months.

This is an account of his journey as told by Larry himself. Photos are courtesy of the Austin family and friends.



With my wife, Jackie Austin

Despite a series of treatments, including BOTOX® injections and a succession of pills, the tremors in my left foot, left hand and lower jaw persisted. Although I was able to swing a golf club, I would shake while sitting in the cart. I could ride my motorcycle, but I'd start shaking as soon as I got off. At night, my tremors made the bed vibrate, so sleeping was difficult for both me and my wife.

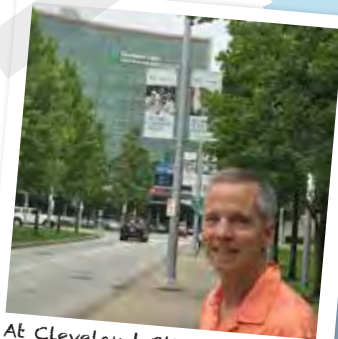
Dr. Mari quickly concluded my Parkinson's is tremor-predominant and resistant to medication, which made me a good candidate for Deep Brain Stimulation (DBS) surgery.



Meeting with Dr. Mari at the Lou Ruvo Center in Las Vegas

DBS: Not for everyone

Turns out, there's nothing to be scared of with DBS. But do your research. Your neurologist will want you to exhaust all the drug and physical therapy options before you have surgery. But once you make the decision, if you choose Cleveland Clinic, relax. The people are incredible, from the concierge service who gave me a schedule and stuck to it to the clinical team.



At Cleveland Clinic main campus in Cleveland, Ohio, the day before surgery

ASK THE EXPERT: WHAT IS DBS?

As Dr. Mari explains, deep brain stimulation involves a surgical procedure to place stimulation electrodes into the brain. The electrodes are connected by wires to a pacemaker device implanted under the skin of the chest just below the collarbone.



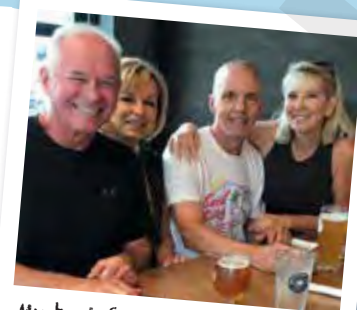
Once activated, the battery-powered device delivers continuous electrical pulses to modify the dysfunctional brain circuits that are responsible for motor symptoms of the disease.



With my daughter, Rachel Olivares, after first surgery

Holes in the skull? Really?

When I explained a surgeon was going to drill holes in my head and stick probes in there and move some stuff around, of course, friends and family were curious and wondering what I'd be like after the procedure. So, they came along to Cleveland to find out for themselves. I was there for two weeks, first having the electrodes placed in my brain and then having the battery device implanted in my chest a week later.



My best friends, Ron and Karen Smith, left, flew in from Tucson to support me and my wife, Jackie



Image of the inside (chest)



Image of the inside (head)

WHY HAVE YOUR DBS SURGERY AT CLEVELAND CLINIC?

"Outcomes can vary after DBS, and it is extremely important to have surgery at a center with extensive expertise and frequency in performing the procedure," says Dr. Mari.

"The DBS procedure utilizes the full resources of Cleveland Clinic's multi-disciplinary team of experts at our Cleveland and Las Vegas campuses: Our neurologists, neurosurgeons and neuropsychologists have expertise and specialized training in DBS, and will provide ongoing assessments and modifications to assure optimal continuity of care."

Learn more at clevelandclinic.org/NevadaMovement

Surgery and sightseeing

I had no pain from the incision in my head. The day after the surgery, I was walking around Cleveland. In fact, I had intentionally postponed the surgery to spring so I could catch a baseball game at Progressive Field and dine outside along the Cuyahoga River. I went to Cleveland's Rock and Roll Hall of Fame and the NFL Hall of Fame in nearby Canton, Ohio.



Seeing a baseball game with my son, Adam Austin, and my grandsons

No pain, just gain

There are no pain receptors in the brain, so it makes sense that my head didn't hurt. The only minor discomfort I had was from the battery placed in my chest, which was much more invasive. Occasionally, when I do a pushup, I feel the battery wire stretch and pull in my chest.

A "pre-Parkinson's self"

Dr. Sean Nagel, who did the surgery in Cleveland, said it might take some time to get the program right, but when Dr. Mari hit the second program on my implant, I had an instantaneous reaction: The tremor stopped. Six months after the surgery, I occasionally have a tremor, but people who meet me now can't believe I have Parkinson's, and my friends can't believe I'm like my pre-Parkinson's self.



After the second surgery (battery installation)



Spending time with family



Back on the golf course

My tremors are gone; my Parkinson's isn't

Parkinson's disease is a degenerative disease and there is no cure but, with symptom management, you can lead a relatively normal life. Thanks to DBS, I feel fortunate to have no physical limitations. I exercise an hour a day, ride my motorcycle, play with my grandkids and golf a lot. If I trip getting out of the golf cart, I wonder if it's because I have Parkinson's or just because I'm 67.

Success Story Shows Physical Therapy Can Help Both Body and Mind

When a woman experiencing cognitive decline showed up for her first physical therapy appointment with Christy Ross, PT, DPT, GCS, at Cleveland Clinic Lou Ruvo Center for Brain Health, this geriatric specialist knew she could help not only with the physical complaints of increased falls and chronic back pain, but also with the patient's difficulty completing daily activities due to memory deficits. In fact, the resulting gain in cognitive function was remarkable enough that the case study and its results were published in 2021 in *GeriNotes*, a journal of the American Physical Therapy Association.

Here's a synopsis.

Have goal, will try

Her daughter reported Ms. Bach, 79, was repeating questions, misplacing items and having difficulty managing complex tasks. With a score of 16 out of 30 on the MoCA (a standard cognitive screening) and a hippocampal volume at the 27th percentile compared with her age peers (based on images acquired via MRI), Ms. Bach was diagnosed with mild dementia — specifically, cognitive impairment due to cerebrovascular disease.

Yet, she remained goal oriented. A retired nurse who lived alone in an active adult senior community with daily support and visits from her daughter, Ms. Bach wanted to return to participating in the social clubs and community exercise programs that she had enjoyed prior to a stroke and to decrease her back pain and increase her endurance. Improved balance was another goal; compared to individuals without cognitive impairment, those with cognitive impairment experience two to three times more falls.

The intervention

Dr. Ross prescribed a home exercise program with simple written instructions and accompanying pictures for exercises Ms. Bach could do by herself, as well as supervised aerobic walking and stationary biking with “dual tasking” (performing a cognitive task while exercising) to be aided by the daughter or personal care assistant. The plan encompassed a total 30 minutes of moderate-intensity exercise five days a week, supplemented by twice-weekly, one-on-one PT sessions at the Lou Ruvo Center for Brain Health.

The result? Based on a battery of standardized metrics such as timed sit-to-stands, a six-minute walk test and Berg balance assessment, Ms. Bach showed the anticipated physical improvement. Perhaps more surprisingly to her daughter, at Ms. Bach's six-month neurology appointment, her MoCA score had improved 37 percent, from that baseline of 16 to 22 of 30.

“Families often ask if it's worth the time and effort to bring someone with dementia to physical therapy,” says Dr. Ross. “However, with modification of the communication process and utilization of best-practice, evidence-based interventions, specialized clinicians can effectively serve this rapidly growing population of individuals with cognitive impairment.”

Physical therapy at the Lou Ruvo Center for Brain Health is available upon referral from our neurology providers. To make an appointment with a neurologist, call 702.483.6000.



Dr. Ross in a physical therapy session

Researchers Probe a Less-Known Form of Memory-Robbing Dementia

Is it LATE, or is this individual getting Alzheimer's disease (AD) late in life? It was a question that Cleveland Clinic Lou Ruvo Center for Brain Health's cognitive disorders neurologists had been asking more frequently, so they enlisted the help of their neuropsychology colleagues for additional insight. The result: Rachel Butler Pagnotti, PsyD, a neuropsychology postdoctoral fellow at the center, presented her team's findings in February 2022 at the International Neuropsychology Society conference.

What is LATE?

Criteria for Limbic-predominant Age-related TDP-43 Encephalopathy (LATE) were first published in 2019 in *Brain: A Journal of Neurology*. The novel findings suggested that this newly recognized form of dementia affects one of the same areas of the brain as AD, the hippocampus, which is responsible for storing memories (see page 15). Therefore, both diseases greatly impact memory. However, the age of onset differs markedly. For AD, onset is typically in the 60s and 70s, whereas LATE tends to emerge later, often after age 80.



Rachel Butler Pagnotti, PsyD

Which is which? Why knowing matters

Earlier recognition enables earlier intervention. Many of today's treatments for AD target amyloid, which forms the plaques thought to be the first stage of the disease.

"If amyloid is not involved, like in patients with LATE, these treatments are ineffective in modifying disease, leaving symptom management as the only viable option," says Dr. Butler Pagnotti.

Lower cost, reasonable certainty

"The diagnosis of LATE is fairly new, so we don't know fully what LATE looks like when patients come into a clinic such as ours," says Dr. Butler Pagnotti.

However, neuropsychologists are trained to look for abnormal changes in memory and thinking, using paper and pencil tests that assess different areas of cognition.

Every neurodegenerative disease displays its own typical pattern on cognitive tests, Dr. Butler Pagnotti explains: "For LATE, we don't yet know the pattern but, if we can figure it out, inexpensive pencil and paper cognitive tests could be another way to identify LATE without employing costly imaging techniques."

Using autopsy to tease out answers

In 2020, the Nevada exploratory Alzheimer's Disease Research Center (NveADRC) was established at the Lou Ruvo Center for Brain Health, placing it among fewer than 40 centers nationwide to earn the prestigious federal designation. In addition to accessing data from other ADRCs — including nearly 700 autopsied

There are three ways to know with certainty if amyloid plaque exists in the brain, and each has its drawbacks:

1. Autopsy upon death, when it's too late for treatment, or
2. Amyloid PET scan, which can be conducted in life, but at a hefty cost not covered by insurance
3. Spinal fluid analysis is less expensive than amyloid PET, but is also not covered by insurance. And, it requires a lumbar puncture (spinal tap)

brains found to have LATE, AD or both — our NveADRC now contributes data to this network.

Among the notable findings her team presented at the International Neuropsychology Society conference were that "patients with LATE tend to have less severe cognitive impairment across all cognitive testing than patients with AD," Dr. Butler Pagnotti notes. "Also, patients with LATE are older when they first develop cognitive changes, tend to decline slower and tend to live longer than patients with AD.

"Conducting such novel research as a trainee at the Lou Ruvo Center for Brain Health has been a spectacular learning experience that I've been able to share not only with our neurology team who asked the initial question, but also with peers across the globe," she adds. (See page 27.)

Local Patients Help Global Researchers Unravel Mysteries of MS

With a shared goal of further standardizing clinical assessments, 10 multiple sclerosis (MS) centers in the United States and Europe — including those at Cleveland Clinic in Las Vegas and Cleveland — have formed a data-collecting collaboration called MS PATHS. Data are available to participating institutions to guide clinical decision making at the point of care. Those data are also available for routine research — or in response to the COVID-19 pandemic.

For example, researchers at Cleveland Clinic collaborated with scientists at other participating MS PATHS centers to try to understand the impact of MS disease-modifying therapies (DMTs) on COVID-19 vaccination effectiveness. Initial results published in 2021 in *Multiple Sclerosis Journal – Experimental, Translational and Clinical* illustrated that the vaccine's response was affected by some DMT therapies; yet, the consensus among the authors was that more robust data are needed to support evidence-based COVID-19 vaccination recommendations.

That's precisely where the 19,000 unique patients who have agreed to share their data through MS PATHS can help.

It's easy to opt in

MS PATHS stands for “Multiple Sclerosis Partners Advancing Technology and Health Solutions.” Information is key. The more data researchers have, the clearer the picture of MS can become.

All individuals being treated for MS at Cleveland Clinic participate in the Multiple Sclerosis Performance Test battery of assessments. They can then opt in to MS PATHS, consenting to share anonymously the de-identified results of the standardized assessments and other health data,



Dr. Carrie Hersh, center, discusses research collaboration with colleagues across Cleveland Clinic

including imaging, labs, neurological and cognitive function, and quality-of-life information pertaining to their MS. The goal is to enable researchers at MS PATHS sites to explore these data and look for useful patterns that could lead to new discoveries benefiting the MS community.

Charting a path to new breakthroughs

Using data from MS PATHS, Carrie M. Hersh, DO, MSc, FAAN, presented at the 2021 European Committee for Treatment and Research in Multiple Sclerosis, one of the largest MS conferences. Her research focused on comparing quality of life using a standardized measure among patients treated with a highly effective DMT, natalizumab. Her conclusion?

Natalizumab can shorten the time to clinically meaningful improvement in

cognition and in satisfaction with social roles and activities. These results complement Dr. Hersh's previous findings — published earlier that same year in *Multiple Sclerosis Journal* and also derived from MS PATHS data — indicating that natalizumab can produce meaningful improvements in mental and social health.

“Information gathered from patients at Cleveland Clinic Lou Ruvo Center for Brain Health, as well as other participating institutions, can be used for research that could potentially lead to new discoveries in MS,” says Dr. Hersh. And it's never been more important to understand how treatments work in different individuals, now that multiple treatment options are available.

SHARE YOUR OWN DATA GLOBALLY

If you're being treated for MS at Cleveland Clinic, during your next appointment, ask your neurology team for information on how to opt in to MS PATHS.



New Clinical Trials Focus on A Less Familiar Movement Disorder

For individuals with Essential Tremor (ET), the lack of treatments to ease troubling symptoms ranges from frustrating to disabling.

“That’s why our movement disorders team is thrilled to be working simultaneously on our first two clinical trials ever for ET,” says Zoltan Mari, MD.

A new treatment may not be better

Medical botulinum toxin provides significant relief from the symptoms of ET, and is safe when injected into muscles in very small doses. An injection blocks the signal between nerve and muscle, allowing the muscle to relax temporarily.

“Unfortunately, the benefit wears off and the injection needs to be repeated more frequently than patients would like,” says Odinachi Oguh, MD, principal investigator of the study of high-dose botulinum toxin for ET (see table). “What if we could reduce that frequency of the inconvenience of leaving home for an injection while still maintaining the same efficacy?”

A pill self-administered at home would be even more convenient than an injection in a clinical setting — the eventual hope for Dr. Mari’s ESSENTIAL1 study for ET (see table).



Odinachi Oguh, MD, with patient

WHAT IS ESSENTIAL TREMOR (ET)?

- Affects 2.2% of Americans
- Most often identified by shaking or tremors
- Treatment options that may improve quality of life include physical or occupational therapy, oral medication, botulinum toxin injections and deep brain stimulation surgery (see page 7)
- No cure exists

STUDY	WHO	DURATION OF TREATMENT	INTERVENTION	OBJECTIVE
Merz M602011069	Individuals with ET, ages 18+	6 months	Administer an initial high dose botulinum toxin injection unilaterally on the dominant side and then delay retreatment for up to 6 months. Once this first phase is complete, participants are enrolled into an open label trial where both arms can be injected.	Assess whether treatment injected into the arm is as good or better than the current standard of care, with the hope of reducing the frequency of injection and thus reducing the burden on patients.
ESSENTIAL1	Individuals with ET, ages 18+	Daily pills for 8 weeks	Randomized study: 1 of 3 dose levels of PRAX-944 pills or placebo	Assess response and tolerability in participants with moderate to severe tremors.


MAKE AN APPOINTMENT

To make an appointment with a movement disorders specialist regarding essential tremor, call 702.483.6000.

PARTICIPATE IN CLINICAL RESEARCH

For more information on research opportunities, contact our recruitment specialist at 702.701.7944 or healthybrains@ccf.org.





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A Caregiver Reflects on a Job She Loved

For Mallory Reinking, the Disney parks are as founder Walt Disney had hoped guests would find them: the happiest place on earth.

"I cry when I get there, I cry when I leave. I love the service, they treat me with respect and care, and want me to enjoy the experience," says Mallory, who served as a department administrator at Cleveland Clinic Lou Ruvo Center for Brain Health from November 2017 until March 2022. "Going to Disney restores me and makes me a better servant leader when I get back to the office."

Bringing Sunshine to People in Distress

At the Lou Ruvo Center for Brain Health, we treat chronic conditions no one wants to have, yet patients and their care partners often tell us that coming to our center is "so different from other doctors' offices" and "like going to a spa." They say it's because of our employees, whom Cleveland Clinic calls "caregivers," to remind us of our commitment to treat patients like family and put them first with every encounter.

"We care for everyone going through an experience, and I love watching that bear out. For me, it began with my interview on campus five years ago when I observed a caregiver I later knew to be our facilities manager, trying to untangle the twine from a bird's feet so it could fly again," says Mallory.

More recently, she was touched by a caregiver who started singing "You Are My Sunshine" and was soon joined by an assortment of colleagues who didn't cease until the agitated patient had been calmed and safely seated in the car.

A Contagious Joy

But it's not just about the patient experience; it's also about the employee.



"It seems that at Disney and at the Lou Ruvo Center for Brain Health, when you put your whole heart into doing something you love, your joy will be contagious," says Mallory.

"The Lou Ruvo Center for Brain Health is different because the system attracts, supports and sustains people who are dedicated to supporting family care partners. And it turns people who didn't really think about care partners into people who do," says Dylan Wint, MD, Director.

"I've always felt cared for and valued as an employee caregiver, which motivates me to want to make patients and their care partners feel better," says Mallory.

"This place is so special, you just leave with it on your heart."

Her biggest concern in leaving for a promotion to a Population Health Navigation Manager in Ohio? "Can I replicate this feeling at Cleveland Clinic's Independence Family Health Center?"

We often say that what happens at our center in Vegas just might affect the world. As we export caregivers like Mallory, they carry forward the spirit of our center. And those of us who remain carry on.

If you're interested in becoming a caregiver at Cleveland Clinic Nevada, go to: jobs.clevelandclinic.org/location

Brain Biology in Dementia

Your 58-year-old father, who has always been quiet, almost an introvert, is suddenly engaging anyone and everyone in conversation, often incorporating sexual innuendoes. And, after a career filled with commendations, he was just “written up” at work for inappropriate conduct. Now, his job is on the line and your family is concerned about finances.

No one is more astute at observing behavioral changes than close friends and family. Yet, as lay people, we often mistake the cause.

Brain health results from the relationship between brain structure, visible on imaging tests such as MRI, and brain function (speech, thought, memory, etc.). When structural changes affect these behaviors, dementia may result.

Each symptom has a cause




Different types of dementia are caused by changes in different parts of the brain (see facing page).

“One of the hallmarks of frontotemporal dementia, a common form of dementia in individuals under 65 years of age, is disinhibition,” says Dylan Wint, MD, a neuropsychiatrist on the cognitive disorders team, and Director, Cleveland Clinic Lou Ruvo Center for Brain Health. “It may be the uncharacteristic firing from a job or a traffic stop for driving under the influence that sends shocked family members seeking answers from a doctor, landing them in our office.”

Disinhibition, he explains, “occurs because the frontal lobes of the brain, which keep our cruder impulses in check, fail to mediate our behaviors.” Because frontotemporal dementia strikes the front part of the brain first, disinhibition can be among the earliest signs of the disease.

Which dementia? Symptoms offer clues

In their earliest stages, symptoms of various dementias differ dramatically. Consider:

		
Alzheimer's Dementia (AD)	Frontotemporal Dementia (FTD)	Lewy Body Dementia (LBD)
Rapid forgetfulness: <ul style="list-style-type: none">• Repeating questions or statements• Losing items• Missing appointments Getting lost, sometimes in familiar places Difficulty with complex reasoning/executive function	Behavioral variant <ul style="list-style-type: none">• Impulsive• No “filter” (disinhibition)• Poor judgment• Unusual new eating habits or compulsive eating• Decreased concern for others Language variants <ul style="list-style-type: none">• Difficulty producing speech• Loss of word meanings	Acting out dreams during sleep Slowness, shakiness, or stiffness in movement Fatigue/excessive daytime sleepiness Sudden spells of confusion Some good days; some bad days

As each of the dementias progresses, “later in the disease course, the symptoms of various dementias start to converge,” observes Dr. Wint. “Moreover, an individual can develop more than one type of dementia, which can be confusing for providers and friends and family, who thought they knew what they were dealing with.”

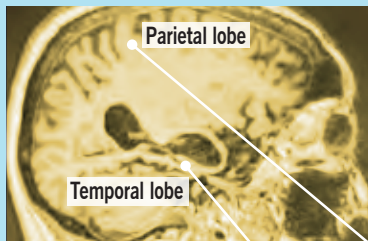
This diagnostic accuracy, he explains, is why an early relationship with a specialized dementia neurology provider can be helpful.

To make an appointment with a neurologist at the Lou Ruvo Center for Brain Health, call 702.483.6000.

It's More Than 'Forgetfulness':

STRUCTURE MEETS FUNCTION IN NEURODEGENERATIVE DISEASE

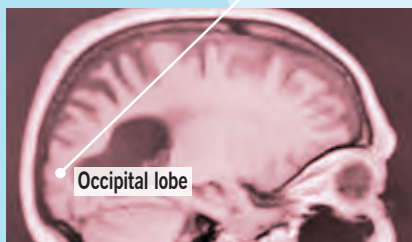
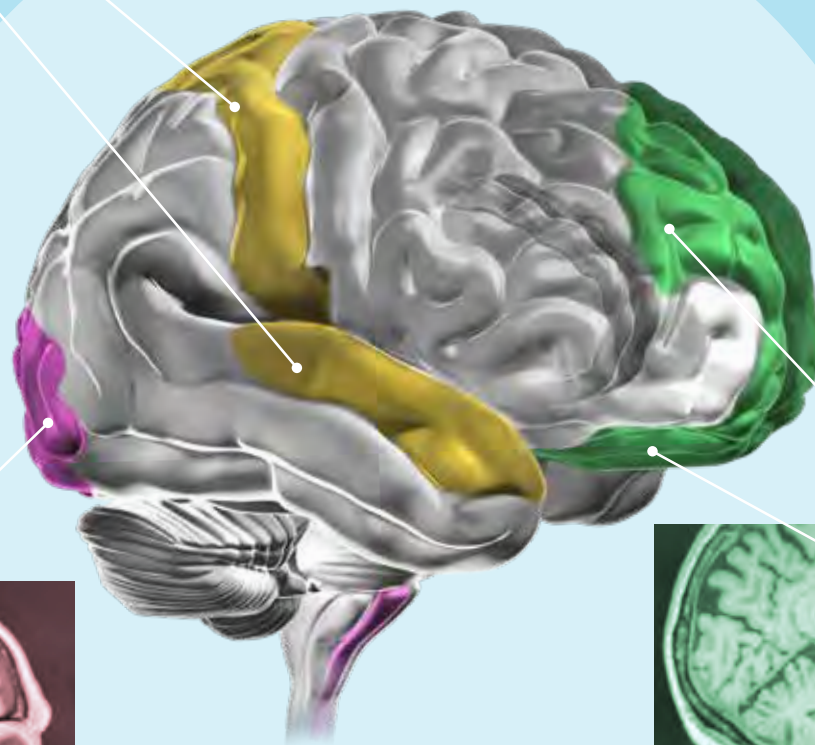
Unlike cognitive loss associated with normal aging, dementia is a decline in mental function that is severe enough to interfere with daily living. Different types of dementia are caused by toxic accumulations of proteins starting in characteristic regions of the brain. As dementia progresses, additional brain regions can become involved.



Temporal and Parietal lobes: Process memory, language, and spatial orientation

ALZHEIMER'S DISEASE (AD)

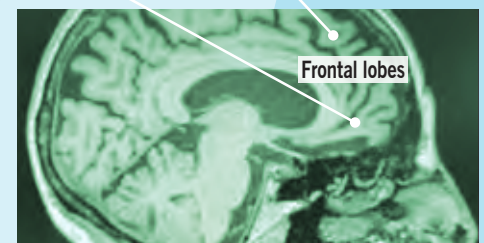
- Offending proteins: beta amyloid and tau
- Symptoms: rapid forgetting (mesial temporal), spatial disorientation (right parietal/temporal), trouble finding words (left parietal and temporal)
- As time passes, amyloid and tau proteins spread to additional parts of the brain, causing challenges with problem-solving and language



Occipital lobes:
Visual perception and recognition

LEWY BODY DISEASE (LBD)

- Offending proteins: synuclein, amyloid
- Symptoms: visual distortions, hallucinations, confusion



Frontal lobes:
Personality, motivation, planning, judgment, self-restraint, speech

FRONTOTEMPORAL DEMENTIA (FTD)

- Offending proteins: Tau, TDP43, FUS
- Symptoms: obsessive and compulsive behaviors, apathy, disinhibition. Speech problems may occur with degeneration on the left side

BRAIN HEALTH RESULTS FROM THE RELATIONSHIP BETWEEN STRUCTURE AND FUNCTION

MRI:
illustrates
structure



**CLINICAL
EXAM:**
teases out
function



SEEKING ANSWERS?

Experiencing symptoms and suspecting dementia? Make an appointment with a neurologist specializing in dementia to find out what it is — or isn't. Knowing helps an individual qualify for relevant research studies, and helps family members understand and cope with the changes they observe.

LEARN MORE: clevelandclinic.org/NevadaCognitive



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LEWY BODY DEMENTIA

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ESSENTIAL TREMOR AND
OTHER MOVEMENT DISORDERS

MULTIPLE SCLEROSIS



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Action Without Thought: Thank Your Amygdala

By Dylan Wint, MD

Center Director, Cleveland Clinic Lou Ruvo Center for Brain Health - Las Vegas

Imagine encountering a bear while on your daily brain health walk. Scary, right? Because you are (I hope) reading this article in a safe place, you can start to mentally plan your response. You can thank your brain's frontal lobes for this: Given security, space and time, frontal lobes can identify and analyze problems and generate thoughtful solutions.

However, in the face of actual danger, your response should be quite different; contemplation is hazardous when survival depends on instant, vigorous action. Luckily for us, the *amygdala* — a brain nucleus specialized to respond immediately and forcefully to threats — can “hijack” the activity of the frontal lobes.

A skilled “hijacker”

By orchestrating amplified responsiveness, sharper senses, enhanced vigilance and increased muscle tone, the amygdala prepares us to defend ourselves or run, all before we think about it. In fact, the goal of the “fight or flight” response is to facilitate action without thought — potentially lifesaving when we are vulnerable.

But the amygdala's single-situation specialization can make it ineffective, or even an impediment, when it is out of its element. The amygdala is never completely off duty and, especially in the presence of uncertainty, may stay on high alert, promoting a feeling of anxiety or dread.

The amygdala is fast, usually finishing its work before the rest of the brain gets started. That's why a BANG! makes us jump before we consciously perceive the noise. Insight, variety and nuance are not useful to the amygdala; it cares only about survival. It relies on inputs from other, slower brain regions to classify



threats as imagined or real, minor or important, emotional or physical.

Have you ever wondered, “What was I *thinking* when I reacted that way?” The answer: nothing at all. The amygdala hijack was over before your frontal lobes got on the plane.

When brain disease touches the amygdala

The amygdala's location in the *mesial temporal lobes*, right next to memory storage and retrieval centers, facilitates rapid recognition of dangerous situations. But the mesial temporal lobes are also early targets of Alzheimer's disease and other memory disorders (see *page 16*). The degeneration in memory centers that causes forgetfulness also affects the amygdala, impairing threat perceptions and responses.

At Cleveland Clinic Lou Ruvo Center for Brain Health, I frequently talk with family caregivers about manifestations

of Alzheimer's amygdalae. Caregivers' vigilance is perceived by the patient with suspicion and agitation; enhanced responsiveness begets irritability and aggressive resistance; and benign statements are interpreted as insults or intimidation.

As memory fades, familiar care partners become crucial markers of safety. Confronted with a metaphorical ocean of unfamiliarity, patients try to keep a “lighthouse” in view. Trailing behind the caregiver or calling out to them just to get a response are the only ways they have of soothing their amygdalar anxiety.

For longer-term management, occupational therapy can offer compensatory strategies while behavioral health offers training in handling these issues. Your neurology provider may have medication options. For more information, contact your neurology team at 702.483.6000.

The Powerful Voices of People With Brain Disease

Diagnosis with a brain disorder is empowering because “it gives you clarity and options,” in the words of members of Cleveland Clinic Lou Ruvo Center for Brain Health’s Voice of the Patient and Family Advisory Council. This group wanted to showcase the diverse faces of disease, illustrating that “people with a brain disease are people first.”

Thus was born the “I Am Powerful Project.” Enjoy this second part of our series (part one ran in the spring 2022 issue of *New Thinking*).

Debbie McElwain, 70

Diagnosed with Huntington’s disease in 1994

If we were to meet, I’d want you to: Know that Huntington’s is not a death sentence anymore, as long as you get the correct medical treatment.

My grandfather, two aunts and my father had Huntington’s disease so, in 1994, shortly after the gene was identified, I decided to get tested. Learning of my condition allowed me to plan my next step in life: attending nursing school at the University of Texas at El Paso, where I earned my BSN in 1998.

I focus on taking care of myself physically but, as a widow since 2013, I also recognize the importance of socialization and staying active. I attend support groups for widows and for Huntington’s, and my knitting and crocheting group, in which we make comfort items for patients in a local hospital, is particularly rewarding.

I also am fortunate to have people who help me, from a caretaker who comes to my house to cook meals for the entire week to a mobile groomer for my two dogs.

Living my best life with Huntington’s is possible because I have been going to Cleveland Clinic Lou Ruvo Center since April 2016, where I’ve learned people with this disease don’t have to be alone. I’ve been able to achieve optimal mental health and live migraine free for three years, thanks to a better balance of medications.



Cleveland Clinic Lou Ruvo Center for Brain Health has empowered me by...

Saving my life.

Paula Phelps, 71

Diagnosed with amyloid plaques (but no confirmed disease) in 2015

If we were to meet, I'd want you to: Listen to my reasons for being in a clinical trial, and consider participating in brain health research yourself.

Given a family history of Alzheimer's, in 2015 at the age of 65, I joined my first clinical trial for a new Alzheimer's drug, through which I learned that I do, indeed, have one of the hallmarks of Alzheimer's in my brain: amyloid plaques. This surprised me because I still don't notice any symptoms of Alzheimer's.

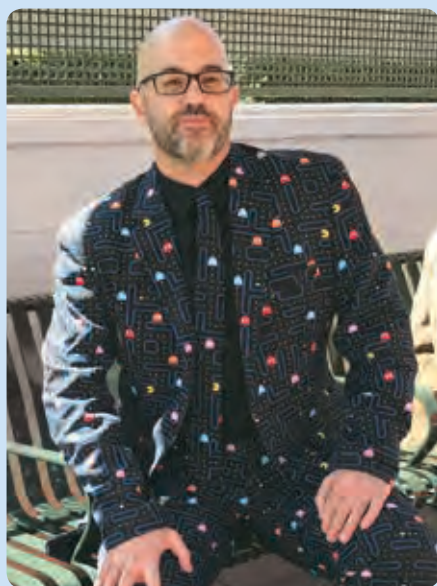
Being in a trial has changed my outlook from doom to optimism, and it's reassuring to know my participation could possibly prevent or postpone Alzheimer's — if not for me, perhaps in the future for others.

I've learned about the positive impact on the brain of staying active, so I attend exercise classes regularly, belong to a jazz dance performance group, and enjoy cruising and other travel.



Cleveland Clinic Lou Ruvo Center for Brain Health has empowered me by...

Accepting me as a clinical trials participant to help move research forward.



Cameron Basquiat, 50

Diagnosed with multiple sclerosis (MS) in 2018

If we were to meet, I'd want you to: Feel comfortable asking any questions you have about MS. Education is vital for patients, caregivers, family and friends, and anyone curious about the disease.

Experiencing ongoing loss of feeling in my legs sent me to the doctor in search of answers. With no family history of MS, I was shocked to receive the diagnosis, yet reassured to have an explanation for the odd symptom.

Prior to my diagnosis, the only person I had met with MS was Richard Pryor in 1994, and he was wheelchair bound. Thankfully, treatment for MS has come a long way since then, and I'm grateful to be on a treatment plan that aspires to slow down the deterioration process and, hopefully, give me many more years of functionality.

Though I've suffered physically and cognitively from MS, I continue to enjoy my job as a college professor, play '80s arcade games and laugh with my wife and kids. I've always walked long distance for exercise, but now try to stay on even surfaces to help with balance, and am more conscious of my distance limitations.

People with MS are first and foremost people: good, bad, nice, mean, all shapes, genders, ages, colors, etc.

At the end of the day, what I want everyone to know about MS is that I don't recommend it. Fun people, but worst club benefits ever! And yes, humor is incredibly important in managing any chronic disease.



Cleveland Clinic Lou Ruvo Center for Brain Health has empowered me by...

Giving a name to my condition and providing outstanding assistance through treatment, research and regular communication, along with the very best medical care, which has enabled me to live a mostly "normal" life.

Goal-oriented Group Aims to Reduce Worry From Mild Memory Loss

Most people spend their working lives planning for retirement and the “golden years,” but a diagnosis of memory loss can upend those dreams.

“Our neurology team frequently reports patients worrying about how their diagnosis will affect the future but, also, their daily lives,” says Lucille Carriere, PhD, Behavioral Health Director and Angie Ruvo Endowed Caregiving Chair at Cleveland Clinic Lou Ruvo Center for Brain Health. So, in early 2022, Drs. Carriere and Rachel Butler Pagnotti launched a therapy group: Adjustment to Memory Loss.

Learning to “find joy every day”

While group members can share concerns about mild memory loss, the primary objective of this skill-building therapy group, our first for this population is to provide strategies for reducing worry specific to memory changes.

As Dr. Carriere says, “We want people to know they’re not alone when living with memory loss. We want to help them find joy every day, rather than worry about becoming a burden to friends and family.”

Facilitated by Tiarra Atkinson, LCSW, behavioral health outpatient therapist, Adjustment to Memory Loss is grounded in cognitive-behavioral therapy that looks at how thinking and feeling impact behavior.

A path to a fuller life

Unlike in free-flowing support or social groups such as Dementia Conversations (dementiafriendlynevada.org/dementia-conversations), participants in Adjustment to Memory Loss set and

work toward individual goals and learn specific skills to reduce anxiety and improve quality of life while adjusting to the uncertainty of a future with memory loss.

One participant’s goal was to return to her exercise class, which she had stopped attending because “forgetting words was embarrassing.” Another wanted to learn specific relaxation techniques to target stress related to memory loss.

When something feels too overwhelming, knowing how to ask for help is another important skill. For example, says Ms. Atkinson, “as managing finances becomes difficult, at what point should we ask for help so we don’t experience more dire consequences, such as bad debt or having utilities cut off for lack of payment?”

Ms. Atkinson and Dr. Carriere also offer individual psychotherapy for those experiencing stress or sadness related to their memory loss.

Dr. Lucille Carriere



INTERESTED IN BUILDING YOUR TOOLKIT?

Adjustment to Memory Loss meets for 1½ hours weekly over four weeks. If you are older than 55, have been diagnosed with mild memory loss and are a patient at our center, ask your Lou Ruvo Center for Brain Health neurology provider for a referral.

The group is offered at no cost, thanks to generous donor support. A full list of free educational, therapeutic and support programs open to all is at clevelandclinic.org/NevadaEvents.



A Caregiving Conversation Over Coffee

A staff member from Cleveland Clinic Lou Ruvo Center for Brain Health and three men living with dementia sat down over coffee, shaded comfortably from the Las Vegas sun. The topic was the men's caregivers, and the conversation flowed as smoothly as the coffee.

Here are their observations.

A caregiver is a person who ...

"Keeps me on the straight and narrow," says Jim Loane, 80, who is living with Lewy body dementia. Of his wife, Linda, he says, "She has become my rock."

"Does everything," says Larry McAlister, 80. He's not sure exactly what is wrong with his brain, but "my wife, Mitzie, will know."

"Takes care of me every day," says Bob Hickman, 70, who has been diagnosed with Lewy body dementia and is cared for by his wife, Coco. She endured triple bypass surgery attributed to the stress of caregiving. "I rely on her for everything," Bob says, "and they tell me she died twice on the table."

Their greatest frustrations?

"I think it stinks. I miss being a normal person. Without Mitzie, I couldn't get around," says Larry. "I'm worried right now about whether I'll reconnect with Mitzie," who we assured him was nearby. "She's taking care of both her husband and her baby — that's me. I don't want that. She doesn't want that. Who would want that?"

"It's true, we're not independent anymore," echoes Jim. "I was a banker

for 45 years, and now I can't balance a checkbook."

"Why do I have an 'old man's' disease?" Bob wonders. "I'm not old."

Their advice for new caregivers:

"Learn as much as you can about the disease. How it affects me, as the patient, will affect you as the caregiver. I have two things in my brain: myself and the Lewy body dementia," says Jim. "At the beginning, Linda didn't know when Lewy was talking versus Jim, but now she's figured it out."

"Find a routine you can live by," advises Larry. "The brain disease is not going away tomorrow, it's here forever."

"If you know one person with dementia, you know one person. We're not all the same. Talk to professionals," says Bob. "Get the patient into music therapy. They'll feel better, which will make your life as a caregiver more reasonable. Lots of rest helps me, too. When I start getting tired or stressed, it comes apart at the seams."

How to share the dementia diagnosis friends and family?

"We were honest up front, saying I had Lewy, but no one knew what it was. People would look at me and say, 'You don't look like you have dementia.' We had to do a lot of educating," says Bob.

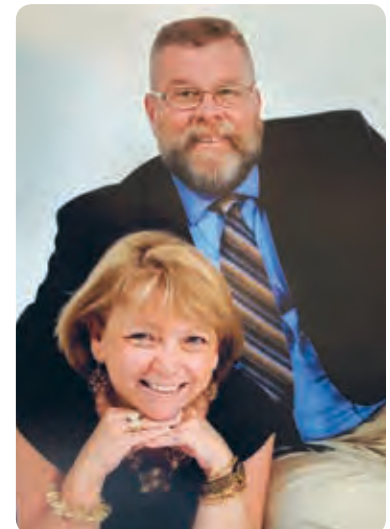
"Dad has problems getting words out, focusing thoughts," is how I explained it to our adult children," says Jim. "Now, our young grandkids are growing up just seeing me, PopPop, as I am."



Jim and Linda Loane



Larry and Mitzie McAlister



Coco and Bob Hickman

JOIN THE CONVERSATION

Join the conversation about living well with dementia. Opportunities abound online daily through the Lou Ruvo Center for Brain Health's free, online educational, therapeutic and support programs: clevelandclinic.org/NevadaEvents.

Or contact LouRuvoSocialServ@ccf.org to sign up to receive our monthly calendar of events via email. Another resource: DementiaFriendlyNevada.org/dementia-conversations.



Families gather for camaraderie

Brain Disease:

PROGRAMMING FOR A MORE FULFILLING JOURNEY

Individuals living with brain disease and their care partners tell us that while their specific, day-to-day needs change as their journey progresses, those needs nonetheless fall into predictable categories.

We've responded.



SKILL-BUILDING & EDUCATION

(group-based programs)

FOR CARE PARTNERS:

- **Improv for Care®:** a fun workshop for building innovative approaches to communication
- **Powerful Tools for Caregivers®:** techniques for facilitating the elusive self-care
- **Dealing with Dementia®:** skills for making time for self-care while caregiving

FOR PATIENTS:

- **Adjustment to Memory Loss:** a therapy group providing strategies for reducing worry specific to memory changes

FOR PATIENTS & CARE PARTNERS:

- **HABIT®:** tools for achieving the highest possible level of function and independence while living with mild cognitive impairment
- **SHARE®:** an approach to getting the most out of today despite early-stage dementia, while planning for tomorrow
- **Lunch & Learn lectures:** Lectures on topics of interest to aging adults and those living with brain disease. Archived programs: clevelandcliniceducationnv.org/education/lunchlearn
- **Lynn Ruffin-Smith Library**
On campus: Monday through Friday, 9:00 a.m. – 4:30 p.m.
Online 24/7: Browse our e-Library: lruffin-smith.overdrive.com



WELLNESS

(group-based programs)

PHYSICAL HEALTH

- **Healthier Living:** a workshop for living better while managing chronic conditions

EMOTIONAL HEALTH FOR PATIENTS & CARE PARTNERS

- **Support Groups**
- **Short-term counseling**



DAILY PROGRAMMING

Thanks to generous philanthropic support, most of these free programs are available to the entire community, regardless of where you receive neurological care.

View the day-by-day program calendar: clevelandclinic.org/NevadaEvents

Learn about additional resources for care partners in our Patient Guide, which was conceived by our patient and family advisory council.
clevelandclinic.org/NVpatientguide



ENRICHMENT ACTIVITIES FOR THE COGNITIVELY IMPAIRED (group-based programs)

REMEMBRANCE ACTIVITIES:

- **Conversations to Remember:** Telling stories through art can stimulate distant memories in individuals experiencing memory loss.
- **Dementia Conversations:** a friendly space in which to share experiences in living with dementia

ART MAKING:

- **Mind in Design:** an art making class for everyone



MUSIC THERAPY (group-based programs)

- **Rhythmic Reminiscence®:**
A music- physical therapy collaboration
- **Intergenerational Interludes:** bringing individuals with memory loss and young children together to share singing, movement, instrument play and fun to enhance each others' lives
- **Limited one-on-one sessions** also available with a board-certified music therapist



CASE MANAGEMENT (one-on-one for patients & care partners)

- Guidance to resources at Cleveland Clinic and in the community
- Due to demand, these appointments require a referral from a Cleveland Clinic Nevada neurology provider. Haven't seen a Cleveland Clinic neurologist? Contact us at 702.483.6000 to request a neurology appointment.



It Takes Two: Tag-Team Care Partners Collaborate Across Miles

With his speech affected by the aphasia variant of frontotemporal dementia (FTD), one of the few phrases Jerry Shuster, 82, can still utter is, “I love you.”

“Finding those connections that remain with my dad, such as shared favorite movies or hugs, feels really good,” says daughter Megan Shuster, who lives a short drive across Las Vegas from Jerry and her mom, Sharon. When Megan goes to her parents’ house, she brings along her dog, Charlie, to engage with her dad, who otherwise watches TV.



Sharon and Jerry Shuster

Helping from near and far

Megan’s work schedule offers her the flexibility to cruise across town when needed, such as to help Sharon set up video cameras to monitor the couple’s safety or to provide rides to doctors’ appointments.

Then there was the time Jerry was in the emergency room. While Sharon was attending to him, Megan checked on her parents’ house. Confronted with a leaking pipe in their bathroom, she cleaned up the mess so her mom didn’t have to worry about it.

Fortunately, Megan has a collaborator. From her home in Ohio, older daughter Amy helped Sharon set up automatic payment for recurring bills, such as the mortgage.

Megan says, “We initially thought of ‘caregiving’ as caring directly for the body, but caregiving spans the entire home environment.”

Caring for the primary caregiver

Megan enjoys giving Sharon, 74, Jerry’s primary care partner, routine breaks; Megan also cared for her dad while Amy took their mom on a much-needed vacation.

“We learned in our FTD support group about the negative health toll on primary caregivers,” says Amy. The sisters regularly remind their mom to take care of herself and keep up with the activities she loves.

Sharon and Jerry had been avid cyclists. Sharon started biking alone when Jerry could no longer safely ride along. When the pandemic hit, Amy taught her mom how to host a Zoom meeting for her decorative painting community so she could continue to remain socially engaged. Amy also connected her parents to a personal trainer, which enabled them to find new ways to stay fit together.

“It was difficult for me to set aside the idea that I couldn’t be directly helpful, and realize I could actually help by helping Mom,” says Amy, who has found Cleveland Clinic Lou Ruvo Center for Brain Health’s FTD support group “an incredible resource” where she and Megan can connect online with other families on a similar journey.

“Being a full-time caregiver for dementia is probably one of the most difficult jobs there is,” says Lucille Carriere, PhD, Behavioral Health Director and Angie Ruvo Endowed Caregiving Chair. “Even the most well-intentioned care partner is going to have bad days, lose their temper and feel overburdened. A tag-team approach such as the Shusters’ is a wonderful example of families communicating about diverse care needs for a loved one, clarifying their roles, spreading out the responsibilities and even sharing the joys that caregiving entails.”

Learn more about no-cost daily educational, therapeutic and support events such as the FTD support group at clevelandclinic.org/NevadaEvents.

An Ambition to Heal “My Community”

When Cleveland Clinic Lou Ruvo Center for Brain Health established a pre-professional education program in 2010, we envisioned attracting students from across the country. However, “When confronted with the motivation and need of students in our own back yard, we focused our efforts on providing opportunities to Nevada’s own.” says Dylan Wint, MD, center Director and Las Vegas Legacy Chair in Neuroscience Education.

Arturo Montes Jr., MD, of Las Vegas, is a perfect example. A former undergraduate intern at the Lou Ruvo Center for Brain Health, Dr. Montes was a member of the second class to graduate from the Kirk Kerkorian School of Medicine at the University of Nevada, Las Vegas. He began his internship in internal medicine at Las Vegas’ University Medical Center in July, and in 2023, will commence a residency in neurology at the University of Southern California.

Life is what you make it

Dr. Montes, the son of two janitors, is the first in his family to graduate from college and the only one among his siblings who was not touched by either gang violence or teen parenthood.

While working as a bus person and dishwasher at the Riviera Hotel & Casino and earning dual bachelor’s degrees at UNLV, the future Dr. Montes experienced two pivotal events. First, his mother’s heart attack inspired him to become a physician. Second, as a literally starving undergraduate, lured by a promised meal, he attended a lecture on brain health and “left with so much more than free food.”

“It hit me that the brain houses our memory, is responsible for our personality and is what makes us uniquely human,” remembers Dr. Montes. Wanting to learn more, he landed the internship at the



Lou Ruvo Center for Brain Health under the mentorship of Dr. Wint, whom he refers to today as “one of the most influential people in my life.”

While shadowing in the center’s multiple sclerosis program, Dr. Montes met a young former professional athlete who used a wheelchair and was “the happiest man on the planet, with an amazing, supportive wife.”

“I realized you can’t control what happens to you, but you can control what you do with it,” he says.

A long-term engagement?

While in medical school, Dr. Montes returned to the center for a month-long immersion. He recalls that “Dr. Wint didn’t just show me how to do something; he’d also pull up articles and teach me how, as a physician, you go about reading up on things you don’t know.”

Dr. Wint says, “While most of the thousands of students we teach will engage with us only once or twice, our dream is a student like Arturo, who engages at successively higher levels of our education program and grows with us in creating Nevada’s medical future.”

Dr. Montes summarizes his feelings: “I’m so grateful to the donors who fund these training programs. If I had the opportunity to come back to Cleveland Clinic for a fellowship, who wouldn’t do that?”

“My roots are here, my family is here and Las Vegas is extremely underserved from a medical perspective. I speak Spanish, I’m Latino. I want to come back home and help my community.”

If you would like to support the development of the next generation of medical providers, contact our philanthropy team at 702.263.9797 or DonateNevada@ccf.org.

A Fellowship of Care

Cleveland Clinic Lou Ruvo Center for Brain Health is committed to providing graduate medical education (GME) in Las Vegas because today's trainees are tomorrow's board-certified providers. In a state identified as a "neurology desert" in the Alzheimer's Association's 2022 *Alzheimer's Disease Facts & Figures* report, expanded access to specialized care can't come too soon.

Meet our most recent fellows.



JENNIFER PAULDURAI, MD

Behavioral Neurology Fellow, 2022-23

Why Cleveland Clinic? Why Las Vegas?

I made a spreadsheet of the 40-some fellowship programs nationwide, most of which were either focused exclusively on patient care or on research. Yet the Lou Ruvo Center for Brain Health, founded by a caregiver, offers a blend of both.

Education Program Manager Susan Farris wrote a giant essay of an email with the pros and cons of Cleveland Clinic's main versus its Las Vegas campus. It was not only helpful, but genuine and kind, and exemplified the type of people with whom I'm now working.

It's been an unusual journey because ...

Due to COVID, I interviewed and accepted the fellowship over Zoom. When I finally set foot on campus, Susan must have introduced me to 100 people, each of whom seemed to have heard of me or remembered me from the online interviews and expressed sincere interest in getting to know and help me during my training.



RACHEL BUTLER PAGNOTTI, PSYD

Neuropsychology Postdoctoral Fellow, 2020-2022

Why this center?

My personal experience with my grandfather's Parkinson's disease motivated me professionally to seek answers. Cleveland Clinic is well respected, and the Lou Ruvo Center for Brain Health is well known for specializing in cognitive and movement disorders and providing a peaceful, calming environment for people going through — and working in — these diseases.

What I learned from a patient

Interacting with a Holocaust survivor was so humbling. He's been through so much in life, and now was coming for an evaluation for dementia. Yet, he was so happy and joyful just to be heard at a time of vulnerability.

Describe your capstone project

In February 2022, I gave a presentation at the International Neuropsychology Society on research into the cognitive and clinical characteristics of a newly recognized type of dementia, LATE, which I conducted with one of my mentors, Justin Miller, PhD. (See *page 10*.)

What inspires me

My field is so rapidly developing that if you don't check the literature daily, you're 10 steps behind.

Now that my training is complete, I'm going to ...

Work with older adults with cognitive and movement disorders as a clinical neuropsychologist at Nuvance Health in Connecticut.



DAN MICHAEL PINEDA, MD, MSC

Multiple Sclerosis Fellow, 2021-2022

Experience meets expectations

I learned evidence-based comprehensive multiple sclerosis (MS) care, not just from my physician-supervisors, Drs. Hua and Hersh, but also the breadth of professionals involved in the complexity of MS care: nurses, neurorehabilitation therapists, social workers and more.

Understanding people who have MS

Drs. Hua and Hersh involved me in their research projects, so I have come to appreciate how we know what we know about MS. Most importantly, our knowledge about the condition relies heavily on cooperation among investigators, scientists and individuals with MS who give their time for research.

I have always been inspired by the determination of persons with MS, their laser focus on what's important in their lives and how they work hard to achieve it.

Don't stagnate

Neuroimmunology is a rapidly changing field, so it's important to keep up with evidence. This doesn't just involve reading books or journal articles, but effective networking among the MS community to learn new best practices.

Now that my formal training is complete...

I'll be introducing the holistic concept of care provided at our center to a new academic MS community in the suburbs of Boston.

PHILANTHROPY POWERS FELLOWSHIPS

"Dr. Dylan Wint has shared how even seasoned neurologists can learn from the daily observations of family caregivers. In honor of his care during our family's journey with Alzheimer's, I'm proud to support the Lou Ruvo Center for Brain Health in training the next generation of behavioral neurologists." — **Rick Chapman**

"We consider ourselves investors in unrecognized human possibilities, and have been fortunate to witness our gifts change people's lives. We envision fellows trained at the Lou Ruvo Center for Brain Health making a long-term impact on healthcare delivery in our community."

— **Kris Engelstad McGarry, Trustee, The Engelstad Foundation**

If you're interested in supporting educational opportunities at the Lou Ruvo Center for Brain Health, please contact 702.263.9797 or DonateNevada@ccf.org.



“Fueled by Philanthropy”: Endowment Campaign Will Sustain World-Class Care

The Alzheimer's Association's 2022 *Alzheimer's Disease Facts & Figures* report declared Nevada a “dementia neurology desert,” projecting that by 2025, the state will have fewer than 10 neurologists per 10,000 residents with dementia.

With a 31% increase in Alzheimer's disease cases anticipated by that same year, Nevada ranks third nationwide for growth of this deadly disease.

A fund drive for the future

However, Cleveland Clinic Nevada is committed to growing Nevada's neuroscience landscape, and is accelerating a \$100 million endowment campaign to support long-term sustainability.

Larry Ruvo, Chairman and Co-founder of Keep Memory Alive, explains, “Cleveland Clinic Nevada is fueled by the power of philanthropy. We truly believe that what happens in Las Vegas will change the world, and ask the community to be a part of it by donating to our cause.”



THE POWER OF PHILANTHROPY

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

Linda and Johnny Ribeiro: An Image of Generosity

In July 2021, Johnny Ribeiro felt great. He'd aced his semiannual physical and booked a fishing trip to the Bahamas. But his old friend, Larry Ruvo, insisted he get a head-to-thigh scan in the imaging department at Cleveland Clinic Nevada, just in case.

An aggressive cancer, spotted by the 3-Tesla MRI, was hiding behind his clavicle. The high-resolution diagnostic tool finds smaller lesions and other anomalies that less powerful machines can't make out.

“I'm here today because of it,” Johnny says.

After Johnny underwent minimally invasive robotic surgery at Cleveland Clinic's main campus in Ohio, he and wife Linda convinced family, friends and co-workers to book their own scans, which uncovered silent disorders like fatty liver disease.

The Ribeiros have pledged to support Cleveland Clinic Nevada's endowment, and hope to inspire others to give.

“If I can help get more donors, guess what?” Johnny says. “I'm happy as heck because I know my kids will have a place to go where they'll get the same lifesaving treatment I got.” The Ribeiro family's support of the endowment will help ensure lifesaving and life-changing care for generations.



Johnny and Linda Ribeiro

Imaging Services

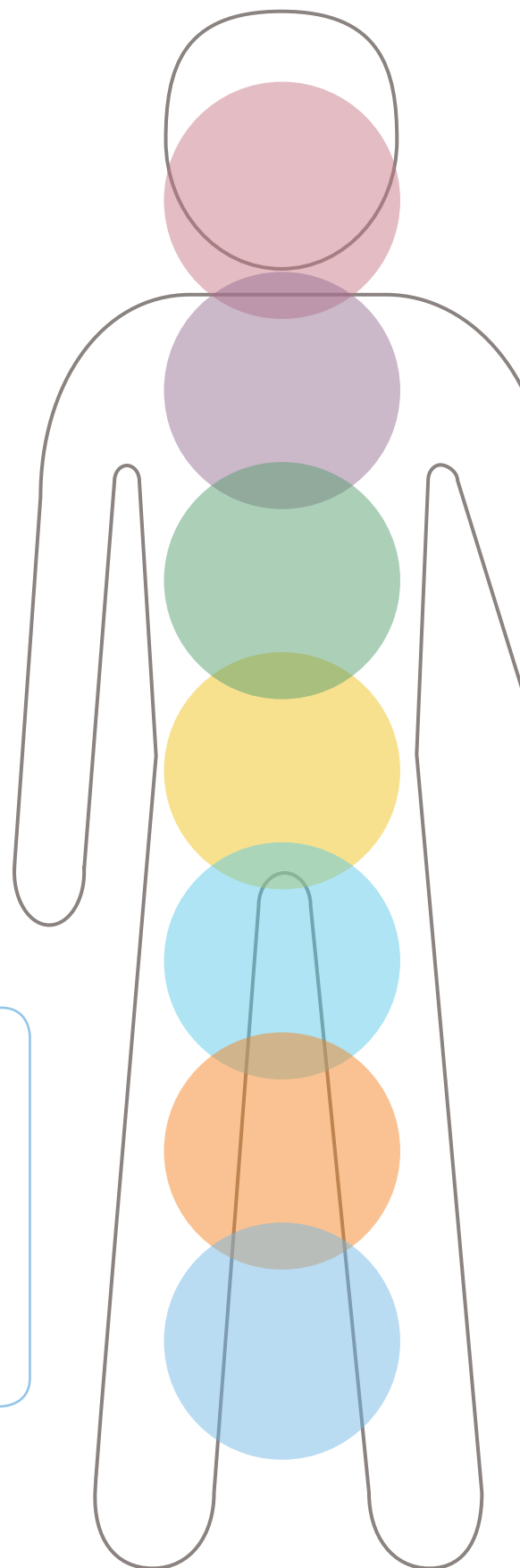
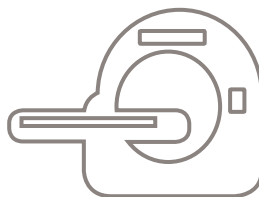
NOT JUST FOR BRAINS

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

Taken in Las Vegas and interpreted by sub-specialized
Cleveland Clinic radiologists, we offer high-resolution
images in MRI, CT and PET.

We can typically offer same-day access and
results are usually available within 24 hours.

> clevelandclinic.org/Nevada
or 702.701.7948 to schedule
your imaging appointment



Getting Close and Making Memories Together

Sometimes you don't realize the value of a moment until it passes and becomes a cherished memory. And that's exactly what happened for the 100 attendees at "Up Close and Personal with Bocelli and Friends" on June 17 at Spago, Beverly Hills.

Billed as an intimate performance by renowned tenor **Andrea Bocelli** with special performances by American Idol Star **Katharine McPhee** and multi-Grammy Award-Winner **David Foster**, many commented that the highlight of the evening was the surprise performance of *Hallelujah* by 11-year old **Virginia Bocelli** and her father, Andrea, who also accompanied on guitar.

Replete with a caviar bar, Dom Pérignon, and a Louis XIII tasting, not only was it a treasured, unforgettable night, but also a meaningful one that raised funds to ensure every life receives the care and compassion we all deserve.

Many thanks to:

- Spago's owner and famed chef **Wolfgang Puck** for his unwavering support and generosity
- **The Bocelli family** for the gift of witnessing unbelievable talent and passion
- Event co-chairs **Camille and Larry Ruvo**; **Lori and Michael Milken**; and **Maria Shriver**, Women's Alzheimer's Movement Founder and Cleveland Clinic Strategic Advisor on Women's Health and Alzheimer's, for their fervent commitment to convening friends to share purposeful, memorable moments

Virginia Bocelli
with her father,
Andrea



Katharine McPhee with David Foster





Ronnie Newman of Rémy Cointreau, left, with Wolfgang Puck



Lori Milken, left, with Camille Ruvo



Veronica Bocelli with daughter, Virginia



Larry Ruvo with Maria Shriver

Thanks to our Sponsors



Andrea Bocelli plays chess with Nick Huntington



Louis Huntington, Andrea Bocelli, Nick Huntington, Roberta Huntington and Allyson Huntington

Checkmate For a Cause

In 2021, when frequent Power of Love® gala-goer Louis Huntington emerged the winner bidder for a chess game with Andrea Bocelli, he ceded the once-in-a-lifetime opportunity to his son, Nick. While in Beverly Hills in June for the Keep Memory Alive fundraiser at Spago, the long-awaited Huntington-Bocelli match took place.

“

Playing chess with Andrea Bocelli was thrilling and reignited my passion for the game. He let me have the white pieces, and after a back-and-forth struggle, I ended up winning. We then agreed on a second game in which I would play black. It was a close fight that came down to the Maestro demonstrating how to convert a pawn majority in the endgame into a win. The whole experience is something I will never forget. — Nick Huntington

”

Community Collaborators Celebrate and Raise Funds for Keep Memory Alive

Fundraising champions for Keep Memory Alive came together and hosted several community events to support Cleveland Clinic Lou Ruvo Center for Brain Health. Here are some of those events.

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

Las Vegas' First Annual Tequila and Mezcal Festival Benefits Keep Memory Alive

Wally's Wine & Spirits has a 30-year history of presenting tasting events featuring the globe's finest wines, champagnes and spirits in cities such as Los Angeles, New York, Hawaii and beyond, but its May 14 event was a first for Las Vegas.

In presenting "the best of the best in agave," Christian Navarro, President and Principal of Wally's Wine & Spirits, promised "brands and expressions that have never been seen in the Las Vegas market before."

This type of "first and only" aligned with events the evening's beneficiary, Keep Memory Alive, is known for. A huge thank you to Wally's Wine & Spirits and Resorts World Las Vegas for great support from a great "first of" event.



Music Connects Us In Perfect Harmony

Five-time Grammy® Award nominee Michael Feinstein's Great American Songbook Foundation aims to perpetuate this genre by preserving the physical artifacts of the Songbook's creators, performers and publishers, and making these cultural treasures accessible through intergenerational programming that focuses on interactive, educational and immersive experiences for all.

On May 13, the Great American Songbook Foundation and Cleveland Clinic Lou Ruvo Center for Brain Health came together in perfect harmony to spotlight music's ability to form lasting connections in the brain. Event proceeds benefited both organizations and their shared commitment to the power of music as therapy.



Michael Feinstein entertaining guests

Gifts Add Up Quickly

When Penny and Greg Sherry were planning his 75th birthday party, Greg commented that he “didn’t need another golf shirt,” which got his wife, Penny, who has a background in fundraising, thinking: “Both golf shirts and donations can add up quickly, and Greg’s closet is full. What if in lieu of gifts, the party invitation suggested that guests make a donation to Cleveland Clinic Lou Ruvo Center for Brain Health in Greg’s honor?”

They reached out to Renae DeLucia on the center’s philanthropy team, who created a customized web donation page to which the couple linked when emailing the party invitation to friends and family. Gifts from generous party guests ranged from \$50 to \$500.

“It couldn’t have been easier,” says Greg, “which is exactly how we wanted it to be for our guests.” And for him? “Knowing that on my 75th birthday I was able to do something good for others was important to me.”

“Guests told us they appreciated we took the guesswork out of the gift-giving this year,” says Penny.



Alexis Sherry, Jason Savage, Axel Savage, Greg Sherry, Marisa Sherry, Tatum Savage and Penny Sherry



Greg Sherry and his golf shirt collection

KEEP MEMORY ALIVE

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



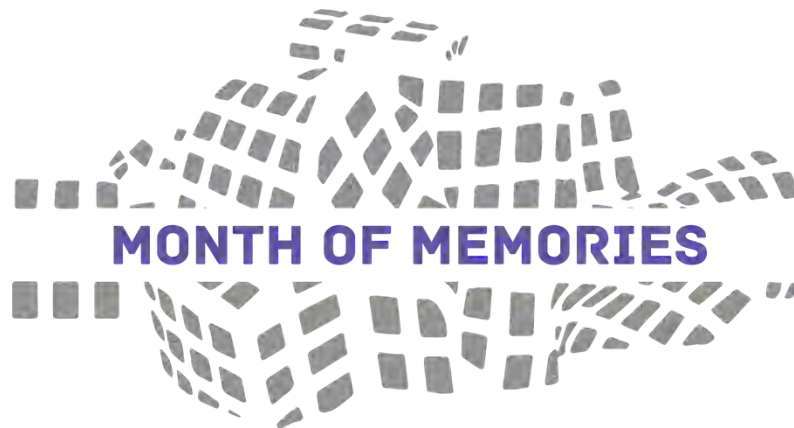
ALZHEIMER'S | HUNTINGTON'S | PARKINSON'S
MULTIPLE SYSTEM ATROPHY | MULTIPLE SCLEROSIS

In support of:



Cleveland Clinic

Lou Ruvo Center for Brain Health



We need businesses like yours to help bring awareness to Alzheimer's disease

What is Month of Memories?

Month of Memories is a community-focused fundraiser that gives Las Vegas the opportunity to shop, dine and support local businesses during the month of November.

Together, we can shine an important light on National Alzheimer's Disease and Family Caregiver Awareness Month while raising funds to provide no-cost educational, therapeutic and support programming for Nevadans.

Here's How Your Business Can Participate



Donate a Dollar

Ask customers to make a \$1 donation or round up their change during the month of November at point of sale



Cocktail or Menu Item

Create a special purple cocktail or menu item that is available during the month of November



Percentage of Sales

Donate a designated percentage of sales during the month of November



Another Idea

Do you have a creative promotional idea? We'd love to hear it.

JOIN US NOVEMBER 1 - 30

 www.keepmemoryalive.com/MoM

**HAVE A BUSINESS OR GREAT IDEA?
CALL US FOR MORE INFO**

 **702-263-9797**

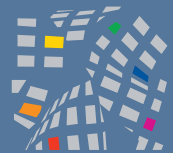
Keep Memory Alive is a nonprofit organization formed in the state of Nevada to increase awareness of and raise funds for the research, management, and treatment of brain disorders. Contributions to Keep Memory Alive may be tax-deductible pursuant to Internal Revenue Code section 170(c).

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

Visitor Photo Gallery



L to R: Larry Ruvo, Ezra Bekhor, Christine Sidoris, Alan Bekhor



L to R: Kristie Nicolosi, Steven Lagos, Dr. Lucille Carriere, and Bill and Janice Isenberg



Bill Rowley and Megan Frankel of Healthnetwork Foundation with Rollie Sturm, right



L to R: Michael Severino, Greg Van Stone and Dr. Zoltan Mari



Aaron Harvey's Honor Wall unveiling in honor of grandmother Marva Winters

Senator Stabenow
with Dr. Dylan Wint



U.S. SENATOR DEBBIE STABENOW VISITS

The team at Cleveland Clinic Lou Ruvo Center for Brain Health always enjoys touring visitors around our beautiful Frank Gehry-designed campus, but it's all the more special when a visitor engages with our mission.

In the case of the April visit from U.S. Senator Debbie Stabenow (D Michigan) and Catherine Cortez Masto (D Nevada), we hosted true advocates for seniors with dementia. Over lunch, we learned Senator Stabenow was the originator of a Medicare reimbursement mechanism that since 2018 has

enabled clinicians across the country to provide resources to support the more involved visits necessary for patients with cognitive dysfunction.

"It's an astute recognition on Senator's Stabenow's part that insurance typically pays for procedures, not real conversations with patients and caregivers," says Dylan Wint, MD, Director, Lou Ruvo Center for Brain Health. "Yet, as we teach our trainees, talking with patients and caregivers is the essence of dementia care."



L to R: Michael Severino,
Kool and The Gang's Robert "Kool" Bell
and Tony Johnson



Dr. Aaron Ritter, second from left, and Dr. Charles Bernick, center, host the Vegas Golden Knights Alumni Association

Libby Hoover
at plaque
dedications in
honor of
her family



Recognized for Excellence

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

We celebrate these accomplishments.

Healthcare Heroes - Innovator

(Nevada Business Magazine, September 2022)

Erick Vidmar, MHA



Promoted to Associate Professor of Neurology

(Cleveland Clinic Lerner College of Medicine of Case Western Reserve University, July 2022) (See page 5)

Carrie Hersh, DO, MSc, FAAN

Le Hua, MD, FAAN

Neurorehabilitation Team Achieves Additional Specialization

Multiple Sclerosis Certified Specialist

(Consortium of Multiple Sclerosis Centers, July 2022)



Michael Gevertzman, PT, DPT, NCS



Justina Selim, OTD, OTR/L, MSCS



Kelly Winkel, PT, DPT, NCS

Certificate in Vestibular Rehabilitation

(American Physical Therapy Association and Duke University, 2022)

Michael Gevertzman, PT, DPT, NCS

Kelly Winkel, PT, DPT, NCS

Board-Certified Clinical Specialist in Neurologic Physical Therapy

(American Board of Physical Therapy Specialists, June 2022)

Michael Gevertzman, PT, DPT, NCS

Kelly Winkel, PT, DPT, NCS

Best Poster in the Session

(International Association of Parkinsonism and Related Disorders, May 2022)

"Understanding correlation between diffusion MRI-derived white-matter organization and clinical measures in Parkinson's disease patients with freezing of gait"

Zoltan Mari, MD, FAAN

Aaron Ritter, MD

Virendra Mishra, PhD

Karthik Sreenivasan

Best Poster Presentation

(Degenerative Disease Special Interest Group of the Academy of Neurologic Physical Therapy, March 2022)

"Differences in Spatiotemporal Gait Characteristics between Freezing of Gait Subtypes in Parkinson's Disease"

Michael Gevertzman, PT, DPT

Certificate, Non-Profit Fundraising

(UNLV Continuing Education, March 2022)

Jody Ghanem



Elected, Member-At-Large, Executive Committee

(Asian Neuropsychological Association, February 2022)

Christina Wong, PhD

Las Vegas Black Image Honors for Achievement in Healthcare

(Las Vegas Black Image Magazine, February 2022)

Dylan Wint, MD, on behalf of Cleveland Clinic Lou Ruvo Center for Brain Health

Top Doctors

(Castle Connolly, 2022)



Le Hua, MD, FAAN



Zoltan Mari, MD, FAAN



Dylan Wint, MD

2022-23 U.S. NEWS & WORLD REPORT BEST HOSPITALS RANKINGS

For the 28th consecutive year, Cleveland Clinic is America's No. 1 hospital for cardiology and heart surgery in *U.S. News & World Report's* 2022-23 Best Hospitals rankings, while earning a Top 5 overall ranking for the 24th year in a row.

Cleveland Clinic's main campus hospital ranks No. 4 in the nation and placed nationally in 13 specialties:

Neurology & Neurosurgery (8)

- Cancer (6)
- Cardiology & Heart Surgery (1)
- Diabetes & Endocrinology (11)
- Ear, Nose and Throat (23)
- Gastroenterology & GI Surgery (4)
- Geriatrics (2)
- Obstetrics & Gynecology (4)
- Ophthalmology (11)
- Orthopedics (14)
- Pulmonology & Lung Surgery (6)
- Rheumatology (2)
- Urology (2)

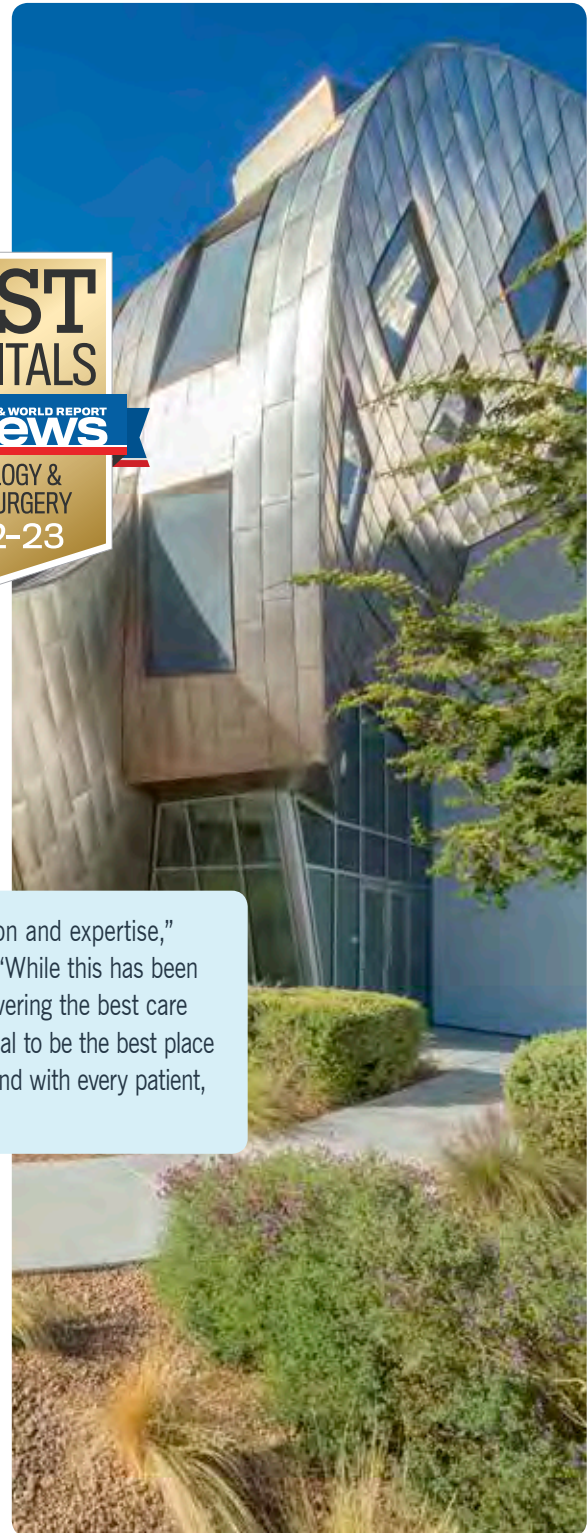


"These rankings are a recognition of our caregivers' compassion and expertise," says Cleveland Clinic CEO and President Tom Mihaljevic, M.D. "While this has been a challenging time for all of healthcare, our commitment to delivering the best care possible has not changed. We continue to be dedicated to our goal to be the best place to receive care and best place to work in healthcare. Every day and with every patient, we strive to improve our high standards and outcomes."

U.S. News evaluated more than 4,500 U.S. hospitals for the 2022-23 Best Hospitals rankings. Just 164 hospitals were ranked in at least one specialty.

According to *U.S. News*, the annual Best Hospitals rankings are designed to help patients and providers "identify hospitals that are superior in the kind of care they may need."

More information is online at clevelandclinic.org/usnews





KEEP MEMORY ALIVE

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

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

888 W. Bonneville Ave.

Las Vegas, NV 89106

Office 702.263.9797

clevelandclinic.org/Nevada

keepmemoryalive.org



SAVE THE DATE

SATURDAY, FEBRUARY 18, 2023

**MGM Grand Garden Arena
Las Vegas, NV**

Mark your calendar and expect big surprises
at the Power of Love® gala

KEEPMEMORYALIVE.ORG/POL