

FALL 2020

NewThinking

ABOUT THINKING

A Publication by Cleveland Clinic Lou Ruvo Center for Brain Health



KEEP MEMORY ALIVE

POWER OF LOVE® GALA • MARCH 7, 2020



KELSEY GRAMMER



SAMMY HAGAR



CHRIS ISAAK



NEIL DIAMOND



JIMMY KIMMEL



BILLY RAY CYRUS



KENNY "BABYFACE" EDMONDS



DEREK HOUGH



KATLYN NICHOL

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

DIRECTOR'S MESSAGE

Despite COVID-19, we at Cleveland Clinic Lou Ruvo Center for Brain Health have remained focused on our mission of staying true to who we are, with our emphasis on being the best at brain health and caring for patients across their lifetimes. While we've had to quickly pivot operations, our team has seized every opportunity to innovate.

Our patients and their families often tell us that brain disease is isolating. Add on masks, social distancing and stay at home orders, and the COVID-19 pandemic created an unfathomable amount of isolation.

Although we made the difficult decision to suspend all group programs as of March 10, our team immediately stepped into action, finding creative solutions to continue to provide the care, education and support that patients and families have come to rely on. We quickly embraced videoconference technology to bring friendship, support and understanding into the safe environment of their homes by converting nearly all of our free programming to a virtual setting. And the results have been tremendous (see page 31).

Our social work team reports that support groups have doubled in size, and those who hadn't previously participated due to lack of help at home or with transportation are now able to participate online. What's more, participants can now include family from out of state.

Our education department has seen attendance triple for weekly Lunch & Learn programs, as well as an uptick in usage of our eLibrary. The success of these programs has shown that we are meeting a great need within our community, and we will continue to offer this virtual platform after the COVID-19 pandemic ends.

Clinically, we were able to successfully transition the majority of our patient volume to virtual visits during Nevada's stay at home mandate, and these appointments will continue to play an important, convenient role in how our patients access care, even as we resume in-person visits (see page 11).

As a physician, leader and individual, I have realized how grateful I am for everything I have. I have also learned to be more mindful of my mental health. This has been an unprecedented time but, for me, it's also been an opportunity for reflection. I hope you and your family can explore the positive in the increased time you share together.

We are all still defining our new normal, yet our mission continues. Thank you for being part of it.

Marwan N. Sabbagh, MD, FAAN

Director

*Camille and Larry Ruvo Chair
for Brain Health*



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

FALL 2020 New Thinking ABOUT THINKING

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Nation's First Women's Alzheimer's Prevention Center Launches Here

Alzheimer's disease disproportionately affects women. Of the 5.8 million Americans suffering from the disease, two-thirds are women: a staggering 3.8 million. Despite this disparity — which isn't entirely explained by women's longer lifespans — today's medical care models and research studies approach the disease largely as though it were the same for women and men.

Now, that is changing. On June 18, we opened the nation's first Alzheimer's disease prevention clinic designed just for women: The Women's Alzheimer's Movement Prevention Center at Cleveland Clinic, located at our Cleveland Clinic Lou Ruvo Center for Brain Health in Las Vegas. The new clinic is a collaboration with Alzheimer's disease advocate Maria Shriver and her Women's Alzheimer's Movement.

The Goal Is Risk Reduction

As Ms. Shriver told the *Las Vegas Review-Journal* in an interview, "Women and Alzheimer's has been my jam, my passion, my mission, my Achilles' heel. It's what gets me up. It's what drives me. So, to be able to have a clinic on the ground that I could send people to who are interested in prevention, that I can send people to that want to take care of their brains, is a dream come true."

Under the direction of Jessica Caldwell, PhD, a neuropsychologist with expertise in brain health, memory, aging and women's risks for Alzheimer's disease, the Women's Alzheimer's Prevention Center combines a patient's medical history, biological risks, habits, mood and memory with the latest science on prevention to create a

Maria Shriver

Photo Credit Kwaku Alston



WOMEN & ALZHEIMER'S: THE NUMBERS

5.8

5.8 million Americans are currently living with Alzheimer's disease

3.8

3.8 million Americans with Alzheimer's are women

40%

40% of all Alzheimer's cases might be preventable through healthy lifestyle modifications

60%

60% of all caregivers for people with Alzheimer's are women

06.18
2020

The date this begins to change with the opening of the **Women's Alzheimer's Movement Prevention Center at Cleveland Clinic**



Larry Ruvo hosts Maria Shriver in 2010

HAS SOMETHING CHANGED IN MY BRAIN?

Feeling forgetful and wondering if you might be heading towards Alzheimer's? Sometimes, poor memory is caused by lifestyle factors that women can modify, starting...today.



ALWAYS "GO-TIME"?

Unfortunately for women, many stresses are long-lasting and seemingly unstoppable, like a stressful job or children. So, our brains receive continual fight-or-flight signals. A stress response that is chronically "on" causes shrinkage of regions important for memory.



CHOOSE YOUR FOOD WISELY

Those who eat more brain healthy foods have been shown to have better scores on cognitive tests and reduced risk of cognitive decline and Alzheimer's disease.



JUST WANT TO "CLEAR YOUR HEAD"?

Being sleepy can lead to memory difficulties, slower reaction times, and problems with decision-making. Poor sleep can:

- Reduce the consolidation of new information into memory.
- Lead to reduced clearance of debris (like Alzheimer's disease-related amyloid and tau proteins) from our brains, and may even increase their production.



MENOPAUSE

Memory problems are a common complaint at menopause, and estrogen loss may be the cause. Why? Because estrogen:

- Supports the hippocampus, the brain region that helps form new memories.
- Regulates stress and inflammation responses, both of which can impact memory.

Neuropsychologist,
Jessica Caldwell, PhD



customized, sustainable plan for lifestyle modifications that can reduce the risk of Alzheimer's disease.

Dr. Caldwell's mantra? "It isn't a magical solution. What we're asking women to do isn't easy. But we think it's worth it, and they'll benefit."

The Women's Alzheimer's Prevention Center is for women in their 30s through 50s who may be at risk for Alzheimer's disease due to family history, or who are concerned about their risk and want to minimize it.

CHANGE A WOMAN'S LIFE

As with most of our programs, this clinic is powered by philanthropy. We are able to offer this medical milestone because of generous donors. This first-of-its-kind program bridges resources of multiple foundations and funders to further our understanding of why women are disproportionately impacted by Alzheimer's disease, and will contribute to a new era of women's brain health.



Make an appointment: 833.WOMEN.AD or WomenPreventAlz.org.

To support innovations such as this one, contact our development team: 702.263.9797 or DonateNevada@ccf.org.

A Diamond-studded Performance Paves the Way for a Silver Anniversary

Photos: Denise Truscello



Honoree Neil Diamond performs at the 24th gala



Jimmy Kimmel addresses attendees

Keep Memory Alive's 24th annual Power of Love® gala at MGM Grand Garden Arena on March 7 brought top artists and performers **Billy Ray Cyrus, Kenny “Babyface” Edmonds, Kelsey Grammer, Sammy Hagar, Derek Hough, Chris Isaak, Jimmy Kimmel, Katlyn Nichol, Greg Phillinganes** and more together to honor music legend **Neil Diamond** and raise crucial funds and awareness for Cleveland Clinic Lou Ruvo Center for Brain Health.

The center — and the patients and families who benefit from it — are grateful to have hosted this important event mere days before the onslaught of the COVID-19 pandemic shut down Las Vegas and the world.

The Diamond year

Keep Memory Alive Founder and Chairman Larry Ruvo and Kimmel presented Neil Diamond with an award in honor of his impactful musical contributions. The legend then took to the stage, delivering a surprise mini concert of his hits, marking his first live performance since announcing his retirement from touring in 2018 due to his diagnosis of Parkinson's disease.

Neil Diamond said, “I’m feeling great. This is an important thing they’re doing and I feel honored to be part of it and take part in it.”

Earlier in the evening, Larry Ruvo and Keep Memory Alive Vice Chairwoman and Co-Founder Camille Ruvo presented **Dr. Miriam and Sheldon Adelson** with the Keep Memory Alive Community Leadership award.

“Thank you so much, this award means a great deal to us,” said Dr. Adelson. “Our personality and our spirit is the sum of a lifetime of memories. When our memory fades, so, too, does our soul. That is why Keep Memory Alive is so important, as it directs resources towards some of the most difficult of afflictions.”

Celebrity chefs **Wolfgang Puck** and **Masaharu Morimoto** prepared exquisite cuisine paired with wines from Southern Glazer's Wine and Spirits, followed by a show-stopping dessert from MGM Grand Pastry Team that featured a cocktail wrapped with cotton candy.

The silver anniversary

2021 marks the 25th anniversary of the Power of Love gala. “When



Wolfgang Puck and I held a memorial dinner for my father, Lou, with just 35 friends and family, we never imagined it would turn into the most talked-about fundraising gala in Las Vegas,” says Larry Ruvo. “Make no mistake. The Power of Love has been a labor of love, and it couldn’t have happened without so many friends and supporters, from John Paul DeJoria who wrote the first check, to Robin Leach who opened his Rolodex of the Rich and Famous to arrange celebrity appearances.”

Yet through it all, Keep Memory Alive Co-Founders Camille and Larry Ruvo say they owe the greatest debt to the Nevada community, who have been supporting Keep Memory Alive since a Frank Gehry-designed building operated by one of the country’s top hospitals, Cleveland Clinic, was but a far-out idea that Larry and Camille shared with only their closest friends.

“The Power of Love has been made possible by the power of community,” says Camille Ruvo. “When you join us in 2021, you’ll witness a party with a purpose that has been 25 years in the making.”



The Ruvo family celebrates at the Power of Love gala



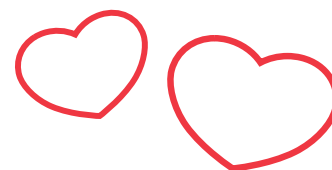
(L to R): Neil Diamond, Jimmy Kimmel, Sammy Hagar, Chris Isaak and Katlyn Nichol



Dr. Miriam Adelson accepts the community leadership award

CELEBRATE WITH US

See you in Las Vegas in 2021 for the 25th annual Power of Love gala. Information at 702.263.9797 or keepmemoryalive.org/PoL



Protecting the Vulnerable From Dangers Old and New

For individuals with chronic medical conditions, such as those treated at Cleveland Clinic Lou Ruvo Center for Brain Health, comorbidities like diabetes and obesity are multipliers of risk for additional health concerns, including COVID-19, which hits older people with comorbidities especially hard.

“As with other novel situations, we try to learn from the past,” says Dylan Wint, MD, a neurologist specializing in cognitive disorders.

Long before the coronavirus began spreading, neuroscientists knew that even dementia alone can increase the severity of other, seemingly unrelated conditions.

“Among those hospitalized for pneumonia or hip fractures, for example, people with dementia have a much higher chance of dying over the next 30 days,” says Dr. Wint.

He attributes some of this risk to the behavioral characteristics of dementia:

Individuals with dementia sometimes struggle with hygiene, may not be as self-aware and often have difficulty expressing themselves.

“I may wake up with a cold and remember, ‘That’s right, last night I went to bed with a cold.’ A person with dementia wakes up with a cold and discovers it as brand new information,” Dr. Wint explains.

Lack of awareness on the part of the patient or caregiver can lead to rapid onset of illness and delayed efforts to secure treatment.

A Delicate Balance

As we age, the immune system weakens and the risk for additional health conditions increases. Sometimes, this risk is inherent to the disease, as with dementia; sometimes, it may be due to treatment, as with multiple sclerosis (MS).

MS is a disease of an overactive immune system, while MS drug treatments are immunomodulatory, meant to bring the



Dylan Wint, MD

DETECTING ILLNESS

If someone already has a disorder like dementia, watch for symptoms that may indicate a new condition, such as a urinary tract infection or dehydration:

- Increased confusion
- Sudden decline in cognitive condition
- Decrease in appetite
- Less/more thirst
- Unusual smell or color of urine
- Fever (sweating, faster breathing, reduced energy, less interactivity)



immune system back into balance by reducing its activity. Creating a balance is the art of a skilled, specialized neurologist.

“If we decide to discontinue a patient’s medication, they’re at risk for an MS relapse leading to mental or physical disability, which would land them in the hospital, where they might be exposed to others with sepsis, MRSA or, in today’s world, COVID-19,” says Le Hua, MD, a neurologist fellowship trained in MS.

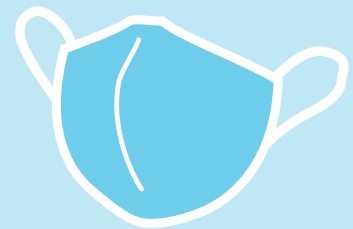
“For most run-of-the-mill infections, such as the common cold or a urinary tract

PROTECTING THE IMMUNOCOMPROMISED

“Individuals with MS look OK. . . until they’re not,” says Dr. Hua. “Their lives depend on the entire community being on board. As a healthy person, you might inadvertently cause an adverse outcome simply by doing things you’ve done your whole life.”

We can all help:

- Wash your hands. Often.
- Don’t shake hands.
- Maintain proper social distancing.
- When you leave home, wear a mask.
- Pay attention to food recalls and discard affected items.
- Make sure produce is well handled/sourced and washed thoroughly (including “pre-washed” salad kits).



infection, the risk of a poor outcome is minimal, and it’s worth taking the chance to control long-term disability by using today’s highly effective MS medications,” she says. “We’re just beginning to witness the impact of COVID.”

Caregivers: Take Care of Yourselves!

When someone with a neurological condition is hospitalized — even for a seemingly unrelated problem — the patient’s primary neurologist should be notified. Because the brain is under stress, other illness can worsen the symptoms of cognitive decline (*see page 29*).

“I’ve always told caregivers if their loved one is hospitalized, they need to be in the hospital with them as much as they can. However, with COVID-19, hospitals have

been leaning more toward visitation via phone or video, and it’s important to adhere to those guidelines,” says Dr. Wint. “If a care partner gets sick, the person with dementia doesn’t have many other resources, so caregivers must do everything possible to stay healthy.”

Today, maintaining health means keeping away from other people. Social distancing creates physical separation, but it can create emotional distance as well.

“Don’t forget the psychological impact, including depression, anxiety and isolation. When we’re not interacting with people normally, it makes diseases worse and can even affect immune health,” says Dr. Hua.

Once again, a delicate balance.

Le Hua, MD



Making the ADA Work for You

2020 marks the 30th anniversary of the Americans With Disabilities Act (ADA), which was designed to ensure people with disabilities equal access to work, education and their communities. Few realize the breadth of the law; even fewer realize they or a loved one might not be fully benefiting from ADA provisions available to them.

According to the ADA's website (ada.gov), having a "physical or mental impairment that substantially limits a major life activity" means you have a disability. Although we don't necessarily think of age as a disability, aging can result in a decline in eyesight, hearing, mobility or thinking, as well as chronic conditions such as hypertension, diabetes, arthritis or memory loss that may meet the definition of disability.

Clinical Rehabilitation Manager Shaina Meyer, OTR/L



More than 30 percent of Americans older than 65 and 50 percent beyond 75 have some kind of disability. Of course, the ADA embraces the disabled at any stage in life, as do the care teams at Cleveland Clinic Lou Ruvo Center for Brain Health.

“You Don't Need to Be a Superhero”

We recognize that, while ADA laws make the United States generally more accessible, you may need additional guidance. For example, while automatic push buttons eliminate the challenge of manually opening a heavy door, if you're experiencing gait freeze, a common symptom of Parkinson's disease, you may require verbal cues or coaching from a companion to successfully navigate through the doorway.

And, while the ADA mandates ramps or “curb cuts” on crosswalks at street intersections, a pedestrian's poor balance, visual-spatial functioning or cognitive impairment may require additional modifications to enhance safety, such as training a caregiver to restrain the front of the walker so it doesn't roll too quickly down the ramp.

Clinical Rehabilitation Manager Shaina Meyer, OTR/L, explains her team's approach in such cases: “We start with

NOTICE A DIFFERENCE IN THIS ARTICLE?

Accessible printed materials use large, clear type in high-contrast colors on solid backgrounds. You'll be able to read them even if you don't see as well as you used to.



Here, most of the article might be considered accessible, while the paragraph in the red box is much less user friendly.

the individual, assess what's causing them difficulties and then start treatment using cues or modifications."

Modifications may involve issuing optimal equipment — perhaps a walker instead of a cane — or addressing underlying issues, such as recommending a hearing aid if the patient's difficulty following instructions is due to poor hearing, not lack of comprehension.

"You don't need to be a superhero," Ms. Meyer says. "Listen to your body. Use that wheelchair placard and save your energy for what matters most to you, be it grocery shopping or walking the dog with your spouse."

Your Rights on the Job

Ruth Almén, LCSW, Clinical Manager of Social Work, notes that for many, the ability to continue working is what matters most. Employees are protected by an ADA provision mandating that employers provide reasonable workplace accommodations. Moreover, noting the disability in your record prevents you from being fired for poor performance down the road, should the disability worsen.

However, Ms. Almén recommends discussing with a social worker your thoughts on disclosing your disability before doing so: "Regrettably, not everyone is nice, helpful or even cares about the federal law. Have you observed how your boss or employer have treated others? Does this inspire confidence?"

Under ADA law, it isn't the cause of the disability that matters, but what the disability means in everyday life. We at the Lou Ruvo Center for Brain Health couldn't agree more, and we're here to help.

The Lou Ruvo Center for Brain Health campus embraces the ADA



REACH OUT

Ask your doctor if you could benefit from physical or occupational therapy. To make an appointment with a social worker, call 702.483.6000.

Nevada residents may find additional information at nevadaadrc.com or by calling the state's health and human services hotline, 211.



Ruth Almén, LCSW, Clinical Manager of Social Work

Virtual Visits: The Doctor Will See You Online

For people with neurodegenerative diseases, doctor visits can be a major inconvenience. Some individuals have mobility issues; many are older and need the assistance of a caregiver; others don't want to burden family or friends by asking for a ride, and no one likes sitting in traffic. In any of these situations, a virtual visit may be just what the doctor ordered.

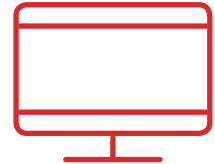
Cleveland Clinic Lou Ruvo Center for Brain Health has been offering virtual visits since 2017, but adoption has risen dramatically in 2020 with the onset of the COVID-19 pandemic.

Almost Like Being There: MyChart Virtual Visit

A MyChart Virtual Visit is designed to be easy: Patients can access the secure service from a smartphone, tablet or computer by logging on to MyChart. Virtual visits help Cleveland Clinic provide greater access to healthcare, and can be an effective tool to help neurology providers and their patients collaborate to manage chronic illnesses like Parkinson's disease, memory loss or multiple sclerosis (MS).

NOT JUST FOR NEUROLOGICAL CARE

For individuals who prefer virtual visits to an in-person visit with a primary care physician or going to an urgent care facility, on-demand visits are available 24/7 through MyChart Virtual Visit. Users can log on to the app at clevelandclinic.org/MyChart and select the physician whose background best suits their needs.



"Many of our patients with MS utilize smartphones to help with reminders and organization, social media to connect to others with MS, and internet to learn more about their disease and treatment options," says Le Hua, MD, Director, Mellen Program for Multiple Sclerosis at the Lou Ruvo Center for Brain Health, Las Vegas. Using technology to connect with their providers is a natural outgrowth.

Dr. Hua notes the summer heat in Las Vegas can be reason enough to opt for a virtual visit.

"With today's high-speed internet connections, I can counsel patients about their disease and make treatment decisions as easily as if we were face to face," she says.

A Plus for People With Mobility Issues

Zoltan Mari, MD, Director, Parkinson's and Movement Disorders Program, is a strong advocate of telemedicine.

"Most patients are very happy with virtual visits," says Dr. Mari. "They can discuss their problems and ask questions safely at home while their movement disorder is observed through video. I can even watch them walk and evaluate their gait and balance."

For routine follow-up visits for patients whose conditions are stable, Dr. Mari has been recommending virtual visits. These appointments, which must be scheduled in advance, can save money and time for patients who come to the center from all over the United States.

For patients with mobility issues, virtual visits spare them the "extraordinary effort of leaving the house and the risk of falling," says Dr. Mari. "There are many symptoms that I can see well on video and I can also observe the home environment, which is very valuable."

Next Steps

Information on how to schedule your virtual visit at the Lou Ruvo Center for Brain Health and download the Zoom for Telehealth app can be found online through MyChart (clevelandclinic.org/MyChart), or by calling 702.483.6000.



Dr. Zoltan Mari with a patient in a virtual visit

FOR EVERY

OPPORTUNITY TO CARE FOR THE WORLD

From Ohio to Las Vegas
and Abu Dhabi to
our London expansion,
we provide world-class
care across the world.



ClevelandClinic.org/care

Brain Imaging Research Team Relishes Chance to Test Hypotheses

Cleveland Clinic Lou Ruvo Center for Brain Health is one of the few — if not the first and only — institutions of its kind to harness the data analytics power of a brain imaging research team. We believe such robust analysis is essential to determine whether the data support our neurologists' hypotheses, and then to translate them into publishable, actionable findings to share with the scientific community.

The Quest for Imaging Biomarkers

While blood, cerebrospinal fluid (CSF) and neuropsychology assessments are today's gold standard for clinical diagnostic use, in research, our team is looking for additional biomarkers through novel applications of MRI and PET scans. The team employs highly sophisticated mathematical methods to tease out differences in healthy vs. diseased brains, thus generating imaging biomarkers.

One biomarker the team examines is loss of functional connectivity, which is observed as a loss of synchronization among certain regions of the brain.

Meet Karthik Sreenivasan

When you speak with Research Engineer Karthik Sreenivasan, the optimism is contagious, starting with his approach: "When we start a project, we have a hypothesis. While the big picture could take a long time, there are many small milestones along the way that help confirm or adjust our approach to the overall goal. Either way, we gain new knowledge that can immediately help the broader research community as we collaborate to better understand neurodegenerative diseases."

Recently, Karthik has been studying individuals who have Parkinson's disease with freezing of gait (FOG), a challenging motor symptom that literally stops individuals in their tracks. He is conducting



Karthik Sreenivasan

a pilot study to understand the differences in functional connectivity and organization of functional brain networks among:

1. Individuals with FOG on and off medications for Parkinson's disease
2. Individuals who have Parkinson's disease, but not FOG
3. Normal, healthy control participants

If he can find something of note, he will conduct a study with a larger number of subjects — expanding to include more FOG subgroups — to see if his hypothesis about different functional connectivity patterns in the FOG subgroups holds true.

An Inspiring Environment

When Karthik flew to Las Vegas in 2014 to interview for a job at the Lou Ruvo Center for Brain Health, he was intrigued by the Frank Gehry-designed campus and impressed by the ambitious goals of



Dietmar Cordes, PhD, the medical physicist who founded the brain imaging research team. Karthik knew immediately that, if offered the position, he would accept.

"I got the call the day before my birthday, and it was the best present I could have imagined," he remembers. The new job gave him even more reason to celebrate his graduation from Auburn University with a master's degree in electrical engineering.

Five years later, Karthik received another important call: He had earned a Keep Memory Alive Young Scientist award, "a great honor for me personally, which shows that someone believes my research is worth funding, and also highlights the exceptional work of our team."

The award, funded by individual donors and foundations, provides \$75,000 a year for three years to support the work of scientists early in their careers and advance understanding of neurological disease, which can lead to new treatments. To fund a young scientist, please contact our development team at 702.263.9797 or DonateNevada@ccf.org.

Advancing Science and a Career

Virendra Mishra, PhD, Project Staff at Cleveland Clinic Lou Ruvo Center for Brain Health, won a Keep Memory Alive Young Scientist award in 2017. Now, as an alum, he has secured yet another round of funding — this time, a prestigious R01 grant from the National Institutes of Health (NIH).

"We invest in our young scientists with the hope and expectation that important,

potentially life-changing discoveries will come out of that investment," says Marwan Sabbagh, MD, Director of the Lou Ruvo Center for Brain Health. "Dr. Mishra's \$3.8 million NIH grant proves that investment is worth it."

Awarded to fewer than 20 percent of applicants, the exceedingly competitive R01 grants, which are peer reviewed by top-level scientists, represent the NIH's confidence in individual investigators as well as their institutions. The Lou Ruvo Center for Brain Health showcased its research infrastructure during a five-year Centers of Biomedical Research Excellence grant secured in 2014. Historically, a scientist's ability to secure an R01 grant has been an indicator of the individual's future success.

Dr. Mishra's newly funded study aims to use biomarkers spanning imaging, blood, CSF and genetics to develop a predictive mathematical model to identify Parkinson's disease (PD) patients who may develop dementia as their disorder progresses.

"Today, we could have 10 people with PD in a room, and all we know is five to eight



Dr. Viendra Mishra

among the group are statistically likely to develop dementia," says Dr. Mishra. "The possibility of identifying a specific individual who is or isn't on track to develop dementia with PD progression will provide that patient greater clarity on their future, and will be extremely helpful for the family and the clinician as the disease progresses. Of course, being part of this is spectacularly exciting for me personally."

TEAM ACCOMPLISHMENTS

In its first five years (2015-2019), the brain imaging research team:

- Published 25 peer-reviewed journal articles
- Delivered 25 presentations at international conferences
- Presented 110 abstracts to scientists around the world



Like Turning a Faucet: a Welcome Opportunity to Reverse Neurological Decline, Improve Lives

Jiong Shi, MD, PhD, has practiced as a cognitive disorders neurologist for more than 15 years. Even so, witnessing the immediate difference that successful surgery can make in the health and quality of life of a person with normal pressure hydrocephalus (NPH) still excites him.

NPH, which is most common in individuals older than 60, involves a buildup of fluid in the brain that creates excessive pressure on the surrounding brain tissue, resulting in impaired cognition, unsteady walking and urinary incontinence.

“When a neurologist observes dementia, we may think Alzheimer’s; when we see wobbles, we may think Parkinson’s disease; but sometimes, it’s actually NPH,” says Dr. Shi, underscoring the importance of seeing a specialized neurologist with the training to render a nuanced diagnosis.

A Surgical Game Changer

When Dr. Shi suspects NPH, he orders a spinal tap to determine if surgery is necessary. Following the surgical insertion of a shunt to drain the excess fluid, approximately 80 percent of patients will experience improvement in gait; 60 percent achieve improvement in memory.

“The change in symptoms is like night and day,” Dr. Shi says.

After surgery, the Cleveland Clinic Lou Ruvo Center for Brain Health neurology team monitors and adjusts the shunt to manage the disease long term. Doing so, Dr. Shi says, “is like slowly opening or closing a faucet.”

Following an internship and residency in Cleveland and 16 years at Barrow Neurological Institute in Phoenix, Dr. Shi joined the Lou Ruvo Center for Brain Health in May to expand his neurology

Dr. Jiong Shi



practice and assume leadership of the center’s clinical research programs.

Research is personal to Dr. Shi: “We follow our patients with cognitive loss for decades but, because there is no cure or disease-modifying drug therapy, they slowly get worse, little by little. It’s excruciating for their families and care partners, but also for us as neurologists.”

Needed: More Research Volunteers

In addition to NPH, Dr. Shi sees patients with an array of cognitive disorders, from Alzheimer’s disease to Lewy body dementia to frontotemporal dementia. In every clinical visit, he explains that there are few FDA-approved medicines and none can stop Alzheimer’s disease but, through research, his team is constantly testing potential new drug therapies.

“No matter how promising a new drug treatment may be in animals, it’s important that it works in the diverse population of people our society comprises,” he says. “That’s what translational research is all about.”

The greatest barrier to new drug discovery is a shortage of research participants. Both cognitively impaired and cognitively normal individuals are needed.

“If you are over 65 years of age, we would love to talk with you about research opportunities,” Dr. Shi says.

To make an appointment with Dr. Shi, please call 702.483.6000. Information on clinical research is available at clevelandclinic.org/NevadaResearch.

A Winning Combination: Lifelong Sports Fan Researches Brain Trauma in Athletes

Aaron Ritter, MD, has loved sports since he was a kid, participating in everything from Little League to ice hockey to high school football, as well as serving a brief stint as a walk-on basketball player in college. But he realized he wasn't going to become a professional athlete, so he focused his energy on medicine instead.

After completing his fellowship in behavioral neurology at Cleveland Clinic Lou Ruvo Center for Brain Health in 2016, he joined the center and, as head of clinical research, worked on gaining insights into the mysteries of the brain. Then in 2019, a new opportunity presented itself: the chance to revisit his interest in sports by assuming leadership of the Center's sports-related research studies and retired athletes clinic.

How Much Is Too Much?

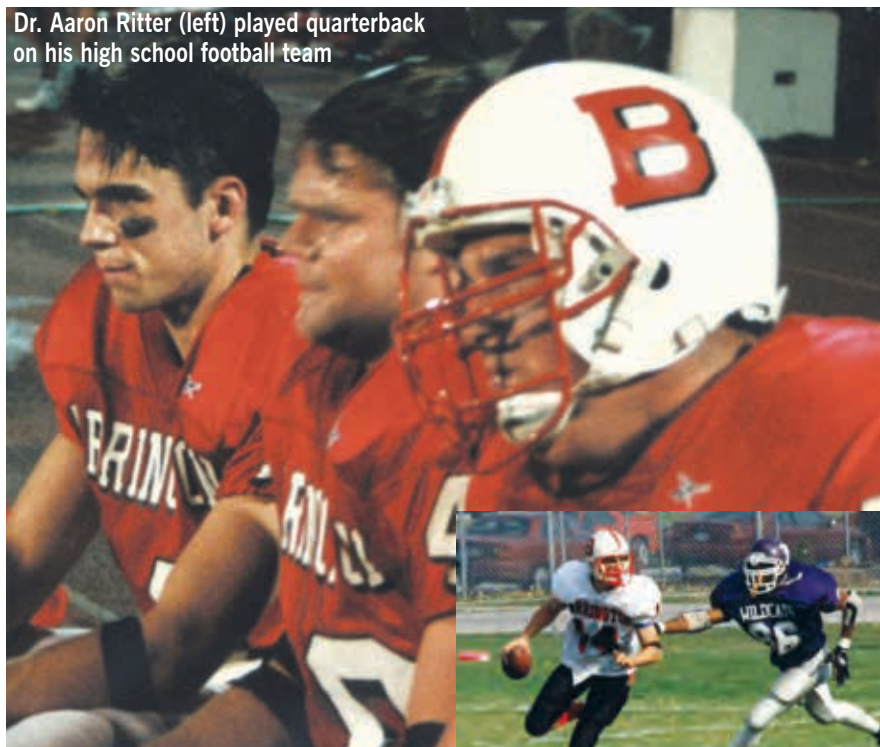
"It's clear that repeated head trauma in sports causes memory and behavioral problems in some athletes, and may even set the stage for permanent brain damage and dementia," says Dr. Ritter. "Right now, we don't know how much head trauma is too much and whether we can do something to improve symptoms or reduce the risk of dementia. The number of retired athletes living in Las Vegas makes it an ideal environment to study this problem."

A leader in studying how brain trauma affects athletes in contact sports, the Lou Ruvo Center for Brain Health has been making strides in research since 2011, notably through:

Professional Athletes Brain Health Study

Since 2011, this longitudinal study at our center has followed more than 840 athletes exposed to repetitive head impact in multiple sports. The research

Dr. Aaron Ritter (left) played quarterback on his high school football team



Aaron Ritter has the ball

has already informed the community on novel brain imaging methods, the utility of blood biomarkers of brain injury and new methods for monitoring the brain health of athletes over their careers.

DIAGNOSE CTE

This seven-year study is the first to investigate ways to detect chronic traumatic encephalopathy (CTE) in living former football players, who are undergoing extensive testing at four sites, including the Lou Ruvo Center for Brain Health.

Our center is working with more than 20 one-time National Football League and college football players, utilizing cerebrospinal fluid and brain imaging to compare their exposure rates with people who have never played football.

Professional Sports Brain Health Coalition

Since its inception in 2018, the Professional Sports Brain Health Coalition remains a first-of-its-kind organization, bringing together like-minded associations from diverse professional sports. This invitation-only group focuses on research, education of middle school student-athletes and advocacy.

SUPPORT RESEARCH

You can support our brain health research programs by contacting DonateNevada@ccf.org or 702.263.9797.





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Alzheimer's Researchers Target a Potential Villain: Periodontal Bacteria

Could a bacterium associated with chronic periodontal disease infect the brain and cause Alzheimer's disease? While that may sound like the latest plot in science fiction's "Invasion of the ..." movie, researchers believe such an invasion might be going on daily in some of the 5.7 million Americans diagnosed with Alzheimer's disease.

"New data from animal studies paint a pretty compelling picture that the bacterium *P.gingivalis* may play a key role in onset of Alzheimer's disease," says Aaron Ritter, MD, Principal Investigator of the COR388 study at Cleveland Clinic Lou Ruvo Center for Brain Health.

Crossing the Blood-Brain Barrier

Bacteria cause and perpetuate infection. During the infectious process, they may release proteins that damage the body. If these proteins slip through the blood brain barrier — a strong, protective border between the brain and the rest of the body — these proteins can cause widespread damage to neurons in the brain where the immune system may be much weaker than in the rest of the body.

Autopsy studies have found evidence of the protein *P.gingipain*, which is secreted from the bacteria *P.gingivalis*, the protein that causes gingivitis. Studies have shown increased risk of Alzheimer's disease in people with gingivitis in the brain, which seems logical because head trauma, certain genetic predispositions, age and blood vessel damage create leaks in the blood-brain barrier that allow the protein secreted by the bacteria to enter the brain. Once in the brain, the damage that the protein does and the inflammatory response to it may cause damage to the neurons that support memory and functioning.

The ambitious goal of the COR388 study is to determine whether this oral investigational treatment can act as an inhibitor, inactivating the toxic proteins produced by the bacterium. If we could slow down or possibly stop the bacterial activity, perhaps we could stop the progression of Alzheimer's disease.

A New Theory of Amyloid Protein

The Lou Ruvo Center for Brain Health has studied numerous approaches to modifying the progression of Alzheimer's disease, with perhaps the best known focusing on amyloid in the brain (see page 19). While amyloid is a protein believed to be a biomarker, or hallmark, of Alzheimer's disease, Dr. Ritter wonders if, rather than being a harmful protein, amyloid is the body's own defense against bacterial infection.

"It appears that amyloid itself could be the brain trying to quarantine harmful products into 'forts' that keep the damage at bay," says Dr. Ritter.

Attacking *P.gingivalis* is an exciting development in the fight against Alzheimer's disease.

"Society has recently learned the impact of 'social distancing' on reducing infection. If only we can figure out how to distance bacteria from the brain."



YOU CAN HELP

The COR388 study seeks participants between 55 and 80 years old who have mild to moderate dementia suspected to be due to Alzheimer's disease. More information is available at clevelandclinic.org/NevadaResearch or by calling 702.701.7944.



Hopes Revive for Drugs That Reduce Amyloid Plaque

Within the past few years, one of the greatest hopes of Alzheimer's disease researchers has been the amyloid hypothesis: the theory that beta amyloid protein accumulates in the brain and disrupts communication channels between brain cells, eventually killing them, which causes Alzheimer's disease. Just as a dentist removing plaque from

teeth slows or stops tooth decay, the hope was that removing amyloid plaque from the brain — if it could be done — would slow the development of Alzheimer's disease.

In early 2019, scientists began to question the amyloid hypothesis, and fears mounted that the search for likely causes

of Alzheimer's disease would have to start all over again. In March, Biogen closed all studies of the drug aducanumab, deeming it unsuccessful in reducing buildup of amyloid in the brains of study participants with mild Alzheimer's disease. Thus ended Cleveland Clinic Lou Ruvo Center for Brain Health's EMERGE trial of aducanumab.

But in October 2019, an announcement rocked the research world: Biogen had made a critical mistake in its data analysis, clarifying that those data actually showed at 18 months, participants treated with a high dose of aducanumab had significantly slower cognitive and functional decline compared with patients on placebo. Aducanumab was back on track!

"Data now seem promising. We're seeing a 40 percent reduction in functional decline, clear reductions in amyloid levels in the brain and significant memory effects. Our hopes for a disease-modifying therapy are now revived," says Aaron Ritter, MD, Principal Investigator of the EMERGE trial.

Embarking on a New Course

Now, in 2020, the nine individuals with early-stage Alzheimer's disease who had been in the EMERGE study are being invited back to the Lou Ruvo Center for Brain Health to enroll in the EMBARK study. They will once again receive infusions of aducanumab, which, according to observations of Dr. Ritter and families of those enrolled in the original aducanumab study, seemed to slow the decline of Alzheimer's disease in their loved ones.

The primary objective of the EMBARK study is to evaluate the long-term safety,



Dr. Aaron Ritter investigates potential new treatments

efficacy and tolerability of aducanumab in participants who previously received either aducanumab or the placebo. In EMBARK, there are no placebos: For this “open label” study, all participants will receive the drug, and they and the investigators will know it.

Attacking Amyloid

Aducanumab is not the only disease-modifying drug therapy being studied at the Lou Ruvo Center for Brain Health. Dr. Ritter also serves as Principal Investigator of CLARITY, a study of BAN2401, another anti-amyloid medicine. BAN2401 is being administered to individuals who have been diagnosed with early-stage Alzheimer’s disease, and the Lou Ruvo Center for Brain Health anticipates launching an additional BAN2401 trial to study participants with amyloid plaque in the brain but no symptoms of cognitive decline.

“The CLARITY study aims to stop the disease in its tracks at the mild cognitive impairment stage,” says Dr. Ritter. “It’s exciting because in (the earlier) Phase II study, the results were very promising, similar to the aducanumab results.”

BAN2401 results demonstrated a substantial slowing of disease progression after 18 months of treatment in patients

receiving the highest dose compared with those getting a placebo.

Reason for Optimism

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 a hypothesis that warrants full investigation.

In previous studies of both BAN2401 and 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 a scan that was positive at the start of the study negative by the end.

“Although we don’t know if this will result in a positive clinical effect, it’s an exciting development to be able to clear amyloid from the brain,” Dr. Ritter notes.

It’s been 18 years since a new Alzheimer’s disease drug (Namenda) was approved. While this fact might paint a grim picture for drug development, there is hope on the horizon.

“As a researcher, I’ve never been more excited about Alzheimer’s disease drug development,” says Dr. Ritter.

RESEARCH CLOSE TO HOME

As one of the largest Alzheimer’s disease clinical trial sites in the country, the Lou Ruvo Center for Brain Health in Las Vegas has been studying aducanumab since 2016 and BAN2401 since 2019. See our complete list of clinical research studies online at clevelandclinic.org/clinicaltrials.



Brain Disease: It Takes a Team

“He’s been acting differently recently” or “My memory isn’t what it used to be” are common observations that trigger an appointment with a doctor to learn more.

Yet at Cleveland Clinic Lou Ruvo Center for Brain Health, we believe that fighting brain disease takes more than a single doctor: It is a team sport, with each member covering a specific position.

Meet the Team

WHAT IS IT?		WHO ARE THE EXPERTS?
Syndrome	A collection of symptoms (such as short-term memory loss, behavioral changes, disruptions in sleep, etc.) that are recognized as dementia. Different syndromes arise because of differences in functional anatomy	Family, friends, the individual affected and his or her healthcare provider are typically the first to observe the red flags of symptoms.
Functional Anatomy	<div>The brain is a complex network that includes hubs responsible for specific functions:</div> <ul style="list-style-type: none">• Frontal lobes: govern personality and behavior• Temporal lobes: help form new memories, support language function, and manage some emotions• Occipital lobes: make sense of the things we see• Parietal lobes: important for language function (on the left side), spatial reasoning (right), and integrating sensory information to form a comprehensive picture of our bodies and their surroundings	Neurologists and neuropsychologists grade how brain regions are performing, linking the anatomy of the brain to the syndrome quantitatively.
Pathologies	Physical changes in the brain — the buildup of proteins like amyloid, tau, and synuclein; blood vessel damage from clogged arteries; an immune response; dysfunction and death of brain cells — or a combination thereof.	A neurologist gets clues from the neurological exam and diagnostic tools (MR/PET imaging, spinal fluid) to understand the pathological changes.
Finally, the cognitive neurologist serves as team manager, responsible for tying together information provided by the team and rendering a diagnosis and starting a game plan.		

A Different Game Plan

For more than 100 years, the major focus of dementia research and care was Alzheimer’s disease. The association between dementia and Alzheimer’s disease became so strong that many people, even medical professionals, often used the terms interchangeably. A careful reading of years of research, however, shows that this terminology is not always accurate.

“It is now clear that dementia doesn’t necessarily equal Alzheimer’s disease. In about one-third of people with dementia symptoms, we see non-Alzheimer pathology. Different pathologies usually affect different functional brain regions and lead to different syndromes,” says Dr. Ritter. “That’s why it’s so important to nail the diagnosis. Without an accurate diagnosis, we won’t be able to advance new treatments. More importantly, we will struggle to successfully treat the patient in front of us.”

New symptoms that crop up can be frustrating for families, but a specialist can coach them to anticipate future changes.

“For example, Lewy body pathology can cause visual hallucinations, unusual sleep disorders or drops in blood pressure as part of the syndrome. Other dementias can cause problems with vision, balance or coordination,” says Dr. Ritter. “Knowing which symptoms to expect helps people plan for and manage these symptoms as they arise.”

Future treatments that stop the disease will need to stop the pathological processes that are causing both the syndrome and changes in brain function. Although pathology can be confirmed only via

Symptoms	DISEASE		
	Lewy Body Dementia	Alzheimer's Dementia	Frontotemporal Dementia
Short term memory	✓	✓	
Visual hallucinations	✓		
Apathy/ loss of interest	✓	✓	✓
Fatigue	✓	✓	
Balance/ coordination	✓	✓	
Personality change		✓	✓
Irritability		✓	✓
Reasoning / executive function	✓	✓	✓
Changes in diet	✓	✓	✓
Some good days; some bad days	✓		
Language changes		✓	✓

autopsy, diagnostic testing has improved significantly over the past 10 years.

"We are getting to the point where diagnostic accuracy is greater than 90 percent. This is a big change from the past, and increases the likelihood that the medications that attack the pathology are being given to the right patients and research participants," Dr. Ritter says.

End Game

Dementia is a complicated process. Ultimately, finding success against this opponent will require us to address each of these elements — with medications and therapies that target pathologies (disease-modifying treatments) and improve brain function (symptomatic treatments) — with the goal of reducing the prominence and impact of the dementia syndromes.

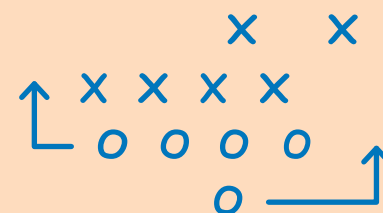
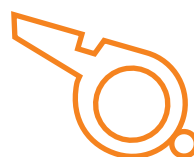
TRICK PLAYS

Sometimes, symptoms that could signal dementia are signs of other conditions.

- Snoring, gagging and wheezing are not only annoying to a sleeping companion but, if caused by obstructive sleep apnea, may be depriving the brain of necessary oxygen and putting extra stress on blood vessels going to the heart. Once the sleep issue has been treated, memory problems may significantly improve.
- Low levels of vitamins such as B12, thyroid and others may cause memory problems that look like dementia.
- Anxiety or depression can cause "pseudo-dementia." Once they are properly managed, cognitive symptoms often improve.

The advice from our team to yours? If you're starting to observe symptoms of dementia, don't call a timeout. See a neurologist immediately. Sometimes, there's an easy win.

Join the Team: To make an appointment with our neurology team, call 702.483.6000.



STUDYING THE OPPONENT'S PLAY: LEARNING THROUGH RESEARCH

What are the similarities and differences among the various dementias? Can a discovery about one dementia be applied to another? Without research into each specific disease, there can be no new treatments for an individual dementia, let alone a cure.

For that reason, the Lou Ruvo Center for Brain Health has broadened its research offerings beyond Alzheimer's disease. Trials and research studies are targeting different forms of dementia, including:

- Dementia with Lewy bodies
- Dementia due to Parkinson's disease
- Frontotemporal dementia, through the ALLFTD trial, which aims to study behavior across a range of dementias, all of which are believed to be caused by tau proteins or "tauopathies".

To find out if someone you know might be a fit for one of our research studies, visit clevelandclinic.org/NevadaResearch or call 702.701.7944.

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Patient Care Work, Personal Loss Inspire Commitment to Advanced Study

Nurse Practitioner (NP) Maileen Ulep-Reed, MSN, APRN, FNP-BC, seeks to add even more letters after her name upon completing her doctor of philosophy (PhD) degree in 2021.

“There are no cures for the diseases treated at Cleveland Clinic Lou Ruvo Center for Brain Health, but we can help improve quality of life,” she says. That — and losing her grandmother to Alzheimer’s disease — are her motivations for returning to the University of Nevada, Las Vegas, to further her studies.

NP Ulep-Reed, a member of the cognitive disorders team since 2016, has dedicated her dissertation — the original research required to complete her degree — to Alzheimer’s disease. She hopes to better understand how the disease affects specific categories of semantic knowledge, and whether some categories are better preserved than others as Alzheimer’s progresses. Semantic knowledge spans the general knowledge of facts, concepts and vocabulary; it supports language.

The Essence of Everyday Life

The research topic stems from her work in patient care at the Lou Ruvo Center for Brain Health.

“I had a patient with an advanced degree who had been a world-renowned speaker, but she reported increasing difficulty ‘finding the right words’ as her Alzheimer’s progressed,” says NP Ulep-Reed.

Semantic knowledge encompasses all that one knows and is essential in daily interactions and activities.

Impaired semantic knowledge can negatively impact patients’ everyday functioning. For instance, they might use objects inappropriately because their knowledge of those items has declined.

NP Ulep-Reed hopes to uncover insights that may help clinicians offer more nuanced diagnoses, thus maximizing an individual’s opportunity for targeted treatment and participation in relevant research into new treatments of specific types of dementia.



Nurse Practitioner Maileen Ulep-Reed

WHAT IS AN NP?

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

As our experts in ongoing disease management, the team’s advanced practice providers — nurse practitioners and physician assistants — are trained to detect subtle changes in condition and adjust treatment plans accordingly.

Nurse practitioners (NPs) have advanced degrees and are board certified; NPs at our center have published research in peer-reviewed journals, have earned or are completing doctorate degrees and are licensed as family nurse practitioners who specialize in neurology. They can prescribe drugs and order and interpret diagnostic tests, and are astute overseers and strong communicators on the relationship between overall health and neurological conditions.

YOU CAN HELP

NP Ulep-Reed is seeking both individuals diagnosed with Alzheimer’s disease and cognitively normal older adults for a study of how the disease affects semantic knowledge. The biggest barrier to the success of a research study is participation. If you or someone you know would like to help a student while exercising your brain, please contact 702.236.6338 or maileen.ulep-reed@unlv.edu.



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

Researcher Aims to Probe the Value of Yoga for MS

For thousands of years, people around the world have practiced yoga to enhance wellbeing by increasing body awareness and mobility, building physical strength and experiencing relaxation. Although there have been little data on how the general benefits of yoga might apply to individuals with multiple sclerosis (MS), Cleveland Clinic Lou Ruvo Center for Brain Health is working to change that.

“It is difficult to study yoga in a typical clinical trial that requires ‘blinding,’ or not knowing which participant is in the experimental versus the control group,” says Carrie Hersh, DO, MSc, Assistant Director, MS Wellness Program. “Because of a lack of research on the application of yoga in MS, the practice has been met with a lot of scrutiny.”

Adapting to People’s Needs

The 2017 creation of the Yoga for MS program added a component to the Lou Ruvo Center for Brain Health’s multidisciplinary care model. The program is a complementary strategy to improve quality of life and day-to-day function for our patients and provide support to their families, in addition to core medical treatments, explains Dr. Hersh.



Sandy Chapman



Held at a local studio, yoga practice has been provided by Yoga for Life Las Vegas, which has been an enthusiastic collaborator with the MS care team to adapt yoga to the unique needs of individuals with MS. Participants practice while sitting, standing or remaining in a wheelchair. Instructors provide hands-on support and record progress as well as challenges.

“Yoga for Life has been very nimble in taking yoga online during COVID-19, even doubling the number of weekly sessions,” says social worker Sandy Chapman, LSW, MSCS, who oversees the program. The online environment has even enhanced participation, which has increased from an average 10 people per in-person session to as many as 20 in a virtual session.

“Historically, heat and transportation had been the greatest barriers to attendance, but the online environment eliminates those,” says Ms. Chapman.

Here to Stay

We’ve realized that we need to maintain an online option to help people manage their overall health and continue their yoga practice in the location that is most comfortable for them, even after returning together to a studio once again becomes an option.

“Testimonials we have received from patients have been nothing short of inspiring,” says Dr. Hersh, who hopes to quantify that feedback through research, answering questions like how long the effects of yoga can last and whether they persist after a yoga intervention is complete.

“Individuals may need to continue yoga long term to appreciate the optimal benefits,” she notes.

YOGA FOR MS

To learn more about Yoga for MS, please contact Ms. Chapman in social work at 702.778.7000 or visit clevelandclinic.org/NevadaEvents.



Yoga for MS is available to participants at no cost, thanks to philanthropic support, but the biggest barrier to conducting research is funding. If you’re interested in supporting our researchers in their quest for answers, please contact our development team at 702.263.9797 or DonateNevada@ccf.org.

Patients and Care Partners Learn to Face a Future With Dementia

With dementia, families should hope for the best but prepare for the worst, says Lucille Carriere, PhD, Angie Ruvo Endowed Caregiving Chair and health psychologist: “It’s like buying fire insurance. You hope your house won’t burn down, but you want to be prepared in the event it happens.”

SHARE for Dementia is an evidence-based care planning program developed by the Benjamin Rose Institute for Aging, a non-profit organization focused on issues relevant to older adults and caregivers. Dr. Carriere collaborated with the Institute to introduce the program to Cleveland Clinic Lou Ruvo Center for Brain Health in 2020. Her goal is to empower adults and their families living with early-stage dementia to get the most out of today while planning for tomorrow.

The Fear Factor

SHARE for Dementia is a structured program that provides education, explores worries and promotes conversation, Dr. Carriere says. During six 60- to 90-minute sessions, she speaks with the patient and his or her caregiver as well as with each of them separately to address concerns, communication styles, care values and preferences, healthy activities and planning for the future.

Receiving a diagnosis of early-stage dementia can be challenging for both the patient and the family to manage, and fraught with anticipatory worry.

“Common reactions from patients are fear of the future and how the diagnosis will affect their daily lives and family relationships, particularly the fear of being a burden to those they love. Care partners express concern over anticipated financial burdens, as well as how to emotionally support their loved one over the course of this diagnosis,” Dr. Carriere explains. “Both want to enjoy their time together while living with this diagnosis and anticipating the future. My role is to help them develop mutually agreeable plans.”

Finding Solutions

Dr. Carriere remembers an encounter around long-term care wishes in which the husband couldn’t imagine anyone other than his wife helping him shower and toilet. When his spouse agreed, Dr. Carriere suggested training might be necessary to guide her through these tasks safely, only to discover she had problems with her back that would make lifting difficult. Dr. Carriere was able to talk the couple through a “Plan B,” such as hiring a paid caregiver, which gave the husband an opportunity to request a male assistant.



Dr. Lucille Carriere

“By having the conversation in advance and finding solutions together, the wife isn’t feeling guilty down the road that she can’t help her husband, and he receives safer care than she is physically capable of providing,” Dr. Carriere notes.

A Time for Honesty

Dr. Carriere emphasizes that for the SHARE for Dementia program to truly help a patient-caregiver pair, both must be on board with having difficult conversations and making decisions together. The reward? A flexible living document the pair takes with them after the sessions, which might help them or an elder law attorney to shape future legal plans.

If you or someone you know might benefit from the SHARE for Dementia program, call 702.483.6000 and ask your Cleveland Clinic neurologist for a referral.

WHAT DOES SHARE ENCOMPASS?

- **Support** patients and care partners and help them communicate effectively and plan for the future.
- Promote **Health** and well-being and decrease stress.
- Encourage participation in fulfilling **Activities**.
- Learn about available **Resources** that reflect their values and preferences.
- Provide **Education** about dementia and how to manage changes that lie ahead.



A Battle Plan to Support Homebound Elders During the Pandemic

What happens when 450,000 elderly Nevadans are mandated to stay home in the face of a pandemic? The need for medical care, groceries, even food for pets, doesn't stop. In rapid response, Nevada Aging and Disability Services Division spearheaded an initiative, joining forces with service providers to the elderly, including Cleveland Clinic Lou Ruvo Center for Brain Health and Dementia Friendly Nevada, to offer essential support.

A new, integrated aging services response team known as NV CAN (Nevada COVID-19 Aging Network) was created to meet the life-sustaining and urgent physical, emotional and social needs of the state's older citizens. NV CAN's goal is to ensure every elder in Nevada has access to medical, social and essential needs services to remain safe, supplied and free from social isolation.

At the Door, Online, By Phone

NV CAN supports three action teams that meet the following needs:

- **Delivery of essential items** – includes food, prescription medications, pet supplies, medical supplies and package pickup, all delivered to an elder's front

door by volunteers, thus minimizing the risk of exposure to COVID-19.

- **Telehealth services** – provided by licensed healthcare professionals utilizing a clinical referral process to virtually deliver primary care, psychiatry, dementia care, geriatrics and other clinical services. Statewide referrals of seniors with dementia are directed to the Lou Ruvo Center for Brain Health for telehealth consultations.
- **Virtual social/peer support** – provides one-on-one check-in calls to elders twice per week and small-group peer support once per week via Zoom, creating a space for elders to build relationships, socialize and structure a mutual support system. Technology support is provided for those needing assistance with the online environment.

You Could Save a Life

The Dementia Friendly Southern Nevada Community Action Group, co-led by the Lou Ruvo Center for Brain Health, participates in NV CAN initiatives.

Cleveland Clinic employees participate in the social/peer support action team, developing and implementing training materials, and training and mentoring



volunteers. We also participate in the telehealth services action team, bringing together medical providers from around Nevada to ensure the safety of elders during this pandemic.

"This initiative has been successful in bringing aging service providers together to serve our community in a very meaningful way. We are honored to support this initiative," says LeeAnn Mandarino, Program Manager of Education, Outreach and Advocacy at the Lou Ruvo Center for Brain Health. "Working together, we can play an essential role in supporting elders over the course of this pandemic and beyond."

If you encounter older adults who need medical or social services, please connect them to NV CAN. It's safe, free and potentially lifesaving.

ACCESS SERVICES TODAY!



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2-1-1 or
1.866.535.5654



Text
your zip code
to 898211



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www.nevada211.org

Preparing for a Hospital Admission

Expectant mothers keep a bag ready for their anticipated hospital stay because they know that, sooner or later, they'll need it. Even though we may not know when we'll be admitted to the hospital — or why — the rest of us would do well to follow their lead, especially in these uncertain times. Just in case.

Packing a Bag

Trips to the hospital often happen in a rush, so why not plan ahead? Have the following packed and ready to go at any time:

- A copy of each legal document (see *Advance Care Plan*)
- Copies of your current health insurance cards and a picture ID
- List of:
 - current medications, both over the counter and prescribed (include dosage and instructions)

- drug allergies
- medical and surgical history
- important phone numbers (doctors, key family and friends, clergy)

You can find helpful information on the After Visit Summary provided at the end of each neurology appointment at Cleveland Clinic Lou Ruvo Center for Brain Health. Put the most recent summary in the bag. It serves as an overview of an individual's treatment plan, medications and vital signs. Consider adding any notes that might be helpful to a medical professional who doesn't know the patient.

Make sure not only you — but also designated family, friends or neighbors — know where the “in case of emergency” bag is located.



ADVANCE CARE PLAN

“Everyone over 18 should have an Advance Care Plan (Durable Power of Attorney, Healthcare Power of Attorney, Living Will) that details your wishes should you be faced with a life-threatening illness,” says Ruth Almén, Clinical Manager, Social Work.

Don't have these yet?

Call a Certified Elder Law Attorney or create the documents yourself online. *The Conversation Project* is a great place to start: theconversationproject.org.



LEARNING FROM THE UNPRECEDENTED: COVID-19

While these tips can apply to any hospital admission, it's worth noting that during the COVID-19 pandemic, most hospitals have refused to admit visitors.



The result? Admitted patients are alone. Support — from simple words of encouragement to important documents — has been provided remotely via technology.

It's more important now than ever to have that bag packed and handy.

WHAT TO PACK FOR THE HOSPITAL



Healthcare Power of Attorney documents



A copy of your insurance cards and a picture ID



List of contacts



Comfort items: a favorite sweatshirt or pajamas



List of current medications, allergies and medical history



Cell phone or iPad

As you're leaving for the hospital, add the following to your bag:

- Cell phone or iPad and charger
- A familiar object from home, such as a favorite pillow or blanket
- Pictures of people important to you
- A book, puzzles or magazines, tablet, e-reader or any technology to stay busy and happy
- A journal or blank paper and a pen for taking notes
- If the bag is for someone else, consider adding encouraging notes: "Love you! You aren't alone! We're all in this together!"

Arriving at the Hospital

Once a patient is admitted, the hospital staff is in charge of their care, which means that medications Cleveland Clinic has been managing may be changed by the hospital staff. We know that hospitalization and surgery can affect anyone's functioning, especially an older person or someone with a chronic illness, such as dementia. For this reason, among others, if you are close to the person being admitted, notify hospital staff whom the patient's healthcare decision maker is (see *Advance Care Plan*).

In addition, contact the Lou Ruvo Center for Brain Health immediately because acute medical issues can alter the symptoms of conditions we treat, and we want to help with a discharge plan that makes sense for the entire family.

- **Hospital staff is welcome to call our office** during our business hours (8 a.m. to 5 p.m. weekdays): **702.483.6000.**
- **Need help navigating advance directives, a hospital stay or other uncharted territory?** Our social work team is here to help: **702.483.6000.**

Be safe. Be prepared. Be well.

For Patients and Caregivers, Creative Programming Goes On Virtually

Thanks to generous donor support, Cleveland Clinic Lou Ruvo Center for Brain Health offers patients with brain disease and their families an array of art and music programs, many of which migrated to a virtual setting at the onset of the COVID-19 pandemic. Would you have believed a hands-on art class could proceed via videoconference?

“Being on videoconference with the Lou Ruvo Center for Brain Health for music therapy, for art programs, this is our lifeline. It’s our connection to the outside world,” says Linda Loane, caregiver to her husband, Jim. “It’s as if we’re out of quarantine, if only for an hour.”

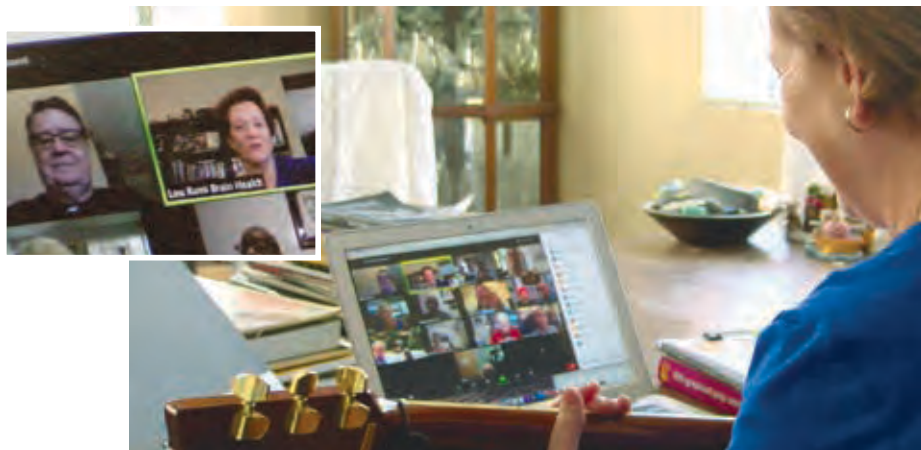
Fortunately for program participants, the clinicians who deliver these no-cost, philanthropically supported programs were able to pivot on the proverbial dime,

navigate technology and modify their programming for a quarantined audience — all without missing more than... a beat!

“We had to figure it out because the Lou Ruvo Center for Brain Health is their place, even when they’re stuck at home,” says music therapist Becky Wellman, PhD. “It’s one thing our patients and families have

to look forward to each day even if, upon occasion, the therapeutic intervention degrades into mere songs and silliness.”

“These online programs have helped us keep our sanity. Music therapy was and still is the highlight of Annie’s week,” explains her husband and caregiver, Len Hutchinson.



Dr. Becky Wellman in a virtual group music therapy session

HELP GROW THE ARTS AT OUR CENTER

Through generous donor support, all artmaking programs at the Lou Ruvo Center for Brain Health are offered at no cost to participants. Thanks to a grant that music therapist Becky Wellman, PhD, received, she has been able to purchase additional musical instruments.

You can help expand our programming:
DonateNevada@ccf.org
or 702.263.9797.

GET THE SCOOP

Notify us if you would like to receive our monthly eblast about free online programs: LouRuvoSocialServ@ccf.org.

View our online events listing: ClevelandClinic.org/NevadaEvents.



Here's a rundown of creative programs the center is offering remotely:



Mind in Design: An Artmaking Class for Everyone

Friends and families across the community come together to enjoy a new, online spin on a program designed to promote patient-caregiver interaction, increase socialization and provide space for individuals to change their routine, de-stress and unwind. Wondering what artmaking together might look like online in as many locations as there are participants? We were, too.



Conversations to Remember

Telling stories through art is fun, fosters thought-provoking exchanges and creative thinking, and can stimulate distant memories. In this interactive session, art pieces drive conversations that lead to new discovery and help us get to know each other. The program is ideal for individuals with memory loss or cognitive decline and their care partners, but is also great fun for anyone looking for an engaging social exchange.



The Learning Arts

Eclectic excursions via videoconference with museums across North America. Topics span music, botany, classic paintings and more, often themed around seasonal happenings.



Group Music Therapy

Music therapy uses the power and pleasure of music to improve cognitive function, lift mood and spirits, support gross and fine motor skills, and enhance communication. Plus, the group setting provides a pleasurable opportunity for socializing, which is also beneficial for brain health. Memorization and recall of music can boost latent memories. Family caregivers routinely attribute changes in their loved ones to the power of music. We can all sing to that.



Rhythmic Reminiscence

Exercise is critical for better cognitive and physical health. The more fun the exercise is, the more likely we are to stick with it. In this class, participants enjoy simple exercise routines taught by physical therapist Christy Ross, DPT, combined with live music provided by co-instructor Dr. Becky Wellman. Ideal participants are those who have difficulty following the complexities of some exercise programs and need a little fun in their lives.

With Philanthropy, Grateful Patients Pay It Forward

Patients and their families frequently tell us what they value most about Cleveland Clinic Lou Ruvo Center for Brain Health is that it's "not just a doctor's appointment," but whole-family care. What many don't realize is that the extras, spanning education, therapeutic and support programs, are offered at no cost thanks to generous philanthropic support, much of which comes from grateful patients.

Whether you're giving in gratitude for your own care or in appreciation for the care a loved one experienced, you can sustain or expand the programs that provide quality of life for so many.

.....

INTERESTED?

Contact our development team at 702.263.9797 or DonateNevada@ccf.org and join the following supporters.

Linda Dillon: Moving Toward Better Health

Linda Dillon, 76, remembers how frightening it was to experience new, inexplicable symptoms of impaired mobility. She describes that dark time as a "miry muck of medical misinformation, misdiagnoses and even methodical misrepresentation of my options."

That changed when she met Zoltan Mari, MD, Director, Parkinson's Disease and Movement Disorders Programs at the Lou Ruvo Center for Brain Health. With dignity and respect, he explained that Linda's mobility challenges were due to Parkinson's disease, and he helped her establish a plan for the future.

"Suddenly," she says, "shining brightly right in the midst of all the confusion was the Lou Ruvo Center for Brain Health, an easily accessible place that offers true world-class expertise, support and a team of genuine, caring professionals who listen."

A single woman, Linda feared becoming a burden on her daughter, Kathleen. Dr. Mari knew Linda needed a team to help reach the goal of extended independence. In collaboration with the physical therapy

team, Linda received guidance on orthotics, appropriate shoes, exercise aids for home use and, perhaps most surprisingly, a referral to a contractor who built a roll-in shower to enhance safety at home.

A self-described non-exerciser, Linda embraced all that the neurorehabilitation team offered, from one-on-one physical therapy to group exercise classes, including tai chi — a 24-week class offered at no cost, thanks to philanthropic support.

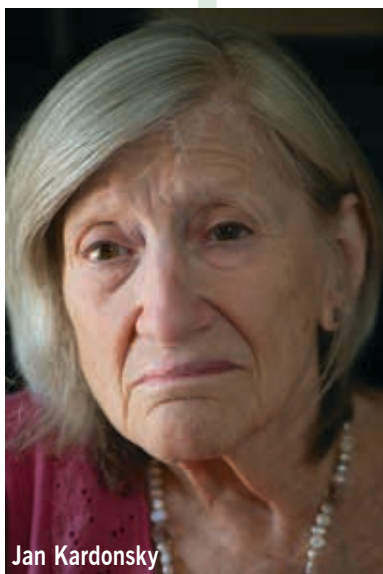
After what she calls "the best year and a half of my life," the retired teacher was inspired to donate to the Lou Ruvo Center for Brain Health, marking her and Kathleen's gratitude for the care, and paying it forward so other families can enjoy no-cost education, therapeutic and support programming at the center.



(L to R) Shaina Meyer, OTR/L, Linda Dillon and daughter, Kathleen



Linda Dillon and daughter, Kathleen (on stairs)



Jan Kardonsky



Howard Kardonsky

A “Different” Atmosphere

When Jan Kardonsky, 74, started falling and experiencing cognitive decline and distracting auditory hallucinations, she and her husband, Howard, went looking for answers. A general neurologist referred them to Dylan Wint, MD, at the Lou Ruvo Center for Brain Health.

“From the minute we walked in the door, we noticed the atmosphere was starkly different. Everyone was pleasant, very attentive to anything and everything we had to say, and no one ever said ‘no,’” Howard recalls.

Dr. Wint’s background in psychiatry as well as neurology has proved helpful in managing Jan’s mild cognitive impairment (MCI) and its relationship with her lifelong depression, both of which have been further complicated by an autoimmune disorder. Dr. Wint’s openness to non-traditional treatments

surprised Howard, who says, “We both love him. He’s a good doctor but, more importantly, an easy-going, great guy who talks to you like a family member.”

Health psychology for Jan and no-cost caregiver counseling for Howard round out the services that give the couple peace of mind.

Planning and order are important to Howard, a retired director of logistics. When the couple discussed making a gift to Cleveland Clinic, giving as part of estate planning suited them, particularly with the stipulation that if their estate adjusts below a certain level, the gift can be adjusted accordingly, thus allowing them to care for family, too.

“I sleep at night knowing everything has been well taken care of financially,” says Howard, “just as Jan being well taken care of by Cleveland Clinic has provided great reassurance.”



New Chair Funding Will Expand Center's Educational Outreach

A 2020 gift from Solomon "Sol" "Solly" Lew and Raymond "Ray" and Roseann "Rosey" Park has funded the Las Vegas Legacy Neuroscience Education Chair, which is already helping Cleveland Clinic Lou Ruvo Center for Brain Health amplify its efforts to expand brain health education for Nevada's current and future healthcare professionals.

Dylan Wint, MD, a dually trained neurologist and psychiatrist who has led the Lou Ruvo Center for Brain Health education programs since 2010, is the inaugural holder of the chair.

"The funding of a chair by members of the community means that they want something done in a particular area," he says. "The chair also means that the community and Cleveland Clinic have placed their trust in me to accomplish a mission that is important to them. I take that responsibility very seriously."

Removing Barriers to Learning

Dr. Wint will use the funds to increase the Lou Ruvo Center for Brain Health's ability to project into the community

at health fairs, sporting events and school gatherings. Post-COVID, he plans to do so face to face but also via technology, and will use chair funds to procure equipment to make the center's education offerings available regardless of where or when people want to access them.

Dr. Wint has always aspired to "serve remote communities via web-based learning by creating enduring, archived materials so that learners do not have to be at live events. In our current age, neither time nor distance needs to be a barrier to learning." How fortuitous, given our country's recently imposed guidelines on large gatherings and social distancing!

In addition to serving community members directly today, Dr. Wint hopes to make an impact that will last at least a generation by developing innovative processes (case conferences and distance medicine consultations as learning experiences) to improve education of medical students and residents throughout Nevada.

WHAT IS A CHAIR?

To help the community develop a better understanding of the impact of brain disease, Lou Ruvo Center for Brain Health physicians depend on philanthropic support. Endowed chairs enable holders to fund new projects, from education to research. And, yes, a commemorative chair is traditionally presented to each endowed chair holder.



If you're interested in funding a chair at the Lou Ruvo Center for Brain Health, please contact our development team at 702.331.7052 or DonateNevada@ccf.org.



Dr. Dylan Wint, holder of the Las Vegas Legacy Neuroscience Education Chair



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.

SIEGFRIED & ROY:

AN APPRECIATION

Whether the goal was mesmerizing an audience or impressing a doctor or speech therapist with his progress, Roy Horn's work ethic and commitment to community were always center stage.

Keep Memory Alive Board Member Michael Severino was working at the Frontier Hotel and Casino in 1991 when Roy Horn and Siegfried Fischbacher's "Beyond Belief" show opened as the first animal magic act to headline on the Las Vegas Strip. Michael remembers endless hours watching the duo practice: "Roy's God-given talent for understanding animals was incredible, and his work ethic unlike any I've seen."

Siegfried & Roy became part of the tapestry of Las Vegas, frequently spotted around town. They enjoyed dining at the Venetian Ristorante and getting to know its owners, Angie and Lou Ruvo, and their son, Larry.

Fast forward to the 2010s. Roy Horn became a patient at the center that bears the Ruvo family's name, where he was treated for Parkinson's disease until his death in May 2020.



Tribute to Roy Horn on a Las Vegas Strip marquee

A Magical Foundation

The duo toured the facility during its construction and, as Las Vegas pioneers themselves, appreciated what Keep Memory Alive and Larry Ruvo were trying to do with Cleveland Clinic.

"Siegfried & Roy became great supporters of bringing world-class medical care to Las Vegas," says Michael. "It was an honor to have individuals of their prestige supporting Keep Memory Alive, beginning with our initial fundraising events in the 1990s."

On Roy's birthday in 2019, Camille and Larry Ruvo received a note from him that said, "I credit the amazing medical staff at the Lou Ruvo Center for Brain Health for the quality of my life and reaching the age of 75! Words can't describe how much we treasure your friendship — we are so proud to call you friends!"



Top: Previewing a model of the Lou Ruvo Center for Brain Health

Bottom: Larry Ruvo takes Siegfried & Roy on a construction tour in early 2009



Roy Horn in 2018 with speech therapist Leah Fisher

Always Onstage

Cleveland Clinic Lou Ruvo Center for Brain Health speech therapist Leah Fisher, CCC-SLP, says when she met Roy Horn in 2018, he was making public appearances and entertaining at home, so being able to clearly express himself verbally was his goal.

"He came in with a genuine smile to perform the exercises I had assigned him," she remembers. "Being around 'Mr. Roy,' as he liked to be called, always felt a little magical, even though he wasn't performing traditional magic."

Zoltan Mari, MD, Director, Parkinson's Diseases and Movement Disorders Program, said, "I've treated a lot of VIPs in my life, but was pleasantly surprised to see how down to earth and hard-working Mr. Roy was, and to share his commitment to maximizing his health."

Odinachi Oguh, MD, says her fondest memory is Mr. Roy's "ability to connect on a fundamental, foundational level, even though I was just one member of his neurology team," while Dylan Wint, MD, notes that during clinical visits, Mr. Roy was as interested in the wellbeing of those providing care as he was in his own health.

A Final Bow

Siegfried & Roy's careers were halted unexpectedly in 2003, following an onstage incident with a white tiger. Because people never got to say goodbye, "We wanted to thank and celebrate Siegfried & Roy, and give them a chance to enjoy a final adoration from fans," says Larry Ruvo, Chairman and Founder, Keep Memory Alive.

Keep Memory Alive supporter Robin Leach and the duo's long-time manager, Bernie Yuman, helped Larry Ruvo coordinate the final encore, which took place at the Bellagio on February 28, 2009, and was televised around the world, including on ABC's "20/20."

"Keep Memory Alive's mission is to preserve memory, and believe me when I say that nothing in my life has been more memorable than watching my friends Roy Horn and Siegfried Fischbacher and their beloved tiger, Montecore, return to the stage, taking their final bow at our Power of Love gala," adds Larry Ruvo.

Final encore performance at
2009 Power of Love® gala



Bernie Yuman

25 Years of Support

"Before the tiger incident, before we opened the center, before Roy Horn became a patient, Siegfried & Roy have always been exceedingly generous," says Keep Memory Alive's Senior Director of Special Events, Anna Robins. "From auction items to personal appearances, they didn't just show up. It's clear they truly cared about what our center does for patients and families."



L to R - Camille Ruvo, Siegfried, Roy and Larry Ruvo

Thank you, Siegfried & Roy,
for the loving memory you
have created for Keep Memory
Alive's donors and for the
patients and families you have
supported since our center
was but an idea.



To honor Roy Horn, on Monday, May 18, this flag was flown at half-mast over the Nevada state capitol and subsequently presented by Governor Steve Sisolak to Larry Ruvo, who is installing it at the Lou Ruvo Center for Brain Health as a tribute to his friend's great support.



“What does the
building mean?
It symbolizes hope.”
-Frank Gehry



We look forward to welcoming
you back to the Keep Memory
Alive Event Center.

KEEP MEMORY ALIVE EVENT CENTER
888 W. Bonneville Avenue
Las Vegas, Nevada | 89106
kmaeventcenterlasvegas.com
702.331.7043

A 501(c)3 Organization
Proceeds benefit Cleveland Clinic
Lou Ruvo Center for Brain Health

Enjoying the 2020 Summer Social Fundraiser at a Distance

Each summer, we look forward to gathering in Lake Tahoe at Camille and Larry Ruvo's beloved Shakespeare Ranch. At the Summer Social, we enjoy a rodeo, an exclusive lunch at Lori and Michael Milken's residence, an intimate dinner with Chef Emeril Lagasse and top-notch entertainment. Together, we create memories for our families and friends.

A Reliable Source of Support

The annual Summer Social is Keep Memory Alive's second-largest fundraiser, providing critical financial support for research; treatment; and education, therapeutic and support programs at Cleveland Clinic Lou Ruvo Center for Brain Health. Now more than ever, patients and families are relying on us.

They say our center is "their place," even as that place has become... cyberspace, as those patient-centered activities have gone exclusively online.

Taking Friendship and Philanthropy Online

Although COVID-19 prevented us from convening in person, loyal Summer Social attendees dusted off their cowboy boots and rallied together online.

Virtual attendees heard from family caregivers and the center's medical providers about how the center's ability to pivot and offer education, therapeutic and support programs online has made it seem, as one caregiver said, "as if we're out of quarantine, if only for an hour" (see page 31).

From his home kitchen, Emeril offered a nostalgic video message about how his children have grown up looking forward to the weekend in Tahoe, from playing with the band to competing in the watermelon-eating contest. Yet, what really drives the Lagasse family is the impact on other families of funds raised at the event.

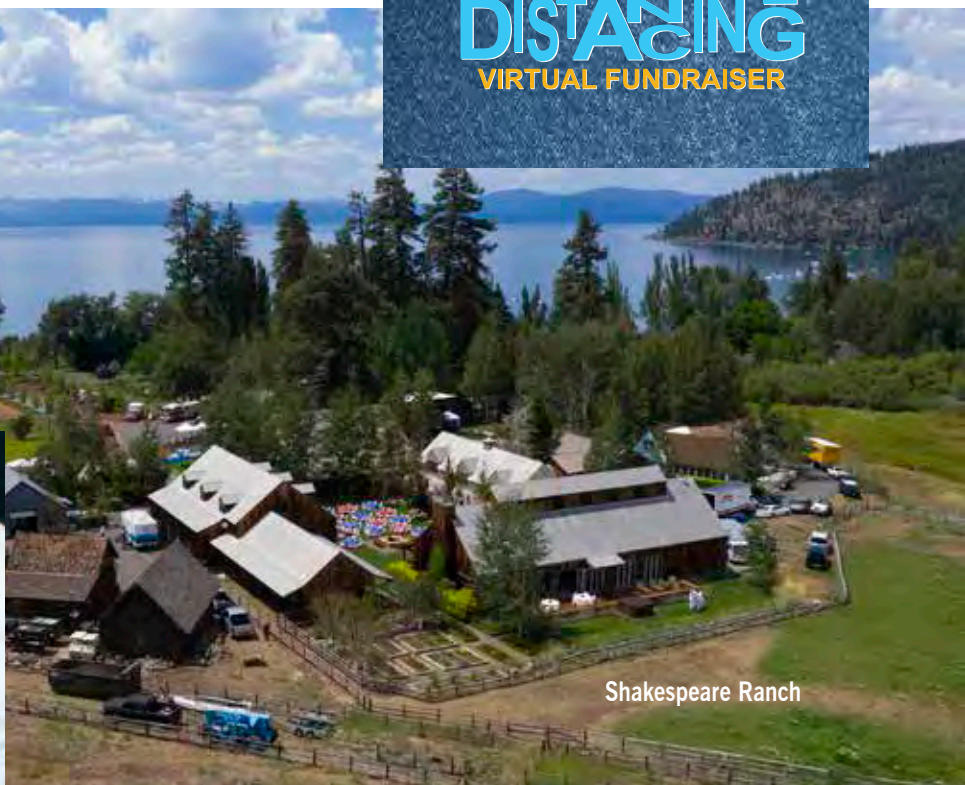
Thank you for your support. We look forward to welcoming everyone back in person to Shakespeare Ranch in summer 2021.



2017 Summer Social and Rodeo at Shakespeare Ranch — Camille and Larry Ruvo thank the Lagasse family



The Lagasse family in 2011



Shakespeare Ranch

For One Couple, a Loving Gift of Memory

Abbie and Jim Snyder had a special connection long before they met: their support for Keep Memory Alive. Twenty-five years ago, Abbie, a Las Vegas attorney, attended the inaugural Power of Love® dinner at Spago and, ever since, she has been a devoted champion of our mission to improve the lives of those battling brain disease and the loved ones caring for them. A local journalist and evening news anchor at KSNV-TV channel 3, Jim has covered Cleveland Clinic Lou Ruvo Center for Brain Health since its inception and has witnessed Larry Ruvo's infectious enthusiasm in the fight to make brain disease a distant memory.

When Abbie and Jim eventually crossed paths, not only did their love blossom, but so did their passion for Keep Memory Alive. They have made incredible

memories together, attending Keep Memory Alive events and enjoying vacations won in our auctions.

A Dedication From the Heart

When they tied the knot in 2018, the couple shared with friends and family just how special a place Keep Memory Alive holds in their hearts. In a noble and generous gesture, they invited wedding guests to make donations to Keep Memory Alive in lieu of traditional gifts.

We honored the Snyders' commitment to our mission last year by dedicating a plaque to them on our Honor Wall. We hosted an intimate unveiling ceremony and, in celebration of their wedding, shared a champagne toast.

For Abbie and Jim, philanthropy is rooted in the hope that one day, everyone will be able to retain memories for a lifetime.

"It's beautiful to reflect on the history of the Lou Ruvo Center for Brain Health and how many people have been helped," says Jim, "but because of the center's cutting-edge research today, I'm optimistic that one day, we will cure these diseases."

Jim and Abbie Snyder



TO MAKE A GIFT

To learn how you can dedicate your wedding, birthday, anniversary or other special occasion to Keep Memory Alive, visit give.classy.org/memories or call 702.263.9797.



In a noble and generous gesture, they invited wedding guests to make donations to Keep Memory Alive in lieu of traditional gifts.



Visitor Photo Gallery

We miss touring guests as we always did prior to the COVID-19 pandemic. We hope to safely welcome you again soon!



Actor Sam Heughan, left, and Alexander Norouzi



Zappos Research Team



(L to R) Joanna Marlow and Jody Ghanem



Michael Cantalupo



Greg Shulman, MGM, far right, and guests

Visitor Photo Gallery *(continued)*





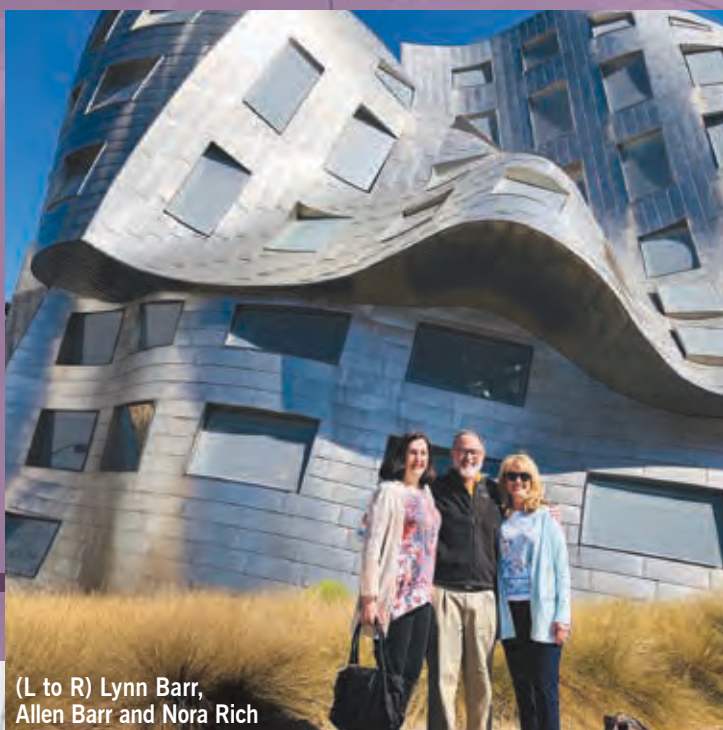
(L to R) Jianye Yang, Dr. Li li, Jody Ghanem, Shannon Yang and Joe Amato



Paul "Dino" Dinovitz



Fred Nassiri



(L to R) Lynn Barr, Allen Barr and Nora Rich



(L to R) Sherman Simmons, Jeanne and Oz Gutsche

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.



2020 KEEP MEMORY ALIVE SCHOLARS

The 2020 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, **Odinachi Oguh, MD**, a neurologist specializing in movement disorders, was granted the award to fund her research project, "Understanding the pathophysiological processes involved with Parkinson's related psychosis, using functional MRI."

.....
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.
(see page 13)



Castle Connolly Top Doctors

(As reported in *Desert Companion*, August 2020)

Jeffrey Cummings, MD, ScD
Le Hua, MD
Zoltan Mari, MD
Marwan Sabbagh, MD
Dylan Wint, MD

Top Doctors (VEGAS INC, August 2020)

Dylan Wint, MD

Rising Star Program recognition

(ARCH National Respite Network and Resource Center, July 2020)

Music Therapy Respite Program
at Cleveland Clinic Lou Ruvo
Center for Brain Health

2020 Early Career Women Faculty Leadership Development Seminar

(Association of American Medical Colleges, July 2020)

Jessica ZK Caldwell, PhD, ABPP/CN

Accreditation in Public Relations

(Public Relations Society of America, June 2020)

MacKenzie Ruta, APR

Grant Award

(Parkinson's Foundation, June 2020)

Center of Excellence CORE
grant for Parkinson's Disease
Yoga Program

Community Grants Award for
Improv for Parkinson's

Gold Medal, Aging Consciously category

(Nautilus Book Awards, April 2020)

Fighting for My Life: How to Thrive
in the Shadow of Alzheimer's
by Marwan by Sabbagh, MD

Certified Dementia Practitioner (CDP) certification

(National Council of Certified Dementia Practitioners, April 2020)



Leah Fisher, MA,
CCC-SLP, MSCS, CDP



Madisen Mendez, MOT,
OTR/L, MSCS, CDP



Matthew Plourde,
PTA, CDP



Becky Wellman, PhD,
LPMT, MT-BC, CDP

Multiple Sclerosis Certified Specialist certification

(Consortium of Multiple Sclerosis Centers, March 2020)

Madisen Mendez, MOT, OTR/L, MSCS



Sandy Chapman,
LSW, MSCS

2020-21 U.S. NEWS & WORLD REPORT BEST HOSPITALS RANKINGS

Cleveland Clinic heart care is ranked No. 1 for the 26th consecutive year — a remarkable accomplishment.

For the past 22 years, Cleveland Clinic has been ranked among the top five hospitals in the nation. This year, we're ranked No. 2 on the Honor Roll.

In all, 13 Cleveland Clinic specialties were recognized with Top 10 rankings:

- Cardiology & Heart Surgery (1)
- Geriatrics (2)
- Gynecology (2)
- Rheumatology (2)
- Gastroenterology & GI Surgery (3)
- Pulmonology (4)
- Urology (4)
- Cancer (5)
- Nephrology (Kidney Disorders) (5)
- Diabetes & Endocrinology (6)
- **Neurology & Neurosurgery (9) ►**
- Orthopedics (9)
- Ophthalmology (10)
- Ear, Nose & Throat (16)



"Cleveland Clinic is constantly focused on safety and quality because it's the right thing to do," says Tom Mihaljevic, MD, CEO and President of Cleveland Clinic. "Rankings like these by *U.S. News* – along with those by Leapfrog, the Centers for Medicare & Medicaid Services (CMS) and Vizient – are an affirmation of our caregivers' continued commitment to providing patients with the best care anywhere."

More information is online at clevelandclinic.org/usnews

2020 Health Care Headliners – Research/Science category

(VEGAS INC, February 2020)

Shaina Meyer, OTR/L



Nevada Women's Hall of Fame, Nonprofit Organization Leadership Inductee

(Women's Chamber of Commerce
of Nevada, March 2020)

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

Employee of the Year

(Cleveland Clinic Lou Ruvo Center
for Brain Health, March 2020)

Gerri Shaw

Caregiver Catalyst Grants Award for Intergenerational Interludes music therapy program

(Cleveland Clinic Philanthropy
Institute, January 2020)

Becky Wellman, PhD

NOTABLE EVENT PRODUCER PASSES

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, who has produced
our Power of Love® for nearly a decade.



KEEP MEMORY ALIVE

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



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



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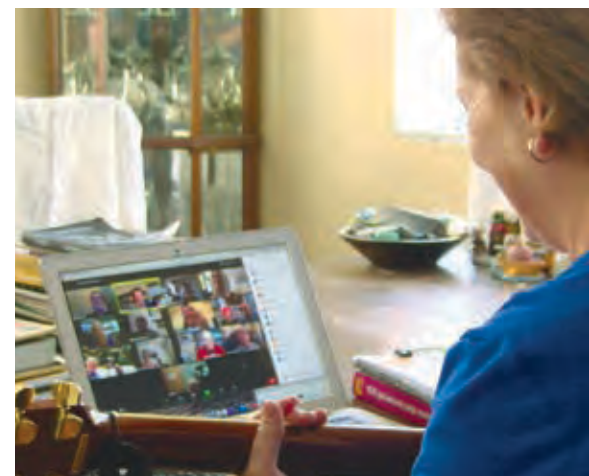
Las Vegas, NV 89106

Office 702.263.9797

Toll free 888.268.9797

keepmemoryalive.org

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JOIN US ONLINE DAILY

FREE EDUCATION, THERAPEUTIC AND SUPPORT PROGRAMS

- ▶ **Mind in Design:**
An Artmaking Class for Everyone
- ▶ **Conversations to Remember**

- ▶ **The Learning Arts**
- ▶ **Group Music Therapy**
- ▶ **Rhythmic Reminiscence**

- ▶ **Support Groups**
- ▶ **Lunch & Learn**

View our online events listing: ClevelandClinic.org/NevadaEvents