

FALL 2021

New Thinking

ABOUT THINKING

A Publication by Cleveland Clinic Lou Ruvo Center for Brain Health

 **Cleveland Clinic**
Nevada

KEEP MEMORY ALIVE



OUR CHEFS: 25 YEARS OF FOOD & FUNDRAISING

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

ALZHEIMER'S
HUNTINGTON'S
PARKINSON'S

FRONTOTEMPORAL DEMENTIA
LEWY BODY DEMENTIA

MULTIPLE SCLEROSIS
MULTIPLE SYSTEM ATROPHY

THE DINNER THAT LAUNCHED 6,000 PATIENTS' CARE

Wolfgang Puck. To the world, he's a celebrity chef, viewed by millions while cooking on "Good Morning America" and walking the red carpet at the Academy Awards. To Keep Memory Alive, he's our friend: a philanthropist of vast generosity and a true partner in helping us fight the battle against brain-related diseases.

Flash back to February 18, 1995 and a small private dinner at Chef Wolfgang Puck's flagship Las Vegas restaurant, Spago, where about 35 people gathered on what is now an historic night to pay tribute to

Larry Ruvo's father, Lou, who had passed away the year before due to Alzheimer's disease. The evening was a celebration of Lou's life, with guests sharing stories and, by the end of the dinner, generously pledging money to help find a cure for Alzheimer's disease.

By the end of that dinner, Larry was inspired, and suggested to Wolfgang that they do another. Wolfgang, too, was inspired and had an idea: He wanted to invite a different chef each year to cook with him and oversee the dinner. Thus began what has become the annual, star-studded Keep Memory Alive Power of Love® gala.

The first year, 1996, Wolfgang brought acclaimed chef Nobu Matsuhisa. Since then, a long list of celebrity chefs has joined forces with Larry and Wolfgang to help raise millions to fight this tragic disease. At the 25th annual Power of Love, Wolfgang will be joined in the kitchen by Bobby Flay (see page 3).



Far left: Wolfgang Puck, first row; Larry Ruvo, second row. At Spago in 1996



Wolfgang Puck, Nobu Matsuhisa and Emeril Lagasse in 2006



Family plays a major role in the Wolfgang Puck Wines label. A portion of proceeds from the sale of each bottle from wine retailers across the country is donated to Keep Memory Alive in support of Cleveland Clinic Lou Ruvo Center for Brain Health.

"Keep Memory Alive is very near to my heart, especially when I think about my mother, Maria, whom I lost in 2004 to Alzheimer's, and my friend, Larry Ruvo, whose father was afflicted with this dreadful disease. Whatever I can do to help find a cure, I will do." — Wolfgang Puck

THE DINNER THAT LAUNCHED 6,000 PATIENTS' CARE *(continued)*

IN THE ROOM WHERE IT HAPPENED

Loyal Keep Memory Alive supporters have long heard of that legendary dinner at Spago, but what really happened that night?

"I was hosting a dinner at Spago for my company during a hair convention," John Paul DeJoria recalls. "When I arrived, the maître d' said, 'JP, did you know your friend Larry Ruvo is here holding a dinner in memory of his dad?' I went over and found out Lou had died of Alzheimer's.

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

Larry never envisioned the memorial dinner would become a fundraising event but, when he announced to guests that John Paul had given a check, others began opening their wallets; \$35,000 had been raised by evening's end. Camille and Larry Ruvo went home that night with a new family mission: They would continue to keep Lou Ruvo's memory alive by doing something to change the trajectory of Alzheimer's disease.

A self-made man who emerged from homelessness to co-found Paul Mitchell Hair Care and Patron Tequila, John Paul lives by the motto "Success unshared is failure." The Ruvos have embraced that sentiment, wanting to deliver the reassurance that a firm diagnosis and ongoing education and support can offer to Nevada families living with Alzheimer's disease (see page 9).



Larry Ruvo, left, with Wolfgang Puck in 2004

HOW POWERFUL IS LOVE?

Larry believes the most powerful word is "love," and when he, Camille and Wolfgang were brainstorming names for their fundraising dinner, they landed on "Power of Love." Right from the beginning, the Ruvos knew they needed that potent brand, and they knew they had to deliver something special.

"I want people to walk away from our events with great memories. I want the Power of Love gala to be like Thanksgiving and holiday meals with your family that you look forward to each and every year, and just never forget," says Camille.

Ask Larry for a memorable moment from the Power of Love and he'll cite the 1996 gala when he ran out of auction items, and John Paul grabbed the mic to say, "I have an additional auction item. It's from your heart. I want to auction off absolutely nothing."



"Larry and Camille have created a long-term solution to an ongoing situation: Alzheimer's. They're today's heroes in getting something done."
— John Paul DeJoria

Eloise and John Paul DeJoria



John Paul DeJoria takes the microphone in 2012



Generations of boxers honor Muhammad Ali in 2012

After an enthusiastic bidder snatched up “nothing” for \$25,000, the duo — encouraged by the audience — repeated the feat twice more, and the concept of giving from the heart became forever synonymous with the Power of Love.

MEMORIES BORN OF PURPOSE

“I know how difficult it is to express one’s love to a person with Alzheimer’s disease,” says Jody Ghanem, who lost her grandmother to the disease and is now a caregiver to her mother, who recently developed Alzheimer’s. Jody remembers attending Lou’s memorial dinner at Spago alongside husband Elias Ghanem: “Watching a son lose a father, you could see the pain he was feeling. Observing Larry at this dinner made us realize that this disease is more powerful than any of us could have imagined. The Ruvos creating the Power of Love brand was genius.”

A natural caregiver, “Larry was always there for anyone suffering from any kind of illness,” says Jody of the man who visited Elias almost every Sunday for three years before the

latter succumbed to renal cell carcinoma in 2001. So in 2016, when the Ruvos asked Jody to join the Lou Ruvo Center for Brain Health as director of development, she embraced the role as a way to create memorable experiences for other families living with degenerative disorders.

HEARTFELT CONNECTIONS

Lovee and Bob Arum, who sat with the Ghanems at Lou’s memorial dinner, have attended nearly every gala, with one notable exception: “Ironically, my dad died of Alzheimer’s the morning of the 2004 gala,” remembers Lovee, who served on the Keep Memory Alive board for more than 10 years, and stresses that the gala is “not just a party, it’s about the mission.”

In 2012, Lorenzo Fertitta of UFC and Jerry Jones of the Dallas Cowboys attended the gala as did the Arums, who were instrumental in leveraging Bob’s friendship with Lonnie and Muhammad Ali to convene boxing illuminati to honor the famous fighter at the gala. Inspired by the excitement of the live auction, Jerry said, “I have to bid on something,” and he



L to R: Elias and Jody Ghanem with Larry and Camille Ruvo in 1997



Angie Dickinson with Larry Ruvo in 2002

From the first gala, Larry’s thoughtfulness and personal knowledge of his guests has enhanced their experience, as when he sat Elias next to his movie star idol, Angie Dickinson.



Top Rank Founder and CEO Bob Arum encourages the crowd to support Keep Memory Alive with a big bid for boxing icon Muhammad Ali's gloves.



Bob and Lovee Arum at the 2002 gala and more recently



decided upon a pair of Ali's gloves, which had been procured from Ali's trainer, Angelo Dundee. Jerry bid \$1 million, but was ultimately outbid by Lorenzo.

"It was an exciting moment for our table, but even more so for the families who benefit from the services at Cleveland Clinic Lou Ruvo Center for Brain Health that are funded by philanthropy at the gala," says Lovee.

"Both the gala honoring Ali and the 2020 event honoring Neil Diamond were so special because each man had been diagnosed with Parkinson's disease, which is treated at the center," says Jody. "Same again in 2014 due to Emilio and Gloria Estefan's family relationship to multiple sclerosis. These heartfelt connections cement what the Power of Love is all about."

A COMMUNITY OF CARE

Twenty-five years and millions of dollars later, the impact of the Power of Love gala on patient care is immeasurable. Funds raised by Keep Memory Alive have benefited the Lou Ruvo Center for Brain Health. Since opening its doors in downtown Las Vegas in July 2009, the center has delivered more than 220,000 appointments; conducted over 100 clinical research studies; and provided 60,000 educational, therapeutic and support visits to the community. It currently has 6,000 lives in its care.

To Camille, "I'm most proud that my husband's vision has become a reality. Larry has never let anybody stop him from making a difference in our community."

Larry is confident that "Alzheimer's will go the way of polio. It will be contained like AIDS." And 2021 was a big year, with

the FDA approving the first drug intended to slow the progression of Alzheimer's disease (see page 15).

"I don't want anyone to forget that when the time comes for a cure for this disease — and it will be very soon — that my husband's name is always associated with the reason for it happening," says Camille.



The Ruvo family parties with purpose at the 2010 gala

For the community — for the country and the world — that moment can't come soon enough. On behalf of families everywhere, we thank you, Larry and Camille, for your generous hearts and tenacity. You are the Power of Love.



DIRECTOR'S MESSAGE

Dylan Wint, MD

Director,
Cleveland Clinic
Lou Ruvo Center
for Brain Health

Las Vegas Legacy
Chair in Neuroscience
Education

Director, Education

As we prepare to celebrate our 25th annual Power of Love® gala on Saturday, October 16 (see page 3), I reflect upon the impact of Keep Memory Alive's philanthropy.

Since opening our doors in 2009, Cleveland Clinic Lou Ruvo Center for Brain Health's research program has conducted more than 100 studies of new therapies spanning Alzheimer's, Parkinson's, multiple sclerosis (MS) and other neurodegenerative diseases. And collectively, our clinician scientists have published more than 780 scientific papers.

In addition to its clinical breadth, our research program stands out for its scope, encompassing clinical and translational research, advanced brain imaging (see page 21), and engaging in community collaboration (see page 17).

As an organization we look for more ways to connect the communities we serve with the care they need, especially where the gaps between need and supply are greatest. An NIH grant in 2020 establishing the state's first and only Alzheimer's Disease Research Center is helping us study and address disparities faced by individuals with memory loss in rural settings (see page 16).

Two thirds of Alzheimer's disease cases occur in women. Hispanic and African-American women have 1.5 and 2 times the risk, respectively, of White women. The Women's Alzheimer's Movement Prevention Center at Cleveland Clinic is providing customized risk-reduction tactics to defeat Alzheimer's disease before it even happens (see page 33).

POWER OF NEW TREATMENTS

In June, the FDA approved the first new drug treatment for Alzheimer's in 18 years, and the only one that targets the biological hallmarks of the disease. For clinical teams at our center and across the country, aducanumab brings new clinical and logistical challenges as we strive to fulfill the hope for the best possible future held by families living with Alzheimer's (see page 15).

This follows the 2019-2020 approval of seven new drug treatments for neuromyelitis optica spectrum disorder (NMOSD) and MS, meaning more options than ever for physicians to deliver the most targeted, individualized patient care possible.

ROLE OF PHILANTHROPY

We credit a large part of our research success to philanthropy as we have been fortunate enough to supplement federal funding with both private and corporate donations to propel many of our innovations.

Over the course of five years, generous donors have funded nine Keep Memory Alive Scholar awards and we are beginning to see the downstream effects of these actions (see page 21). New this summer? A fellowship to train the next generation of MS providers. (see page 31)

WHAT'S NEXT?

Nevada has the third fastest increase in the prevalence of dementia. Given the current and projected severity of the Alzheimer's public health crisis, it is clear we are meeting a great need in the community we serve and beyond.

Thank you for your generosity and the role you play in enhancing access to care for our neighbors right here in our Nevada community.



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Cleveland Clinic Lou Ruvo Center for Brain Health
 888 W. Bonneville Ave. Las Vegas, NV 89106
 702.483.6000
keepmemoryalive.org | clevelandclinic.org/Nevada

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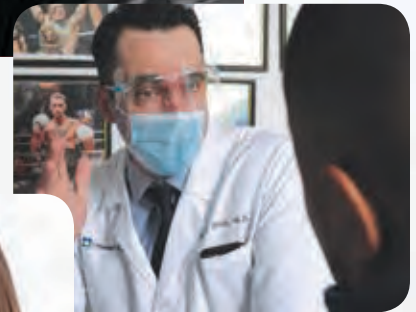
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About The Cover:

25 YEARS OF FOOD AND FUNDRAISING

This cover is a tribute to all the chefs who have contributed their culinary talents through the years to help raise funds to Keep Memory Alive. It's because of these generous chefs — true philanthropists in their own right — that Cleveland Clinic Lou Ruvo Center for Brain Health opened its doors to patients and their families in 2009, and has now delivered more than 220,000 appointments.

25 Years of Powerful Impact: Celebrating the Power of Love®

KEEP MEMORY ALIVE
Supporting the Mission of Cleveland Clinic's Center for Brain Health

AND

100
YEARS
EST. 1921

Cleveland Clinic

PRESENT

POWER OF LOVE

GALA 2021

SATURDAY, OCTOBER 16

RESORTS WORLD | LAS VEGAS, NV



Wolfgang Puck
Photo by Vanessa Stump



Bobby Flay

On Saturday, October 16 at Resorts World Las Vegas, Keep Memory Alive will honor legendary musicians Smokey Robinson and Kenny “Babyface” Edmonds at the 25th annual Power of Love® gala

25 years in the making, the highly anticipated evening of friendship and philanthropy will feature performances from a list of notable artists, along with exquisite cuisine from celebrity chefs Wolfgang Puck and Bobby Flay, and exciting live and silent auctions with truly priceless products and experiences.



K.T. LIM

Keep Memory Alive will present its Alive Global Community Leadership Award to K.T. Lim, Chairman and CEO of Genting Group, developer of Resorts World, in honor of his outstanding accomplishments and generous philanthropic support around the globe for those with neurodegenerative disease.

During the course of his 50-year career in music, Motown legend Robinson has accumulated more than 4,000 songs to his credit, first dominating the R&B scene through the 1960s and early '70s as a member of The Miracles, then as a solo artist. Chart-toppers include "Just to See Her," "Quiet Storm," "Shop Around," "You've Really Got a Hold on Me" and "I Second That Emotion."

His numerous awards include the Grammy Living Legend Award, NARAS Lifetime Achievement Award, an Honorary Doctorate from Howard University, Kennedy Center Honors and the National Medal of Arts Award from the President of the United States. He has also been inducted into the Rock 'n' Roll Hall of Fame and the Songwriters Hall of Fame.



SMOKEY ROBINSON

KENNY 'BABYFACE' EDMONDS



Kenny "Babyface" Edmonds is one of the most celebrated creative forces in music history, having earned 12 Grammy Awards, 26 number one R&B hits, more than 200 top 10 R&B, over 50 top 10 pop hits and hundreds of millions of streams and sales worldwide. Industry awards and honors include the Soul Train Music Awards, BMI Awards, NAACP Image Awards, American Music Awards and BET Walk of Fame Award. He received a star on the Hollywood Walk of Fame and was inducted into the Songwriters Hall of Fame.

Caregivers to people with Alzheimer's disease are "the true heroes who need support so they can take care of themselves, which ultimately helps them care for the patient. It's a blessing to use my talent to help people with Alzheimer's and their families," Kenny Edmonds told Keep Memory Alive in 2014.

His experience with his mother, who died of Alzheimer's disease in 2012, moved him to become a supporter of the Lou Ruvo Center for Brain Health, which each Wednesday presents the Barbara "Spicy Lady" Edmonds Lunch & Learn education series in her memory (clevelandclinic.org/NevadaEvents).

BUY YOUR TICKETS TODAY!

This not-to-be-missed event will sell out.
keepmemoryalive.org/pol
 or 702.263.9797

JOIN US ON SATURDAY, OCTOBER 16

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

We encourage you to buy a seat, table or ad. Bid on auction items. Every investment makes a big impact in our ability to sustain the Lou Ruvo Center for Brain Health's important work.

Sponsors:



SOUTHERN GLAZER'S WINE, SPIRITS & BEER OF NEVADA

Moët Hennessy USA

Gala Pioneers: Keeping Their Memory Alive

At Keep Memory Alive, we're committed to creating memorable events for our guests. Our "secret ingredient" is a blend of talent from the chefs in the kitchen, to the artists on the stage, to those behind the stage.

As they put their heart into their art, most are thinking of a friend or family member afflicted with one of the diseases treated at Cleveland Clinic Lou Ruvo Center for Brain Health. In donating their talent, they inspire guests to donate thoughtfully to help the patients and families who frequent our center.

GONE TOO SOON

Regrettably, over the years, we've not only lost countless patients, but also too many of the talent who have contributed to the gala. As the Power of Love® marks its 25th year, we'd like to reflect on those who are no longer with us, yet who have shaped our gala into the iconic event it is today.

♥ Here is Keep Memory Alive Chairman and Co-Founder Larry Ruvo's reminiscence. Rest in peace, dear friends.



GREGORY PECK

1916 - 2003

Gala Attendee, 2000

Gregory Peck was an Academy Award winner not only to the Academy, but to Keep Memory Alive, helping us build a foundation from the very beginning. He was one of the most genuine, kind people to our donors. A great friend of Angie Dickinson, he and wife Veronique fell in love with our mission.



EYDIE GORME

1928 - 2013

Gala Attendee, 2003

Through her on-stage partner and husband Steve Lawrence's alcohol brand, Old Bailey, I met Eydie Gorme when I first started the liquor company. Eydie was one-of-a-kind, not only as a GRAMMY-award winner who sang in many languages, but as a kind soul who would do just about anything to help a friend, and that included me and Keep Memory Alive.



PAUL BOCUSE

1926 - 2018

Gala Chef, 2004

A legendary chef who inspired the generations who followed, I met Paul Bocuse when he was representing Mumm champagne. In addition to cooking at the Power of Love, he created numerous dinners promoting Mumm and Keep Memory Alive. Sadly, Paul died of Parkinson's, one of the diseases treated at our center.



CHARLIE TROTTER

1959 - 2013

Gala Chef, 2004

I got to know Charlie Trotter in Chicago through one of his innovative restaurants, and he soon became involved in Keep Memory Alive®, cooking many dinners for our donors beyond the Power of Love. When he was sick, he called me and said, “I’m so grateful for what you’ve done for me, and what you’ve done for brain disease. And before I leave this earth, I wanted to tell you that.” Then, he gave a big donation to Keep Memory Alive.

His wife, Rochelle Trotter, Executive Director of Charlie Trotter’s Culinary Education Foundation, shared: “I vividly recall how speechless Charles was following our tour with Larry Ruvo. Charles commented on the staff we met, who were all so full of hope for their patients — so much hope that it was tangible. He said, ‘Rochelle, with that kind of hope, they can and will make a difference.’”



ROBIN LEACH

1941 - 2018

Gala Honoree, 2007

Voice of God at the Power of Love for more than a decade

Robin opened his Rolodex of the Rich and Famous as well as leading chefs from his work at the Food Channel to collaborate with me each year in securing culinary and on-stage talent that wowed our guests’ palates and sent them home singing all the hits.

Starting years ago when our gala was a small event at Wolfgang Puck’s Postrio, Robin’s iconic voice rallied enthusiasm annually in our live auction, driving bids up and increasing support for Keep Memory Alive.



JOËL ROBUCHON

1945 - 2018

Gala Chef, 2007

Known worldwide as the “Chef of the Century,” to me Joël Robuchon is the king of perfection, the king of innovation, the king of style. He was impressed by our building and our commitment and wanted to help Keep Memory Alive in every way, right from the moment we met when he was opening his first restaurant in Las Vegas.

He told us, “My wish for the future is that more clinics and foundations step forward, like Cleveland Clinic Lou Ruvo Center for Brain Health, in order to make the discussion about brain disease more prevalent and cures more attainable.”

Despite his many complex dishes, Joël Robuchon was known for his mashed potatoes, so I served those along with champagne at the memorial dinner I hosted.



Keeping Their Memory Alive *(continued)*



SIEGFRIED FISCHBACHER

1939 – 2021

Gala Honoree, 2009

Caregiver Award, 2017

ROY HORN

1944 – 2020

Gala Honoree, 2009

Robin Leach and the duo's long-time manager, Bernie Yuman, helped coordinate Siegfried & Roy's final encore, which took place at Keep Memory Alive's Power of Love® gala at the Bellagio on February 28, 2009, and was televised around the world, including on ABC's "20/20."

I am eternally grateful for their support and the legacy they leave behind. Siegfried & Roy will be greatly missed, but their magic will live on forever.



E. PARRY THOMAS

1921 – 2016

Gala Honoree, 2011

When Keep Memory Alive honored E. Parry Thomas at the Power of Love, the accolades shared in the award presentation and the video shown were but a small sample of his achievements. Many believe that E. Parry Thomas is one of the most important people in the history of Las Vegas. Not only was he the first banker ever to loan money to casinos, but he did so much more for the state — the Thomas and Mack Center, UNLV — the list is endless.



MUHAMMAD ALI

1942 – 2016

Gala Honoree, 2012

Due to the excitement generated by the unprecedented attendance from the boxing community and the auctioning of a pair of his boxing gloves (see *cover fold-out*), the amount of money raised when we honored Muhammad Ali truly made his 70th birthday celebration a night to remember for our nearly 2,000 guests and the patients and families whose care is supported by our gala.

Known throughout the world as the GOAT, Muhammad Ali helped change so many lives on the planet and to me, was and still is the Greatest Of All Time.



We thank both Muhammad and his wife, **Lonnie Ali**, to whom we presented the inaugural Keep Memory Alive Caregiver Hero Award in 2019 for her support of Muhammad through the biggest fight of his life, his battle with Parkinson's disease.



SHELDON ADELSON

1933 – 2021

**Gala Community Leadership Award
recipient, 2020**

When Sheldon Adelson was beginning construction on a mega-resort on the Las Vegas Strip that was slated to bear the same name as my family's iconic Las Vegas restaurant, The Venetian, I met with him to discuss a fee for rights to the name. He was willing to pay more than \$1.5 million, but I told him I didn't want any money — only that he make my family proud with the Venetian name when he created a lot of jobs in our community. He did all of that and more.

That gesture worked out well for both of us. Sheldon and his wife, Dr. Miriam Adelson, have been extremely good for Las Vegas. They have a wonderful medical clinic, a remarkable school, and they have supported numerous charities in our community, including Cleveland Clinic Lou Ruvo Center for Brain Health.



LARRY KING

1933 – 2021

Frequent Gala Emcee

I met Larry King through an auction item at another charity. As the winning bidder on a private dinner with him, we got to know one another over several hours. By evening's end, he was intrigued by Keep Memory Alive and wanted to support our work. My great friend, Angie Dickinson, once again stepped in and helped us secure even further support from Larry King, who became our Power of Love emcee for many years and provided access to many superstars.

In May 2011, the broadcast legend shone a spotlight on Cleveland Clinic Lou Ruvo Center for Brain Health in his CNN special, "Unthinkable: the Alzheimer's Epidemic." To underscore the importance of early detection, Larry King took a memory test and underwent an MRI scan on camera, illustrating how painless an assessment of brain health can be. As a result of this program, which was seen in 212 countries, traffic to our website increased 200 percent.



DAN PARISE

1959 – 2020

**Gala Producer for
nearly a decade**

We mourn the untimely loss of our friend, Dan Parise, the Emmy- and GRAMMY-nominated television and live-event producer and founder of Diversified Production Services. His talent made it possible to take our gala to the next level from a production standpoint, and ensured we could wow guests.



Inspired by a Lost Visionary, the Alzheimer's Movement Stands Strong

When the Piper airplane crashed on February 3, 2007, taking the life of amateur pilot Leon Thal, MD, it could have taken with it the hopes of the Alzheimer's community. Yet, Dr. Thal's legacy lives on through the countless people he touched. Those who knew him say the chair of neurosciences at the University of California, San Diego led by example, treating everyone with grace, kindness and respect.

The first meeting

His care and gentleness captured the hearts of Camille and Larry Ruvo who, in 1992, received from Dr. Thal the peace of mind of finally having a diagnosis that explained Lou Ruvo's changes in behavior, delivered with the compassion that helped them manage the devastating news.



Above: Larry with his father, Lou Ruvo
Right: The Ruvos: Angie, Larry and Lou

"Dr. Leon Thal was kind, he was sensitive, he was a genius and immensely respected in the neurological field," says Larry.

Nonetheless, the road leading to the diagnosis had been bumpy, culminating in an experience in Dr. Thal's waiting room that forever changed Larry's approach: "Others waiting to see Dr. Thal were clearly in the later stages of Alzheimer's. My dad looked at me and said, 'Is this where I'm headed?' I told him Dr. Thal saw patients for myriad diseases and no, that's not what he would be diagnosed with. Yet, Dr. Thal determined my dad had Alzheimer's, just like those patients in the waiting room.

"I knew I wanted to make a difference in the lives of my family and friends so no one would have to sit in a waiting room and see their future in patients further along the journey of neurological diseases," concludes Larry.

Founding a legacy in Las Vegas

Larry started fundraising to "do something about Alzheimer's" (see cover fold-out). Fast-forward to the groundbreaking of the Lou Ruvo Center for Brain Health on February 9, 2007, just six days after Dr. Thal's fatal plane crash. While



Leon Thal, MD

Dr. Thal died too soon to fulfill his promise to Larry to serve as the center's director, the Frank Gehry-designed facility that rose from the desert dust to execute Leon Thal's vision of a research, treatment and family education epicenter for Nevadans living with Alzheimer's disease and other neurodegenerative disorders had launched. And it has delivered on Larry's vision of no waiting rooms.

An all-pro team

Another Dr. Thal legacy was the concept of establishing a network of physician-scientists, the Alzheimer's Disease Cooperative Study, who would pursue theories and treatments that didn't have proprietary benefit but could be in the public interest.

So it was only natural that when Larry funded the Leon Thal Symposium (2007-2009) to foster collaboration among the nation's leading Alzheimer's disease specialists, it drew the likes of the Mayo Clinic's Ronald Peterson, the University of Pennsylvania's



“Leon Thal’s three decades of substantive contributions to the understanding, prevention and treatment of Alzheimer’s and related disorders have resulted in new pathways for scientists to create a new paradigm for clinical practice and diagnosis. The Alzheimer’s cause mourns the loss of an essential and unforgettable leader.” — *Alzheimer’s & Dementia: The Journal of the Alzheimer’s Association’s* 2007 remembrance of Leon Thal



2009 Leon Thal Symposium attendees visit the Lou Ruvo Center for Brain Health during its construction

John Trojanowski, and Jeffrey Cummings of the University of California Los Angeles, who later became the Lou Ruvo Center for Brain Health’s Founding Director.

Promises fulfilled

At Cleveland Clinic’s grand opening in Ohio in 1921, Dr. George Crile spoke of care, research and education, stating that “if the Founders may look into the future and see an institution carrying out these designs ... their ambition will have been fulfilled.” This is what Larry hoped for his father’s — and Leon Thal’s — legacy.

Larry Ruvo chose Cleveland Clinic — perennially ranked among the nation’s top hospitals — to operate his brain center. Now, Cleveland Clinic marks a century of care as Camille and Larry Ruvo



commemorate 25 years of fundraising through the Power of Love® gala (see page 3).

What would Dr. Thal think of the Lou Ruvo Center for Brain Health’s accomplishments? Having run one of the first and largest Alzheimer’s Disease Research Centers in the country, he’d be immensely proud that our center has been named to this elite

cohort of 30-some NIH-funded entities (see page 16).

In memorializing his father’s name, Larry Ruvo kept his promise to his fellow Nevadans, making the Lou Ruvo Center for Brain Health one of the best places to receive care and among the best places to work in healthcare in the state.

[Learn more: clevelandclinic.org/Nevada](http://clevelandclinic.org/Nevada)



Our Gala: Memorable and Meaningful

For long-time Power of Love® gala attendees, the meaning is in the memories — those made with friends and family who share the sensory-laden experience, but also for the patients and families at Cleveland Clinic Lou Ruvo Center for Brain Health who directly benefit from funds raised at Keep Memory Alive's now-iconic “party with a purpose.”

The brainchild of Larry Ruvo and chef Wolfgang Puck at a 1995 memorial dinner for Lou Ruvo that serendipitously morphed into a fundraiser (see cover fold-out), the first official Power of Love gala took place in 1996.

Today, veteran attendees share their 25 years of memories.



AN EXPERIENCE TO SAVOR

Victoria Fouce Otter

At one of the early galas at Wolfgang Puck's Postrio at the Venetian, Muhammad Ali, his hand shaking from Parkinson's disease, “drew a little boxing ring on a green Postrio napkin and gave it to my late husband, Dan,” recalls Victoria Fouce Otter.

From the evening itself to auction items won at the event, she has always cherished the experiences. Among her favorite items is the dinner at Martorano's that Dan bought as a birthday celebration, surprising her by flying in her girlfriends from across the country and renting a party bus for transportation.

“One man's passion has become a global community,” Victoria says of Larry Ruvo's dream, Keep Memory Alive. With both her parents and Dan's having received care at the Lou Ruvo Center for Brain Health, the cause is close to the Otter family's heart.

Victoria is grateful that board members have drawn attention to brain diseases like Lewy body dementia that weren't necessarily in the foreground.

“By including celebrities, chefs and other high-profile leaders, the board has been able to gain media attention and support for an array of brain diseases, not just Alzheimer's,” she notes.



Dan and Victoria Otter



A PASSPORT TO ADVENTURE

Don and Rose Steiner

The exclusivity of Keep Memory Alive's events extends beyond the evening. At the Power of Love, Rose and Don Steiner met Salvatore Ferragamo, who encouraged them to bid on a trip to Italy, including a dinner in Il Borro, the Ferragamo family-owned medieval town. The trip also included a visit to the Brunello Cucinelli cashmere factory and company headquarters in a 14th-century castle in Umbria, as well as an after-hours tour of the Vatican, where a long-tenured tour guide inquired, “Who are you people? I myself have never

before been able to access these behind-the-scenes spaces!”

Keep Memory Alive's mission is important to the Steiners, whose family and friends have been touched by brain disease.

“The burden of caregiving resonates,” says Rose who, while learning about the Lou Ruvo Center for Brain Health, was impressed with its focus on the caregiver.

Don, who runs a consulting company focused on expense control, says, “When deciding which charities to support, you want to look for organizations that are well run and use donors' money wisely.”

He and Rose appreciate the impact of Keep Memory Alive's events, as well as the educational component at the Summer Shindig at the Ruvo's Shakespeare Ranch on Lake Tahoe, where the Lou Ruvo Center for Brain Health's doctors present the latest science.



L to R: Salvatore and Leone Ferragamo with Rose and Don Steiner

MAKE YOUR OWN MEMORIES

Whether Saturday, October 16 will be your first Power of Love or your 25th, it's one you won't want to miss.

Lock in your tickets now: keepmemoryalive.org/PoL



LIKE SEEING THE STRIP ANEW

George and Marcia Chami

Marcia Chami says her first Power of Love was “overwhelming, like being a tourist on the Strip for the first time.”

Yet year after year, the gala creates an intimacy unavailable elsewhere, placing headliners up close and personal with guests. For example, “The evening was winding down at the 2010 gala. George wanted to go home, but couldn't find me. I was up onstage dancing with Barry Manilow,” remembers Marcia.

Other favorite memories began with a winning auction bid at the gala, such as the Italian Affair, an over-the-top trip shared with fellow gala goers that offered

behind-the-scenes experiences, including an Elton John and Andrea Bocelli concert at Rome's Colosseum, a flight on Mark Cuban's plane, and “so many celebrities,” from Evander Holyfield to Peter Cetera to Sarah Ferguson, the Duchess of York.

“Reba McIntyre told me to engage in every opportunity presented,” says Marcia. “And that's how I found myself in a conga line on a train!”

Marcia lost her mother to Alzheimer's disease, so Keep Memory Alive's mission strikes close to home: “Everyone has been touched by dementia and Alzheimer's. Years ago, they used to say, ‘He's senile.’ But now, it's a very real disease for which you can reduce risk through diet and exercise.”



Marcia, seated, center, and George Chami, right



Camille and Larry Ruvo present Brice Jones, center, with the Community Leadership Award



LIKE SON, LIKE FATHER

Brice Cutrer Jones

“There's a saying: ‘If you want to know the father, look at the son,’” says Brice Jones, who never met Lou Ruvo, yet admires Larry Ruvo's relentless commitment to honor his father's memory and change the way minds are cared for. Brice attends the Power of Love each year, extending the experience by bidding on the Summer Shindig at the Ruvos' Shakespeare Ranch in Lake Tahoe, a “fun event at which to relax and unwind.”

“Larry is staging these monumental events to honor his father, and to make sure no other family has to deal with these horrible brain diseases. I share Larry's vision and hopes for families across our country,” says Brice.

Brice's family has a record of military service. He is a graduate of the U.S. Air Force Academy, while his father attended the U.S. Military Academy at West Point and was a career Army aviator. Despite a shared commitment to flying, Brice laments not having spent more time with his father, and hopes that funds raised at the gala will help preserve memory for others.

Our Gala: Memorable and Meaningful *(Continued)*



A DIAMOND OF A MEMORY Elaine and Larry Hodgson

Elaine Hodgson has given in many ways, from participating as a healthy control in the Lou Ruvo Center for Brain Health's COBRE research study, to supporting the Women's Alzheimer's Movement Prevention Center at Cleveland Clinic (see page 33), to attending the gala for years with her husband, Larry.

"It's not just me or our family, it's the many, many families," she explains. "Finding a cure will be world changing."

The gala, she says, is always "simply breathtaking," from the entryway, to the hors d'oeuvres in the hallway, to the incomparable auction times, to

performers on bungee cords, to the beautifully set tables.

The 2020 Power of Love was particularly memorable for the Hodgsons because Larry's sister and niece are huge Neil Diamond fans and had attended countless concerts with another sister, who recently passed away from pancreatic cancer.

"When we heard the honoree was Diamond, we knew who our guests were going to be," says Elaine. "They had tears in their eyes watching him perform, and I know they were thinking of their sister/aunt."

"How often do you get to gift such an amazing, meaningful, memorable event for someone? When it all comes together like that, it's divine."



Larry and Elaine Hodgson



GALA ENCORE Sharon and Howie Lynch



Howie and Sharon Lynch

With 22 years of galas to reflect back on, Sharon and Howie Lynch maintain the Power of Love is more impressive than any fundraisers they've witnessed in their native New York.

"And each year, it's become more of an extravaganza," says Sharon.

The couple has enjoyed Jennifer Hudson, Neil Diamond, Michael Bubl , Andrea Bocelli and many more.

"If there were no entertainment, it would still be quite an event," says Howie.

"Exactly. The desserts are unbelievable," adds Sharon.

Nonetheless, the 2009 Power of Love featuring Siegfried & Roy's farewell performance still resonates.

"It was emotional, sad, yet invigorating. You see something like that once in a lifetime. They were icons," says Sharon. "They came out and did an encore for Keep Memory Alive because of their relationship with Camille and Larry Ruvo. That was so meaningful."

As for favorite auction wins, "WE got nothing," says Howie. "YOU got a bracelet."

"Right. The gala was often around our anniversary in May. Howie would say, 'Bid on your own gift.' I got a gold cuff with diamonds," says Sharon with a laugh.

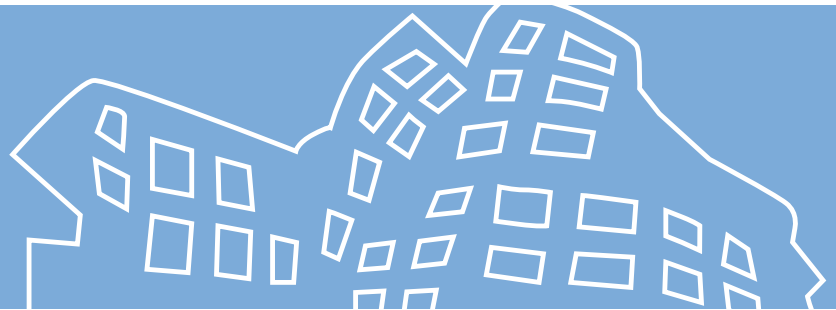
Sharon, who volunteered at the Lou Ruvo Center for Brain Health for nearly 10 years, says, "It was sad sometimes, but the center does a remarkable job with patients."



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First New Drug for Alzheimer's in 18 Years

The first step in effectively attacking the underlying causes of Alzheimer's disease might just have been taken with the U.S. Food and Drug Administration's (FDA) June 7 conditional approval of Biogen's aducanumab (trade name: Aduhelm), for the treatment of Alzheimer's disease at the mild cognitive impairment or mild dementia stage.

The first new Alzheimer's drug approved in 18 years and the first therapy thought to treat a key pathologic feature of Alzheimer's disease (amyloid plaques), not just treat its symptoms, aducanumab offers hope with measured optimism.

Aducanumab may be the question, but is clearing amyloid the answer?

While it's not been confirmed that clearing amyloid plaque from the brain will moderate the symptoms of Alzheimer's disease, it's long been an idea that warrants further investigation, and may be part of moving the FDA's approval from conditional to full approval.

In nationwide studies of aducanumab, research participants experienced significant reductions in the amount of amyloid levels. In some instances, the drop was as much as 93 percent and enough to turn amyloid scans from positive to negative.

Cleveland Clinic Lou Ruvo Center for Brain Health clinical trial participants have been receiving aducanumab since 2016, first in a study named EMERGE, followed by EMBARK. However, Aaron Ritter, MD, Principal Investigator of both studies,

Ask your doctor if aducanumab is right for you
 We've all heard the phrase in drug commercials on TV, and in the case of aducanumab, physician-scientists continue to ask themselves that very question.
Here's what we know today:

- Aducanumab is a new medication specific to Alzheimer's disease; it is not for people with other types of dementia, or for people without a diagnosis who merely fear "forgetfulness."
- Aducanumab provides the most potential benefit for people very early on in the disease course. It will not help people with advanced Alzheimer's.
- Aducanumab is not a cure. People receiving this medication in research studies got worse, but more slowly than those taking placebo.
- Aducanumab is delivered via an infusion approximately every 4 weeks. Aducanumab must be administered over the long-term (at least a year).

cautions, "Aducanumab attacks the biology of disease by effectively removing amyloid plaque. This is why the FDA approved this new drug conditionally. However, it still remains a bit of a leap of faith that treatment with aducanumab will always result in significant and meaningful benefit to patients."

Getting aducanumab into Alzheimer's arms

Amyloid is the target of aducanumab, and without a target, aducanumab can't score a goal. Yet, confirming an individual is amyloid-positive through a PET scan or lumbar puncture is costly and burdensome, so physician-scientists are considering how to use lower-cost, but less accurate methods such as blood tests.

And this raises the question of how the multi-layered administration of aducanumab might be covered by insurance, from the amyloid confirmation, to the drug itself (estimated at \$56,000 per year), to the ongoing patient monitoring for side effects, notably amyloid-related imaging abnormalities known as ARIA.

So, back to that conversation with your doctor...

A multidisciplinary panel of Cleveland Clinic experts has reviewed all available scientific evidence on this medication. Based on the current data regarding its safety and efficacy, Cleveland Clinic has decided not to carry Aducanumab at this time. However, we support continued research in this area, and when additional data become available, we will re-evaluate this medication for use in our patients.

The distribution of aducanumab is an evolving process. For the most current information, please visit clevelandclinic.org/NevadaCognitive or send your Cleveland Clinic neurology provider a message through MyChart.

INTERESTED IN POTENTIAL NEW TREATMENTS?

We don't know when the next new treatment for Alzheimer's will appear, but we know the first person to access it will do so in a clinical research trial.

Learn more about participating in research at clevelandclinic.org/NevadaResearch or contact healthybrains@ccf.org.



Dementia Disparities in Rural Communities: Inquiring Minds Want to Know

Brains are key to how humans think, feel and act. So a brain is a brain is a brain. *Or is it?* That's what researchers at the Nevada exploratory Alzheimer's Disease Research Center (NVeADRC) aim to find out.

In September 2020, Cleveland Clinic Lou Ruvo Center for Brain Health and the University of Nevada, Las Vegas (UNLV) NVeADRC — the first and only research center of its kind in Nevada — earned a \$3.3 million grant from the National Institute on Aging of the National Institutes of Health (NIH) to focus on understanding and reducing disparities faced by individuals with dementia in rural settings.

Health disparities in rural areas have long been recognized; Alzheimer's disease and related dementias are no exception. Some studies have found that people in small communities are more likely to develop these dementias, and they have worse outcomes. However, nobody knows why.

In pursuit of the “why”

Researchers are considering whether some features of rural life — reduced access to large healthcare institutions or technology to facilitate video visits, as well as environmental and occupational exposures that may be unique to specific occupations and locales, such as mining, nuclear waste or farming — could have negative effects on brain health in aging.



They're also wondering what type of “brain boost” might result from factors such as higher levels of physical activity, lower levels of congestion, and the greater degree of community engagement and “neighborliness” thought to characterize rural communities.

Studying rural environments

“We've been engaging with community health gatekeepers to learn how and where people access care,” says Dylan Wint, MD, who oversees the NVeADRC's outreach, recruitment and education arm. “We are providing continuing medical education about dementia to general practitioners. We've started participating in virtual and drive-through health fairs, and

look forward to adding our own in-person education events as COVID restrictions lift.

The team has created a diverse community advisory board to facilitate information sharing; members include hospice and social workers, a Medicare consultant, a community outreach coordinator at a casino, the head of a senior center, an executive at a regional hospital, a local radio show host and leaders in transportation.

“We don't yet know what we don't know, but we're keenly aware our success will be based on relationship building and a genuine desire to better understand small communities and deliver the services they need,” says Dr. Wint.

HELP US HELP YOUR COMMUNITY

We are seeking research volunteers at least 55 years of age who live elsewhere in Nevada than Las Vegas or Reno, and are interested in participating in an observational study. We need individuals without memory issues as well as people with mild memory problems. A stipend will be provided as a courtesy for participation.

Together, we can learn more about Alzheimer's disease and how we can improve brain health for you and your neighbors. [Learn more at \[clevelandclinic.org/NevadaResearch\]\(https://www.clevelandclinic.org/NevadaResearch\)](https://www.clevelandclinic.org/NevadaResearch) or [contact our recruitment specialist at 702.701.7944](tel:702.701.7944).



COBRE Catalyzes an Era of Growth and Success

Cleveland Clinic Lou Ruvo Center for Brain Health and the University of Nevada, Las Vegas (UNLV) have made significant progress in their six-year collaboration to learn more about Alzheimer's disease and Parkinson's disease. Along the way, they've accelerated the career development of young investigators.

This work has been supported by an \$11.1 million grant from the National Institutes of Health and the National Institute of General Medical Sciences that established Southern Nevada's first Center of Biomedical Research Excellence (COBRE) and the Center for Neurodegeneration and Translational Neuroscience.

From mice to men: What is translational research?

We're collaborating to apply laboratory research conducted at UNLV and Cleveland Clinic to the lives of real patients in Nevada and beyond.

Since the COBRE grant was announced in 2015, notable successes include:

- Maintaining a group of 170 participants who are either cognitively normal or clinically diagnosed with Alzheimer's disease or Parkinson's disease, which has enabled longitudinal research among willing volunteers.
- Developing a solid neuroscience infrastructure, which lays the groundwork for future grant-funded research. Examples include:
 - Establishing a Department of Brain Health at UNLV (2019)
 - Recognition of UNLV as an elite Tier I research university (2018)

- Creation of a Brain Imaging Research Department (2015) of mathematician-scientists at the Lou Ruvo Center for Brain Health (see page 21)
- Becoming the first and only site in North America to receive approval from the Food and Drug Administration to utilize GE-180, an experimental diagnostic imaging tool to detect inflammation in the brains of those with Parkinson's disease and Alzheimer's disease.

YOU CAN HELP

Private gifts make a difference. To help fund research at the Lou Ruvo Center for Brain Health, **contact our development team at 702.263.9797 or DonateNevada@ccf.org.**



Accelerating careers

Identified for their talent and potential long-term commitment to neuroscience and to Las Vegas, junior investigators have used COBRE funding to execute proof-of-concept projects, securing additional grants and establishing a science legacy in Nevada.



Jessica Kirkland-Caldwell, PhD

Dr. Caldwell, promoted to Director of the Women's Alzheimer's Movement Prevention Center at Cleveland Clinic in 2020, has secured funding from Maria Shriver's Women's Alzheimer's Movement and the NIH to fund research into sex-based differences in Alzheimer's disease (see page 33).



Virendra Mishra, PhD

After winning a prestigious R01 grant from the NIH in 2020 (see page 21), Dr. Mishra was promoted to Assistant Director, Brain Imaging Department. He has pioneered a method of assessing connectivity across regions of the brain to better understand freezing of gait, a disruptive phenomenon that can cause individuals with Parkinson's disease to literally freeze in their tracks.

Researchers Focus on Diagnosing Destructive Brain Changes in Life

Well before popular media began reporting on chronic traumatic encephalopathy in professional athletes, Cleveland Clinic Lou Ruvo Center for Brain Health was working on Diagnose CTE, a study that aims to detect underlying changes in the brain during life.

Chronic traumatic encephalopathy (CTE) is the term for the brain changes neuropathologists can see in individuals who have been exposed to repetitive head trauma. Those with CTE have deposits of tau protein in the brain's frontal lobes and basal ganglia, the regions that govern behavior, emotion and executive function.

Currently, CTE can be diagnosed only after death, which presents a challenge for physicians evaluating brain health in athletes in a clinical setting. Recently, a panel of experts developed clinical criteria based on the symptoms that people who had CTE at autopsy were known to experience during life. This constellation of symptoms in the living is known as traumatic encephalopathy syndrome (TES).

A road map for evaluating brain changes

Physician-scientists from the Lou Ruvo Center for Brain Health, in collaboration with Boston University, the Mayo Clinic and New York University, contributed to the 2021 publication in the peer-reviewed journal *Neurology* of these first consensus criteria on TES.

"Thanks to a group of researchers across multiple institutions, we can now diagnose and study people with behavioral and cognitive changes after repetitive head impact," says Lou Ruvo Center for Brain Health neuropsychiatrist Aaron Ritter, MD. "Now we can look more closely at



the biological changes that might be underlying CTE. This is a big step for the field, and will hopefully allow us to better understand brain trauma in living patients."

Based on the newly established criteria, to be diagnosed with TES, an individual must have:

- Significant exposure to repetitive head trauma (such as more than five seasons playing football or multiple blast injuries during military service), and
- Progressive changes in memory, or
- Behavioral dysregulation, such as explosive temper or irrational actions

An urgent public health issue

Researchers believe that repetitive injuries start a cascade of changes in the brain, leading to the slow, progressive destruction of brain tissue and associated changes in cognitive function, mood and behavior. When these changes become severe enough, they may lead to dementia.

Dr. Ritter says the TES consensus criteria will assist in differentiating CTE from similar disorders such as Alzheimer's disease, as well as in clarifying the causes and specific risk and resilience factors for developing this neurodegenerative disease.

Researchers recognize CTE as a pending public health concern, given the prevalence of contact sports participation among today's youth as well as the risk to soldiers exposed to blast injuries and to others who might experience repetitive head trauma, such as victims of domestic violence.

"Despite the excitement in the science community around consensus diagnostic criteria for TES, we still need further research," says Dr. Ritter. "Ultimately, our goal, and the aim of the Diagnose CTE study, is to move CTE from being a purely pathological diagnosis to something we can see, treat or prevent during life, and to do everything we can to make sports as safe as possible."

Doubling Down on Lewy Body Dementia: Underdiagnosed and Understudied

Many people have never heard of Lewy body dementia (LBD) but they have heard of high-profile cases, such as that of the late actor Robin Williams. LBD, which affects an estimated 1.4 million people in the United States and is the second most common form of degenerative dementia in the elderly, is underdiagnosed and not well understood.

Cleveland Clinic Lou Ruvo Center for Brain Health is working to change this situation as a member of the Dementia with Lewy Body Consortium, a national research initiative dedicated to improving the diagnosis and treatment of LBD that Cleveland Clinic established with a grant from the National Institutes of Health.

The Lou Ruvo Center for Brain Health is also one of 24 U.S. academic medical centers designated an LBD Research Center of Excellence, a collaboration led by the Lewy Body Dementia Association. The Centers of Excellence are working together to streamline the clinical trial process.

Unique features

Researchers at the Lou Ruvo Center for Brain Health's Las Vegas and Ohio locations are enrolling participants for a study that will follow them over time, collecting detailed clinical information, biospecimens and imaging data, in the hope that we can identify more biomarkers — a measurable indicator

of disease — that will allow us to better diagnosis and treat LBD.

LBD is caused by a buildup of abnormal protein deposits, called Lewy bodies, in brain cells. Currently, there are no approved medications that treat the symptoms or offer meaningful hope for a cure.

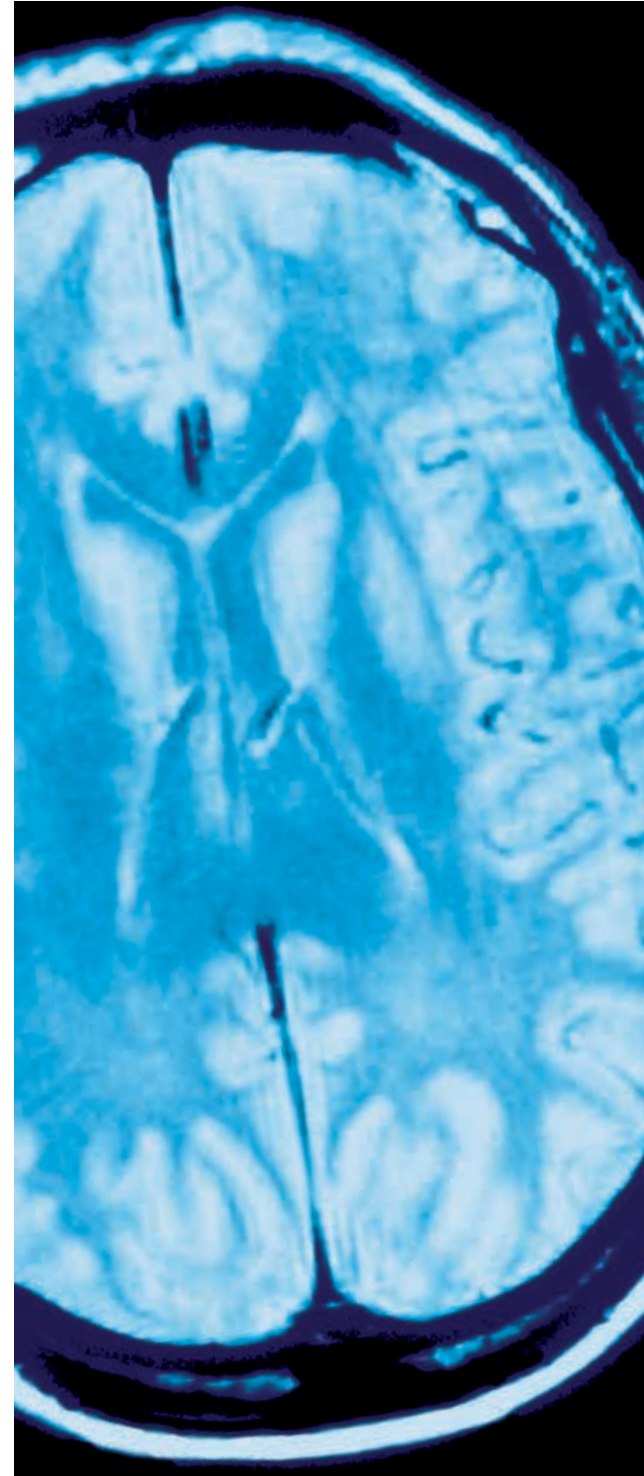
LBD symptoms are like a hybrid of Alzheimer's and Parkinson's, yet Lewy body has distinct features, such as hallucinations, and dramatic fluctuations in alertness and awareness, making it challenging to navigate for patients, their care partners and physician-scientists alike.

Other symptoms of LBD include changes in thinking and reasoning, slow movement and gait imbalance.

A commitment beyond life

Despite chemical and biological overlap, there are differences in the way patients with Lewy body progress in comparison to those with Alzheimer's and Parkinson's. The desire to understand these differences motivates research into this understudied dementia, even beyond patients' lives.

The goal is to confirm via autopsy the pathology observed in life. It's more than a lifetime commitment for our research participants, and we are so grateful to those individuals who are in it with us for the long haul.



LBD RESEARCH

Interested in helping us learn more about LBD?

Contact Cleveland Clinic Lou Ruvo Center for Brain Health's research team at 702.701.7944 or healthybrains@ccf.org to see if you may be a fit for this study.



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Philanthropy Supports Scientists Studying Variable Effects of Brain Disease

At Cleveland Clinic Lou Ruvo Center for Brain Health, public and private donors cover a range of expenses, from team salaries to equipment to attendance at conferences where scientists exchange ideas that inspire new research years before publication in peer-reviewed journals.

Philanthropy funds investigator-led science and, in doing so, may accelerate the careers of its recipients.

More importantly, research findings may advance patient care, which is the aim of three scientists who hope to identify individuals at risk for disease progression across multiple sclerosis (MS), Parkinson's disease (PD) and Alzheimer's disease (AD).

Meet our scientists



Karthik Sreenivasan, Research Engineer

In 2019, Karthik Sreenivasan earned a Keep Memory Alive Scholar award, which provides \$75,000 a year for three years to support the work of scientists early in their careers. Mr. Sreenivasan's Scholar project focuses on MS and is funded by Susan and Jim Hart, who in 2021 generously extended their support an additional two years.

Conventional MRI has greatly aided in diagnosing MS; however, imaging findings are not well associated with clinical disability. Recent advances in MRI scanner technologies have resulted in the application of sophisticated quantitative MRI (qMRI) and diffusion MRI (dMRI) techniques that could address that shortcoming.

"We hope to demonstrate that these new, advanced MRI techniques can be combined into a reliable imaging biomarker or disease measure that better identifies disability progression in an individual with MS, and further guides disease treatment and management for disability progression," says Mr. Sreenivasan.

"We are pleased to support the career and research of a promising young scientist such as Karthik who, in turn, will foster more ideas among more individuals. We hope to create a multiplier effect that will speed much-needed medical innovation to improve the memory care lives of patients and their families." – Susan and Jim Hart



Virendra Mishra, PhD, Associate Staff

Dr. Mishra won a Keep Memory Alive Scholar award in 2017. In 2020, he secured a prestigious, five-year R01 grant from the National Institutes of Health (NIH) to use biomarkers spanning imaging, blood, cerebrospinal fluid and genetics to develop a predictive mathematical model identifying individuals with PD who may develop dementia as their disorder progresses.

Next up? Dr. Mishra's team is seeking those with PD as well as healthy individuals without cognitive impairment, 50-85 years old, to participate in the study involving predictive measures of PD. Interested? Contact a recruitment specialist at 702.701.7944 or healthybrains@ccf.org.

"From its inception, funding the Keep Memory Alive Scholar program resonated with us as an impactful way to use technology to ignite innovation and impact patients' lives here in our community and beyond." – Ernie Moody and Mercedes Vila



INTERESTED IN FUNDING SCIENCE?

Please contact our development team at 702.263.9797 or DonateNevada@ccf.org.



Dietmar Cordes, PhD, Stacie and Chuck Mathewson Chair for Brain Imaging

In 2021, Dr. Cordes was awarded a five-year NIH RF1 grant to develop statistical models for using 7 Tesla functional MRI (fMRI) data to predict individuals at risk for AD.

Dr. Cordes hopes this project will lead to more effective diagnostic imaging tools for AD, including fMRI biomarkers and an fMRI memory task to help

identify abnormal memory function in those at risk for Alzheimer's disease.

"Receiving this award is a great honor to me and the brain imaging lab, and presents an exceptional opportunity for advancing fMRI research into Alzheimer's disease at the Lou Ruvo Center for Brain Health," says Dr. Cordes.

From Passion for Family to Passion for Science

"When he first kissed me on the ski slope, I was literally swept off my feet," says Angela Dal Pezzo, an expert skier who recounts how her skis slipped out from under her and she "truly slid to the bottom of the mountain."

In 2013, newly relocated to Las Vegas and contemplating yet another surprise for his now-wife on their 16th anniversary, Peter Dal Pezzo was intrigued by a newspaper article about a small fundraising concert. He thought, "Wouldn't it be romantic to go to that beautiful building we always drive by?"

A few days after enjoying Michael Bubl  at the Keep Memory Alive Event Center, the couple returned to Cleveland Clinic Lou Ruvo Center for Brain Health's campus for a formal tour. Angela remembers, "It seemed like a new world opened up. We were so impressed to find such a neuroscience resource here in Vegas."

"Dr. Cordes and his brain imaging research is what really got me excited," says Peter, a retired engineer who has done computer-based modeling since 1964.

He was captivated by how Dr. Cordes' team is developing mathematical algorithms to determine the possible efficacy of a particular treatment approach: "You can see the real-world application of the math, with the possibility of saving time and money by redirecting research to those treatments predicted to have the greatest potential."

Redirecting the family commitment

"Redirection" is a concept the couple found useful when trying to calm Peter's mother, Mary, as her Alzheimer's disease progressed and her agitation increased. Angela remembers asking the elderly woman repeatedly during a cross-country flight, "Tell me, Mom, how do you make tortellini?" and watching as Mary carefully folded her handkerchief to simulate the process, achieving respite from her agitation.

"In honor of Peter's mother and Alzheimer's, we've gone to a lot of fundraisers, but the Power of Love[®] gala is just over the top," says Angela. "The items they auction off live ... I was sitting there with my mouth open."

Peter says his favorite "behind the velvet rope" moment at the gala (see page 3) is the rare opportunity to bid to support a scientist: "Now, as winners of this impactful auction item, each year we meet with Dr. Cordes, who explains what his team has been working on. The more I learn, the more excited I am about the science."

As for Dr. Cordes, "I appreciate the support of private sector donors such as the Dal Pezzo family," he says. "Advanced imaging and data analysis approaches are highly relevant to public health because people at risk for neurodegenerative disorders could be identified at an early stage, and possible treatment intervention could be monitored using advanced imaging and analysis methods."



"We were so touched to be honored with a plaque in 2018. We dedicated it to Peter's mom," says Angela Dal Pezzo, left, with husband Peter and his sister, Diane Herrera, who is showing early signs of memory loss.

A Need for Knowledge: Probing the Effects of MS in Older Adults

Although multiple sclerosis (MS) tends to strike early in life, from the 20s to the 40s, it has rarely been studied in older individuals. Yet, many diseases manifest differently in 80-year-olds and MS, an autoimmune, demyelinating neurodegenerative disorder, is no exception.

It's common for an individual with MS to experience varying symptoms over time as the disease and aging process progress. Unfortunately, we lack sufficient studies to guide treatment in older patients, and it's possible that the risk associated with currently available immune-modifying treatments may start to outweigh the benefits in adults older than 50.

Due to safety concerns, "Most of the MS clinical trials don't allow anyone over 55 to 60 to participate. This is a real problem because new drug treatments need to be evaluated for safety and efficacy in all types of patients," says Le Hua, MD, Director of Cleveland Clinic Mellen Program for MS at the Lou Ruvo Center for Brain Health, Las Vegas, who is committed to learning more about this understudied population.

A search for answers

To better understand the progression of MS in older adults, Dr. Hua conducted her own research across a large group of individuals older than 60 at multiple treatment centers internationally. Participants had either relapsing-remitting or progressive MS. More than two-thirds



Le Hua, MD

were treated with disease-modifying therapies (DMTs).

Dr. Hua published her findings in 2021 in a research paper, along with a review of other experts' results. Pain was the most common comorbidity, followed by cardiac disease, depression, hypertension, high cholesterol and obesity. It's important to study these comorbidities, Dr. Hua says, because they can worsen MS symptoms and they occur more frequently in these patients than in the general population; depression is a notable example. Moreover, some comorbidities are associated with a higher risk of disability in individuals with MS.

However, the group Dr. Hua studied appeared less disabled than did participants in prior studies, which may reflect the long-term impact of DMT availability on the natural history of MS.

A ready-made research environment

As a popular retirement destination, Las Vegas presents a unique opportunity to study this older patient population, says Dr. Hua: "We tend to see many more older individuals with MS than do physicians elsewhere across the country."

Of course, treatment always boils down to the needs of each unique person. Or, as Dr. Hua notes, "While data is limited to support the use of immunomodulatory therapies in older patients, treatment decisions should be based on disease activity, patient-specific factors, patient preference and quality of life. Providing great care involves constantly revisiting a patient's condition throughout their lifespan."

HELP US LEARN MORE ABOUT MS

We need individuals with and without MS to participate in research studies so, regardless of your condition, you may be able to help our researchers learn more about MS. Interested?

Visit clevelandclinic.org/NevadaResearch or contact us at 702.701.7944.



Four Locations, One Approach

Across our four locations — Cleveland and Lakewood, Ohio; Las Vegas, Nevada and Weston, Florida — Cleveland Clinic Lou Ruvo Center for Brain Health is a unique and exciting concept in medicine where programs are designed to provide excellent care with a focus on respecting the dignity of individuals experiencing cognitive loss and their families. Our goal is to empower patients to live as independently as possible.

Request an appointment at the Lou Ruvo Center for Brain Health nearest you at clevelandclinic.org/BrainHealth.

“Cleveland Clinic was founded 100 years ago on the belief that physicians should work together as a team to serve the welfare of patients. A century later, the organization remains a team of teams focused solely on the patient,” says Tom Mihaljevic, MD, CEO and President, Cleveland Clinic.



▶ Across the 16 centers within Cleveland Clinic’s Neurological Institute, the Lou Ruvo Center for Brain Health has quickly become the largest generator of research revenue.

▶ Cleveland Clinic earned No. 7 in the Neurology/Neurosurgery specialty ranking, and once again has been named the No. 2 hospital in the nation in *U.S. News & World Report’s* “2021-22 Best Hospitals” rankings.



Research Center of Excellence from the Lewy Body Dementia Association (Nevada and Ohio) (See page 19)

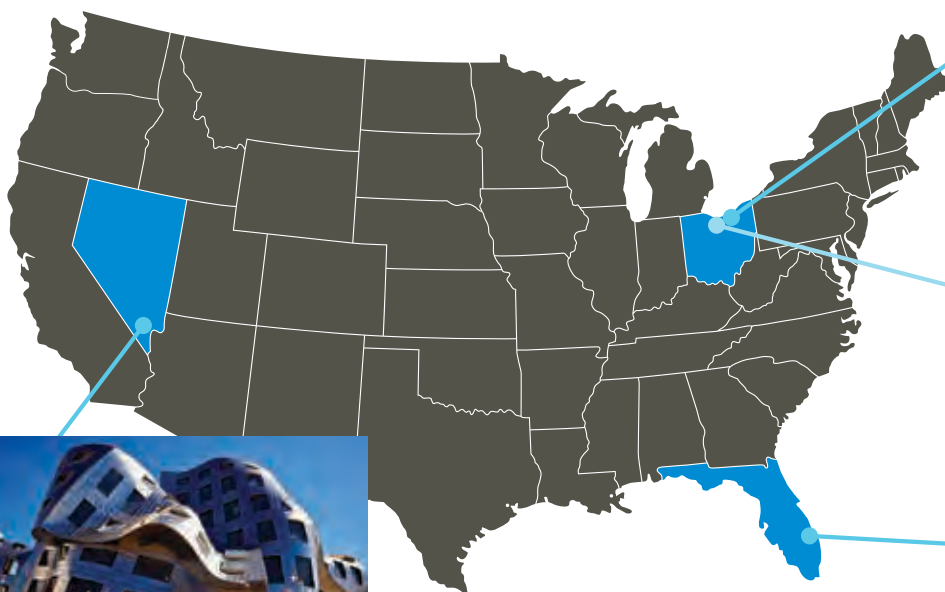


Exploratory Alzheimer’s Disease Research Center from the NIH (Nevada’s first and only)



Alzheimer’s Disease Research Center from the NIH (Ohio)

Since the first Lou Ruvo Center for Brain Health location opened in Las Vegas in July 2009, collaborative clinical research programs have offered hope for preserving brain health for generations to come. Today, multiple locations hold important designations of excellence in dementia research.



CLEVELAND, OHIO



LAKWOOD, OHIO



WESTON, FLORIDA



LAS VEGAS, NEVADA

Photo by: Matthew Carbone Photography

Scripting a Productive Future With Essential Tremor

Mort Labovitz, 78, has always been proud of his handwriting and his collection of elegant fountain pens. However, in recent years, an unexpected phenomenon has reduced the quality of his penmanship, made carrying a full glass of water challenging and sent him seeking answers.

In 2011, at Cleveland Clinic Lou Ruvo Center for Brain Health, Mort was diagnosed with essential tremor (ET), a movement disorder most often identified by disabling shaking or tremors.

On a recent visit, Zoltan Mari, MD, FAAN, suggested that, in addition to medication, Mort try occupational therapy with Shaina Meyer, OTR/L.

“I kind of pooh-poohed it but, ultimately learned some great techniques,” says Mort. “The most useful is weighted silverware because, when I pick up something really light, I get a tremor, whereas I’m more stable with heavier items.”

Mort appreciates Dr. Mari’s thoughtful, collaborative approach: “He tends to throw out several options, explain what each entails and what results we may see, and then we make a decision together.”

Finding workarounds

A volunteer chaplain at Las Vegas area hospitals, Mort has officiated at 60 funerals. With tremors making it difficult to hold onto loose papers, he has learned to arrange his notes in a loose-leaf notebook on a music stand, folding the corner of each page, which makes it both “easier to grab onto and also windproof,” he says with a chuckle.

For people with mild ET, the effects of the condition can be lessened by minimizing exposure to emotional stress and avoiding substances such as caffeine and nicotine that may increase tremor. There is no cure



Dr. Zoltan Mari with Mort Labovitz

for ET, but treatments that provide relief from its symptoms may help in improving quality of life. Depending on the severity of a patient’s essential tremor, treatment options can escalate from physical or occupational therapy to medication to botulinum toxin injections or deep brain stimulation surgery (DBS).

Dr. Mari, who has managed one of the largest botulinum toxin continuing medical education practicums in the United States and has taught thousands of physicians how to inject, says, “Most people don’t realize that Botox® is more than a cosmetic treatment for wrinkles.”

Don’t let ET define you

Medical botulinum toxin, he explains, provides significant relief from the symptoms of ET, much more so for patients with head and neck tremors than for those with hand tremors. It is safe when injected into muscles in very small doses. After an injection, it blocks the signal between nerve and muscle, allowing the muscle to relax temporarily.

DBS is a surgical procedure to place stimulation electrodes into the deep structures of the brain, such as the thalamus, which is the preferred target for ET. The electrodes are connected by wires to a pacemaker-like device implanted under the skin of the chest. Once activated, the device delivers continuous electrical pulses to the targeted areas to modify the dysfunctional brain circuits contributing to tremor. The vast majority of properly selected patients experience a marked improvement of their tremor.

Without hesitation, Mort says, “I would encourage anyone experiencing tremors to see a neurologist with expertise in tremor and find themselves a solution. There are ways to manage ET while continuing to do everything you enjoy.”

Mort’s writing weapon of choice today? Roller ball pens: “They’re not as elegant as fountain pens, but my occupational therapist was right: They help move the pen more smoothly across the paper and enable me to retain decent penmanship.”

MS Specialists Set the Pace for Peers Nationwide

The Mellen Program for Multiple Sclerosis (MS) at Cleveland Clinic Lou Ruvo Center for Brain Health, Las Vegas, is the only comprehensive MS center in Nevada run by fellowship-trained MS specialists, and the only National Multiple Sclerosis Society Partner in Care in Southern Nevada.

Yet, even for this program's leaders, Le Hua, MD, FAAN, and Carrie Hersh, DO, MSc, FAAN, fast-paced changes in the field of MS — such as approval of two new drug treatments in 2020 alone — present an ongoing reminder of the importance of staying current.

Educating practitioners

As a member of the American Academy of Neurology's (AAN) MS Education Subcommittee and ACTRIMS, a national organization of MS professionals, Dr. Hua has led the creation of a national lecture series.

"This type of didactic educational programming helps build standardized core knowledge across the 50 to 70 fellows who log in for each session," she says.

These lectures are available to the lucky physicians accepted into accredited MS fellowship programs, such as the one Dr. Hua launched in July at Cleveland Clinic Nevada (see page 31). Dr. Hua has also collaborated with fellowship directors and MS organizations nationwide to develop a consensus curriculum for each cohort of fellows.

"MS is becoming increasingly complex, and specialty training is required to provide optimal comprehensive care, yet there aren't enough specialists to care for the increasing number of individuals with MS. As more fellowship programs open



up across the country, the AAN wants to ensure curricula are standardized, which in turn will standardize patient care for the long haul," explains Dr. Hua.

And then came COVID

MS is a disease of an overactive immune system. MS drug treatments are meant to bring the immune system back into balance by reducing its activity. Creating a balance is the art of a skilled, specialized neurologist; doing so during a pandemic is uniquely challenging.

That's why Dr. Hersh acted quickly as Chairperson of the Multiple Sclerosis Association of America's Healthcare Advisory Council, launching twice-monthly webinars, each of which educates approximately 500 individuals with MS on COVID-19 and on collaborating with their physicians for optimal care.

As Chair of the National MS Society's Regional Healthcare Provider Council,

Dr. Hersh published in the journal *Multiple Sclerosis and Related Disorders* "How the COVID-19 Pandemic Has Changed Multiple Sclerosis Clinical Practice: Results of a Nationwide Provider Survey," facilitating information sharing among providers.

By women, for women

Dr. Hersh is developing and chairing a symposium, "Women in Multiple Sclerosis: Building Skills for Thriving in Your Career," at the 2021 annual meeting of the Consortium of Multiple Sclerosis Centers, an organization for which she also serves on the Board of Governors and as Co-Chair of the Abstract Review Committee.

"As patients, we all like to see providers who look like us," she notes. "Given that three times as many women as men have MS, Dr. Hua and I are committed to supporting female colleagues who practice in the MS field."

LEARNING FOR PATIENTS, FAMILIES AND COMMUNITY

You, too, can learn from our team of nationally recognized specialists. [Contact LouRuvoSocialServ@ccf.org](mailto:LouRuvoSocialServ@ccf.org) to sign up for a monthly newsletter on MS programs spanning yoga, lectures, support groups and more.



Camaraderie and Candid Conversations

Whether you have recently received a diagnosis of dementia, are supporting a loved one with the disorder or are just interested in learning more about the experience of living with dementia, Dementia Friendly Nevada's online Dementia Conversations can be a rewarding forum.

"The emphasis is on living well with dementia and respecting that no two people are on the exact same journey. For me, co-facilitating the group is truly the most fulfilling thing I do each week," says Kat Hartley, Project Manager, Healthy Brains Initiative, at Cleveland Clinic Lou Ruvo Center for Brain Health, and care partner to her mother and brother.

A voice of experience

Co-Facilitator Chuck McClatchey agrees. He has traveled the country speaking at conventions and conferences on how to continue living a great life after receiving a diagnosis of dementia. He credits his positive attitude and active lifestyle for his high-level functioning today, eight years after his diagnosis of early-onset Alzheimer's disease.

In their separate groups, Chuck and Kat follow a similar format, encouraging participants to introduce themselves and share their connection to dementia. In each session, they ask if there's something the group wants to discuss. If not, they offer conversational prompts, such as sharing new resources on dementia or raising hot topics like when and how to address concerns about driving. They always close with a learning circle, asking each participant to share one takeaway from the conversation.



Kat Hartley



Chuck McClatchey

"Helping participants laugh and joke and be comfortable with where they are on their dementia journey gives me a sense of purpose and replaces all the drive I had in my former job in the transportation industry," says Chuck.

"Neither a cryfest nor a support group"

Chuck takes great pride in how group members help each other: "There's nobody who just sits and listens. They exchange what works for them and what fears they have. One person with dementia was saying he yells and screams at his wife. He knows he's doing it and he knows it's

wrong, but finds 'something inside his head keeps him doing it and he just can't stop.' Participants then shared how various therapists have helped them with similar situations, and the guy was really open to it because he wants to maintain a good relationship with his wife."

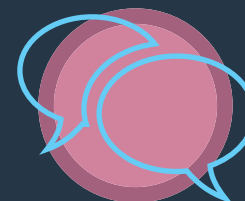
Chuck adds, "We don't sugarcoat anything, and we're very honest with each other in Dementia Conversations, which are neither a cryfest nor a support group. They're just a place to sit and talk with other people who are going through the same thing."

JOIN THE DIALOGUE

Learn more, review the group's guiding principles or "ground rules" and obtain a link to join the online conversation: dementiafriendlynevada.org/dementia-conversations/.

Dementia Conversations with Chuck and Jennifer
Mondays, 10-11:30 a.m.

Dementia Conversations with Nancy and Kat
Fridays, 12-1:30 p.m.



A Daughter Helps Others Tread the Caregiving Path She Walked

When Paula Anderson's father Vic Johnston was diagnosed with dementia in 2000, relocating him to her small town of Lake Havasu City, Arizona, allowed her to help him with daily activities, but her knowledge of the condition wasn't keeping pace with his changing needs.

Someone suggested she try a support group, but her town didn't have such resources for caregivers to people with dementia. That's when Paula decided to take action: "I approached the Alzheimer's Association, who trained me to launch and facilitate a group. Right then, I vowed I would do everything I could to help people understand and get support while traveling the dementia journey."

A passionate peer facilitator

Although her father passed away in 2003, Paula, by then an experienced caregiver, persisted with the volunteer work that she refers to as a "commitment rather than a profession." When support group attendees' needs require the attention of a trained professional, she may be the first to suggest that caregivers talk with a doctor, physical therapist or social worker.

When health psychologist Lucy Carriere, PhD, envisioned launching a peer-led support group at Cleveland Clinic Lou Ruvo Center for Brain Health for caregivers, securing Paula, an experienced facilitator who now lives in Las Vegas, made the January 2021 start all the smoother.

While Dr. Carriere takes great care to explain that the group is not a clinical service, nor is it led by a licensed mental health professional like a psychologist or a counselor, "Discussing the day-to-day challenges of caregiving with a peer who



Vic Johnston and daughter Paula Anderson in 1963

has witnessed dementia first-hand may be less intimidating than hearing from a mental health professional. Additionally, the peer setting can facilitate increased social connections."

No "tears and hand-wringing"

Creative problem-solving is something the group frequently addresses. Paula remembers a time when her father firmly believed his pajamas were his World War II uniform, and he wanted to return them to the Army: "To appease him, we drove around Lake Havasu City for two days to 'find someone to take the uniform.' I finally suggested that maybe I could sell it to the VFW, and he could have half the proceeds. The next day, I gave him \$5 and he was totally happy.

"Support groups aren't tears and hand-wringing. You'll find helpful, uplifting, humorous, caring, loving people," Paula

adds. "We're all in the same boat, and sharing community resources or tips for problem-solving helps."

Although she admits that support groups aren't for everyone at every moment, Paula believes knowledge, support and education can help anytime.

FREE DAILY PROGRAMS

That's why the Lou Ruvo Center for Brain Health offers multiple free programs daily.



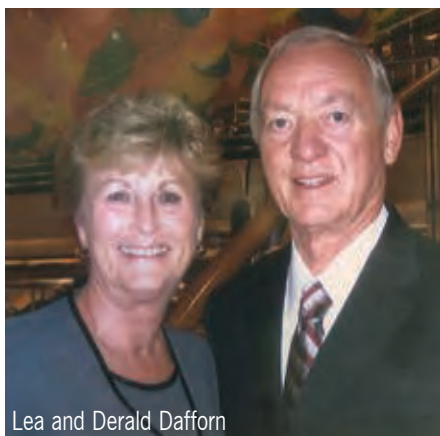
View our calendar of online events, including peer-led support groups, at clevelandclinic.org/NevadaEvents, or contact us at LouRuvoSocialServ@ccf.org to receive a monthly email of upcoming events.

Maximizing Quality of Life With Memory Loss Can Be HABIT-Forming

Lea Dafforn has a diagnosis of mild cognitive impairment, and she willingly acknowledges it.

“Many people have memory problems. It’s common, and nothing to be ashamed of,” says Lea, 79, who, alongside husband Derald, recently participated in the HABIT Healthy Action to Benefit Independence & Thinking® program at Cleveland Clinic Lou Ruvo Center for Brain Health.

An evidence-based, 50-hour interactive health and wellness program developed by Mayo Clinic, HABIT provides information, tools and support to help care partners and individuals with mild cognitive impairment achieve the highest possible level of function and independence. It builds on participants’ existing strengths



Lea and Derald Dafforn

and procedural memory, otherwise known as habit memory, which equips us to perform certain tasks without conscious thought.

An opportunity to flourish

Lea finds the HABIT calendar system more user friendly than her traditional calendar, and says the computerized brain games are fun and engaging, with a point system motivating her to keep pushing for a new personal best.

“It’s called HABIT for a reason and, as with any behavior modification program, daily engagement is the key to success,” says Lucille Carriere, PhD, Coordinator of the program at the Lou Ruvo Center for Brain Health.

Co-Coordinator Christina Wong, PhD, adds, “From group therapy, to mind-body movement, to memory compensation training, we aim to give patients and their care partners the tools to flourish today while living with memory impairment.”

Relief in sharing

Derald, Lea’s care partner, observes that “Now, Lea will remember things she wouldn’t have remembered before.” He says HABIT has helped him learn “not to get too upset if Lea asks the same thing five times in five minutes.”

HABIT® Program Components



Memory training



Brain fitness



Mindful movement



Health and wellness education



Emotional support

Lea quickly adds, “We realized we aren’t the only ones in this situation, and the program helps us cope with everything.”

The couple has also become more comfortable sharing Lea’s memory challenges with friends and family — conversations they had feared would be awkward, yet have provided unexpected relief.

“You don’t want them talking about you behind your back. Once Derald told our family, we were able to talk comfortably face to face,” says Lea. “I don’t want anyone to feel sorry for me, but I do want them to be considerate of my situation.”

IS HABIT A FIT FOR YOU?

Thanks to generous support from The Hearst Foundations, the HABIT® program is offered at the Lou Ruvo Center for Brain Health at no cost to participants.

If you think this program may benefit you or someone you know, please ask your Cleveland Clinic neurology provider for a referral or contact HABITProgram@ccf.org.



For Some With Dementia, Go Time Is Show Time

Jim Holladay has experienced it before: “People who have heard of her condition but haven’t seen her in a while say, ‘She’s doing really well,’” he says of his wife, Beth, who has been diagnosed with Alzheimer’s disease. “But they’re not seeing the real her. She’s putting on a show.”

Show timing is a common — yet curious — phenomenon in individuals with dementia, in which they inexplicably muster energy and exert effort to project a good front.

“Frustrated caregivers frequently tell me that, despite routine challenges with activities of daily living, when it’s ‘go time,’ their loved one is able to ‘turn it on’ in front of everyone else, rising to the occasion to maintain the social norms with which they are accustomed,” says Ruth Almén, LCSW, Clinical Manager, Social Work, at Cleveland Clinic Lou Ruvo Center for Brain Health.

You can’t believe your eyes

This phenomenon can lead to dismay on the part of care partners, who wonder what friends and family think of the



Jim and Beth Holladay

discrepancy between the behavior they’ve been advised to expect and what they’re witnessing with their own eyes.

Show timing tends to exhaust the individual, just as when one has to be “on” for a big presentation or a final exam, explains Jim. At home, Beth, a retired educator, struggles with washing and putting away dishes. Yet, when she’s out among friends, she tries to converse about current events to cover her diminished memory. Afterward, she tells her husband, “I’m just worn out.”

Coco Hickman, whose husband, Bob, has been diagnosed with Lewy Body dementia, reports that show timing can be physical, too. Whenever the couple leaves home, he turns his feet sideways, carefully descending their front steps. When their daughter arrives, “he nearly hops down the stairs, putting one foot in front of the other with a normal gait.”

Despite precision honed during a career as an electrical engineer, when Bob converses with doctors, friends and even on the phone with their adult children, his show timing appears unintentional.

“During the activity, he would deny it. If I ask him about it later, he’ll say, ‘I know. I’m not sure why. It just happens,’” Coco observes. “It’s like there’s a switch, but he’s not in control of it. We refer to the dementia itself as ‘Lewy,’ another personality within Bob.”

Knowledge is power

Coco had long been frustrated with Bob’s show timing. She would tell people what was going on and, while they never



Bob and Coco Hickman

expressed disbelief, she sensed their doubt. Since taking Improv for Care (see page 36), she says, “I’ve learned there’s a new reality that I have to move into, and it’s Bob’s world. Now, I chuckle about it to myself. I’m of a lighter frame of mind.”

She also collaborated with the Lou Ruvo Center for Brain Health’s social work team, which hosted a family meeting where it answered questions and identified support for Bob and her.

“Recognizing that as adults, our children are responsible for their own reaction to Bob’s disease has been a relief for me,” says Coco.

Understanding show timing and other symptoms of dementia can be empowering. If you’re a care partner to someone with cognitive decline, the team at the Lou Ruvo Center for Brain Health is here to help throughout the journey with free educational, therapeutic and support programming daily: clevelandclinic.org/NevadaEvents.

Introducing Our First MS Fellow

With 2,000 residents and fellows and more than 100 accredited training programs, Cleveland Clinic facilitates one of the largest graduate medical education programs — as expected at one of the world’s largest and most well-respected health systems.



However, many are surprised to learn that at its founding in 1921, Cleveland Clinic had two residents on staff, working with and

learning from the 13 doctors on the payroll, including the four founders. Providing additional training for post-graduate residents was part of Cleveland Clinic’s operational plan from its inception.

“Healthcare is a team sport” is the motto of Cleveland Clinic’s education programs, and research demonstrates that patient outcomes and satisfaction improve when caregivers follow a team or interdepartmental approach to healthcare.

An exciting time for patients and practitioners

That’s what attracted Dan Michael Pineda, MD, to Cleveland Clinic Lou Ruvo Center for Brain Health in July 2021 as the center’s first fellow in multiple sclerosis (MS), following completion of medical school at the University of the Philippines and a master’s degree in life science from Kyoto University. His residency at Albert Einstein College of Medicine landed him the Outstanding House Officer Award from Montefiore Medical Center in The Bronx, New York, as well as the Isabelle Rapin Scholarly Activity Award for his work on stem cell transplantation. A passionate amateur athlete, he enjoys hiking and participating in triathlons and in the National Multiple Sclerosis Society’s (NMSS) fundraiser, Bike MS.



Dan Michael Pineda, MD

Dr. Pineda’s personal and professional lives converge in his commitment to wellness, which he says is critical to the wellbeing of everyone, but particularly to his patients with MS, most of whom he observes as “committed to doing what’s best for their health, from yoga and stretching to physical therapy.” During his one-year fellowship, he looks forward to collaborating with Carrie Hersh, DO, FAAN, Program Director, MS Health and Wellness Initiative.

Dr. Pineda says it’s an exciting time to practice in the field: “A couple of decades

ago, MS was akin to a neurodegenerative disease. It was only a matter of time before a person with MS would accumulate disability. However, in the past few years, there has been an explosion of medications, particularly oral medications that help people live a fuller life.”

Indeed, 2019-2020 saw the approval of seven new drug treatments for neuromyelitis optica spectrum disorder (NMOSD) and MS, meaning more options than ever for physicians to deliver the most targeted, individualized patient care possible.

What does it take to provide world-class MS care?

Dr. Pineda believes the ideal MS specialist has cutting-edge knowledge of the disorder, but also plays a role in patients' broader care, addressing issues such as fatigue and depression.

"At Cleveland Clinic's Las Vegas campus, we have a very tight-knit, interdisciplinary group with neurorehabilitation, social work and more to give patients truly holistic care," he notes.

"Besides, there's something exciting about being the first MS fellow at Cleveland Clinic's Las Vegas location," he adds. "It stood out among other fellowship opportunities."

Dr. Pineda stood out, too.

"That's why our center received the highly competitive NMSS Clinical

Fellowship award," says Le Hua, MD, Director, Cleveland Clinic Mellen Program for MS at the Lou Ruvo Center for Brain Health, Las Vegas, and the driver behind adding an MS fellowship in Las Vegas. "The award is a huge honor and attests to the strength of our program and our selected fellow."

"It's not just me, it's the center," demurs Dr. Pineda, who says he's honored to serve Nevada as a fellow, and plans to stay in the state following completion of his training. "In my application, I explained how Cleveland Clinic Nevada serves not just people of Las Vegas, but rural areas in Nevada and nearby states. I am eager to get involved with patients in these underserved areas and am impressed with the center's use of telemedicine as an effective means of managing patients, even before COVID changed healthcare delivery."



THE POWER OF PHILANTHROPY

Dr. Pineda's fellowship wouldn't be possible without The Engelstad Foundation, whose 2020 gift marked a total contribution of \$1 million to the Lou Ruvo Center for Brain Health, supporting training for eight post-graduate neuropsychology and neurology fellows.

"Investing in our next generation of physicians is one of the best possible investments you can make," says Kris Engelstad McGarry, trustee of The Engelstad Foundation. "The Lou Ruvo Center for Brain Health continues to be a vital resource and beacon of hope for our community. We know this gift will further strengthen their mission and the medical talent here in Southern Nevada."

If you are interested in funding the training of the next generation of Nevada's healthcare providers, please contact us at 702.263.9797 or DonateNevada@ccf.org.



Kris Engelstad McGarry

Women's Alzheimer's Prevention Center Marks First Anniversary With NIH Grant

When the Women's Alzheimer's Movement Prevention Center at Cleveland Clinic opened in June 2020, it was the culmination of a long-standing discussion between visionaries Maria Shriver, Founder, Women's Alzheimer's Movement, and Larry Ruvo, Chairman and Co-Founder, Keep Memory Alive.

Larry, who lost his father, Lou Ruvo, to Alzheimer's disease in 1994, paid tribute by founding the Lou Ruvo Center for Brain Health. Maria, who lost father Sargent Shriver to the dread disease in 2011, led a rallying cry to understand what, besides sheer longevity, might explain why women account for two-thirds of Alzheimer's disease cases.

Now, the National Institute on Aging at the National Institutes of Health (NIH) has come on board, awarding a prestigious Research Project (R01) Grant to Jessica Caldwell, PhD, Director, Women's Alzheimer's Movement Prevention Center at Cleveland Clinic, to delve deeper.



Larry Ruvo hosts Maria Shriver in 2010

Why are women at higher risk?

"We know that gender and sex, indexed by stress exposures and estrogen, interactively promote changes in the brain, which may facilitate Alzheimer's pathology in women at risk for the disease," says Dr. Caldwell. "This project is an opportunity to better understand mechanisms of Alzheimer's disease risk and how we might implement the appropriate risk reduction approaches to benefit women."

Dr. Caldwell anticipates that data from this study will provide evidence linking greater lifetime gender-based stressor exposures to poorer verbal memory in women at risk for Alzheimer's, as well as to brain activation patterns and immune system responses that may contribute to sex and gender disparities in the disease. She hopes findings will help with development of interventions targeting stress and inflammation to reduce Alzheimer's disease risk.

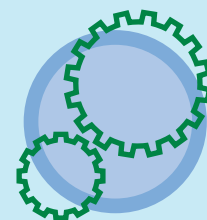
An imperative need

The Women's Alzheimer's Movement Prevention Center at Cleveland Clinic is the nation's first Alzheimer's disease prevention clinic designed specifically for women. Since opening on June 18, 2020, the center has welcomed women from 40 states and has received honorable mention in Fast Company's list of 2021 World Changing Ideas.

The clinic offers an opportunity to advance the Lou Ruvo Center for Brain Health's goal to connect the communities we serve with needed care: African American women are at double and Hispanic women at 1.5 times the risk of Alzheimer's disease compared with White women.



Due to unprecedented demand, women are putting their names on our list for the first available



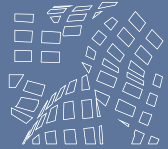
appointments in 2022. **We need more funds to increase access and you can help. Donate now at [WomenPreventAlz.org](https://www.womenpreventalz.org).**

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

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

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

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

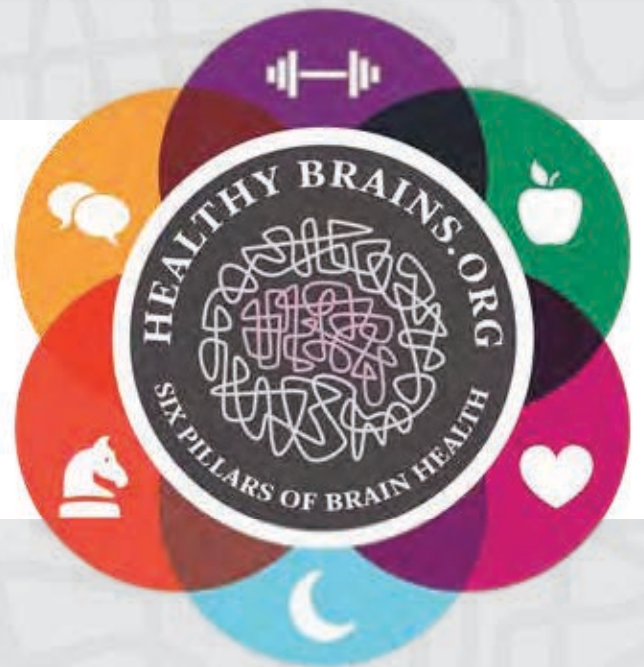
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Available in English and Spanish



One of the major hurdles in finding treatments for Alzheimer's disease is finding enough volunteers for clinical trials. Learn more: HealthyBrains@ccf.org.

Trop Rock Sets the Stage for Improv

Each summer in Mesquite, Nevada, Phins to the West, a fun-loving and generous group of “Parrot Heads,” host Trop Rock Summer Camp, raising funds throughout the event for their charity of choice, Keep Memory Alive, as bands cover their beloved Jimmy Buffett’s iconic repertoire.

L to R: Alan Conklin, Ruth Almén and Doug Murray



 <h3>TRADITIONAL SUMMER CAMP</h3> <ul style="list-style-type: none"> ✓ Shared, open-air cabins or tents ✓ Scheduled cafeteria meals ✓ Alcohol prohibited ✓ Lanyard making ✓ Make tie-dye T-shirts ✓ Campfire singalongs ✓ Swim in a cold lake ✓ Chaperoned dances ✓ Can't wait to get home to see your friends! 	 <h3>TROP ROCK SUMMER CAMP</h3> <ul style="list-style-type: none"> ✓ Clean, air-conditioned private rooms ✓ 24-hour restaurants ✓ 24-hour bars ✓ Door-decorating contest ✓ Wear tie-dye togas ✓ Showroom conga lines ✓ Relax in a resort pool ✓ Seriously????? ✓ Can't wait to come back next year to see your friends!
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Merging fellowship with fundraising

While Phins to the West has supported Keep Memory Alive since 2011, when they heard about Improv for Care in 2019, they immediately directed their fundraising to this novel class at Cleveland Clinic Lou Ruvo Center for Brain Health. Class facilitators reach family caregivers to loved ones with dementia, collaborating to add humor and creativity to their caregiving toolkit.

“We were blessed to be able to convene in person once again this June and share our love of music and the Trop Rock culture,” says Alan Conklin, Co-Chair, Trop Rock Summer Camp. “We know how important fellowship is, and are honored to be able to continue funding it for family caregivers through Improv for Care.”

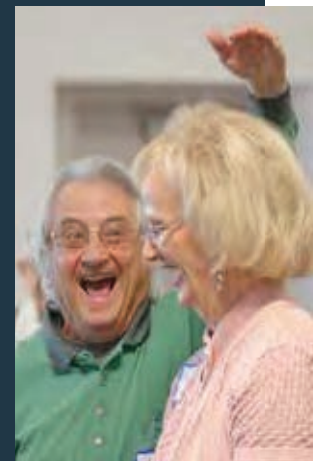


Safe Support, Thanks to Phins to the West

“This gift goes a long way to helping families at our center who need a lot of support, especially while they’ve been homebound during the pandemic. You’ve enabled us to offer Improv for Care in a new, online, COVID-safe environment,” says Ruth Almén, LCSW, Clinical Social Work Manager, left, alongside Renae DeLucia, Associate Director, Philanthropy.

IMPROV FOR CARE

Providing patients, their care partners and our community with a creative toolbox for maximizing knowledge and coping skills



.....
A collaboration with Second City and Caring Across Generations to infuse humor into caregiving? Thanks to Phins to the West, we’ve got that: Improv for Care™.

With support from Phins to the West and others, we offer free, online educational, therapeutic and support programs daily. We invite you to join us from wherever you are in your journey toward better brain health.

View our calendar of events:
ClevelandClinic.org/NevadaEvents

Sign up for email updates:
LouRuvoSocialServ@ccf.org



Poker Under the Stars, with the Stars: 2021 Keep Memory Alive Charity Tournament

On July 22, poker players and non-players alike convened at Shakespeare Ranch in Glenbrook, Nevada, on the shores of Lake Tahoe. They played and partied with Vegas Golden Knights Players Deryk Engelland and Ryan Reaves, and LPGA legend Annika Sorenstam. For most, just being out and about post-pandemic was reason enough to celebrate.

Generosity ran deep, from attendees enthusiastically providing credit cards

at check-in to cover the maximum tournament rebuys, to a couple committing to match every dollar raised at the event. An attendee reported that the crowd of 90 literally “whooped and hollered” when Larry Ruvo announced this unexpected pledge. Guests proceeded to bid competitively on the silent auction and buy roulette and raffle tickets to support the biggest prize possible: better brain health for patients

at Cleveland Clinic Lou Ruvo Center for Brain Health.

Guests at the final table were in good pro-athlete company, playing alongside Ryan Reaves and Annika Sorenstam. And of course no Keep Memory Alive event would be complete without raising awareness and funds over delightful cuisine, wine and whiskey tastings, and live music.

We thank our generous sponsors for going all in for memories:



FOLEY FAMILY WINES
Real Vineyards. Real Wineries. Real Wines.



L to R: Steve and Mary Skaggs, Ryan Reaves, Camille and Larry Ruvo



Hockey star Ryan Reaves may have executed the ultimate hat trick: In addition to great plays on the ice for the Knights and success in business as Co-Founder of 7five Brewing Company, his unanticipated poker prowess surprised even himself, taking home a bottle of O.F.C. whiskey as his prize for the tournament win. Should he decide to study up even more, the signed book from poker legend Doyle Brunson may come in handy.



Deryk Engelland and LPGA legend Annika Sorenstam



KEEP MEMORY ALIVE
MONTH OF MEMORIES

LET'S MAKE NOVEMBER A MONTH TO REMEMBER

KEEP MEMORY ALIVE'S MONTH OF MEMORIES IS A COMMUNITY-BASED FUNDRAISING INITIATIVE IN NOVEMBER IN SUPPORT OF NATIONAL ALZHEIMER'S DISEASE AWARENESS & FAMILY CAREGIVER MONTH.

By supporting participating business, you can support people living with Alzheimer's and those who care for them.

Dine in, carry out, round up the change, or create your own unique promotion.

Proceeds raised in November go towards research, patient care, and delivering free education, therapeutic and support programs.

JOIN US NOVEMBER 1-30.

Visit keepmemoryalive.org/MoM for a growing list of participating businesses.

**HAVE A BUSINESS AND WANT TO HELP?
WE'D LOVE TO HEAR FROM YOU.**

Contact us at 702.263.9797
or events@keepmemoryalive.org.

HEROES AND HEROINES: Fundraising Advisory Board

While Keep Memory Alive is only this fall emerging from the pause that COVID-19 put on Cleveland Clinic's in-person events as of March 2020, our Fundraising Advisory Board (FAB) hasn't let a global pandemic hamper their creative approach to fundraising.

FAB-ulous from home

Hunkered down safely in their respective homes, this team of volunteer fundraisers continued to leverage their networks to support Keep Memory Alive in new ways.

With COVID-19 forcing the Clark County School District to reimagine the 2020-2021 school year as an exclusively online experience, charitable support followed suit. Thanks to the FAB, for the annual Penny for Your Thoughts™ middle school challenge in November, each of the four participating schools received a branded, online fundraising toolkit, and support from the education and fundraising teams at Keep Memory Alive. Together, the schools shattered previous records.

The FAB also conceived of and sold online tickets to Keep Memory Alive's first-ever 50/50 raffle in November. During the summer, they rallied friends and family to participate virtually in the annual Summer Social that traditionally takes place at Shakespeare Ranch on the Shores of Lake Tahoe. In 2020, from the comfort of home, participants learned through video storytelling how donor-supported online educational, therapeutic and support

programming helped patients and families feel "as if they were out of quarantine, if only for a moment." An inspiring narrative, the virtual event exceeded its fundraising goal.

Next up: A milestone for a marquee event

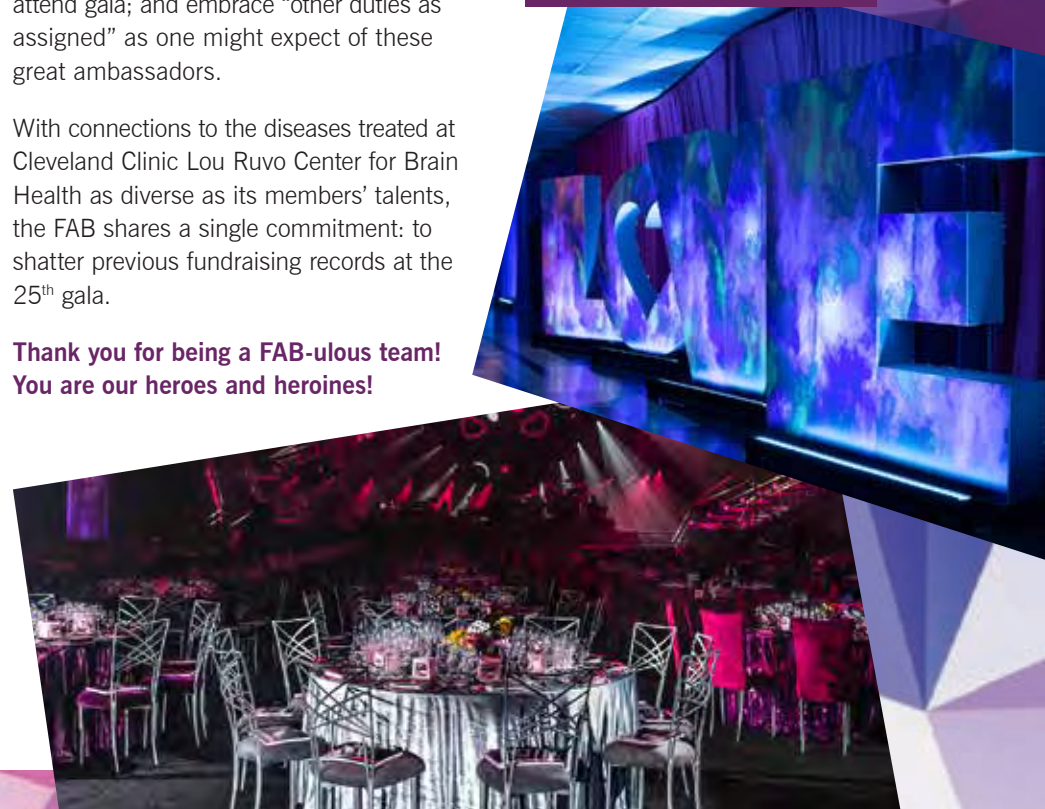
The 25th anniversary Power of Love® gala on Saturday, October 16, marks 25 years of fundraising through Keep Memory Alive's signature over-the-top party with a purpose (see page 3). For the FAB, this means all hands on deck as they approach businesses to donate auction items, sponsor the gala or buy program ads; recruit friends and family to attend gala; and embrace "other duties as assigned" as one might expect of these great ambassadors.

With connections to the diseases treated at Cleveland Clinic Lou Ruvo Center for Brain Health as diverse as its members' talents, the FAB shares a single commitment: to shatter previous fundraising records at the 25th gala.

**Thank you for being a FAB-ulous team!
You are our heroes and heroines!**

FUNDRAISING ADVISORY BOARD MEMBERS:

Kathy Antonino
Angela Doherty
Sheryl Goldstein
Sandy Hardie
Kimberly Laub
Debbie Ledbetter
Victoria Otter
Kelly Pettit
Camille Ruvo
Ellen Schaner
Michael Severino
Michael Shulman
Nicole Taffer
Kimberly Thesman
Stephanie Wilson
Andrea Wynn



Visitor Photo Gallery



Erick Vidmar, Greg Sherry, Dr. Dylan Wint and Michael Severino honor the Sherry family with an exam room naming



Dr. Le Hua, Cory Littleton of the Las Vegas Raiders and Dr. Carrie Hersh



Cindy Choi, Co-President, CCMSA; Dr. Jessica Caldwell; Shirley Musni, Co-President, CCMSA; and Jody Ghanem



L - R: Michael Borden, Dr. Loren Wold and Dawn Russi



Dr. Justin Miller and Keith Whitfield with Marclen Hernandez and Erick Vidma



Dr. Marwan Sabbagh with Michael Easterday of Molina Healthcare



Sean McBurney, Larry Ruvo, Bret Yunker, and John Landry



Katharine Overton honors husband, Al



L - R: Dr. Jerry Schwartz, Kevin Kinsella, Gene Kirkwood

Richard Sturm Joins the Keep Memory Alive Board of Directors

Over the last 40 years, Richard Sturm has played a lead role in establishing Las Vegas as the world's premier entertainment destination. As president and chief operating officer of MGM Resorts Entertainment & Sports, Richard brought some of the most popular names in the music industry to Las Vegas, spanning Lady Gaga, Bruno Mars, The Rolling Stones, Justin Timberlake, Beyoncé, Paul McCartney, The Eagles and Barbra Streisand.



Richard Sturm

Richard has also played a lead role in presenting blockbuster boxing events, negotiating the 2015 Mayweather/Pacquiao fight became the highest-grossing arena event in history. From the beginning, he recognized the popularity of the UFC and helped make MGM Resorts the organization's Las Vegas home.

The recipient of the inaugural *Entertainment Legend Award* from Global Gaming Expo in 2014, Richard is currently president and CEO of Las Vegas Live Entertainment & Sports.

Keep Memory Alive Chairman and Co-Founder Larry Ruvo says, "Richard Sturm was friends with my father, Lou. When my wife Camille and I started Keep Memory Alive, our go-to person for entertainment and unbelievable auction items was my long-time friend, Richard, who has continued to be there for us in the most meaningful ways ever since, providing invaluable support and helping with many fundraising efforts beyond the Power of Love."

All of us at Keep Memory Alive are indebted to this entertainment genius and phenomenal friend. We welcome Richard Sturm to our board of directors.

Recognized for Excellence

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

We celebrate these accomplishments.

Top Doctors

(Castle Connolly, 2021)



Le Hua, MD, FAAN



Zoltan Mari, MD, FAAN



Dylan Wint, MD

Associate Editor

(Parkinsonism and Related Disorders Journal, June 2021)

Zoltan Mari, MD

World Changing Ideas 2021: Health

(FAST Company, May 2021)

Women's Alzheimer's Movement Prevention Center at Cleveland Clinic (see page 33)

President, Western Region

(American Music Therapy Association, April 2021)

Becky Wellman, PhD, LPMT, MT-BC

2020 Research Awards

(Neurological Institute, Cleveland Clinic, April 2021)

Jennifer Hawse (Outstanding Research Conduct by a Clinical Research Coordinator or Nurse)

Betty Romero (Above and Beyond)

Karina Statkevich (Rising Star)

Smart Women in Meetings 2021: Innovator

(Smart Meetings, March 2021)

Anna Robins

Member, Board of Trustees

(Clark County Medical Society, February 2021)

Zoltan Mari, MD

Chair, Telemedicine Study Group

(Movement Disorder Society, January 2021)

Zoltan Mari, MD

Board Certification, Behavioral Neurology and Neuropsychiatry

(United Council of Neurologic Subspecialties, January 2021)

Dylan Wint, MD

Certified Dementia Practitioner (CDP) certification

(National Council of Certified Dementia Practitioners, December 2020)

- Ruth Almén
- Vanessa Avalos
- Sandy Chapman
- Susan Farris
- Kate Ingalsby
- Tina Kipp
- LeeAnn Mandarino
- Verla Niebuhr
- Michelle Pester
- Laura Rogers
- Nicole Wolf

2021 KEEP MEMORY ALIVE SCHOLAR

The 2021 Keep Memory Alive Scholar grant application garnered several submissions representing the breadth of disciplines studied at the Lou Ruvo Center for Brain Health. After rigorous peer review, Xiaowei Zhuang received the award for her project titled *Combine genetic and advanced brain imaging features to predict conversion and progression of Alzheimer's disease*.



Xiaowei Zhuang

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



2021-22 U.S. NEWS & WORLD REPORT BEST HOSPITALS RANKINGS

Cleveland Clinic is once again ranked No. 2 in the nation in the 2021-22 *U.S. News & World Report Best Hospitals guide*, which evaluated more than 4,500 medical centers. Since 1999, Cleveland Clinic has ranked as a Top 5 hospital.

For the 27th consecutive year, we are ranked **No. 1 in Cardiology and Heart Surgery.**

An additional 10 Cleveland Clinic specialties were recognized with Top 10 rankings:

- Geriatrics (2)
- Rheumatology (2)
- Urology (2)
- Gastroenterology & GI Surgery (3)
- Gynecology (3)
- Cancer (5)
- Pulmonology & Lung Surgery (5)

• **Neurology & Neurosurgery (7)**

- Orthopedics (7)
- Ophthalmology (10)

We're proud to be recognized nationally for our promise to deliver the safest, highest quality care. Rankings like these by *U.S. News* — along with those by Leapfrog, the Centers for Medicare & Medicaid Services (CMS) and Vizient — affirm our caregivers' continued dedication to providing patients with the best care anywhere.

More information is online at
clevelandclinic.org/usnews



KEEP MEMORY ALIVE

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

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888 W. Bonneville Ave.
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25TH ANNIVERSARY

POWER OF LOVE

GALA 2021

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GO TO KEEPMEMORYALIVE.ORG/POL
OR CALL 702.263.9797
(SEE PAGE 3 FOR MORE.)

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SMOKEY ROBINSON

KENNY 'BABYFACE' EDMONDS

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K.T. Lim of Resorts World and Chairman and CEO of Genting

CUISINE BY
Chef Wolfgang Puck and Chef Bobby Flay

Sponsors: SOUTHERN GLAZER'S WINE, SPIRITS & BEER OF NEVADA Resorts World LAS VEGAS Moët Hennessy USA